

From: [Annatoyn, Travis J](#)
To: [Daugherty, Dennis](#); [Bosyk, Jennifer R](#); [Meléndez-arreaga, Pedro F](#)
Subject: RE: Revised preliminary Alts for NYB PEIS
Date: Thursday, May 26, 2022 1:57:57 PM
Attachments: [AltsforDiscussion_ta.docx](#)

Apologies!

From: Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>
Sent: Thursday, May 26, 2022 1:43 PM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Bosyk, Jennifer R <Jennifer.Bosyk@boem.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: Re: Revised preliminary Alts for NYB PEIS

Travis,

Jen wrote about the New York Bight PEIS and you responded with feedback on the Financial Assurance rule. I suspect there was something else you wished to share.

Dennis Daugherty
Assistant Solicitor, Branch of Ocean Energy
Division of Mineral Resources

(202) 208-5038

From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Sent: Thursday, May 26, 2022 1:39 PM
To: Bosyk, Jennifer R <Jennifer.Bosyk@boem.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Cc: Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>
Subject: RE: Revised preliminary Alts for NYB PEIS

Thanks Jennifer. Some food for thought attached.

From: Bosyk, Jennifer R <Jennifer.Bosyk@boem.gov>
Sent: Thursday, May 26, 2022 12:59 PM
To: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Cc: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>
Subject: Revised preliminary Alts for NYB PEIS

Pedro,

Please see attached the revised preliminary alternatives for the NYB PEIS based on our discussion yesterday. I have included Travis and Dennis at your request and I would greatly appreciate it if you all could take a look. The document is short (less than a page) so if possible, we'd like to have your

sign-off (or questions) by EOD tomorrow.

You will see these again as part of the NOI, which is scheduled to enter surnaming next week. Our intention in sharing this now is to make sure we are on the same page for ease of review during the surnaming process.

Thank you,


Jen

JENNIFER R. BOSYK

Chief, Branch of Environmental Coordination
Division of Environmental Assessment | Office of Environmental Programs
703.787.1834 || 571.373.1669
pronouns: she/her

Bureau of Ocean Energy Management
45600 Woodland Rd., VAM-OEP
Sterling, VA 20166
www.boem.gov

(b)(5)

A large rectangular area of text is completely redacted with a solid black fill. The text is illegible.A large rectangular area of text is completely redacted with a solid black fill. The text is illegible.A large rectangular area of text is completely redacted with a solid black fill. The text is illegible.

From: [Bosyk, Jennifer R](#)
To: [Annatoyn, Travis J](#); [Daugherty, Dennis](#); [Meléndez-arreaga, Pedro F](#)
Subject: Re: Revised preliminary Alts for NYB PEIS
Date: Thursday, May 26, 2022 2:11:35 PM

Thanks for the input, Travis.

From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Sent: Thursday, May 26, 2022 1:57 PM
To: Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Bosyk, Jennifer R <Jennifer.Bosyk@boem.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
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Division of Mineral Resources

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Cc: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Daugherty, Dennis

<Dennis.Daugherty@sol.doi.gov>

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JENNIFER R. BOSYK

Chief, Branch of Environmental Coordination

Division of Environmental Assessment | Office of Environmental Programs

703.787.1834 || 571.373.1669

pronouns: she/her

Bureau of Ocean Energy Management

45600 Woodland Rd., VAM-OEP

Sterling, VA 20166

www.boem.gov

From: [Hawbecker, Karen S](#)
To: [Hearne, Melissa](#); [Annatoyn, Travis J](#); [Meléndez-arreaga, Pedro F](#); [Vorkoper, Stephen R](#); [Daugherty, Dennis](#); [Ballenger, Matthew T](#)
Subject: Re: [EXTERNAL] Vineyard Wind
Date: Friday, June 24, 2022 11:13:48 AM

(b)(5) [Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

Karen Hawbecker
Associate Solicitor
Division of Mineral Resources
Office of the Solicitor
U.S. Department of the Interior
1849 C Street N.W. MS 5359
Washington, D.C. 20240

Office: (202) 208-4146 (this number is currently forwarded to my cell phone)
karen.hawbecker@sol.doi.gov

From: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>
Sent: Friday, June 24, 2022 10:26 AM
To: Hearne, Melissa <melissa.hearne@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>
Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5) [Redacted]

Karen Hawbecker
Associate Solicitor
Division of Mineral Resources
Office of the Solicitor
U.S. Department of the Interior
1849 C Street N.W. MS 5359
Washington, D.C. 20240

Office: (202) 208-4146 (this number is currently forwarded to my cell phone)
karen.hawbecker@sol.doi.gov

From: Hearne, Melissa <melissa.hearne@sol.doi.gov>
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To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>
Subject: Re: [EXTERNAL] Vineyard Wind

Thanks for the heads up. [REDACTED] (b)(5) [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

I'm online today so happy to chat if you want.

Melissa

Melissa Hearne
Team Lead for Conventional Offshore Energy
Attorney-Adviser
Division of Mineral Resources
Office of the Solicitor
U.S. Department of the Interior
202.208.7918 (Washington, DC)

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email to the intended recipient, you are hereby notified that any dissemination, distribution, copying or use of this email or its contents is strictly prohibited. If you received this email in error please notify the sender immediately and destroy all copies.

From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>

Sent: Friday, June 24, 2022 8:14 AM

To: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>; Hearne, Melissa <melissa.hearne@sol.doi.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>

Subject: Re: [EXTERNAL] Vineyard Wind

Yes—I cc-ed her on the email to Bob.

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From: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>

Sent: Friday, June 24, 2022 7:45:13 AM

To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>; Hearne, Melissa <melissa.hearne@sol.doi.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>

Subject: Re: [EXTERNAL] Vineyard Wind

Thank you for raising with Bob. Next week works. Added Melissa and Karen to the email chain for their views.

Michaela Noble is involved in NEPA matters across DOI, it might be good to get her views on it too.

Thanks,

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>

Sent: Thursday, June 23, 2022 7:29 PM

To: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>

Subject: RE: [EXTERNAL] Vineyard Wind

OK. Thanks for the heads up and DOJ context. cc-ing Matt for his views: (b)(5)

(b)(5)

[REDACTED]. In the meantime, I have elevated this issue to Bob and will try to get his take by early next week, unless you think we need it sooner.

From: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Thursday, June 23, 2022 5:59 PM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>
Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

(b)(5)

Stephen - I'm out (AWS) until the moot court, please share any invite for the call if Travis and others want to join.

Best,

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Sent: Thursday, June 23, 2022 5:23 PM
To: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>
Subject: RE: [EXTERNAL] Vineyard Wind

Thanks. (b)(5)

From: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Thursday, June 23, 2022 5:19 PM
To: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Subject: Re: [EXTERNAL] Vineyard Wind

This question just came up again and Stephen and I would like your feedback.

(b)(5)

(b)(5)

Best,

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Sent: Wednesday, May 19, 2021 4:00 PM
To: Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Cc: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Cordalis, Daniel J <Daniel.Cordalis@sol.doi.gov>
Subject: FW: [EXTERNAL] Vineyard Wind

Here is Luke's latest email on the question of timing of a complaint.

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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From: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>
Sent: Friday, May 14, 2021 5:10 PM
To: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>
Subject: RE: [EXTERNAL] Vineyard Wind

(b)(5)

(b)(5)

From: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Friday, May 14, 2021 1:41 PM
To: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>
Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5)

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>
Sent: Friday, May 14, 2021 3:24 PM
To: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>
Cc: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: RE: [EXTERNAL] Vineyard Wind

(b)(5)

From: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Sent: Friday, May 14, 2021 1:15 PM
To: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>; Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>
Cc: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: RE: [EXTERNAL] Vineyard Wind

You probably saw in the news that BOEM signed the ROD for VW's COP on Monday.

(b)(5)

(b)(5)

Do you know if that is correct?

Thanks,
Stephen

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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From: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>
Sent: Monday, April 19, 2021 4:38 PM
To: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Cc: Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>
Subject: RE: [EXTERNAL] Vineyard Wind

Thanks, Stephen.

From: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Sent: Monday, April 19, 2021 2:31 PM
To: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Cc: Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>
Subject: RE: [EXTERNAL] Vineyard Wind

(b)(5)

. (I was (b)(6) so Pedro may know more.)

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From: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>
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To: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Cc: Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>

Subject: [EXTERNAL] Vineyard Wind

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Pedro and Stephen,

For planning purposes, (b)(5)

Thanks,
Luke

Luke Hajek
U.S. Department of Justice
(303) 241-0826

From: [Ballenger, Matthew T](#)
To: [Hearne, Melissa](#); [Annatoyn, Travis J](#); [Meléndez-arreaga, Pedro E](#); [Vorkoper, Stephen R](#); [Daugherty, Dennis](#); [Hawbecker, Karen S](#)
Subject: Re: [EXTERNAL] Vineyard Wind
Date: Friday, June 24, 2022 11:16:11 AM

Thanks for my heads up, too. (b)(5)

[Redacted]

[Redacted]

[Redacted]

[Redacted] If this surfaces for future discussion (b)(6)
[Redacted], please look to Ben on the BOSE side. Thanks.

From: Hearne, Melissa <melissa.hearne@sol.doi.gov>

Sent: Friday, June 24, 2022 10:18 AM

To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>

Subject: Re: [EXTERNAL] Vineyard Wind

Thanks for the heads up. [REDACTED] (b)(5) [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

I'm online today so happy to chat if you want.

Melissa

Melissa Hearne

Team Lead for Conventional Offshore Energy
Attorney-Adviser
Division of Mineral Resources
Office of the Solicitor
U.S. Department of the Interior
202.208.7918 (Washington, DC)

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Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5)

(b)(5)

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

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Thanks. (b)(5)
[Redacted]

From: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
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To: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
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(b)(5)
[Redacted]

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PFM

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Subject: FW: [EXTERNAL] Vineyard Wind

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Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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Sent: Friday, May 14, 2021 5:10 PM
To: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>
Subject: RE: [EXTERNAL] Vineyard Wind

(b)(5)
[Redacted content]

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Sent: Friday, May 14, 2021 1:41 PM
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Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5)

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>
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To: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>
Cc: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
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Cc: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: RE: [EXTERNAL] Vineyard Wind

You probably saw in the news that BOEM signed the ROD for VW's COP on Monday.

(b)(5)

Do you know if that is correct?

Thanks,
Stephen

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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Cc: Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>
Subject: RE: [EXTERNAL] Vineyard Wind

Thanks, Stephen.

From: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Sent: Monday, April 19, 2021 2:31 PM
To: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Cc: Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>
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(b)(5)

[REDACTED]

[REDACTED] . (I was (b)(6) [REDACTED] so Pedro may know more.)

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
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Subject: [EXTERNAL] Vineyard Wind

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Pedro and Stephen,

For planning purposes, (b)(5)

Thanks,
Luke

Luke Hajek
U.S. Department of Justice
(303) 241-0826

From: [Meléndez-arreaga, Pedro F](#)
To: [Annatoyn, Travis J](#); [Daugherty, Dennis](#); [Vorkoper, Stephen R](#); [Ballenger, Matthew T](#); [Hearne, Melissa A](#); [Hawbecker, Karen S](#)
Subject: Re: [EXTERNAL] Vineyard Wind
Date: Friday, June 24, 2022 11:56:45 AM

Absolutely, sorry, I forgot we were consulting with him.

Best,

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Sent: Friday, June 24, 2022 11:54 AM
To: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>; Hearne, Melissa A <Melissa.Hearne@boem.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>
Subject: RE: [EXTERNAL] Vineyard Wind

Can we wait until next week to give Bob a chance to weigh in?

From: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Friday, June 24, 2022 11:54 AM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>; Hearne, Melissa A <Melissa.Hearne@boem.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>
Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5)

Two follow up questions:

- (b)(5)

- (b)(5) [Redacted]

Thanks,

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
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From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
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Subject: RE: [EXTERNAL] Vineyard Wind

With a nod to Karen's question, (b)(5) [Redacted]
[Redacted]
[Redacted]
[Redacted]

[Redacted]
[Redacted]
[Redacted]

From: Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>
Sent: Friday, June 24, 2022 11:20 AM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>
Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5) [Redacted]
[Redacted]
[Redacted]
[Redacted]

(b)(5)

Dennis Daugherty
Assistant Solicitor, Branch of Ocean Energy
Division of Mineral Resources

(202) 208-5038

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Subject: RE: [EXTERNAL] Vineyard Wind

OK. Thanks for the heads up and DOJ context. cc-ing Matt for his views: (b)(5)
In the meantime, I have elevated this issue to Bob and will try to get his take by early next week, unless you think we need it sooner.

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Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

(b)(5)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Stephen - I'm out (AWS) until the moot court, please share any invite for the call if Travis and others want to join.

Best,

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
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Office of the Solicitor
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Thanks. (b)(5)

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Subject: Re: [EXTERNAL] Vineyard Wind

This question just came up again and Stephen and I would like your feedback.

(b)(5)

Best,

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>

Sent: Wednesday, May 19, 2021 4:00 PM

To: Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>

Cc: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Cordalis, Daniel J <Daniel.Cordalis@sol.doi.gov>

Subject: FW: [EXTERNAL] Vineyard Wind

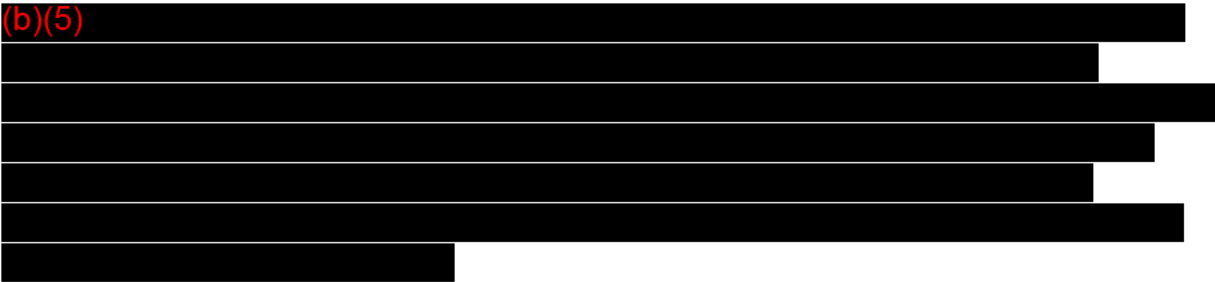
Here is Luke's latest email on the question of timing of a complaint.

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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(b)(5)

A large block of text is redacted with black bars. The redaction covers approximately 8 lines of text.

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Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5)

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Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
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Subject: RE: [EXTERNAL] Vineyard Wind

You probably saw in the news that BOEM signed the ROD for VW's COP on Monday.

(b)(5)

Do you know if that is correct?

Thanks,
Stephen

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
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Subject: RE: [EXTERNAL] Vineyard Wind

Thanks, Stephen.

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Cc: Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>

Subject: RE: [EXTERNAL] Vineyard Wind

(b)(5)

. (I was (b)(6) so Pedro may know more.)

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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Subject: [EXTERNAL] Vineyard Wind

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Pedro and Stephen,

For planning purposes, (b)(5)

Thanks,
Luke

Luke Hajek
U.S. Department of Justice
(303) 241-0826

From: [Vorkoper, Stephen R](#)
To: [Meléndez-arreaga, Pedro F](#); [Hawbecker, Karen S](#); [Annatoyn, Travis J](#); [Daugherty, Dennis](#); [Ballenger, Matthew T](#); [Hearne, Melissa A](#)
Subject: RE: [EXTERNAL] Vineyard Wind
Date: Friday, June 24, 2022 1:57:37 PM
Attachments: [2022-06-22--Vineyard Wind--Bennett additional AR document certification.docx](#)

Hi all,

I wanted to provide a bit more specific context for why this issue is coming up now. (b)(5)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
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<travis.annatoyn@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>; Hearne, Melissa A <Melissa.Hearne@boem.gov>
Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5) [Redacted]
[Redacted]
[Redacted]

Closing shop for the day (AWS). Have a great weekend!

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>
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Subject: Re: [EXTERNAL] Vineyard Wind

Pedro, (b)(5) [Redacted]
[Redacted]
[Redacted]
[Redacted] --Karen

Karen Hawbecker
Associate Solicitor
Division of Mineral Resources
Office of the Solicitor
U.S. Department of the Interior
1849 C Street N.W. MS 5359
Washington, D.C. 20240

Office: (202) 208-4146 (this number is currently forwarded to my cell phone)

karen.hawbecker@sol.doi.gov

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Sent: Friday, June 24, 2022 11:53 AM
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Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5) [Redacted]

Two follow up questions:

- (b)(5) [Redacted]
- [Redacted]

Thanks,

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
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Office of the Solicitor
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Subject: RE: [EXTERNAL] Vineyard Wind

With a nod to Karen's question, (b)(5) [Redacted]

(b)(5) [Redacted]

[Redacted]

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(b)(5) [Redacted]

[Redacted]

Dennis Daugherty
Assistant Solicitor, Branch of Ocean Energy
Division of Mineral Resources

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Subject: RE: [EXTERNAL] Vineyard Wind

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[Redacted] In the meantime, I have elevated this issue to Bob and will try to get his take by early next week, unless you think we need it sooner.

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(b)(5) [Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

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[Redacted]

Stephen - I'm out (AWS) until the moot court, please share any invite for the call if Travis and

others want to join.

Best,

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
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Thanks. (b)(5)

[REDACTED]

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Subject: Re: [EXTERNAL] Vineyard Wind

This question just came up again and Stephen and I would like your feedback.

(b)(5)

[REDACTED]

Best,

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
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Office of the Solicitor
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Cc: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Cordalis, Daniel J <Daniel.Cordalis@sol.doi.gov>
Subject: FW: [EXTERNAL] Vineyard Wind

Here is Luke's latest email on the question of timing of a complaint.

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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From: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>
Sent: Friday, May 14, 2021 5:10 PM
To: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>
Subject: RE: [EXTERNAL] Vineyard Wind

(b)(5)
[Redacted content]

From: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Friday, May 14, 2021 1:41 PM

To: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>
Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5)

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>
Sent: Friday, May 14, 2021 3:24 PM
To: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>
Cc: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: RE: [EXTERNAL] Vineyard Wind

(b)(5)

From: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Sent: Friday, May 14, 2021 1:15 PM
To: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>; Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>
Cc: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: RE: [EXTERNAL] Vineyard Wind

You probably saw in the news that BOEM signed the ROD for VW's COP on Monday.

(b)(5)

Do you know if that is correct?

Thanks,
Stephen

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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From: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>
Sent: Monday, April 19, 2021 4:38 PM
To: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Cc: Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>
Subject: RE: [EXTERNAL] Vineyard Wind

Thanks, Stephen.

From: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Sent: Monday, April 19, 2021 2:31 PM
To: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Cc: Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>
Subject: RE: [EXTERNAL] Vineyard Wind

(b)(5)

. (I was (b)(6) so Pedro may know more.)

Stephen Vorkoper | Attorney-advisor
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U.S. Department of the Interior
Telephone (202) 208-3441

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From: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>
Sent: Monday, April 19, 2021 4:08 PM
To: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Cc: Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>
Subject: [EXTERNAL] Vineyard Wind

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Pedro and Stephen,

For planning purposes, (b)(5)

Thanks,
Luke

Luke Hajek
U.S. Department of Justice
(303) 241-0826

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS**

ALLCO RENEWABLE ENERGY LTD., ALLCO
FINANCE LTD., and THOMAS M. MELONE,

Plaintiffs,

v.

DEB HAALAND, in her official capacity of
Secretary of the Interior, GARY FRAZER, in his
official capacity of Assistant Director for
Endangered Species, U.S. Fish and Wildlife Service,
JANET COIT, in her official capacity of Assistant
Administrator, National Marine Fisheries Service,
MARTHA WILLIAMS in her official capacity of
Principal Deputy Director, U.S. Fish and Wildlife
Service, COLONEL JOHN A ATILANO II in his
official capacity of Commander and District
Engineer, Colonel, U.S. Army Corps of Engineers,
U.S. FISH AND WILDLIFE SERVICE,
NATIONAL MARINE FISHERIES SERVICE, U.S.
ARMY CORPS OF ENGINEERS, BUREAU OF
OCEAN ENERGY MANAGEMENT, and the U.S.
DEPARTMENT OF THE INTERIOR

Defendants.

Civil Action No. 1:21-cv-11171-IT

Hon. Indira Talwani

ADMINISTRATIVE RECORD CERTIFICATION

1. (b)(5)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

3. (b)(5) [Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

Dated: June ##, 2022

James F. Bennett
Program Manager, Office of Renewable Energy Programs
Bureau of Ocean Energy Management

From: [Hawbecker, Karen S](#)
To: [Meléndez-arreaga, Pedro F](#); [Daugherty, Dennis](#); [Annatoyn, Travis J](#); [Vorkoper, Stephen R](#); [Ballenger, Matthew T](#); [Hearne, Melissa A](#)
Subject: Re: [EXTERNAL] Vineyard Wind
Date: Tuesday, June 28, 2022 5:17:56 PM

(b)(5)



Karen Hawbecker
Associate Solicitor
Division of Mineral Resources
Office of the Solicitor
U.S. Department of the Interior
1849 C Street N.W. MS 5359
Washington, D.C. 20240

Office: (202) 208-4146 (this number is currently forwarded to my cell phone)
karen.hawbecker@sol.doi.gov

From: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Tuesday, June 28, 2022 12:02 PM
To: Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>; Hearne, Melissa A <Melissa.Hearne@boem.gov>
Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5)




I'm asking for clarification on that point.

Best,

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor

Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>
Sent: Tuesday, June 28, 2022 11:43 AM
To: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>; Hearne, Melissa A <Melissa.Hearne@boem.gov>
Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5)
[Redacted]

Dennis Daugherty
Assistant Solicitor, Branch of Ocean Energy
Division of Mineral Resources

(202) 208-5038

From: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Tuesday, June 28, 2022 11:23 AM
To: Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>; Hearne, Melissa A <Melissa.Hearne@boem.gov>
Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5)
[Redacted]

[Redacted]

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor

Department of the Interior

From: Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>

Sent: Tuesday, June 28, 2022 11:15 AM

To: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>; Hearne, Melissa A <Melissa.Hearne@boem.gov>

Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5)
[Redacted]

Dennis Daugherty
Assistant Solicitor, Branch of Ocean Energy
Division of Mineral Resources

(202) 208-5038

From: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>

Sent: Tuesday, June 28, 2022 10:52 AM

To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>; Hearne, Melissa A <Melissa.Hearne@boem.gov>

Subject: Re: [EXTERNAL] Vineyard Wind

Noted.

Follow up - (b)(5)
[Redacted]

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor

Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Sent: Tuesday, June 28, 2022 10:27 AM
To: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>; Hearne, Melissa A <Melissa.Hearne@boem.gov>
Subject: RE: [EXTERNAL] Vineyard Wind

Hi all:

Thanks for the patience as I circulated this among the front office. (b)(5)

[REDACTED]
[REDACTED]
[REDACTED]. Happy to answer follow ups.

From: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>
Sent: Monday, June 27, 2022 2:23 PM
To: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>; Hearne, Melissa A <Melissa.Hearne@boem.gov>
Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5)

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1849 C Street N.W. MS 5359
Washington, D.C. 20240

Office: (202) 208-4146 (this number is currently forwarded to my cell phone)
karen.hawbecker@sol.doi.gov

From: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Sent: Monday, June 27, 2022 2:00 PM
To: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>;

Hearne, Melissa A <Melissa.Hearne@boem.gov>

Subject: RE: [EXTERNAL] Vineyard Wind

(b)(5)

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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From: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>

Sent: Monday, June 27, 2022 1:02 PM

To: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>; Hearne, Melissa A <Melissa.Hearne@boem.gov>

Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5)

Karen Hawbecker
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Washington, D.C. 20240

Office: (202) 208-4146 (this number is currently forwarded to my cell phone)
karen.hawbecker@sol.doi.gov

From: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>

Sent: Monday, June 27, 2022 12:43 PM

To: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>; Hearne, Melissa A <Melissa.Hearne@boem.gov>

Subject: RE: [EXTERNAL] Vineyard Wind

(b)(5)

Thanks,
Stephen

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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From: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>
Sent: Friday, June 24, 2022 4:18 PM
To: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>; Hearne, Melissa A <Melissa.Hearne@boem.gov>
Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5)

Karen Hawbecker
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1849 C Street N.W. MS 5359
Washington, D.C. 20240

Office: (202) 208-4146 (this number is currently forwarded to my cell phone)
karen.hawbecker@sol.doi.gov

From: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Sent: Friday, June 24, 2022 1:57 PM
To: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>; Hearne, Melissa A <Melissa.Hearne@boem.gov>
Subject: RE: [EXTERNAL] Vineyard Wind

Hi all,

I wanted to provide a bit more specific context for why this issue is coming up now. (b)(5)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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From: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Friday, June 24, 2022 12:42 PM
To: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>; Hearne, Melissa A <Melissa.Hearne@boem.gov>
Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5) [Redacted]

[Redacted]

[Redacted]

Closing shop for the day (AWS). Have a great weekend!

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>
Sent: Friday, June 24, 2022 12:00 PM
To: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>; Hearne, Melissa A <Melissa.Hearne@boem.gov>
Subject: Re: [EXTERNAL] Vineyard Wind

Pedro, (b)(5) [Redacted]

[Redacted]

[Redacted]

[Redacted] --Karen

Karen Hawbecker
Associate Solicitor
Division of Mineral Resources
Office of the Solicitor

U.S. Department of the Interior
1849 C Street N.W. MS 5359
Washington, D.C. 20240

Office: (202) 208-4146 (this number is currently forwarded to my cell phone)
karen.hawbecker@sol.doi.gov

From: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Friday, June 24, 2022 11:53 AM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>; Hearne, Melissa A <Melissa.Hearne@boem.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>
Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5) [Redacted]

Two follow up questions:

- (b)(5) [Redacted]
- [Redacted]

Thanks,

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Sent: Friday, June 24, 2022 11:31 AM
To: Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>

Subject: RE: [EXTERNAL] Vineyard Wind

With a nod to Karen's question, (b)(5) [REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]

From: Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>
Sent: Friday, June 24, 2022 11:20 AM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>
Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5) [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]

Dennis Daugherty
Assistant Solicitor, Branch of Ocean Energy
Division of Mineral Resources

(202) 208-5038

From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Sent: Thursday, June 23, 2022 7:29 PM
To: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>
Subject: RE: [EXTERNAL] Vineyard Wind

OK. Thanks for the heads up and DOJ context. cc-ing Matt for his views: (b)(5) [REDACTED]
[REDACTED]

(b)(5) [REDACTED]. In the meantime, I have elevated this issue to Bob and will try to get his take by early next week, unless you think we need it sooner.

From: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>

Sent: Thursday, June 23, 2022 5:59 PM

To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>

Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5) [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

(b)(5)

Stephen - I'm out (AWS) until the moot court, please share any invite for the call if Travis and others want to join.

Best,

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Sent: Thursday, June 23, 2022 5:23 PM
To: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>
Subject: RE: [EXTERNAL] Vineyard Wind

Thanks. (b)(5)

From: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Thursday, June 23, 2022 5:19 PM
To: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Subject: Re: [EXTERNAL] Vineyard Wind

This question just came up again and Stephen and I would like your feedback.

(b)(5)

(b)(5)

Best,

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Sent: Wednesday, May 19, 2021 4:00 PM
To: Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Cc: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Cordalis, Daniel J <Daniel.Cordalis@sol.doi.gov>
Subject: FW: [EXTERNAL] Vineyard Wind

Here is Luke's latest email on the question of timing of a complaint.

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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From: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>
Sent: Friday, May 14, 2021 5:10 PM
To: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>
Subject: RE: [EXTERNAL] Vineyard Wind

(b)(5)

(b)(5)

From: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>

Sent: Friday, May 14, 2021 1:41 PM

To: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>

Subject: Re: [EXTERNAL] Vineyard Wind

(b)(5)

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>

Sent: Friday, May 14, 2021 3:24 PM

To: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>

Cc: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>

Subject: RE: [EXTERNAL] Vineyard Wind

(b)(5)

From: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>

Sent: Friday, May 14, 2021 1:15 PM

To: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>; Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>

Cc: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>

Subject: RE: [EXTERNAL] Vineyard Wind

You probably saw in the news that BOEM signed the ROD for VW's COP on Monday.

(b)(5)

(b)(5)

Do you know if that is correct?

Thanks,
Stephen

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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From: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>
Sent: Monday, April 19, 2021 4:38 PM
To: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Cc: Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>
Subject: RE: [EXTERNAL] Vineyard Wind

Thanks, Stephen.

From: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Sent: Monday, April 19, 2021 2:31 PM
To: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Cc: Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>
Subject: RE: [EXTERNAL] Vineyard Wind

(b)(5)

(b)(5) . (I was (b)(6) so Pedro may know more.)

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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From: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>
Sent: Monday, April 19, 2021 4:08 PM
To: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Cc: Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>
Subject: [EXTERNAL] Vineyard Wind

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Pedro and Stephen,

For planning purposes, (b)(5)

Thanks,
Luke

Luke Hajek
U.S. Department of Justice
(303) 241-0826

From: [Vorkoper, Stephen R](#)
To: [Annatoyn, Travis J](#); [Hawbecker, Karen S](#)
Cc: [Meléndez-arreaga, Pedro F](#); [Sebastian, Robert L](#)
Subject: FW: VW Litigation report
Date: Friday, July 15, 2022 4:15:59 PM
Attachments: [2022-07-015--VW Litigation Report Summary table -clean.docx](#)

Travis and Karen,

We have been working on preparing a litigation report for the VW suits for a while, and Luke has seemed very keen to receive it ASAP. So, I sent a draft to him that Pedro and I (with help from Bob and Kathryn) put together.

(b)(5). If you have any input, please let me know.

Thanks,
Stephen

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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From: Vorkoper, Stephen R
Sent: Friday, July 15, 2022 4:13 PM
To: luke.hajek_contact <luke.hajek@usdoj.gov>
Cc: Ellis, Angela (ENRD) <Angela.Ellis@usdoj.gov>; 'Rosen, Perry (ENRD)' <Perry.Rosen@usdoj.gov>; Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Sebastian, Robert L <robert.sebastian@sol.doi.gov>
Subject: VW Litigation report

Luke,

Here is the litigation report we've been working on. Rather than writing something in the typical memo format, Pedro and I thought it would be more useful to put together a series of tables **(b)(5)**

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(b)(5). Hopefully, that format will be helpful.

My apologies for the delay in getting this to you. Also, in the interest of time, we are asking Travis and a couple of our other managers to review this at the same time that I'm sending it to you. If they have any suggestions or updates, I will plan to send you an updated version, indicating what has changed.

Thanks,
Stephen

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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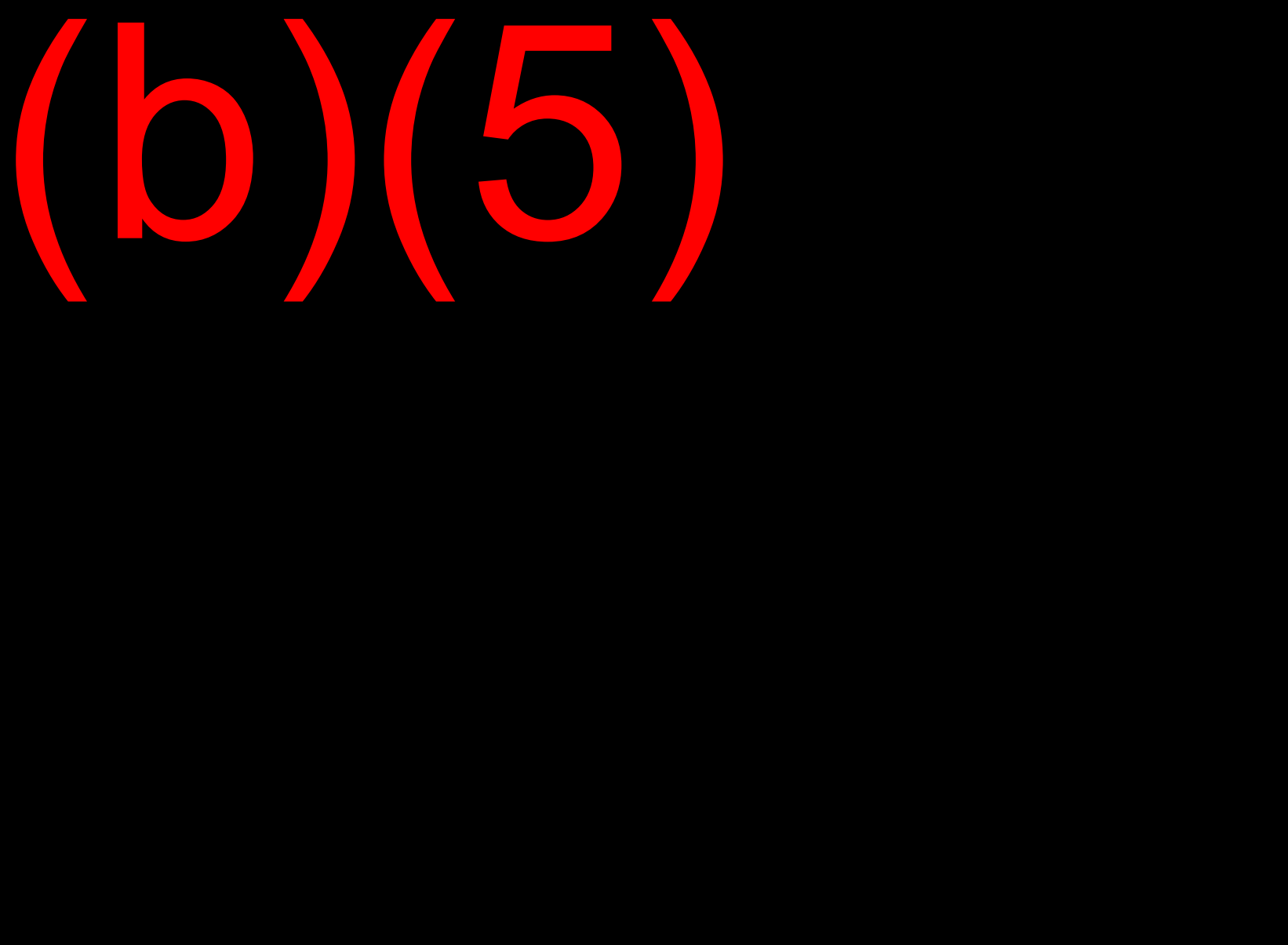
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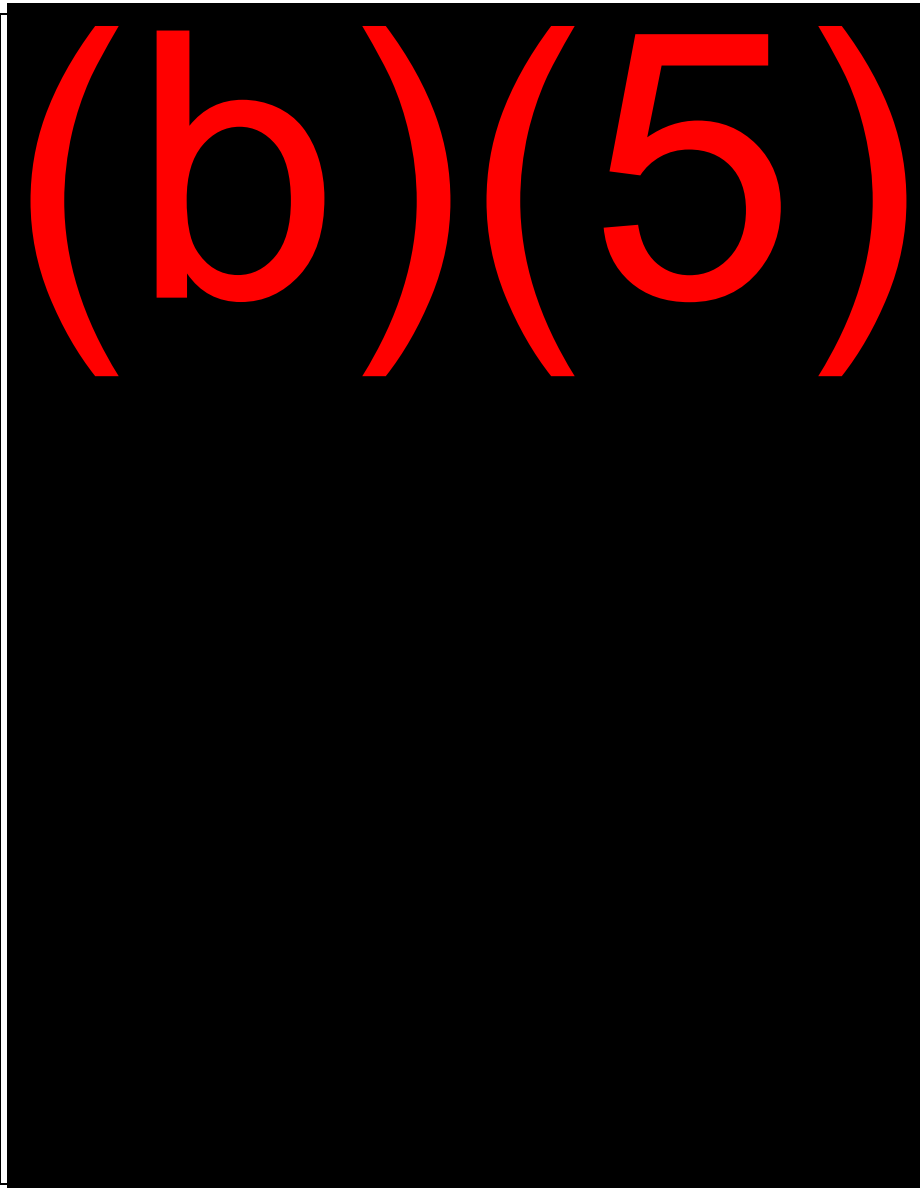
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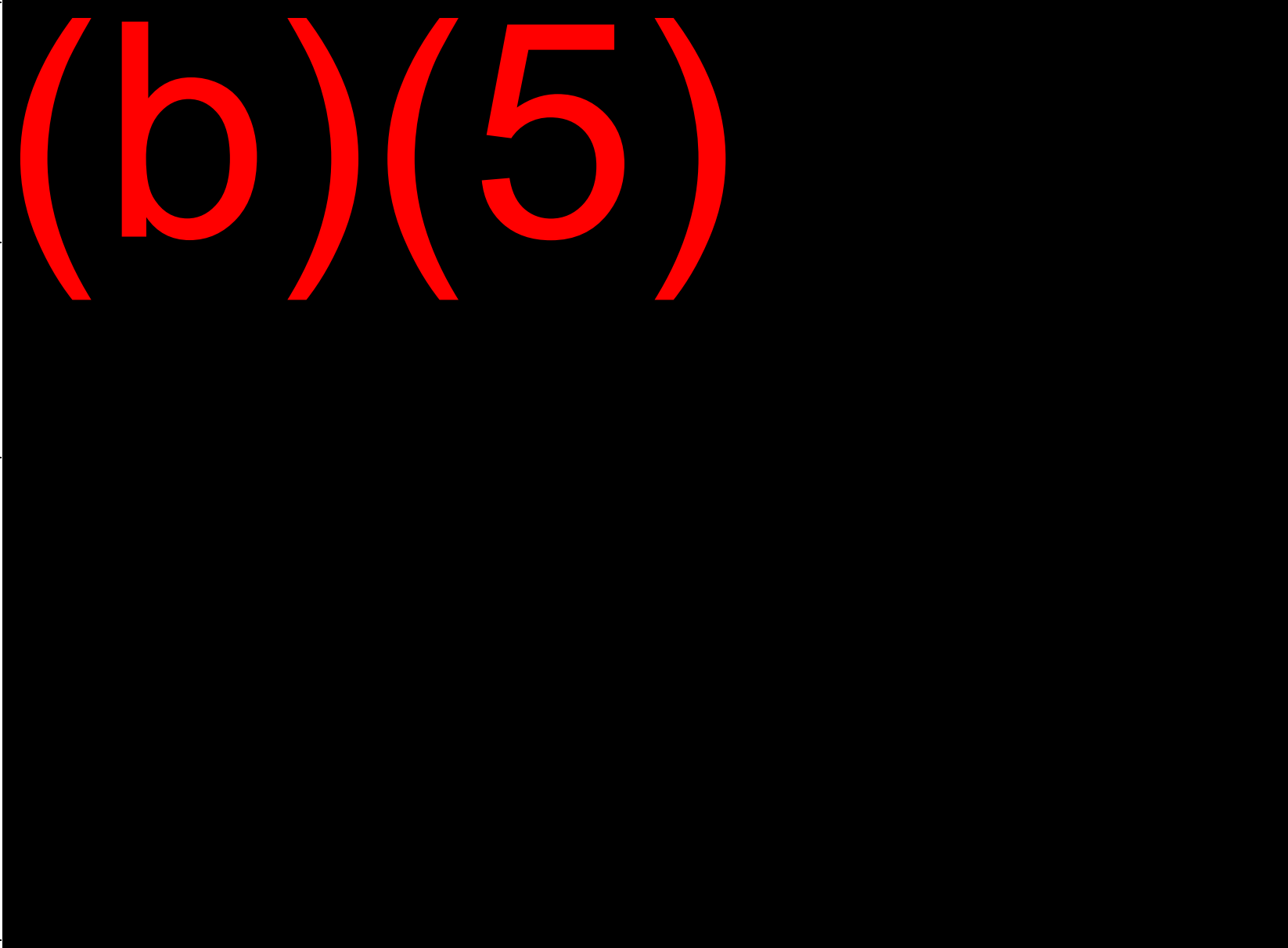
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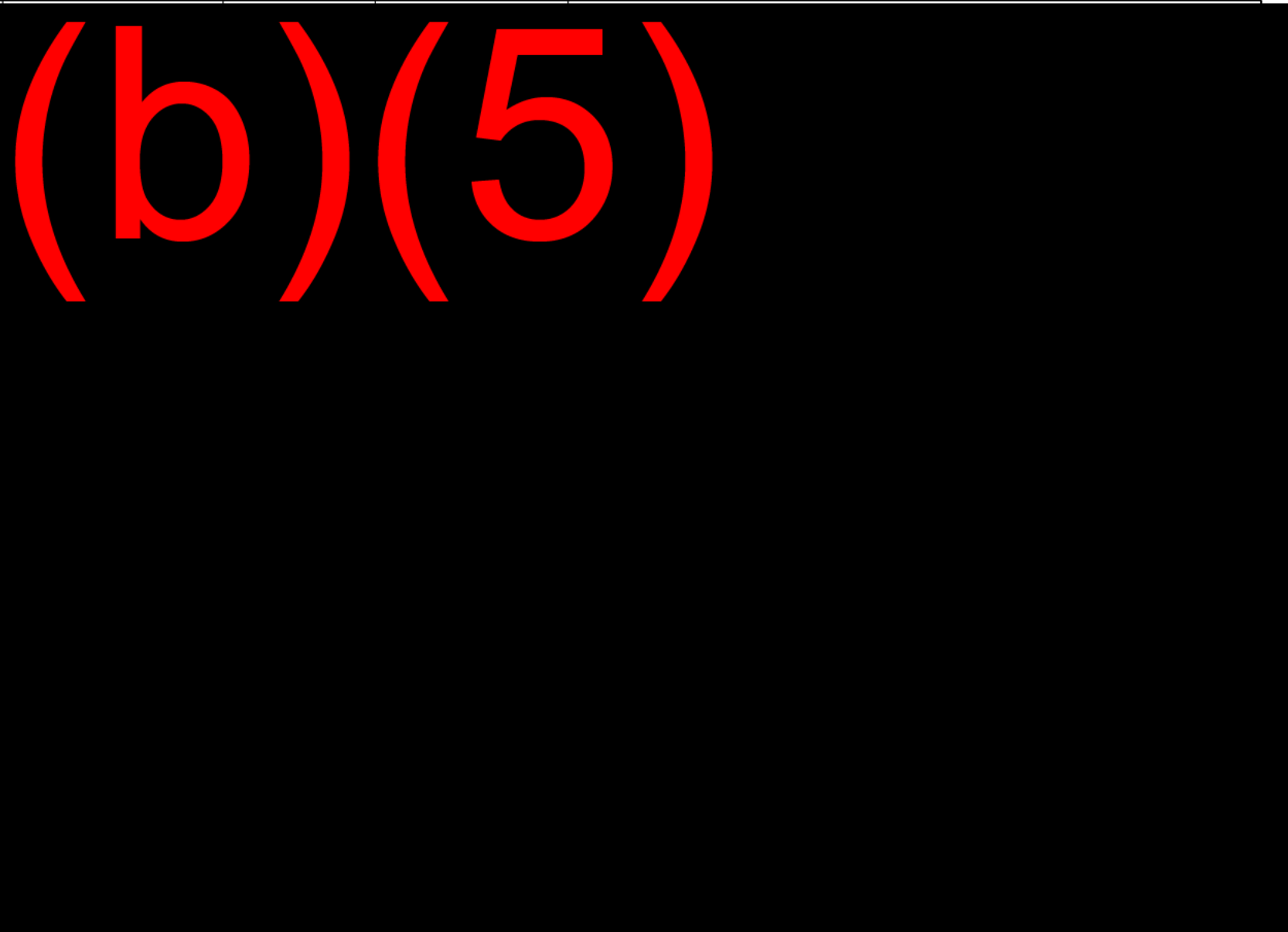
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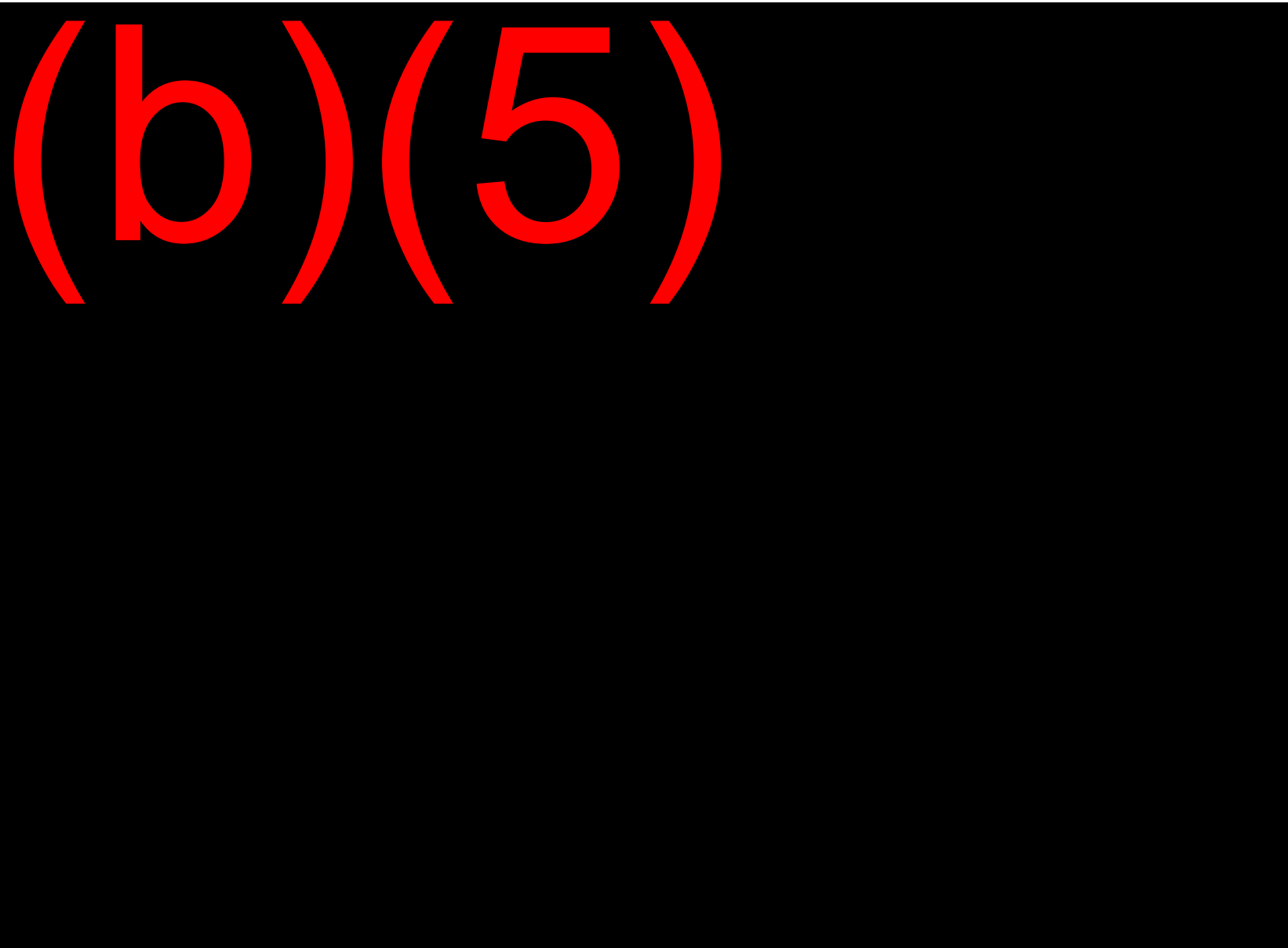
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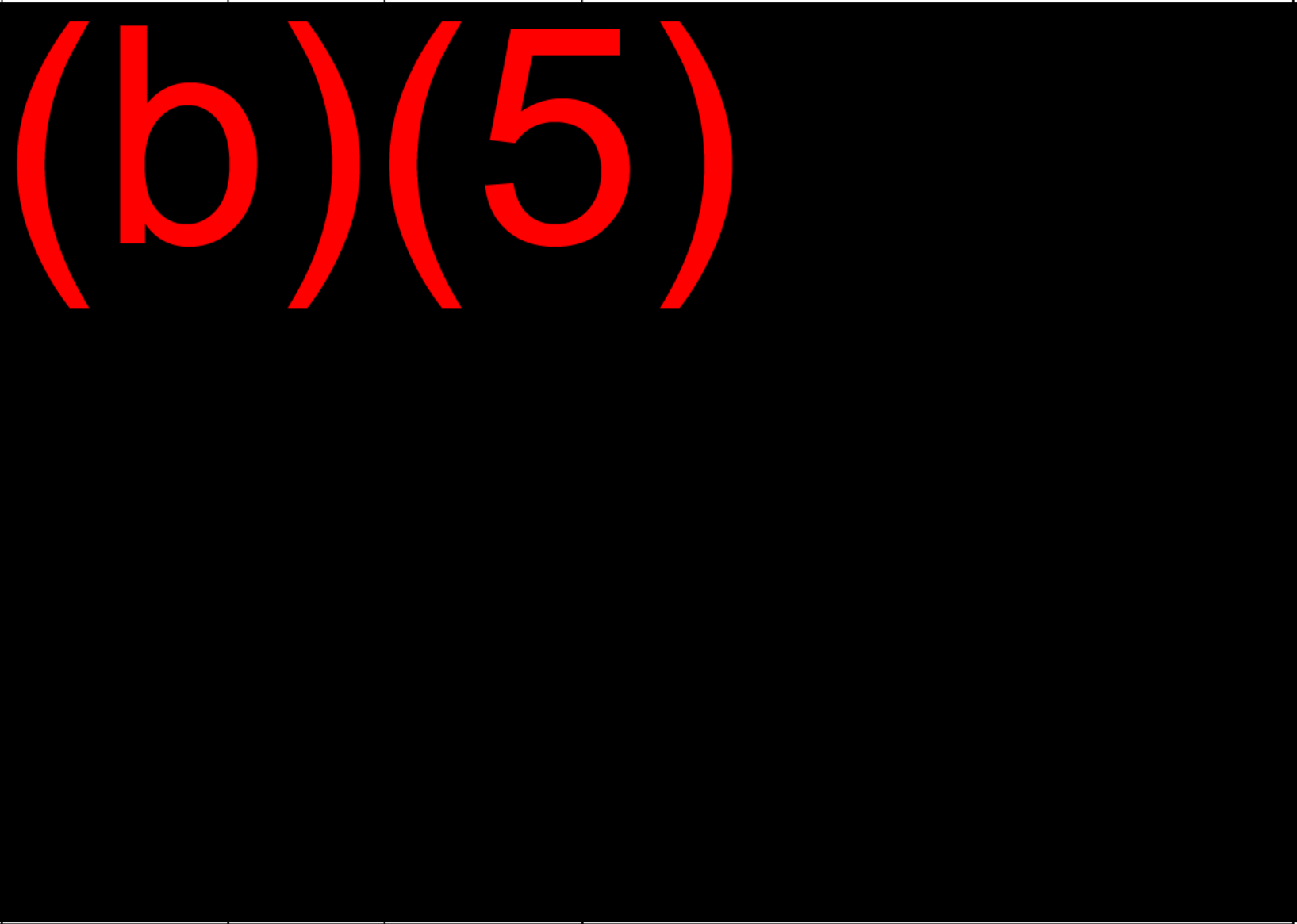
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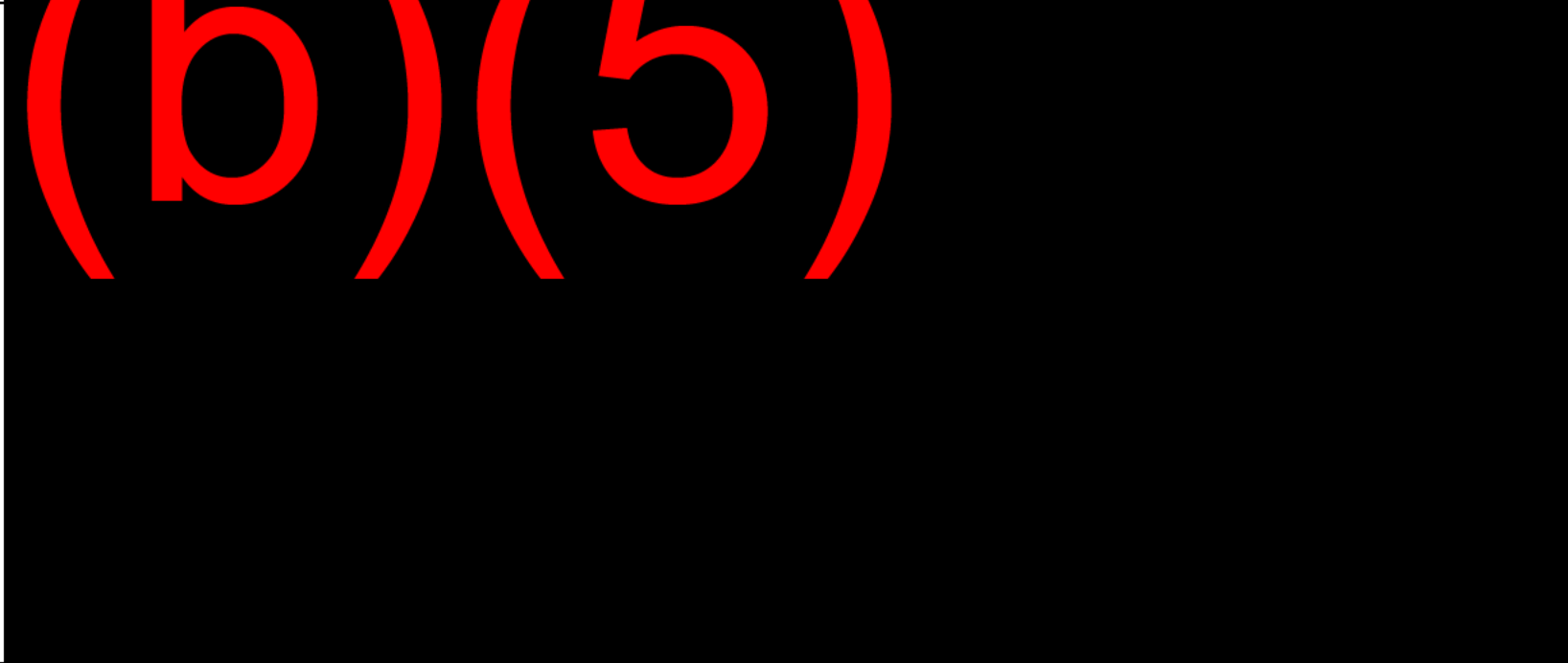
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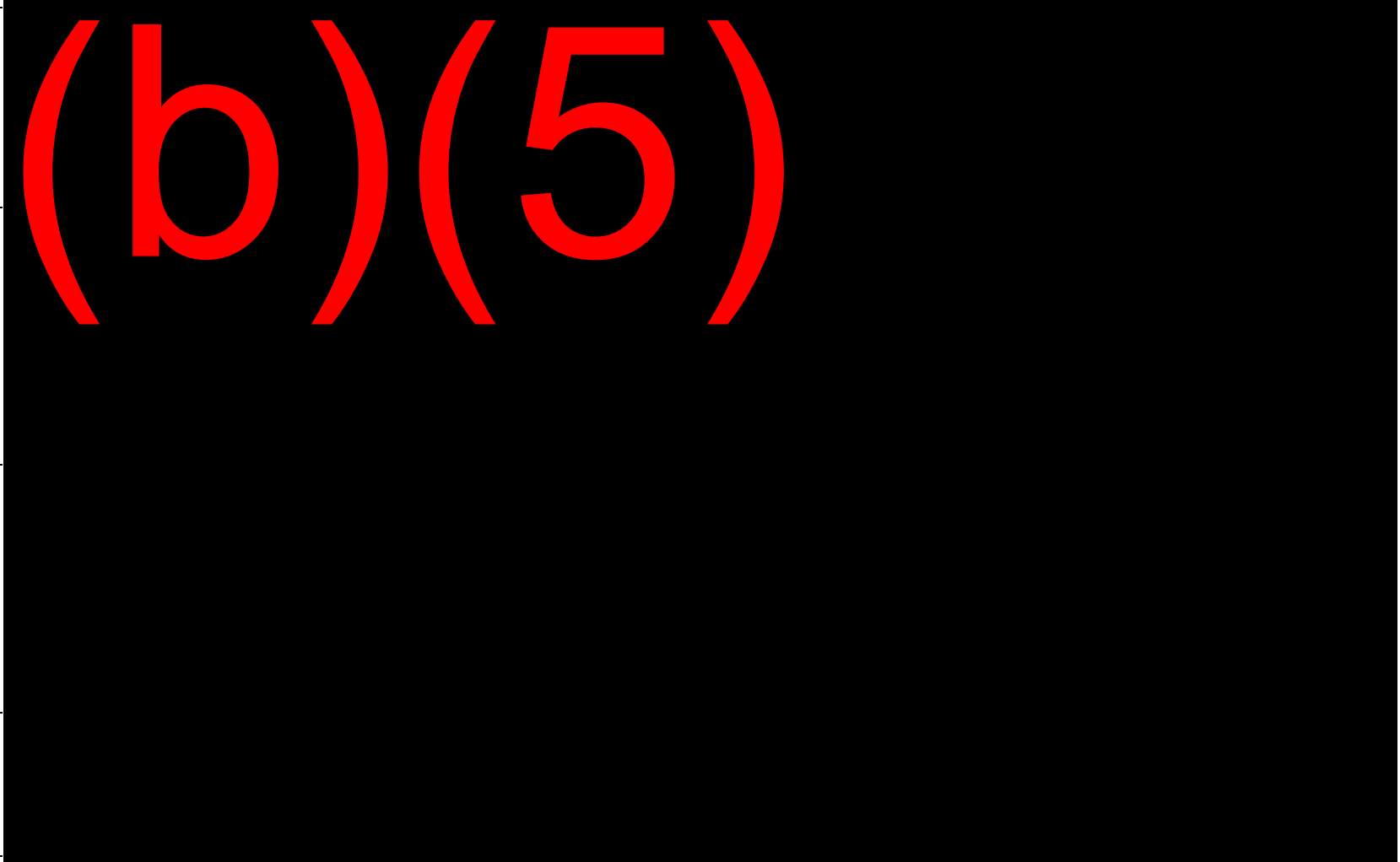
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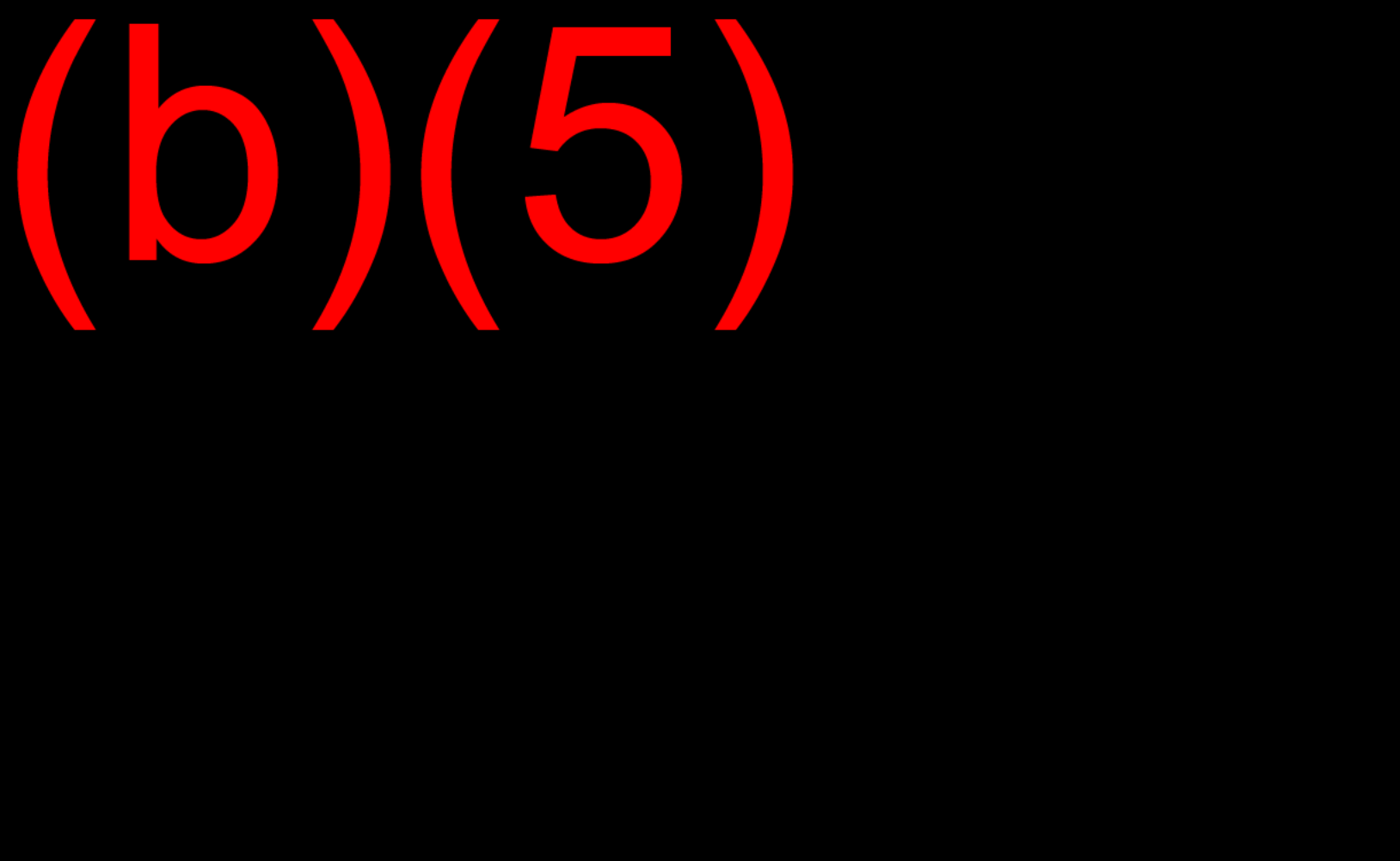
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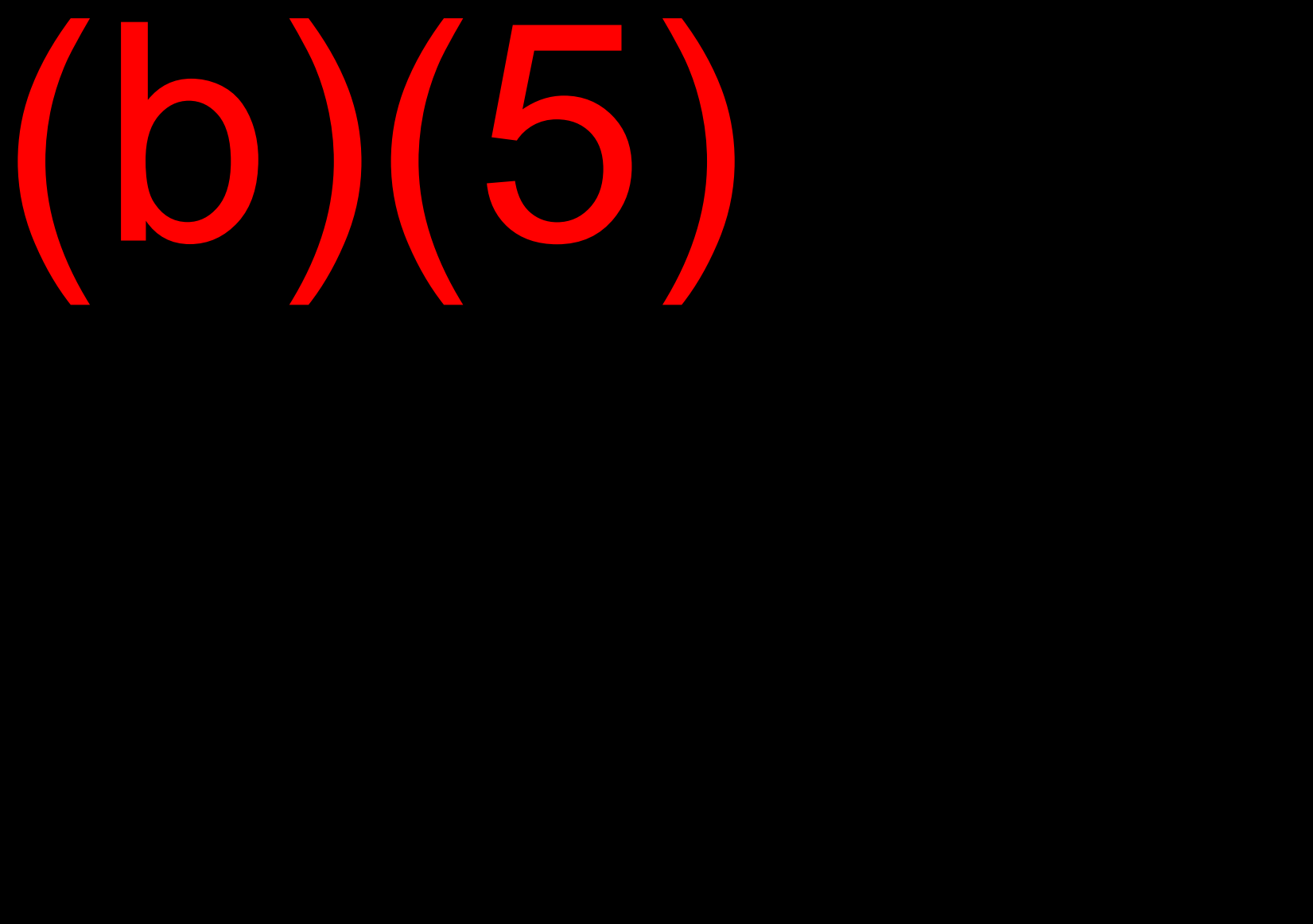
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From: [Vorkoper, Stephen R](#)
To: [Annatoyn, Travis J](#)
Cc: [Meléndez-arreaga, Pedro F](#); [Hawbecker, Karen S](#); [Morris, Emily D](#)
Subject: VW1 MOA amendment
Date: Tuesday, July 19, 2022 1:59:41 PM
Attachments: [Fig 4 Route Substation Overview 20220715.pdf](#)
[VW Notice to Consulting Parties.pdf](#)
[boem.ma.vineyardwind1.amendment.moa.07.14.2022-sv.docx](#)

Travis,

I wanted to bring your attention to an issue regarding the VW1 project's NHPA MOA. (b)(5)

[Redacted]

[Redacted]

[Redacted]

[Redacted]

(b)(5)

If you'd like to discuss or if you have any questions, please let me know. (cc'ing Karen and Emily for awareness.)

Thanks,
Stephen

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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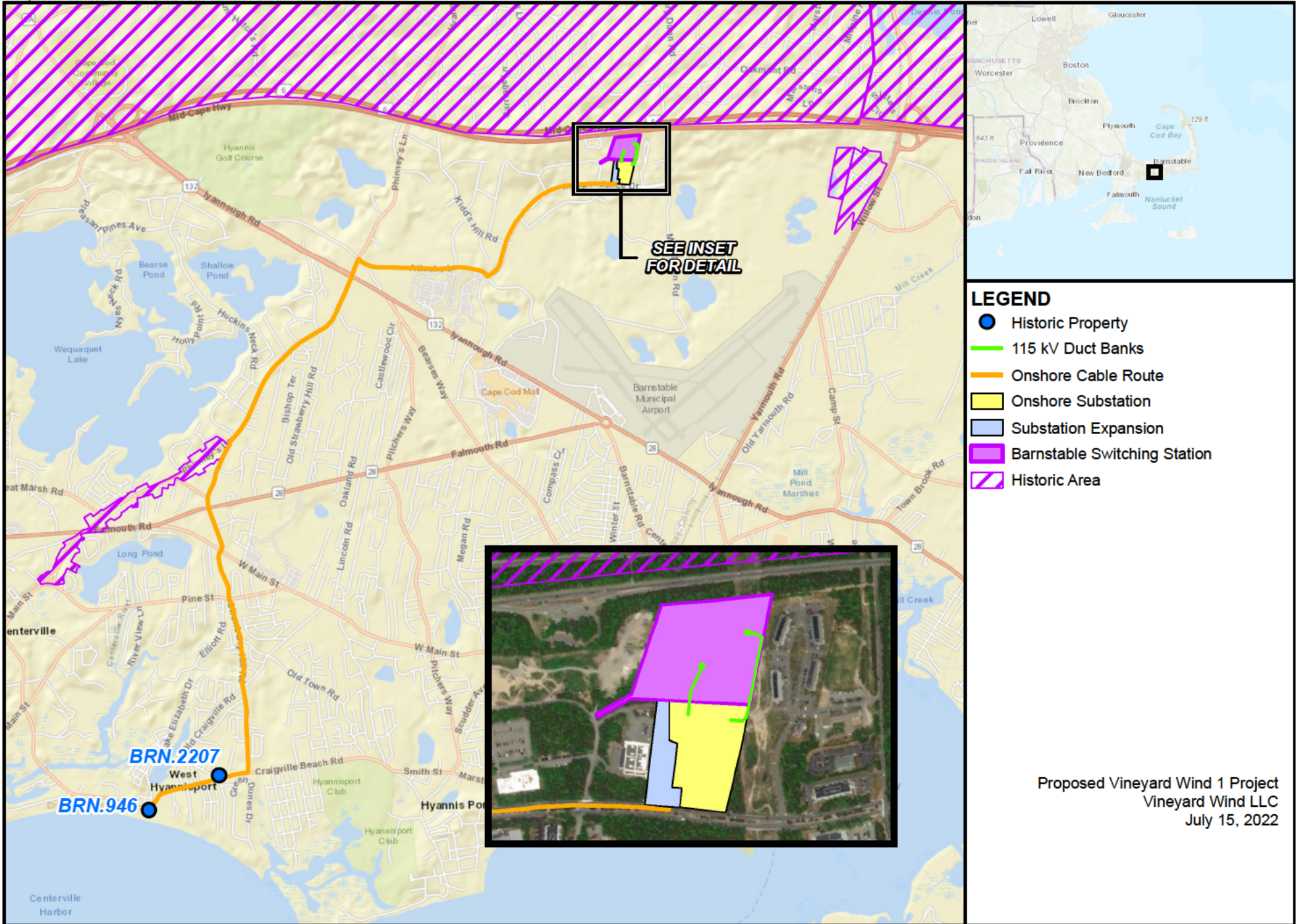


Figure 4. Overview of Terrestrial Archaeological Resources APE



VINEYARD WIND

July 18, 2022

Vineyard Wind 1 Notice to Consulting Parties

As described in Vineyard Wind 1's Construction and Operations Plan (COP), the power generated from the project will make landfall at Covell's Beach where it connects to two underground 220 kV cables within duct banks that travel to a new onshore substation where it is stepped down from 220 kV to 115 kV before connecting to the power grid at the adjacent Eversource Barnstable Switching Station. Two 115kV cables within duct banks will connect the power from the new substation to the Eversource Barnstable Switching Station. *See* Attached Figure 4. All of these activities were analyzed by BOEM in its Environmental Impact Statement (EIS) pursuant to the National Environmental Policy Act (42 U.S.C. 4321 et seq.).

However, Section 3.3 of the Memorandum of Agreement (MOA) executed pursuant to Section 106 of the National Historic Preservation Act inadvertently omitted from the Terrestrial Area of Potential Effects (APE) the two duct banks connecting the power from the new substation to the Eversource Barnstable Switching Station. Recognizing the omission, Vineyard Wind 1 notified BOEM and requested that the Public Archeological Laboratory (PAL) conduct an archeological sensitivity assessment of the two proposed duct bank routes to ensure that there were no archeological issues of concerns. PAL's assessment included a review of previous surveys and a walkover survey of the two duct bank routes. PAL determined that both routes are of low archeological sensitivity and that no further investigations were warranted. PAL's report is attached to this Notice.

BOEM is proposing to amend the MOA to correct the description of the Terrestrial APE, correct the list of federally recognized Tribes that were consulted during the Section 106 process, and add a section governing the process by which consulting parties would be notified of future project modifications, if any.

700 Pleasant Street, Suite 510, New Bedford, MA 02740

TEL 508.717.8964 EMAIL info@vineyardwind.com

VINEYARDWIND.COM

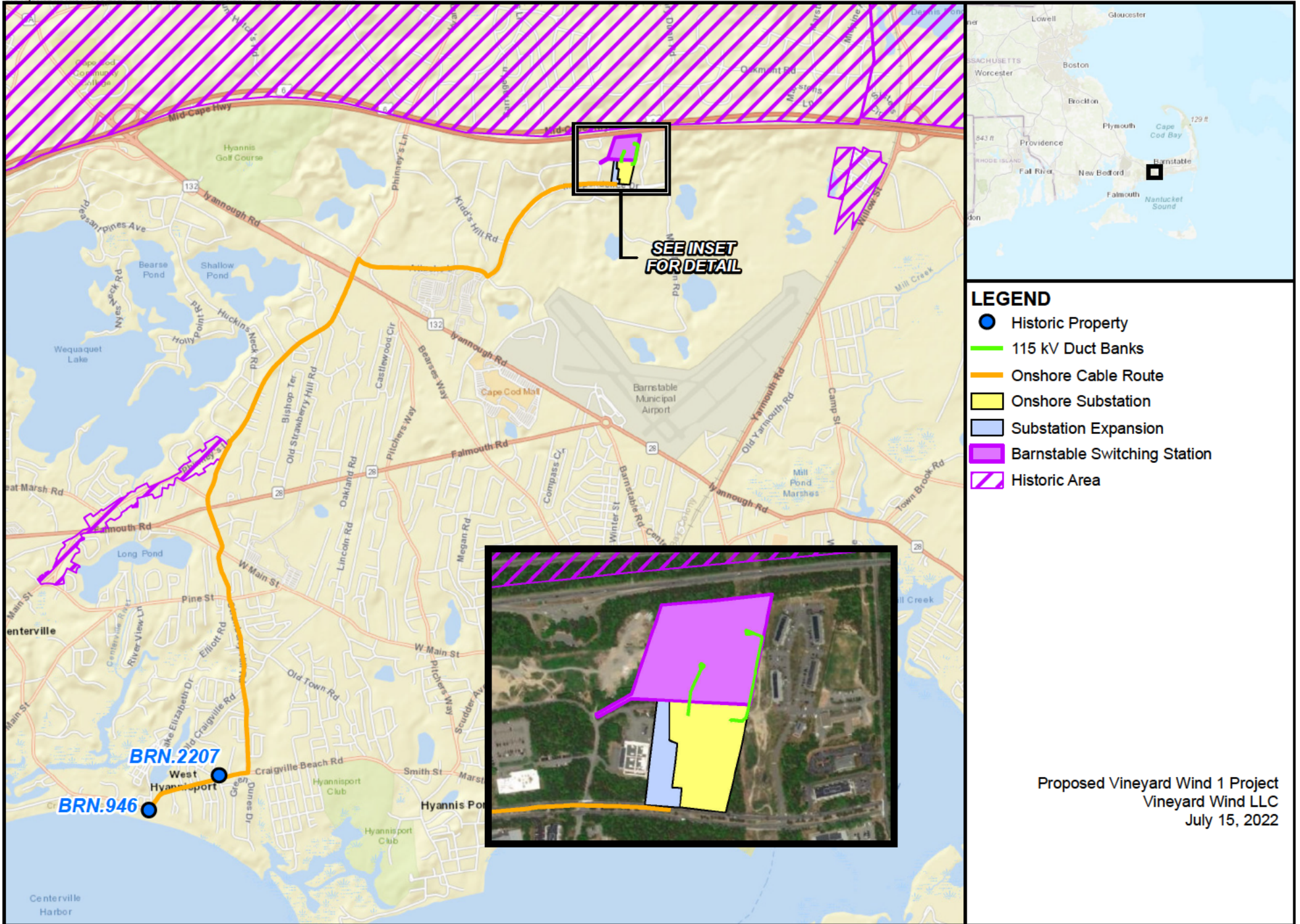


Figure 4. Overview of Terrestrial Archaeological Resources APE



Technical Memorandum
Vineyard Wind 1
115kv Cable Duct Bank Routing
to Barnstable Substation
Barnstable, Massachusetts

Submitted to:

Archaeological Sensitivity Assessment

June 6, 2022

PAL No. 3384.01

Epsilon Associates, Inc.

3 Mill & Main Place, Suite 250
Maynard, Massachusetts 01754

Vineyard Wind is currently constructing the onshore substation for the Vineyard Wind 1 project at a site on Independence Drive in Barnstable, Massachusetts (Figure 1). This new substation will be connected to the nearby existing Barnstable substation by two, 115 kilovolt (kv) cables within duct banks.

In response to a request by Epsilon Associates, Inc. (Epsilon), the Public Archaeology Laboratory, Inc. (PAL) conducted an archaeological sensitivity assessment of the two proposed 115kv cable routes. This assessment consisted of two tasks, a review of research completed for previous cultural resource management studies in and around the current substation site and a walkover survey/surface inspection of the proposed cable routes. The results of both tasks were synthesized to evaluate the archaeological sensitivity of the two proposed 115kv cable routes.

Research Review

The onshore cable route and Vineyard Wind 1 substation parcel on Independence Drive were investigated during a prior reconnaissance archaeological survey conducted by PAL (Ritchie 2018). An intensive archaeological survey was also conducted within the substation parcel (Ritchie 2019). Research for the reconnaissance survey found 13 recorded pre-contact Native American archaeological sites within 0.5 miles of the substation parcel on Independence Drive. The pre-contact Breeds Hill Road (19-BN-829) and Independence Park Block 3/4 (19-BN-982) sites were near Attucks Lane. Sites 19-BN-669, 19-BN-828, 19-BN-980 and 19-BN-981 were south of Independence Drive and the present Vineyard Wind 1 substation parcel. These sites were small find spots of non-diagnostic chipping debris with low information content and unknown temporal period affiliation and not considered potentially significant. (Binzen and Chapman 2002; Doucette et al 1990). All of these sites have been destroyed by industrial/commercial development along Independence Drive. Another cluster of four recorded pre-contact sites (19-BN-666, 19-BN-667, 19-BN-668, 19-BN-670) is located east of Mary Dunn Road near Israel Pond. Three pre-contact sites (19-BN-853, 19-BN-960, 19-BN-861) were found in a utility right-of-way (current Eversource ROW) about 0.5 mile north of the existing substation and west of Mary Dunn Road. They are all small find spots of non-diagnostic chipping debris and some of this cultural material was recovered from previously disturbed soils (Doucette and Elam 2012). One Contact Period site (19-BN-74), a Native American trail corresponding to the present route of Mary Dunn Road is within 0.5 miles of the Project area.

Fieldwork for the reconnaissance survey included a walkover survey and surface inspection of the Eversource ROWs connecting to the existing Barnstable substation. Due to the extent of previous disturbance (grading, unpaved roadways, erosion) these ROWs were ranked as zones of low archaeological sensitivity (Ritchie 2018).

An intensive survey of the current Vineyard Wind 1 substation parcel identified two pre-contact Native American sites. Isolated recoveries of a small stemmed projectile point of quartz and a piece of quartz chipping debris were designated as the Vineyard Wind Find Spot 1 and Vineyard Wind Find Spot 2. The small stemmed point is of Late to Transitional Archaic (5000-2500 B.P.) or Early Woodland Period (2500-1600 B.P.) age. Close interval (2.5 m) sampling around these find spots did not yield any other pre-contact cultural material and they were not considered to be potentially significant cultural resources. No additional archaeological investigation of the proposed substation parcel was recommended (Ritchie 2019).

In summary, the research review found that the terminal moraine environmental zone within about 0.5 miles of the existing Eversource ROWs, Barnstable substation and current Vineyard Wind 1 substation contains many recorded pre-contact sites. However, previous disturbance from various sources (utility pole structures, borrow pits, grading, unpaved and paved roadways) and erosion has altered the natural topography and reduced the archaeological sensitivity within sections of ROWs connecting to the Barnstable and Vineyard Wind substation parcels.

Walkover Survey

A walkover survey of the two proposed 115kv cable duct bank routes was conducted on May 24, 2022 by PAL staff (D. Ritchie) and representatives from Vineyard Wind (T. Atmer, A. Moore), Epsilon (J. Vaccaro) and Eversource (M. Morrissey). During the walkover survey, existing conditions and sources of previous disturbance were noted on a scaled plan of the cable duct bank routes and documented with digital photographs. A hand-held 40-cm auger was used to examine soil profiles along these routes.

The wooded southern portion of the proposed northwest 115kv cable duct bank route extending from the north side of the Vineyard Wind substation contained steep natural slopes (Figure 2). It also crossed an Eversource ROW with exposed and eroded subsoils. The northern portion of this cable duct bank route contained the edge of a small overgrown borrow pit and steep slopes. Soil auger cores taken within this part of the cable route revealed extremely gravelly subsoils on steep slopes and mixed A and B horizon soils indicating previous disturbance.

The proposed northeast 115kv cable duct bank route is entirely within an Eversource ROW investigated in a prior reconnaissance survey and considered to have low archaeological sensitivity (Ritchie 2018). This ranking was further confirmed by the steep slopes, previous disturbance from grading and removal of natural soil horizons, unpaved roadways and erosion observed in the walkover survey (Figure 3).

Management Recommendations

Based on a review of previous archaeological investigations and a walkover survey the proposed northwest and northeast 115kv cable duct bank routes connecting the existing Barnstable substation and new Vineyard Wind substation have low archaeological sensitivity (Figure 4).

No additional archaeological investigation of the two proposed 115kv cable duct bank routes is recommended.

References

Binzen, Timothy and Ann Chapman

2002 *Archaeological Reconnaissance and Intensive (Locational) Survey for the North Central Terminal Alternative at the Barnstable Municipal Airport, Barnstable, Massachusetts.* UMass Archaeological Services, Amherst, MA.

Doucette, Dianna, Edna Feighner, and Ann K. Davin

1990 *Intensive Archaeological Survey: Independence Park Project Area, Barnstable, Massachusetts.* The Public Archaeology Laboratory, Inc. Report No. 342. Submitted to Independence Park, Inc., Hyannis, MA.

Doucette, Dianna L., and Jenifer Elam

2012 *Intensive (Locational) Archaeological Survey, NSTAR Electric Lines 118-119 (115 kV) Transmission Lines Upgrade Project, Barnstable, Yarmouth, and Dennis, Barnstable County, Massachusetts.* The Public Archaeology Laboratory, Inc. Report No. 2578.01. Submitted to Epsilon Associates, Inc., Maynard, MA.

Ritchie, Duncan

2018 *Archaeological Reconnaissance Survey Vineyard Wind Upland Cabling Project Barnstable and Yarmouth, Massachusetts.* The Public Archaeology Laboratory, Inc. Report No. 3384. Submitted to Epsilon Associates, Inc., Maynard, MA.

2019 *Intensive Archaeological Survey Proposed Substation Vineyard Wind Upland Cabling Project Barnstable, Massachusetts.* The Public Archaeology Laboratory, Inc. Report No. 3384. Submitted to Epsilon Associates, Inc. Maynard, MA.

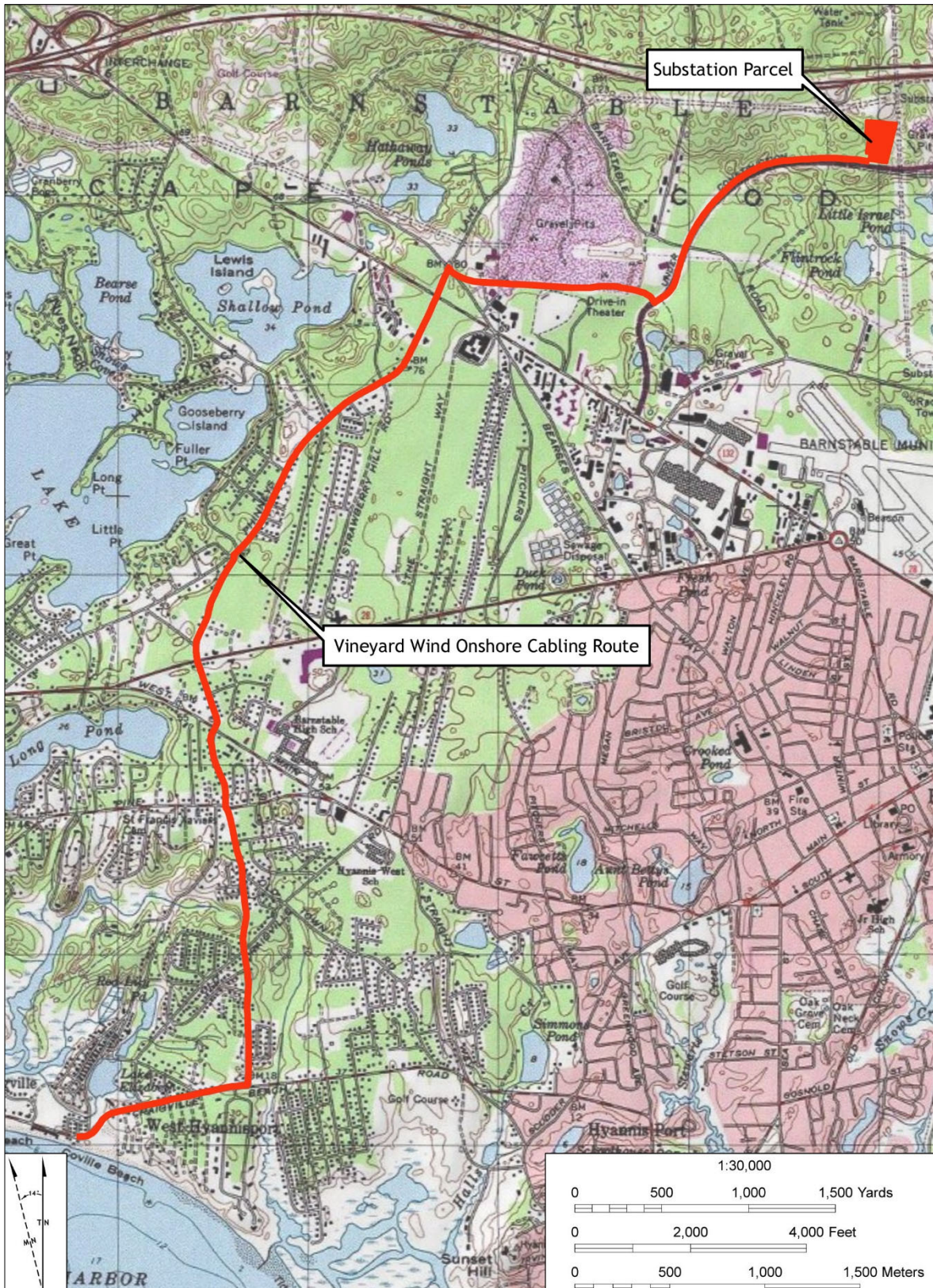


Figure 1. Location of the Vineyard Wind Onshore Cabling Project area on the Hyannis, MA, USGS topographic quadrangle, 7.5 minute series.



Figure 2. Steep slope in zone of low archaeological sensitivity on Northwest 115kv Cable Duct Bank Route.



Figure 3. Previously disturbed eroded soils in zone of low archaeological sensitivity on Northeast 115kv Cable Duct Bank Route.

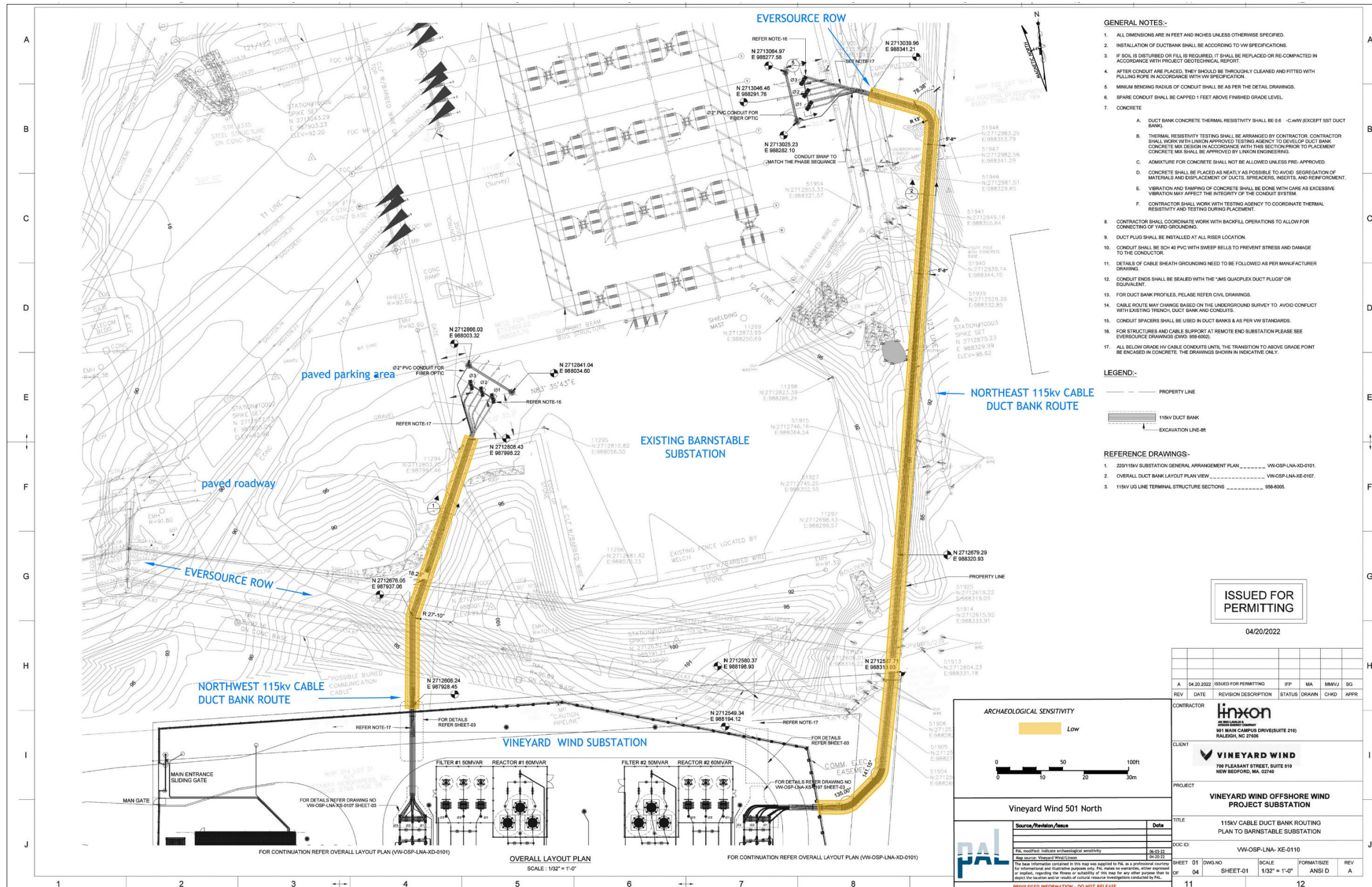


Figure 4. Proposed Northwest and Northeast 115kv Cable Duct Bank Routes from Vineyard Wind Substation to existing Barnstable Substation with archaeological sensitivity.

**FIRSTAMENDMENT TO THE MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,
VINEYARD WIND, LLC, AND
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE VINEYARD WIND 1 OFFSHORE WIND ENERGY PROJECT,
LEASE AREA OCS-A 0501, OFFSHORE MASSACHUSETTS**

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- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
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- [REDACTED]

■ [REDACTED]

[REDACTED]

- [REDACTED]
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- [REDACTED]
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- [REDACTED]
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- [REDACTED]
- [REDACTED]
- [REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

**FIRSTAMENDMENT TO THE MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,
VINEYARD WIND, LLC, AND
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE VINEYARD WIND 1 OFFSHORE WIND ENERGY PROJECT,
LEASE AREA OCS-A 0501, OFFSHORE MASSACHUSETTS**

Signatory

ADVISORY COUNCIL ON HISTORIC PRESERVATION

Reid J. Nelson
Acting Executive Director

Date _____

DRAFT

**FIRSTAMENDMENT TO THE MEMORANDUM OF AGREEMENT
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REGARDING THE VINEYARD WIND 1 OFFSHORE WIND ENERGY PROJECT,
LEASE AREA OCS-A 0501, OFFSHORE MASSACHUSETTS**

Signatory

MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER

Brona Simon
State Historic Preservation Officer

Date _____

DRAFT

**FIRSTAMENDMENT TO THE MEMORANDUM OF AGREEMENT
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Signatory

BUREAU OF OCEAN ENERGY MANAGEMENT

Amanda Lefton
Director

Date _____

DRAFT

**FIRSTAMENDMENT TO THE MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
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THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE VINEYARD WIND 1 OFFSHORE WIND ENERGY PROJECT,
LEASE AREA OCS-A 0501, OFFSHORE MASSACHUSETTS**

Invited Signatory

VINEYARD WIND, LLC

Rachel J. Pachter
Chief Development Officer

Date _____

DRAFT

From: [Vorkoper, Stephen R](#)
To: [Meléndez-arreaga, Pedro F](#); [Annatoyn, Travis J](#)
Cc: [Hawbecker, Karen S](#); [Morris, Emily D](#)
Subject: FW: [EXTERNAL] South Fork Wind Farm | Supplement EIS
Date: Wednesday, July 20, 2022 10:06:10 AM
Attachments: [South Fork SEIS Request FINAL.pdf](#)

Pedro and Travis,

See the attached letter from Cultural Heritage Partners, which claims that BOEM now needs to supplement the South Fork Wind (SFW) EIS based on the fact that the technical visual impact reports for Sunrise Wind and Revolution Wind are now available.

(b)(5)

[Redacted]

[Redacted]

The meeting with CHP that we prepared for last week is now scheduled for Aug. 3. (I'm planning to be on (b)(6) then, and Pedro is planning to attend.)

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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From: Will Cook <will@culturalheritagepartners.com>
Sent: Wednesday, July 20, 2022 9:25 AM
To: Lefton, Amanda B <Amanda.Lefton@boem.gov>; Morin, Michelle <Michelle.Morin@boem.gov>; Cruickshank, Walter <Walter.Cruickshank@boem.gov>; Stokely, Sarah C <Sarah.Stokely@boem.gov>
Cc: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Christopher Koeppel <ckoeppel@achp.gov>; Jaime Loichinger <jloichinger@achp.gov>; Reid Nelson <rnelson@achp.gov>; Emidy, Jeffrey (HPHC) <jeffrey.emidy@preservation.ri.gov>; Betsy Merritt <emerritt@savingplaces.org>; Marion Werkheiser <marion@culturalheritagepartners.com>; Claire O'Brien <claire@culturalheritagepartners.com>

Subject: [EXTERNAL] South Fork Wind Farm | Supplement EIS

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Dear Director Lefton, Deputy Director Cruickshank, Ms. Morin, and Ms. Stokely,

The City of Newport, Town of New Shoreham, Southeast Lighthouse Foundation, Newport Restoration Foundation, Preservation Society of Newport County, and Salve Regina University write to notify BOEM of the need to prepare a Supplement EIS. We have attached a letter for your review.

Respectfully submitted,

William J. Cook, Partner
Cultural Heritage Partners, PLLC
Direct/Text: 843-801-3366
www.culturalheritagepartners.com

This email is confidential and may be privileged. If you are not the intended recipient, please notify us immediately by replying to this message or sending an email to will@culturalheritagepartners.com, and destroy all copies of this message and any attachments. Thank you.

BY EMAIL

July 18, 2022

Director Amanda Lefton
Deputy Director Walter Cruickshank
Michelle Morin, Chief, Environment Branch, Renewable Energy
Sarah Stokely, Lead Historian and Section 106 Team Lead, Renewable Energy
Bureau of Ocean Energy Management
1849 C St., NW
Washington, DC 20240

Re: South Fork Wind | Request for Supplemental EIS

Dear Director Lefton, Deputy Director Cruickshank, Ms. Morin, and Ms. Stokely:

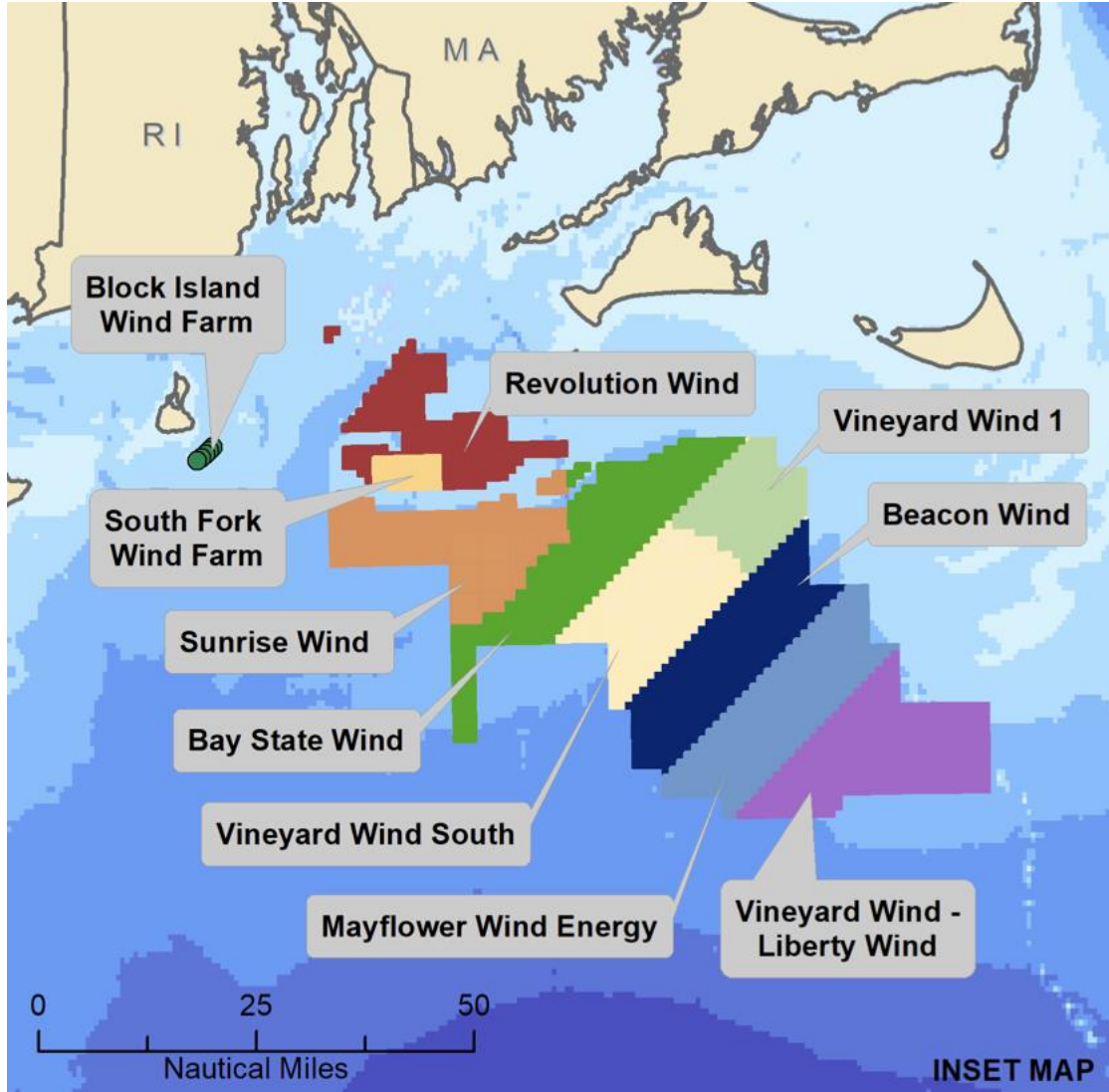
The City of Newport, Town of New Shoreham, Southeast Lighthouse Foundation, Newport Restoration Foundation, Preservation Society of Newport County, and Salve Regina University write to notify BOEM of its duty to supplement the Environmental Impact Statement (EIS) for the South Fork Wind Project.

New information has come to light in BOEM's reviews of Revolution Wind and Sunrise Wind, two projects also being developed by Orsted and that BOEM is concurrently reviewing with South Fork Wind, that bear directly on the understanding of the cumulative environmental impacts of South Fork Wind. NEPA's regulations require that BOEM supplement the EIS whenever new information or circumstances relevant to environmental concerns and bearing on the proposed action or its impacts would result in significant environmental impacts not evaluated in the EIS. 23 C.F.R. § 771.130(a).

South Fork Wind is an offshore wind energy development project to be located off the coast of Rhode Island consisting of twelve turbines, approximately 17 miles from Block Island. It can be reasonably described as a doughnut hole, since two other wind farms—Revolution Wind and Sunrise Wind—will be wrapped around it, creating a total of 224 turbines at heights ranging from 873 to 968 feet tall—the size of a 70-story building. Each of these projects is developed by Orsted and is undergoing permitting review by BOEM at the same time. BOEM has created a graphic that show these projects not only in relation to one another, but also in relation to five other adjacent planned wind farms.

As we have objected previously, Orsted and BOEM have segmented these three projects to avoid a comprehensive environmental review. Specifically, Orsted induced BOEM to illegally narrow its environmental review by putting forward its smallest project first and then ignoring cumulative effects, and ignoring two other connected and interdependent wind farms that are simultaneously before BOEM. A map clearly demonstrates that South Fork, Revolution, and Sunrise are nothing more than a single giant wind farm, and therefore, BOEM was legally obligated to consider all of

these projects together when reviewing South Fork for environmental impacts. BOEM did not do this.



Therefore, BOEM issued an EIS, Section 106 Memorandum of Agreement, and Record of Decision based on incomplete information.

New information is now available from the ongoing reviews of Revolution and Sunrise that bears significantly on BOEM’s analysis of South Fork Wind. BOEM now has a chance to supplement its cumulative effects analysis in a Supplemental EIS that should consider how Revolution and Sunrise will magnify South Fork’s impacts by making known what the impacts of an additional 212 turbines will be—in other words, 224 total turbines, or 18 times more turbines than South Fork alone.

Including the impacts of Revolution and Sunrise in South Fork’s cumulative effects analysis represents a 1,767 % increase in the number of turbines, clearly a “seriously different” picture of the environmental impact than BOEM considered previously. *E.g., City of Olmsted Falls v. FAA*, 292 F.3d 261, 274 (D.C. Cir. 2022); *Friends of Capital Crescent Trail v. Federal Transit*

Administration, 877 F.3d 1051, 1055-56 (D.C. Cir. 2017); *Blue Ridge Env't Defense League v. Nuclear Regulatory Comm'n*, 716 F.3d 183, 196-97 (D.C. Cir. 2013).

Although South Fork's EIS purports to consider information related to cumulative effects,¹ the cumulative effects analysis is not complete because BOEM could not have known at the time of finalizing the EIS what South Fork's cumulative effects would be. For example, South Fork's EIS states that the proposed action could cause "negligible to major" impacts to historic visual resources, but at the same time concludes that cumulative impacts would be "negligible to major," too, even though cumulative impacts will be exponentially greater than those caused by South Fork alone.² The EIS's conclusion defies common sense.

Now that the technical reports issued for Revolution and Sunrise are available, which bear directly on South Fork's cumulative effects and were not available to BOEM when it prepared the EIS, new information that BOEM must consider for South Fork includes the following:

- The height—and therefore visibility—of reasonably foreseeable developments in the project area. The South Fork CHRVEA states it only considered WTGs up to 873 feet, whereas the Sunrise Construction and Operations Plan states WTGs will reach heights of up to 968 feet.
- The number of historic properties within the APE that will be cumulatively impacted by reasonably foreseeable actions in the area. The South Fork CHRVEA states four properties will have cumulative impacts, and the Revolution CHRVEA lists ninety-five, including properties in Newport, RI.
- The effect of high contrast lighting on visibility, and therefore the increase in adverse effects. The South Fork CHRVEA states that sunset would create high contrast, and BOEM considered only one simulation of a winter sunset of the turbines. However, preliminary visualizations from Sunrise Wind show that sunrise, not sunset, creates the higher contrast. Yet South Fork did not consider the effects of sunrise and other high contrast situations on visual impacts, even though the visualizations differ drastically.
- The effect of creating Preliminary Areas of Potential Effect (PAPE). As stated above, the South Fork cumulative analyses used the original 40-mile APE for the project area and only considered four properties. By contrast, the Revolution analyses began with a viewshed analysis that created an entirely new APE, referred to as the "viewshed PAPE," a new analysis that was not performed for South Fork. Using this viewshed PAPE approach, Revolution found ninety-five properties affected, which includes Newport properties that BOEM failed to consider for South Fork based on its conclusion that Newport properties were not sufficiently affected, as well as additional historic properties on Block Island that BOEM did not consider for South Fork. We therefore request a revision of South Fork's cumulative impacts analysis based on new information now available for Revolution Wind and Sunrise Wind.

¹ For example, Appendix E, which purports to address cumulative effects, shows cumulative visual impacts in Figure E-10's graphic map of the Area of Potential Effect, but then ignores them for purposes of assessing adverse effects.

² EIS at 2-24.

As demonstrated above, following the publication of the South Fork Wind Farm Cumulative Historic Resource Visual Effects Analysis (CHRVEA), the publication of the CHRVEA for Revolution Wind Farm and Sunrise Wind's Construction and Operation's Plan Offshore Visual Impacts Assessment provides new information that must be considered as part of BOEM's cumulative effects analysis for South Fork. Therefore, BOEM must set aside the Record of Decision until BOEM, consulting parties, and the public have an opportunity to consider a Supplemental EIS. This is especially critical for the Newport Parties, which BOEM cut out of the resolution of adverse effects by failing to consider cumulative effects information during its South Fork review as required by NEPA and the National Historic Preservation Act.

For these reasons, because BOEM has new information to consider for South Fork that represents a seriously different picture from the one BOEM considered in South Fork's EIS, BOEM must prepare a Supplemental EIS, allow consulting parties to comment on it, and revise South Fork's Record of Decision accordingly. If BOEM does not issue a Supplemental EIS and revise South Fork's Record of Decision, South Fork's Record of Decision is arbitrary, capricious, and contrary to law.

Sincerely,

A handwritten signature in black ink, appearing to read "William J. Cook". The signature is fluid and cursive, with a long horizontal stroke at the end.

William J. Cook

cc: Stephen Vorkoper, Attorney-Advisor, Office of the Solicitor, Div. of Mineral Resources,
U.S. Dep't of the Interior
Reid Nelson, Jaime Loichinger, Christopher Koeppel, ACHP
Jeffrey Emidy, RI SHPO
Betsy Merritt, National Trust for Historic Preservation

From: [Annatoyn, Travis J](#)
To: [Vorkoper, Stephen R](#)
Cc: [Meléndez-arreaga, Pedro F](#); [Hawbecker, Karen S](#); [Morris, Emily D](#)
Subject: RE: VW1 MOA amendment
Date: Wednesday, July 20, 2022 1:14:55 PM
Attachments: [boem.ma.vineyardwind1.amendment.moa.07.14.2022-sv-ta.docx](#)

(b)(5)

Let me know

if you think anything in here is inaccurate or a bad idea.

From: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Sent: Wednesday, July 20, 2022 12:57 PM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Cc: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Morris, Emily D <Emily.Morris@sol.doi.gov>
Subject: RE: VW1 MOA amendment

Travis,

Quick update – the timing of the MOA amendment is much quicker than I thought. Geri would like BOEM to send out the amendment ASAP, and BOEM (Sarah Stokely) is prepared to send it out today. I asked Sarah to let me know before she sent it out.

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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From: Vorkoper, Stephen R
Sent: Tuesday, July 19, 2022 2:00 PM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Cc: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Morris, Emily D <Emily.Morris@sol.doi.gov>
Subject: VW1 MOA amendment

Travis,

I wanted to bring your attention to an issue regarding the VW1 project's NHPA MOA. (b)(5)

[Redacted]

[Redacted]

[Redacted]

[Redacted]

(b)(5)

[Redacted]

[Redacted]

[Redacted]

If you'd like to discuss or if you have any questions, please let me know. (cc'ing Karen and Emily for awareness.)

Thanks,
Stephen

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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LEASE AREA OCS-A 0501, OFFSHORE MASSACHUSETTS

(b)(5)
[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]

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(b)(5)

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

■ [Redacted]

[Redacted]

[Redacted]

■ [Redacted]

(b)(5)

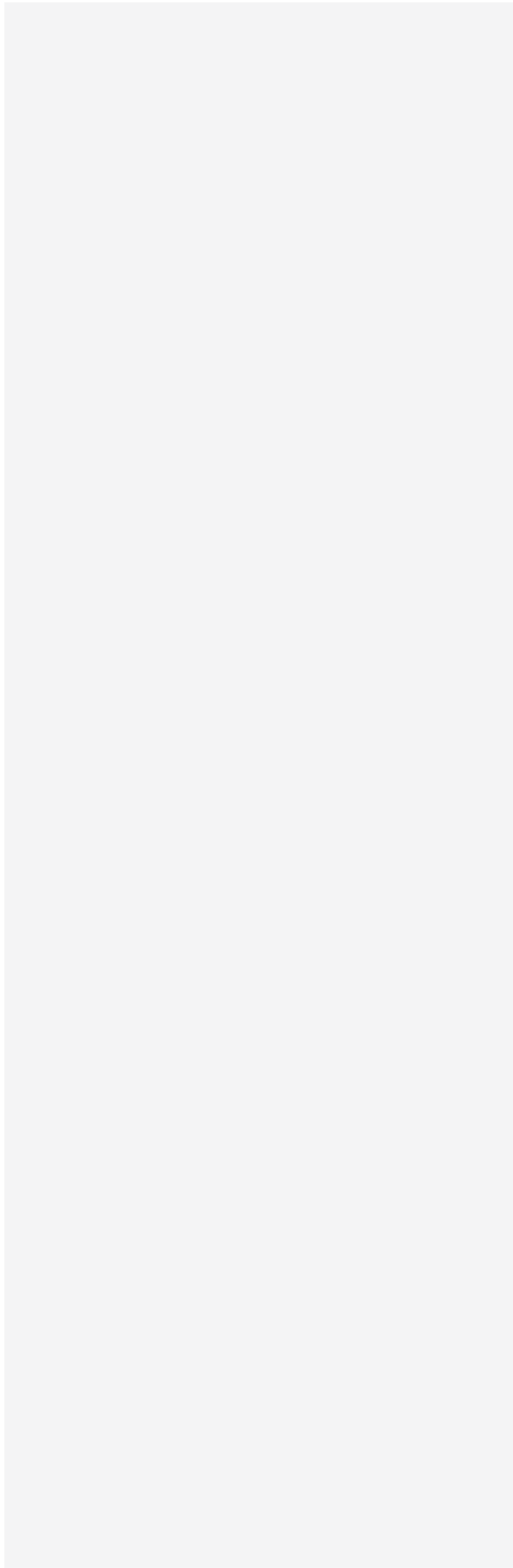
[Redacted text block]

- [Redacted list item]
- [Redacted list item]
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- [Redacted list item]



(b)(5)

[REDACTED]

[REDACTED]

Commented [ATJ1]: (b)(5) [REDACTED]

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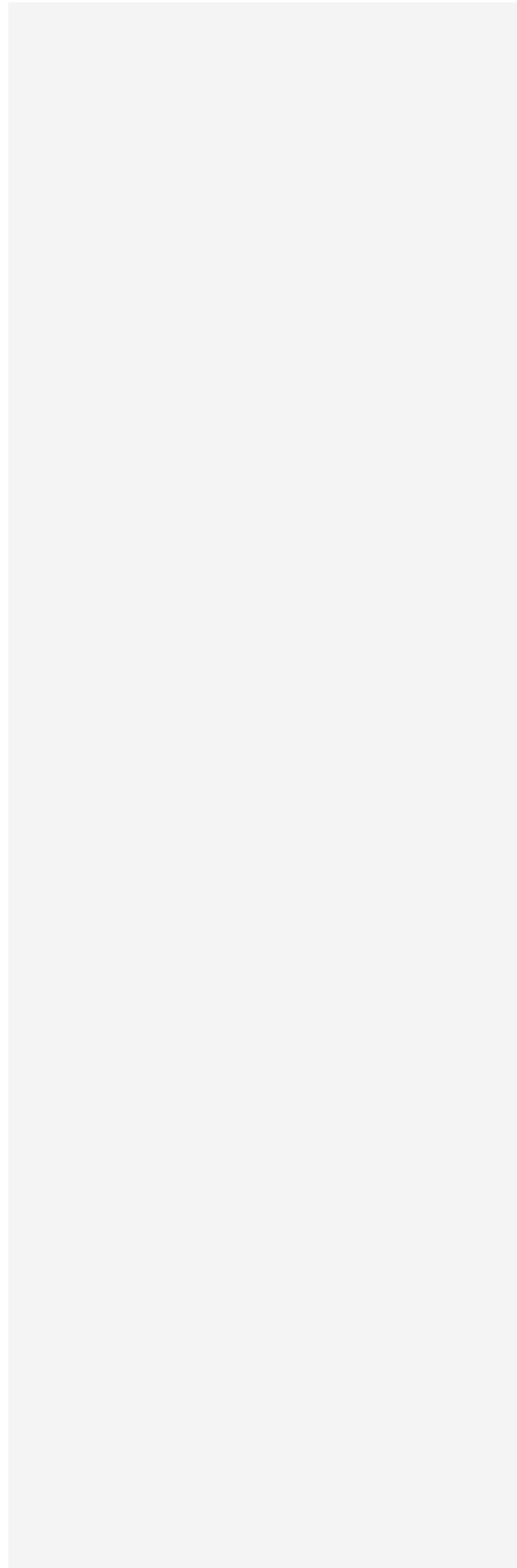
Signatory

ADVISORY COUNCIL ON HISTORIC PRESERVATION

Reid J. Nelson
Acting Executive Director

Date _____

DRAFT



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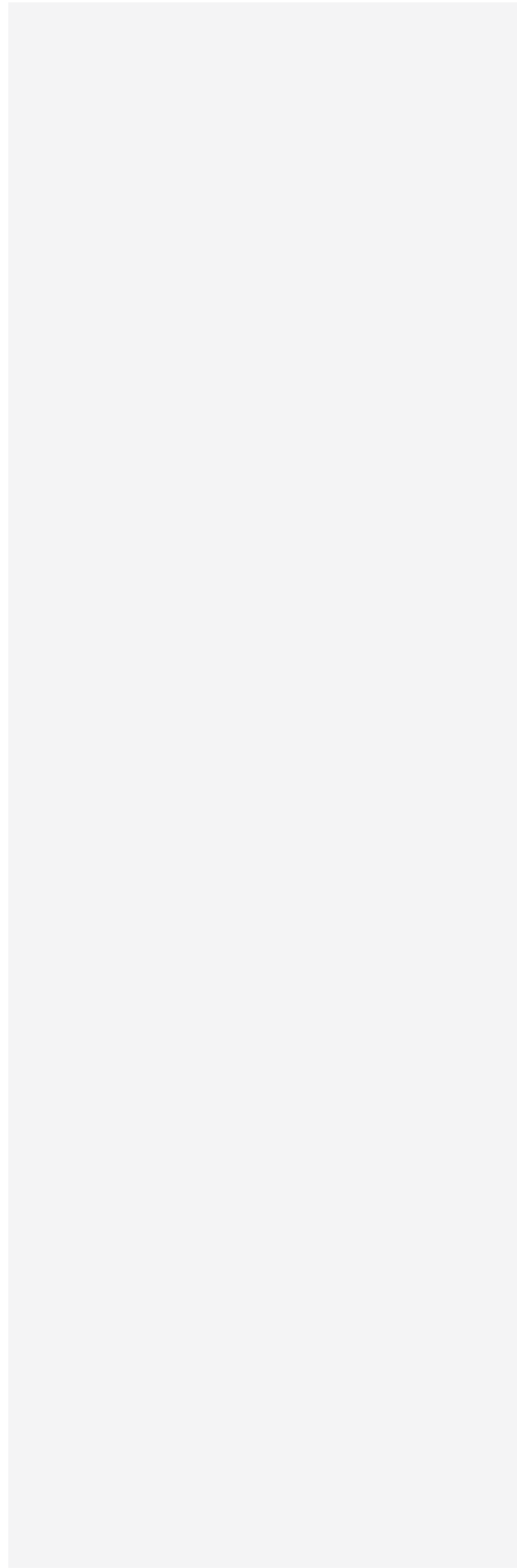
Signatory

MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER

Brona Simon
State Historic Preservation Officer

Date _____

DRAFT



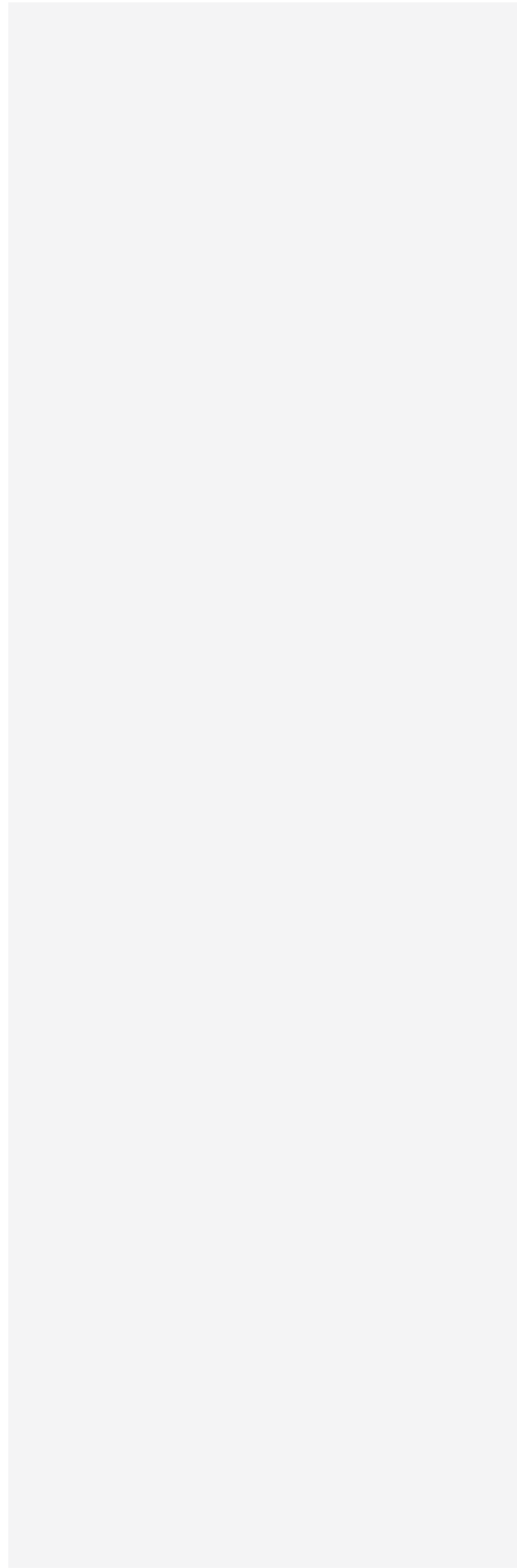
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VINEYARD WIND, LLC, AND
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
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LEASE AREA OCS-A 0501, OFFSHORE MASSACHUSETTS

Signatory

BUREAU OF OCEAN ENERGY MANAGEMENT

_____ Date _____
Amanda Lefton
Director

DRAFT



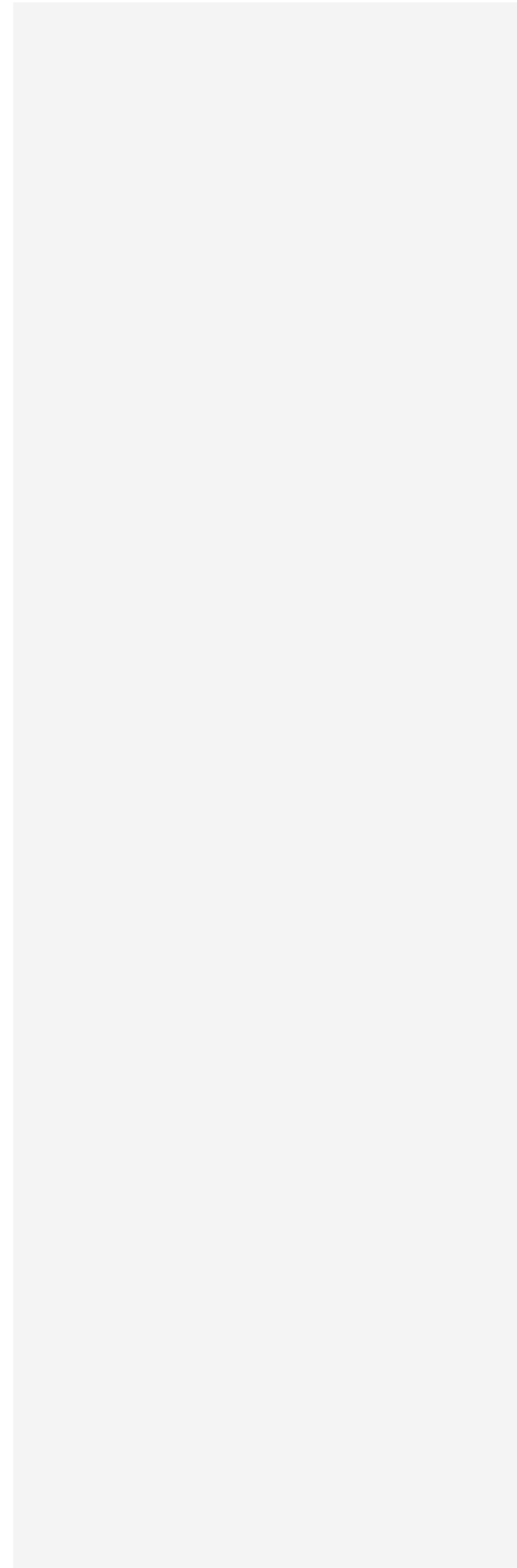
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VINEYARD WIND, LLC, AND
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
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LEASE AREA OCS-A 0501, OFFSHORE MASSACHUSETTS

Invited Signatory

VINEYARD WIND, LLC

_____ Date _____
Rachel J. Pachter
Chief Development Officer

DRAFT



From: [Meléndez-arreaga, Pedro F](#)
To: [Hawbecker, Karen S](#); [Vorkoper, Stephen R](#); [Annatoyn, Travis J](#); [Daugherty, Dennis](#)
Subject: Re: [EXTERNAL] South Fork Wind Farm | Supplement EIS
Date: Thursday, July 28, 2022 2:59:18 PM

Agree on both points with Karen.

(b)(5) [Redacted]

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>
Sent: Thursday, July 28, 2022 2:35 PM
To: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>
Subject: Re: [EXTERNAL] South Fork Wind Farm | Supplement EIS

Stephen, (b)(5) [Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted] --Karen

Karen Hawbecker
Associate Solicitor
Division of Mineral Resources
Office of the Solicitor
U.S. Department of the Interior
1849 C Street N.W. MS 5359
Washington, D.C. 20240

Office: (202) 208-4146 (this number is currently forwarded to my cell phone)
karen.hawbecker@sol.doi.gov

From: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>

Sent: Tuesday, July 26, 2022 11:15 AM

To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>

Subject: RE: [EXTERNAL] South Fork Wind Farm | Supplement EIS

Hello all,

(b)(5)
[Redacted]

[Redacted]

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Sent: Monday, July 25, 2022 8:19 PM
To: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Cc: Morris, Emily D <Emily.Morris@sol.doi.gov>
Subject: RE: [EXTERNAL] South Fork Wind Farm | Supplement EIS

Concur. Thanks all for the update.

From: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>
Sent: Friday, July 22, 2022 12:43 PM
To: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Cc: Morris, Emily D <Emily.Morris@sol.doi.gov>
Subject: Re: [EXTERNAL] South Fork Wind Farm | Supplement EIS

(b)(5)
[Redacted]

Karen Hawbecker
Associate Solicitor
Division of Mineral Resources
Office of the Solicitor
U.S. Department of the Interior
1849 C Street N.W. MS 5359
Washington, D.C. 20240

Office: (202) 208-4146 (this number is currently forwarded to my cell phone)
karen.hawbecker@sol.doi.gov

From: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Wednesday, July 20, 2022 2:05 PM
To: Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Cc: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Morris, Emily D <Emily.Morris@sol.doi.gov>
Subject: Re: [EXTERNAL] South Fork Wind Farm | Supplement EIS

Thanks, Dennis. (b)(5)
[Redacted]

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor

Department of the Interior

From: Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>

Sent: Wednesday, July 20, 2022 12:20 PM

To: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>

Cc: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Morris, Emily D <Emily.Morris@sol.doi.gov>

Subject: Re: [EXTERNAL] South Fork Wind Farm | Supplement EIS

(b)(5) [Redacted]

[Redacted]

Dennis Daugherty
Assistant Solicitor, Branch of Ocean Energy
Division of Mineral Resources

(202) 208-5038

From: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>

Sent: Wednesday, July 20, 2022 11:48 AM

To: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>

Cc: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Morris, Emily D <Emily.Morris@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>

Subject: Re: [EXTERNAL] South Fork Wind Farm | Supplement EIS

(b)(5) [Redacted]

[Redacted]

[Redacted]

(b)(5)

Thoughts?

Best,

PFM

Fun Fact: Mr. Cook cited Federal Highway Administration regulations for our need to supplement the SFW FEIS

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>

Sent: Wednesday, July 20, 2022 10:41 AM

To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>

Cc: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Morris, Emily D <Emily.Morris@sol.doi.gov>

Subject: RE: [EXTERNAL] South Fork Wind Farm | Supplement EIS

(b)(5)

[Redacted]

(b)(5) : https://cityofnewport.granicus.com/MetaViewer.php?view_id=1&clip_id=432&meta_id=29464. (b)(5)

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Sent: Wednesday, July 20, 2022 10:17 AM
To: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Cc: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Morris, Emily D <Emily.Morris@sol.doi.gov>
Subject: RE: [EXTERNAL] South Fork Wind Farm | Supplement EIS

Thank you. (b)(5)

From: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Sent: Wednesday, July 20, 2022 10:06 AM
To: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Cc: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Morris, Emily D <Emily.Morris@sol.doi.gov>
Subject: FW: [EXTERNAL] South Fork Wind Farm | Supplement EIS

Pedro and Travis,

See the attached letter from Cultural Heritage Partners, which claims that BOEM now needs to supplement the South Fork Wind (SFW) EIS based on the fact that the technical visual impact reports for Sunrise Wind and Revolution Wind are now available.

(b)(5)

(b)(5)

The meeting with CHP that we prepared for last week is now scheduled for Aug. 3. (I'm planning to be on (b)(6) then, and Pedro is planning to attend.)

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
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From: Will Cook <will@culturalheritagepartners.com>
Sent: Wednesday, July 20, 2022 9:25 AM
To: Lefton, Amanda B <Amanda.Lefton@boem.gov>; Morin, Michelle <Michelle.Morin@boem.gov>; Cruickshank, Walter <Walter.Cruickshank@boem.gov>; Stokely, Sarah C <Sarah.Stokely@boem.gov>
Cc: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Christopher Koepfel <ckoepfel@achp.gov>; Jaime Loichinger <jloichinger@achp.gov>; Reid Nelson <rnelson@achp.gov>; Emidy, Jeffrey (HPHC) <jeffrey.emidy@preservation.ri.gov>; Betsy Merritt <emerritt@savingplaces.org>; Marion Werkheiser <marion@culturalheritagepartners.com>; Claire O'Brien <claire@culturalheritagepartners.com>
Subject: [EXTERNAL] South Fork Wind Farm | Supplement EIS

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Dear Director Lefton, Deputy Director Cruickshank, Ms. Morin, and Ms. Stokely,

The City of Newport, Town of New Shoreham, Southeast Lighthouse Foundation, Newport Restoration Foundation, Preservation Society of Newport County, and Salve Regina University write to notify BOEM of the need to prepare a Supplement EIS. We have attached a letter for your review.

Respectfully submitted,

William J. Cook, Partner
Cultural Heritage Partners, PLLC
Direct/Text: 843-801-3366
www.culturalheritagepartners.com

This email is confidential and may be privileged. If you are not the intended recipient, please notify us

immediately by replying to this message or sending an email to will@culturalheritagepartners.com, and destroy all copies of this message and any attachments. Thank you.

From: [Annatoyn, Travis J](#)
To: [Lefton, Amanda B](#)
Subject: FW: [EXTERNAL] Vineyard Wind 1
Date: Wednesday, August 10, 2022 2:05:59 PM
Attachments: [image001.png](#)
[Vineyard Wind 1 USCG Buoy Proposal 8-10-22.pdf](#)

FYSA

From: Geri Edens <gedens@vineyardwind.com>
Sent: Wednesday, August 10, 2022 9:14 AM
To: Stone, John M CIV USCG COMDT (USA) <(b)(6)>; Baker, Arianna C <Arianna.Baker@boem.gov>; McGuffin, Andrew B <andrew.mcguffin@boem.gov>; Lilley, Meredith B <Meredith.Lilley@boem.gov>; West, Stephen E CDR USCG (USA) <(b)(6)>; (b)(6) <(b)(6)>; (b)(6) <(b)(6)>; (b)(6) <(b)(6)>; (b)(6) <(b)(6)>; (b)(6) <(b)(6)>; DesAutels, Michele E CIV <(b)(6)>; Sparkman, Christopher S CIV USCG D1 (USA) <(b)(6)>; (b)(6) <(b)(6)>; (b)(6) <(b)(6)>; (b)(6) <(b)(6)>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Cc: Gareth Roberts <groberts@vineyardwind.com>; Alfonso Gomez-Acebo Diez <AGADiez@vineyardwind.com>; Max Cantrell <mcantrell@vineyardwind.com>; Michael Clayton <mclayton@vineyardwind.com>
Subject: [EXTERNAL] Vineyard Wind 1

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All

As a follow-up to our August 5 call and in advance of the call on August 12, Vineyard Wind provides the attached proposal regarding Buoy No. 8 and our cable alignment.

We look forward to the call on Friday.

Geri Edens
Director of Permitting
(240) 271-1334

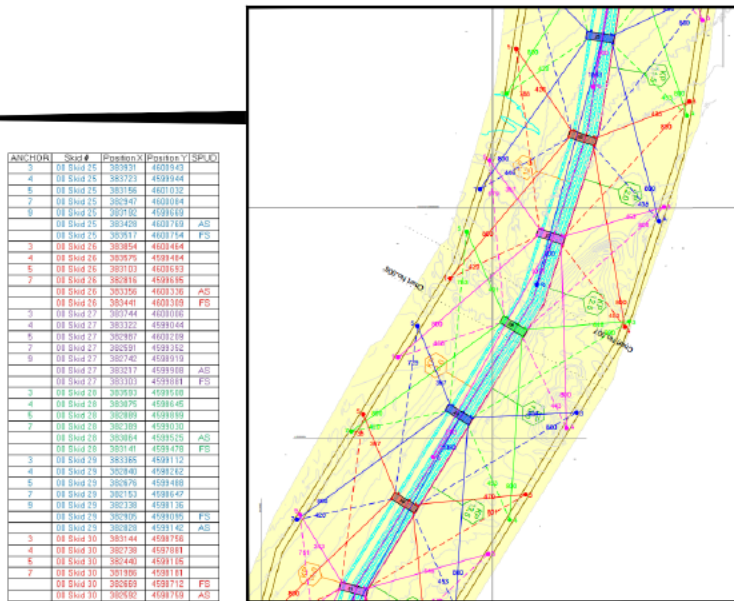
VINEYARD WIND

Vineyard Wind 1 Buoy Proposal August 10, 2022

Vineyard Wind 1 appreciated the opportunity to discuss with the U.S. Coast Guard and BOEM the proximity of the Vineyard Wind 1 export cable to Buoy No. 8, located in federal waters within Nantucket Sound. We understand that because Buoy No. 8 is anchored by a 12,500 lb. sinker and attached to a 125 ft chain, there is potential for it to move off-station during routine maintenance and/or certain weather conditions. We further understand that the buoy cannot be relocated to another location because it marks a shoal that presents potential risks to mariners.

We also discussed the fact that Vineyard Wind 1 cannot at this late stage move its cable alignment further to the east to create greater distance between the buoy and the cable without jeopardizing the entire project. As we explained, the cable route has been extensively engineered to ensure that the cable can be safely and securely installed in the seabed at a depth of 1.5 meters below stable seabed. In addition, within the 550-meter federal easement, the engineered cable installation routes have been inspected and cleared of any potential Unexploded Ordnance (pUXO), as well as within the narrow corridors where the installation vessel anchors will be placed. The cables are currently in transit from Europe to the United States for installation that will commence on or about October 8, 2022. Pre-installation work is underway.

As shown in the figure below around the location of the Buoy No. 8, the Cable Lay Barge (CLB) operates on a complex set of moorings which enables her to hold position and pull



700 Pleasant Street, Suite 510, New Bedford, MA 02740

TEL 508.717.8964 EMAIL info@vineyardwind.com

VINEYARDWIND.COM

herself forward while simultaneously laying and burying the cables along the entire length of the cable corridor.

The area in blue represents the corridor cleared of pUXO for the cables to be installed and the two narrow corridors at each edge are for the anchor placement. Moving the cable to the east would force the anchor corridor outside of our federal easement. Importantly, moving the cable would require significant additional engineering of the routes and cable burial, as well as further geophysical survey work, subsequent inspection, and clearance of pUXOs. This process would take at least 6 months, if not longer. Such a delay would have a domino effect on the entire construction schedule as construction is sequential occurring in stages. The delay would cause Vineyard Wind to lose its contracts for the heavy-lift vessels required to install the offshore foundations and turbines, as currently there are only four such vessels in the world which are in high demand as wind farms are being built in Europe and Asia, as well as in North America. Vineyard Wind reserved these vessels for the months needed to meet the construction schedule years in advance of actual construction. Monetary losses would also be staggering. In short, the entire project could be lost.

As Vineyard Wind 1 will be the first utility-scale offshore wind project constructed in the United States, we believe we have a mutual interest in seeing the project completed within the current Administration to signal that the United States is well on its way to meeting the President's goal of 30 gigawatts of offshore wind by 2030. We further believe there are mitigation measures that can be implemented to mitigate the concerns raised and we stand ready to work with the Coast Guard to achieve them. We therefore propose the following:

1. As already requested, temporarily move five Coast Guard maintained buoys located along the cable route from approximately October 6 to December 9 to allow the vessel to install the cable. We understand there is a 30-day comment period associated with the temporary removal. As cable installation will begin on or around October 8, time is of the essence. We also understand there are costs associated with the temporary removal of the buoys, which we have been discussing with the Coast Guard. As time is running short, please let us know if there is any additional information needed to begin the process.
2. Replace Buoy No. 8 with a fixed/pile driven buoy. Vineyard Wind is willing to collaborate with and assist the Coast Guard to the extent necessary on the design, engineering, and installation of such a buoy. Vineyard Wind is also willing to share in the costs associated with a fixed/pile driven buoy.
3. To the extent deemed necessary, Vineyard Wind is willing to bury the cable up to 2.5 meters (8 ft) below stable seabed and/or install cable protection in the vicinity of Buoy No. 8. However, we question the need for these measures if a fixed/pile driven buoy is installed. The cable burial is already engineered to be buried 1.5 meters (5 ft) below stable seabed at this location, which is 3.5 meters (11.5 ft) below the actual seabed level.

4. Finally, because of the tight construction timeline to enable the Vineyard Wind 1 project to be realized, we stand ready, willing, and able to facilitate the proposed solution in the most expeditious way possible.

We look forward to further discussions on our August 12 call.

From: [Annatoyn, Travis J](#)
To: [Meléndez-arreaga, Pedro F](#)
Subject: RE: [EXTERNAL] Vineyard Wind 1
Date: Wednesday, August 10, 2022 2:06:06 PM
Attachments: [image001.png](#)

Got it. Thanks.

From: Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Wednesday, August 10, 2022 11:52 AM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Cc: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Sebastian, Robert L <robert.sebastian@sol.doi.gov>
Subject: Fw: [EXTERNAL] Vineyard Wind 1

FYI. I'm sure Amanda's team will send it to her, but it wouldn't hurt if you also did. I'm scheduled to be out Friday, but will make myself available for this call.

Best,

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Geri Edens <gedens@vineyardwind.com>
Sent: Wednesday, August 10, 2022 9:14 AM
To: Stone, John M CIV USCG COMDT (USA) <(b)(6)>; Baker, Arianna C <Arianna.Baker@boem.gov>; McGuffin, Andrew B <andrew.mcguffin@boem.gov>; Lilley, Meredith B <Meredith.Lilley@boem.gov>; West, Stephen E CDR USCG (USA) <(b)(6)>; (b)(6) <(b)(6)>; (b)(6) <(b)(6)>; (b)(6) <(b)(6)>; (b)(6) <(b)(6)>; (b)(6) <(b)(6)>; (b)(6) <(b)(6)>; DesAutels, Michele E CIV <(b)(6)>; Sparkman, Christopher S CIV USCG D1 (USA) <(b)(6)>; (b)(6) <(b)(6)>; (b)(6) <(b)(6)>; (b)(6) <(b)(6)>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Cc: Gareth Roberts <groberts@vineyardwind.com>; Alfonso Gomez-Acebo Diez <AGADiez@vineyardwind.com>; Max Cantrell <mcantrell@vineyardwind.com>; Michael Clayton <mclayton@vineyardwind.com>
Subject: [EXTERNAL] Vineyard Wind 1

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All

As a follow-up to our August 5 call and in advance of the call on August 12, Vineyard Wind provides the attached proposal regarding Buoy No. 8 and our cable alignment.

We look forward to the call on Friday.

Geri Edens
Director of Permitting
(240) 271-1334



From: [Meléndez-Arreaga, Pedro F](#)
To: [Annatoyn, Travis J](#); [Hawbecker, Karen S](#); [Ballenger, Matthew T](#)
Cc: [Vorkoper, Stephen R](#); [Brinkman, Joanna K](#)
Subject: Fw: [EXTERNAL] Vineyard Wind
Date: Friday, September 23, 2022 2:54:54 PM
Attachments: [VW1-COP-Project-Easement-Approval-Letter_0.pdf](#)

Please see question from VW below. (b)(5)

[REDACTED]

I'll send a meeting invite so we can discuss the matter.

Thanks,

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Lilley, Meredith B <Meredith.Lilley@boem.gov>
Sent: Friday, September 23, 2022 2:21 PM
To: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: FW: [EXTERNAL] Vineyard Wind

FYI

From: geri@gedenslaw.com <geri@gedenslaw.com>
Sent: Tuesday, September 20, 2022 4:59 PM
To: Lilley, Meredith B <Meredith.Lilley@boem.gov>
Cc: Michael Clayton <mclayton@vineyardwind.com>
Subject: [EXTERNAL] Vineyard Wind

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Meredith

Thank you for scheduling a call to discuss the Anchoring Plan. We are hoping to align on

the scope and expectations of the plan, including its application to federal versus state waters, since the portion of the cable that lies in state waters has been fully permitted by the state. Also, as you recall, the UXO plans only applied in federal waters so it would be helpful to understand expectations for this plan.

Geri Edens
Geraldine Edens, P.A.
geri@gedenslaw.com
Cell: 240.271.1334

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United States Department of the Interior

BUREAU OF OCEAN ENERGY MANAGEMENT
WASHINGTON, DC 20240-0001

Ms. Rachel Pachter
Chief Development Officer
Vineyard Wind 1 LLC
700 Pleasant Street, Suite 510
New Bedford, Massachusetts 02740

Dear Ms. Pachter:

This letter informs you that the Bureau of Ocean Energy Management (BOEM) approves the Construction and Operations Plan (COP) that Vineyard Wind 1 LLC submitted on December 19, 2017, for the Vineyard Wind 1 Offshore Wind Energy Project on commercial lease OCS-A 0501 offshore Massachusetts. BOEM's approval is subject to the enclosed conditions, pursuant to 30 C.F.R. § 585.628(f)(1).

In conjunction with this COP approval, and pursuant to both 30 C.F.R. § 585.200(b) and Section 6 of lease OCS-A 0501, BOEM hereby grants the project easement Vineyard Wind 1 requested in the COP. Please find enclosed updated copies of Addenda A and D, depicting the project easement for commercial lease OCS-A 0501.

To maintain compliance with the approved COP, Vineyard Wind 1 LLC must submit annual reports certifying compliance with the enclosed conditions of approval, pursuant to 30 C.F.R. § 585.633(b). These reports are due annually starting on December 31, 2021.

The first year's rent payment of \$17,155 for the project easement is due within 45 days of receipt of this letter. For the next year and for each subsequent year, annual rent for the entire lease area – which now includes the project easement area – is due on each Lease Anniversary. Accordingly, the next annual rent payment is due on April 1, 2022.

This letter constitutes a final BOEM decision that may be appealed pursuant to 30 C.F.R. § 585.118.

If you have any questions, please contact Meredith Lilley, Energy Program Specialist, Office of Renewable Energy Programs, at meredith.lilley@boem.gov or (703) 787-1037.

Sincerely,

**JAMES
BENNETT**

Digitally signed by JAMES
BENNETT
Date: 2021.07.15
22:14:16 -04'00'

James F. Bennett
Program Manager
Office of Renewable Energy Programs

Enclosures

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF OCEAN ENERGY MANAGEMENT

Conditions of Construction and Operations Plan Approval
Lease Number OCS-A 0501
July 15, 2021

The Lessee's right to conduct activities under the approved Construction and Operations Plan (COP) is subject to the following conditions. The Department of the Interior (DOI) reserves the right to amend these conditions or impose additional conditions authorized by law or regulation on any future approvals of COP revisions.

The Lessee must maintain a full copy of these terms and conditions on every project-related vessel and is responsible for the implementation of, or the failure to implement, each of these terms and conditions by the Lessee's contractors, consultants, operators, or designees.

Section:

1. [GENERAL PROVISIONS](#)
2. [TECHNICAL CONDITIONS](#)
3. [NAVIGATIONAL AND AVIATION SAFETY CONDITIONS](#)
4. [NATIONAL SECURITY CONDITIONS](#)
5. [CONDITIONS RELATED TO PROTECTED SPECIES AND HABITAT](#)
6. [CONDITIONS RELATED TO COMMERCIAL FISHERIES, FOR-HIRE RECREATIONAL FISHING, AND ENVIRONMENTAL JUSTICE](#)
7. [CONDITIONS RELATED TO CULTURAL RESOURCES](#)

Attachments:

1. [LIST OF ACRONYMS](#)
2. [RHODE ISLAND AND MASSACHUSETTS STRUCTURE LABELING PLOT](#)

1 GENERAL PROVISIONS

- 1.1 Adherence to the Approved COP, Statutes, Regulations, Permits, and Authorizations (Planning) (Construction) (Operations) (Decommissioning).¹ Vineyard Wind 1 LLC (Lessee)² must conduct all activities as proposed in its approved COP for the Vineyard Wind 1 Project (Project) and these associated terms and conditions. Additionally, the Lessee must comply with all applicable requirements in commercial lease OCS-A 0501 (Lease), statutes, regulations, and permits and authorizations issued by Federal and state agencies for the Project. The Bureau of Ocean Energy Management (BOEM) and/or the Bureau of Safety and Environmental Enforcement (BSEE), as applicable,³ may issue a notice of noncompliance, pursuant to 30 C.F.R. § 585.400(b), if it is determined that the Lessee failed to comply with any provision of its approved COP, the Lease, the Outer Continental Shelf Lands Act (OCSLA), or OCSLA's implementing regulations. BOEM and/or BSEE may also take additional actions pursuant to 30 C.F.R. § 585.400, where appropriate.
- 1.2 Effectiveness (Construction) (Operations). This COP approval becomes effective on the date BOEM notifies the Lessee that its COP has been approved, and will remain effective until the termination of the Lease, which has an operations term of 33 years from the date of COP approval. This COP approval does not authorize the commencement of Outer Continental Shelf (OCS) construction activities prior to June 1, 2022.
- 1.3 Consistency with Other Agreements and Authorizations (Planning) (Construction) (Operations) (Decommissioning). In the event that these terms and conditions are, or become, inconsistent with the terms and conditions of the Project's Biological Opinion (BiOp) issued on September 11, 2020, Incidental Harassment Authorizations (IHAs) issued for the Project, the Section 106 Memorandum of Agreement (Section 106 MOA) executed on May 7, 2021, or amendments thereto, the language in the BiOp, IHAs, Section 106 MOA, or amendments thereto, will prevail. Activities authorized herein will be subject to any terms and conditions and reasonable and prudent measures resulting from a BOEM-reinitiated consultation for the Project's BiOp.

¹ Parenthetical indicators of "(Planning) (Construction) (Operations) and/or (Decommissioning)" at the start of a condition denote the primary development stage(s) to which the condition is relevant.

² Throughout this document, the term "Lessee" includes the Lessee and its designated operator(s), as well as the Lessee's or designated operator's agents, which may include: contractors; sub-contractors; consultants; operators; designees; and any other entity, organization, or person who is directly or indirectly conducting activities associated with this COP approval on behalf of the Lessee.

³ At the time these terms and conditions were drafted, DOI's BOEM and BSEE were in the process of transferring enforcement authorities from BOEM to BSEE. These terms and conditions were drafted to best reflect the expected transfer of those authorities. When conditions describe Lessee submissions to DOI, the Lessee should coordinate with BOEM and confirm whether the submittal should be made to BOEM or BSEE.

2 TECHNICAL CONDITIONS

2.1 Unexploded Ordnance and/or Discarded Military Munitions Investigation (Planning).

The Lessee must investigate the areas of potential disturbance for the presence of unexploded ordnance (UXO) and/or discarded military munitions (DMM) and evaluate the risk in accordance with the As Low as Reasonably Practical (ALARP) risk mitigation principle. Implementation of the ALARP risk mitigation principle is achieved with the following steps: (i) desktop study (DTS); (ii) investigation surveys to determine the presence of objects; (iii) identification surveys to determine the nature of the identified objects; (iv) UXO removal; (v) UXO relocation and/or construction re-routing; and (vi) installation.

2.1.1 UXO/DMM DTS (Planning). The Lessee must submit a DTS to DOI for review and concurrence no later than the date the Fabrication and Installation Report (FIR) is submitted to DOI. The DTS must include an evaluation of the installation risk based on: the proposed construction methodologies; the entire Project footprint; areas of potential disturbance (anchorage areas, turbine and scour protection, cable route, etc.); the probability of UXO/DMM presence; and the mobility of sediments and UXO/DMM. The DTS must also identify the specific types of UXO/DMM that qualify as munitions of concern, and potential mitigation strategies, such as removal and re-routing. Finally, the DTS must provide specific recommendations for the Investigation Survey, as appropriate, including:

2.1.1.1 The areas to be surveyed;

2.1.1.2 Survey line spacing and sensor heights;

2.1.1.3 The width of the survey corridor;

2.1.1.4 The minimum iron content for targets;

2.1.1.5 Details about the testing and proofing of survey methods; and

2.1.1.6 A request for a waiver of the requirements included in Sections 2.1.2 through 2.1.5 if the Lessee does not believe further UXO/DMM study is necessary to ensure safe construction and installation activities.

2.1.2 UXO/DMM Investigation Survey Plan (Planning). Unless a waiver request is approved pursuant to Section 2.1.1.6, the Lessee must submit an Investigation Survey Plan to DOI for review and concurrence prior to the installation of facilities in the Investigation Survey area. The Investigation Survey Plan must describe the areas that need further investigation as discussed in the DTS. The Investigation Survey Plan must include information on the proposed survey vessel, equipment, methodologies, and schedule for the Investigation Survey of

the areas identified and must provide the anticipated date of submittal of its UXO/DMM Investigation Survey Report to DOI as described in Section 2.1.3 below.

If the Investigation Survey Plan is not consistent with the recommendations included in the DTS, the Investigation Survey Plan must discuss in detail the deviations and the associated rationale.

2.1.3 UXO/DMM Investigation Survey Report (Planning). Unless a waiver request is approved pursuant to Section 2.1.1.6, the Lessee must submit an Investigation Survey Report for DOI review and concurrence prior to the installation of facilities in the Investigation Survey area. This report must include the following:

2.1.3.1 A detailed discussion of utilized methodologies;

2.1.3.2 A summary and detailed description of the findings;

2.1.3.3 A separate list of those findings that identify any conditions different from those anticipated and discussed in the DTS;

2.1.3.4 Recommendations for the Identification Survey methods and equipment, if appropriate;

2.1.3.5 A statement attesting that the installation methods and UXO/DMM mitigation strategies discussed in the FIR and the DTS are suitable given the results of the Investigation Survey. Alternatively, the Lessee may submit a detailed discussion of alternative installation methods and/or UXO/DMM mitigation strategies the Lessee has determined to be appropriate given the results of the Investigation Survey; and

2.1.3.6 A request for a waiver of the requirements included in Sections 2.1.4 and 2.1.5, if the Lessee does not believe further UXO/DMM study is necessary to ensure safe construction and installation activities in the Investigation Survey area.

2.1.4 UXO/DMM Identification Survey Plan (Planning). Unless a waiver request is approved pursuant to Section 2.1.1.6 or 2.1.3.6, the Lessee must submit an Identification Survey Plan to DOI for review and concurrence prior to the installation of facilities in the Identification Survey area. The Identification Survey Plan must describe the areas that need further investigation as discussed in the DTS and the Investigation Survey Report. The Identification Survey Plan must: include information on the proposed survey vessel, equipment, methodologies, and schedule for the Identification Survey of the

areas identified; and provide the anticipated date of submittal of its UXO/DMM Identification Survey Report to DOI. As described in Section 2.1.5, the Identification Survey Report must be submitted to DOI prior to commencing installation activities in the Identification Survey area. If the Identification Survey Plan is not consistent with the recommendations included in the DTS and Investigation Survey Report, the Identification Survey Plan must discuss in detail the deviations and the associated rationale.

2.1.5 UXO/DMM Identification Survey Report (Planning). Unless a waiver request is approved pursuant to Section 2.1.1.6 or 2.1.3.6, the Lessee must submit an Identification Survey Report for DOI review and concurrence prior to the installation of facilities in the Identification Survey area. This report must include the following:

2.1.5.1 A detailed discussion of utilized methodologies;

2.1.5.2 A summary and detailed description of the findings;

2.1.5.3 A separate list of findings that identify conditions different from those anticipated and discussed in the DTS and the Investigation Survey Report; and

2.1.5.4 A statement attesting that the installation methods and UXO/DMM mitigation strategies discussed in the FIR, DTS, and/or Investigation Survey Report are consistent with the results of the Identification Survey, accepted engineering practices, and applicable best management practices. Alternatively, the Lessee may submit a detailed discussion of alternative installation methods and/or UXO/DMM mitigation strategies that the Lessee has determined to be appropriate given the results of the Identification Survey, accepted engineering practices, and applicable best management practices.

2.1.6 UXO/DMM Survey Results Implementation (Construction). The Lessee must implement the mitigation methods identified in the approved COP, DTS, and the subsequent survey report(s) following the resolution of all comments provided by DOI. The Lessee must make the information on implementation and installation activities associated with Section 2.1 available to the approved Certified Verification Agent (CVA) and DOI for review as part of the FIR prior to commencing commercial activities.

2.2 Safety Management System (Planning) (Construction) (Operations) (Decommissioning). Pursuant to 30 C.F.R. § 585.810, a lessee, designated operator, contractor, or subcontractor constructing, operating, or decommissioning renewable

energy facilities on the OCS must have a Safety Management System (SMS). The Lessee must provide a description of the SMS that will guide all activities described in the approved COP (hereafter the “Wind Development Area (WDA)’s Primary SMS”). BSEE will supply further guidance on the WDA’s Primary SMS content and process until DOI concurs that the SMS is fully functional.

- 2.2.1 The WDA’s Primary SMS must include a diving safety program or describe how it will ensure a contractor has a diving safety program that is in accordance with the U.S. Coast Guard (Coast Guard) regulations for Commercial Diving Operations at 46 C.F.R. part 197, subpart B, or updated standards, as appropriate. In so providing a diving safety program, the Lessee is required to consult with the Coast Guard.
- 2.2.2 The WDA’s Primary SMS must include a fall protection program, and, separately, describe how the WDA’s Primary SMS will ensure that contractors working at height will have a fall protection program that complies with the American National Standards Institute (ANSI)/American Society of Safety Engineers (ASSE) Z-359.2 Minimum Requirements for a Comprehensive Managed Fall Protection Program, or an updated version of this standard or a related standard.
- 2.2.3 The WDA’s Primary SMS must identify and assess risks to health, safety, and the environment associated with the offshore wind farm structures and operations, and must include an overview of the physical and procedural barrier(s) that will be used and maintained to mitigate the identified risks. The annual SMS reports (see Section 2.2.5) must discuss the operability and physical condition of the identified barriers and any changes made to the barrier systems.
- 2.2.4 The WDA’s Primary SMS is expected to evolve as activities progress from site characterization through construction, operations, and eventually to decommissioning, typically, by acknowledging the new risks that will be faced by a shifting workforce, and by incorporating work practices and operating procedures specific to managing those risks. Pursuant to 30 C.F.R. § 585.811, the WDA’s Primary SMS must be fully functional for all relevant activities prior to their commencement. The Lessee must demonstrate, to DOI’s satisfaction, the functionality of the WDA’s Primary SMS no later than 30 calendar days prior to beginning the relevant activities, as described in the approved COP. The Lessee can demonstrate the WDA’s Primary SMS functionality through various means. The following list provides examples, neither exhaustive nor prescriptive, of ways the WDA’s Primary SMS functionality can be demonstrated.

2.2.4.1 If the Lessee has a similar SMS that is functioning elsewhere, the Lessee can demonstrate the proper functioning of the SMS by sharing certifications of that SMS from a recognized accreditation organization (e.g., International Organization for Standardization (ISO)/International Electric Code (IEC) 450001, ANSI Z10, API RP 75 4th or later edition) or by sharing reports of third-party or internal audits of the SMS. The Lessee must also share an explanation of how the Lessee has adapted the audited SMS to become the WDA's Primary SMS.

2.2.4.2 If the Lessee does not have a similar SMS that is functioning elsewhere, demonstration of functionality should include at least one of the following activities:

- A desktop exercise in which the Lessee evaluates how the WDA's Primary SMS functions in response to different scenarios, including an evaluation of the strengths and weaknesses of Lessee's preparedness to control various risks;
- A description of the personnel who have been trained on the WDA's Primary SMS, an overview of the training content, and a description of controls the Lessee has put in place to ensure trained personnel's understanding of and adherence to the WDA's Primary SMS; or
- A detailed description of how the Lessee intends to monitor whether the implementation of the WDA's Primary SMS is achieving the desired goals, and an overview of how the SMS will be adjusted as necessary to control identified risks.

2.2.5 The Lessee is also required to provide BSEE with annual reports, by the anniversary date of DOI's initial concurrence with the WDA's Primary SMS, highlighting: (1) changes that have been made to the WDA's Primary SMS; (2) successes and challenges regarding the implementation of the WDA's Primary SMS; and (3) evidence of the functionality of the WDA's Primary SMS, specifically how the WDA's Primary SMS has driven continual improvement in safety and environmental performance. If DOI determines that changes to the WDA's Primary SMS were significant, DOI will review the changes and ask for any additional details or clarification as required. The Lessee must revise and resubmit its WDA's Primary SMS description if DOI does not concur with the Lessee's changes.

2.2.6 In addition to maintaining an acceptable and functional WDA Primary SMS, the Lessee, designated operator, contractor, and subcontractor constructing, or operating, or decommissioning renewable energy facilities on the OCS, are required to follow the policies and procedures of the specific SMS applicable to their activities, and to take corrective action whenever there is a failure to follow the specific SMS or the specific SMS failed to ensure safety.

2.3 Oil Spill Response Plan (Planning). Pursuant to 30 C.F.R. § 585.627(c), the Lessee must submit an Oil Spill Response Plan (OSRP) in compliance with 33 U.S.C. § 1321, including information identified in 30 C.F.R. part 254 that is applicable to the Lessee's activities. The Lessee must submit the OSRP directly to BSEE (at bseeosrd-gomr@bsee.gov). Before the installation of any component of the Lessee's facilities that may handle or store oil on the OCS, BSEE must review and accept the Lessee's OSRP. The Lessee's OSRP must be consistent with the National Contingency Plan and appropriate Area Contingency Plan(s), as defined in 30 C.F.R. § 254.6. In order to continue operating, the Lessee must operate in accordance with the OSRP accepted by BSEE.

The Lessee's OSRP must contain the following information:

2.3.1 Facility Information. The OSRP must describe the type and amounts of oil on the facilities covered under the Lessee's OSRP, and design parameters intended to monitor for oil spills.

2.3.1.1 As used herein, "Oil," as defined by Clean Water Act at 33 U.S.C. 1321(a), means oils of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil. However, "oil," does not include animal fats, oils, and greases, and fish and marine mammal oils, or oils of vegetable origin, including oils from seeds, nuts, or kernels. Dielectric fluids, as an example, meets this definition of oil. "Facility," for the purposes of the Lessee's OSRP, is a facility as defined in 30 C.F.R. § 585.112 that contains or stores oil.

2.3.2 Copies of Safety Data Sheets. The OSRP must include copies of safety data sheets (SDS) for any oils present on any facility in quantities equal to or greater than 100 gallons.

2.3.3 The Worst-Case Discharge Volume. The OSRP must include the worst-case discharge (WCD) volume for each type of facility covered in the plan.

2.3.3.1 The "Worst-Case Discharge Volume" is the highest cumulative volume of oil and all other oil-based substances contained on a single

facility, such as an electrical service platform (ESP) or wind turbine generator (WTG).

2.3.3.2 Calculating the Lessee's WCD volume(s):

- For all facilities (e.g., wind turbine generators (WTGs) or other support structures) other than ESPs and transmission lines, the WCD is the highest total volume of oil and oil-based substances contained onboard or within the facility, including all cables containing oil that are connected to the facility, except for transmission lines.
- For an ESP, the WCD is the highest total volume of oil and oil-based substances contained within the facility, including all cables containing oil that are connected to the facility, except for transmission lines.
- For transmission lines that contain oil, the WCD is the maximum volume of oil and oil-based substances that can be contained within the transmission line with the highest oil storage capacity and any storage tanks that may supply oil to the cable.

2.3.4 Response Organization. The OSRP must identify a trained Qualified Individual (QI), and an alternate, who have full authority to implement removal actions and ensure immediate notification of appropriate Federal officials and response personnel. The OSRP must provide these individuals' 24-hour contact information, including phone numbers and e-mail addresses. In the OSRP that covers the ESP(s), the Lessee must also designate trained members of the Lessee's Incident Management Team (IMT), and provide their 24-hour contact information, including phone numbers and e-mail addresses. If a contract has been established with an IMT, evidence of such a contract must be provided in the Lessee's OSRP.

2.3.4.1 "Qualified Individual" means an English-speaking representative of the Lessee located in the United States, available on a 24-hour basis, and with full authority to obligate funds, carry out removal actions, and communicate with the appropriate Federal officials and the persons providing personnel and equipment in removal operations.

2.3.4.2 "Incident Management Team" means the group of personnel identified to staff the organizational structure to manage the overall response to an incident in accordance with the Lessee's OSRP. The

IMT consists of the Incident Commander, Command and General Staff, and other personnel assigned to key Incident Command System positions designated in the Lessee's OSRP.

2.3.4.3 "Oil Spill Removal Organization" (OSRO) is an entity contracted by the Lessee to provide spill response equipment and/or manpower in the event of an oil spill.

2.3.4.4 "Spill Response Operating Team" (SROT) means the trained persons who respond to spills and deploy and operate oil-spill response equipment.

2.3.5 Notification Procedures. The OSRP must describe the procedures for spill notification. Notification procedures must include the 24-hour contact information for:

2.3.5.1 The QI and an alternate, including phone numbers and e-mail addresses;

2.3.5.2 IMT members, if applicable;

2.3.5.3 Federal, state, and local regulatory agencies that must be notified when a spill occurs, including but not limited to the National Response Center;

2.3.5.4 An OSRO and SROT that are available to respond; and

2.3.5.5 Other response organizations and subject matter experts that the Lessee will rely on for the Lessee's response.

2.3.6 Spill Mitigation Procedures. The OSRP must describe the different discharge scenarios that could occur from the Lessee's facilities and the mitigation procedures by which the offshore facility operator and any listed/contracted OSROs (if required) would respond to such discharges. The mitigation procedures must address responding to both smaller spills (with slow, low-volume leakage) and larger spills to include the largest WCD covered under the Lessee's OSRP (refer to definition above).

2.3.7 Trajectory Analysis. The OSRP that covers the ESP(s) must include a stochastic spill trajectory analysis from the ESP(s). The trajectory analysis must:

2.3.7.1 Be based on the WCD volume from the ESP that is closest to shore;

- 2.3.7.2 Be conducted for the longest period of time that the discharged oil would reasonably be expected to persist on the water's surface, or 14 calendar days, whichever is shorter; and
- 2.3.7.3 Identify the probabilities for oiling on the water's surface and on shorelines, and minimum travel times for the transport of the oil over the duration of the model simulation. Oiling probabilities and minimum travel times must be calculated for exposure threshold concentrations reaching 10 grams per square meter. Stochastic analysis must incorporate a minimum of 100 different trajectory simulations using random start dates selected over a multi-year period.
- 2.3.8 Resources at Risk. The OSRP must include a concise list of the sensitive resources that are located near the Lessee's offshore facility and could be oiled by a spill. In lieu of listing sensitive resources, the Lessee may identify the areas that could be oiled by a spill from the Lessee's facility and provide hyperlinks to corresponding Environmentally Sensitive Index Maps and/or Geographic Response Strategies for those areas from the appropriate Area Contingency Plans.
- 2.3.9 Contractual Agreements. The OSRP must include a list of OSROs and SROTs that are available to respond to the WCD of oil from the Lessee's offshore facilities and their contact information.
 - 2.3.9.1 If the Lessee's OSRP covers only WTGs, the Lessee may provide a Letter of Intent (LOI) in lieu of a contract from each OSRO and SROT in the Lessee's plan acknowledging that it has agreed to be listed in the Lessee's OSRP.
 - 2.3.9.2 In the OSRP that covers the ESP(s), the Lessee is required to ensure the availability of the OSRO and SROT resources necessary to respond through a contract or membership agreement. If a contract has been established with an OSRO and SROT, evidence of such contracts or membership agreements must be provided in the Lessee's plan. An LOI is not required from any OSRO or SROT that has been ensured to be available through a contract.
 - 2.3.9.3 The OSRP must also include a map(s) that shows equipment storage sites and staging location(s) for the oil spill response equipment that would be deployed by the facility operators or the OSRO(s) listed in the plan in the event of a discharge.

- 2.3.10 Training. The OSRP must include a description of the annual training necessary to ensure that the QI, IMT, OSRO and SROT (as applicable) are sufficiently trained to perform their respective duties. The Lessee's OSRP must provide the most recent dates of applicable training(s). The Lessee must ensure that the Lessee's QI, IMT, OSRO, and SROT personnel receive annual training. The training must be sufficient for personnel to perform their duties. Training records must be maintained and retained for 3 years and must be provided to BSEE upon request.
- 2.3.11 Response Plan Exercise. The OSRP must include a triennial exercise plan for review and concurrence by BSEE to ensure that the Lessee is able to respond quickly and effectively whenever oil is discharged from the Lessee's facilities. The Lessee must conduct an annual scenario-based notification exercise, an annual scenario-based IMT tabletop exercise, and, during the triennial exercise period, at least one functional exercise. If the Lessee's plan includes an OSRO and/or SROT contract, an annual deployment exercise of the Lessee's contracted response equipment is required. BSEE will advise on the options the Lessee has to satisfy these requirements and may require changes in the type, frequency, or location of the required exercises, exercise objectives, equipment to be deployed and operated, or deployment procedures or strategies. BSEE may evaluate the results of the exercises and advise the Lessee of any needed changes in response equipment, procedures, tactics, or strategies. BSEE may periodically initiate unannounced exercises to test the Lessee's spill preparedness and response capabilities. Exercise records must be maintained and retained for 3 years and must be provided to DOI upon request.
- 2.3.12 Response Equipment. The OSRP that covers the ESP(s) must: include a list, or a hyperlink to a list, of the oil spill response equipment that is available to the Lessee through OSRO contracts; and identify the location of the equipment depots where the equipment is stored. The Lessee must: ensure that the Lessee's contracted response equipment is maintained in proper operating condition; further ensure that all maintenance, modification, and repair records are kept for a minimum of 3 years; and provide these records to BSEE upon request. The Lessee or the Lessee's OSRO must provide BSEE with physical access to the Lessee's equipment storage depots and perform functional testing of the Lessee's response equipment upon BSEE's request. BSEE may require maintenance, modifications, or repairs to response equipment or require the Lessee to remove response equipment from the Lessee's plan if it does not operate in accordance with its intended purpose.
- 2.3.13 OSRP Maintenance. If the Lessee makes a significant change to its OSRP that would reduce the Lessee's ability to respond to: a spill, a significant increase in

the Lessee's WCD, removal of a contracted IMT, OSRO, or SROT from the Lessee's plan, or a significant change in the applicable area contingency plans, the Lessee must revise its OSRP to remedy these problems and provide notice to BSEE no more than 15 calendar days after said change for review and concurrence. The Lessee must review and update the entire OSRP as needed at intervals not to exceed once every 3 years, starting from the date the OSRP was initially accepted. The Lessee must send a written notification to BSEE upon completion of this review and submit any updates for concurrence. BSEE may require changes to the Lessee's OSRP if BSEE determines that the OSRP is outdated or contains significant inadequacies through review of the Lessee's OSRP, information obtained during exercises or actual spill responses, or other relevant information obtained by BSEE.

- 2.4 Cable Routings (Planning). The Lessee must submit the final Cable Burial Risk Assessment (CBRA) and engineered cable routings for all cable routes on the OCS to DOI for review prior to or with the submittal of the FDR. The final CBRA must include information on: (a) natural and man-made hazards; (b) sediment mobility, including high and low seabed levels expected over the Project lifetime; (c) feasibility and effort level information required to meet burial targets; and (d) profile drawings of the cable routings illustrating cable-burial targets along with the stable seabed depth. The Lessee must resolve any DOI-identified comments and concerns about the CBRA to DOI's satisfaction prior to the installation of cables and related facilities authorized in the Lessee's approved COP.
- 2.5 Cable Protection Measures (Planning) (Construction) (Operations). As described in the approved COP, the export and inter-link cable is expected to be installed using simultaneous lay and bury via jet plowing, or one of the other techniques listed in Section 4.2.3.3.2 of Volume I of the approved COP. Other methods may be needed in areas of coarser or more consolidated sediment, rocky bottom, or other difficult conditions to ensure a proper burial depth, and it is expected that achieving proper burial depth may be difficult in some areas. In these areas, where proper burial depth cannot be achieved, the Lessee will employ cable protection measures through techniques such as placing rocks or prefabricated flexible concrete coverings on top of the cable (referred to as concrete mattresses), or using half-shell pipes/similar products made from composite materials/cast iron with suitable corrosion protection.

As described in the approved COP, the use of cable protection measures will not exceed 10 percent of the total cable routing. This is in accordance with the initial CBRA's estimated length of cable protection of 3.4 miles (5.5 kilometers), or 8.4 percent of the cable route.

- 2.5.1 For the purpose of the approved COP, DOI has determined the proper burial depth to be a minimum of 4.9 feet (1.5 meters) along Federal sections of the

export cable, inter-link, and inter-array cables, as measured from the stable seabed to the top of the cable. This depth is consistent with the approved COP and the cable burial performance assessment provided in the initial CBRA. The Lessee must employ cable protection measures when proper burial depth is not achieved and provide DOI with detailed drawings/information of the actual burial depths and locations where protective measures were used, when the post-installation reports are submitted.

- 2.5.2 If the Lessee cannot comply with the requirements in Section 2.5.1, the Lessee must provide for DOI's review information explaining any proposed alteration of the requirements in that Section, including the need for the proposed alteration,, and must resolve any DOI concerns and objections to such alteration to DOI's satisfaction prior to or with the FIR submission.
- 2.6 Crossing Agreements (Planning). The Lessee must provide final cable crossing agreements for active, in-service submarine cables, or other types of infrastructure, such as pipelines, to DOI no later than 30 calendar days prior to cable installation.
- 2.7 Post-Installation Cable Monitoring (Construction) (Operations). The Lessee must provide DOI with a cable monitoring report within 60 calendar days following each inter-array and export cable inspection to determine cable location, burial depths, the state of the cable, and site conditions. Inspections of the inter-array and export cables must: include high resolution geophysical (HRG) methods, involving, for example, multi-beam bathymetric survey equipment; and identify seabed features, natural and man-made hazards, and site conditions along Federal sections of the cable routing.
- 2.7.1 On the OCS, the Lessee must conduct the initial inter-array and export cable inspection within 6 months of commissioning, and subsequent inspections at Years 1 and 2, and every 3 years thereafter, and within 180 calendar days after a major storm event (as defined in the Post-Storm Monitoring Plan, described in Section 2.10). If DOI determines that conditions along the cable corridor warrant adjusting the frequency of inspections following the Year 2 survey (e.g., due to changes in cable burial or seabed conditions that may impact cable stability or other users of the seabed), then DOI may require the Lessee to submit a revised monitoring plan to DOI for review and concurrence.
- 2.7.2 In addition to required inspections, the Lessee must continuously monitor the export cable with the use of an as-built Distributed Temperature Sensing System. If DOI determines that the Distributed Temperature Sensing data indicates that burial conditions have deteriorated or changed significantly and remedial actions are warranted, then the Lessee must submit the following to BOEM (at renewable_reporting@boem.gov) and BSEE (at OSWsubmittals@bsee.gov) within 45 calendar days of the date DOI notifies

the Lessee of its determination: the Distributed Temperature Sensing data, a seabed stability analysis, and a report of remedial actions taken or scheduled. All remedial actions must be consistent with those described in the approved COP and completed in accordance with the schedule provided in the remedial-action report. DOI will review the report of remedial actions and provide comments, if any, on the report within 60 calendar days of its submittal. The Lessee must resolve all comments on the report to DOI's satisfaction. If DOI provides no comments on the report within 60 calendar days of its submittal, then the Lessee may conclusively presume DOI's concurrence with the report.

2.7.3 The Lessee must provide to DOI the Distributed Temperature Sensing data, cable monitoring survey data, and cable conditions analysis for each year as part of the Annual Certification of Compliance, as required by 30 C.F.R. § 585.633(b).

2.8 WTG and ESP Foundation Depths (Planning). Information on seabed conditions has been provided to depths of up to 131 feet (40 meters) at WTG locations and a depth of 246 feet (75 meters) at ESP locations. If foundation depths are anticipated to exceed these depths, the Lessee must provide for DOI's review with the FDR submission additional information on seabed conditions and geotechnical design parameters, as well as a pile drivability assessment for the additional depths, as requested by DOI.

In the event that the specific location of certain Project components differs from the 1 nautical mile x 1 nautical mile layout for which geotechnical investigations have been performed, the Lessee must perform additional borings and/or Cone Penetration Test (CPT) probes at any new locations not already covered by previous investigations extending to depths at least 33 feet (10 meters) below expected foundation tip elevation, along with a pile drivability assessment for each site. The Lessee must provide this data in the FDR along with final foundation designs.

2.9 Minimizing and Monitoring Foundation Scour Protection (Construction) (Operations) (Decommissioning). The Lessee must: minimize, to the maximum extent practicable based on design and engineering considerations, the footprint of scour protection measures at the WTG foundations; and inspect scour protection performance. The Lessee must submit an Inspection Plan to DOI and the National Marine Fisheries Service (NMFS) at least 60 calendar days prior to initiating the inspection program. DOI will review the Inspection Plan and provide comments, if any, on the plan within 60 calendar days of its submittal. The Lessee must resolve all comments on the Inspection Plan to DOI's satisfaction and receive DOI's written concurrence prior to initiating the inspection program. However, the Lessee may conclusively presume DOI's concurrence with the Inspection Plan if DOI provides no comments on the plan within 60 calendar days of its submittal.

- 2.9.1 The Lessee must carry out an initial foundation scour inspection within 6 months of installation completion of each foundation location, and subsequent inspections at a minimum of 20 percent of foundation locations at intervals of 3 years thereafter, and within 180 calendar days after a major storm event (as defined in the Post-Storm Monitoring Plan, described in Section 2.10).
- 2.9.2 The Lessee must provide DOI with a foundation scour monitoring report within 45 calendar days of completing each foundation scour inspection.
- 2.9.3 Should scour holes develop within 10 percent of the minimum local scour design values, or if spud depressions from installation affect scour protection stability, the Lessee must submit a plan for additional monitoring and/or mitigation to DOI for review and concurrence.
- 2.10 Post-Storm Monitoring Plan (Construction) (Operations) (Decommissioning). The Lessee must provide a plan for post-storm monitoring of the facility infrastructure, foundation scour protection, and cables to DOI for review and concurrence prior to commencing installation activities. This plan must: include a description of how the Lessee will measure or monitor environmental conditions; specify the condition thresholds for a major storm, and their associated technical justification(s), above which post-storm monitoring or mitigation is necessary; describe potential monitoring, mitigation, and damage identification methods; and state when the Lessee will notify DOI of post-storm related activities. DOI reserves the right to require post-storm mitigations to address conditions that could result in safety risks and/or impacts to the environment.
- 2.11 High-Frequency Radar Interference Analysis and Mitigation (Planning) (Construction) (Operations). The Project is within the line of sight (LOS) of seven oceanographic high-frequency (HF) radar systems (SeaSonde and Least Expensive Radar [LERA] types):

| <u>Radar Name</u> | <u>Radar System</u> |
|-------------------|----------------------|
| SQUB | Short Range SeaSonde |
| LPWR | Medium Range LERA |
| HBSR | Medium Range LERA |
| NWTP | Medium Range LERA |
| MVCO | Long Range SeaSonde |
| NANT | Long Range SeaSonde |
| AMAG | Long Range SeaSonde |

- 2.11.1 The Lessee must coordinate with the radar operators identified in the table above and the Surface Currents Program of the National Oceanic and

Atmospheric Administration (NOAA) Integrated Ocean Observing System Office to assess if the Project causes radar interference to the degree that radar performance is no longer within the specific radar systems' operational parameters or fails to meet mission objectives.

2.11.2 If, after the above coordination, the radar operator or the Surface Currents Program determines that the Project causes a radar system to fall outside of its operational parameters or fail to meet mission objectives, as soon as possible and no later than 30 calendar days from the date on which the determination was communicated, the Lessee must: (i) notify DOI of the determination; (ii) share time-series data of blade rotation rates, nacelle bearing angles, and other information about the operational state of each turbine in the WDA with the affected radar operator and the Surface Currents Program to aid interference mitigation; and (iii) if available, share real-time telemetry of surface currents and other oceanographic data measured at Project locations selected by the Lessee, in coordination with the affected radar operator and the Surface Currents Program.

2.11.3 If a mitigation measure other than that identified in Section 2.11.2 is agreed to by the Lessee, the affected radar operator, and the Surface Currents Program, then the Lessee must submit information on the proposed mitigation measure to DOI for its review and concurrence.

2.12 Commissioning Surveillance of Critical Safety Systems (Planning) (Construction). Prior to commencing commercial operations, the Lessee must provide to DOI qualified third-party verification of proper installation and commissioning of all critical safety systems and equipment designed to prevent or ameliorate major accidents that could result in harm to health, safety, or the environment (hereinafter "critical safety systems"). The documentation provided to DOI must demonstrate that the qualified third party verified that the critical safety systems for the Project and equipment to be used were commissioned in conformity with the Original Equipment Manufacturer (OEM)'s standards and the Project's functional requirements, and are functioning properly prior to the start of commercial operations.

2.12.1 Qualified Third Party. A qualified third party must be a technical classification society, a licensed professional engineering firm, or a registered professional engineer capable of providing the necessary certifications, verifications, and reports. The qualified third party must not have been involved in the design of the Project.

2.12.2 Critical Safety Systems and Equipment Risk Assessment. The Lessee must conduct a risk assessment to identify the critical safety systems and equipment within its facility. The Lessee must submit the risk assessment to DOI and the qualified third party for review. The qualified third party must make a

recommendation to DOI on the acceptability of the risk assessment and its associated conclusions. DOI must concur with the qualified third-party recommendation(s) prior to the Lessee beginning commissioning activities.

- 2.12.3 Commissioning Surveillance Requirements. The qualified third party must evaluate whether the commissioning of the wind farms' critical safety systems and equipment, as identified in the risk assessment, are in conformance with the instructions in OEM manuals and the Project's functional requirements. Other tests to be performed during commissioning may be agreed upon with the Lessee.

This evaluation requires the examination of commissioning records and witnessing of tests. The qualified third party must witness the commissioning of the critical safety systems and equipment of at least one WTG per every 50 WTGs in the Project, rounding up to the nearest 50 (e.g., if 62 WTGs are to be installed, the qualified third party must witness the commissioning of two WTGs). The qualified third party must, at a minimum, verify that:

- 2.12.3.1 The installation procedures and/or commissioning instructions supplied by the manufacturer and identified in the Project's functional requirements are adequate;
- 2.12.3.2 The instructions supplied by the manufacturer and identified in the Project's functional requirements are followed during commissioning;
- 2.12.3.3 The systems and equipment function as designed; and
- 2.12.3.4 The final commissioning records are complete.

- 2.12.4 Commissioning Surveillance Reporting. The Lessee must submit commissioning surveillance records (for example, the final results and acceptance of the commissioning test by the qualified third party) or a Conformity Statement and supporting documentation (prepared in accordance with International Electrotechnical Commission System for Certification to Standards relating to Equipment for use in Renewable Energy applications (IECRE OD-502)) for the critical safety systems identified in Section 2.12.2. DOI must concur with the commissioning surveillance records or Conformity Statement and supporting documentation prior to the Project initiating commercial operations. If DOI has not responded to the commissioning surveillance records or Conformity Statement and supporting documentation submitted by the qualified third party within 3 working days, then the Lessee may presume concurrence.

2.13 As-Built Drawings (Construction) (Operations) (Decommissioning). The Lessee must compile, retain, and make available to DOI the following drawings and documents, as provided in the chart below.

| <u>Drawing Type</u> | <u>Time frame to make available issued for construction drawings</u> | <u>Time frame to make available post-fabrication drawings</u> | <u>Time frame to make available final, stamped as-built drawings</u> |
|---|--|---|--|
| Complete set of structural drawing(s) including major structural components and evacuation routes | With FDR submittal | N/A | Within 1 calendar year of the facility commencing commercial operations ⁴ |
| Front, side, and plan view drawings | With FDR submittal | N/A | Within 1 calendar year of the facility commencing commercial operations |
| Location plat for all Project facilities | With FDR submittal | N/A | Within 1 calendar year of the facility commencing commercial operations |
| Complete set of cable drawing(s) | With FDR submittal | Prior to Final FIR Non-Objection as contemplated in 30 C.F.R. § 585.700(b) ⁵ | Within 90 calendar days of the facility commencing commercial operations |
| Piping and instrumentation diagram(s) | | N/A | Within 90 calendar days of the facility commencing commercial operations |
| Safety flow diagram(s) ⁶ | With FDR submittal | N/A | Within 90 calendar days of the facility commencing commercial operations |
| Electrical one-line drawing(s) | | Prior to Final FIR Non-Objection | Within 90 calendar days of the facility commencing commercial operations |
| Cause and Effect Chart | | Prior to Final FIR Non-Objection | Within 90 calendar days of the facility commencing commercial operations |
| Schematics of the fire and gas-detection system(s) | | Prior to Final FIR Non-Objection | Within 90 calendar days of the facility commencing commercial operations |

⁴ “Commercial operations” is defined at 30 C.F.R. § 585.112.

⁵ As-installed location must be submitted with the final FIR.

⁶ Safety flow diagrams should depict the location of critical safety systems and equipment designed to prevent or ameliorate major accidents that could result in harm to health, safety, or the environment.

3 NAVIGATIONAL AND AVIATION SAFETY CONDITIONS

3.1 Design Conditions (Planning) (Construction) (Operations).

3.1.1 **Marking**. The Lessee must mark each WTG and ESP with private aids to navigation. No sooner than 30 and no less than 15 calendar days prior to installation, the Lessee must file an application (form CG-2554), either in paper form or electronically, with the Commander of the First Coast Guard District to establish Private Aids to Navigation (PATON), per 33 C.F.R. part 66. Approval must be obtained before installation of the Lessee's facilities begins. The Lessee must:

- 3.1.1.1 Provide a lighting, marking, and signaling plan for review and concurrence by DOI and the Coast Guard at least 120 calendar days prior to installation. The plan must conform to applicable Federal law and regulations, and guidelines established by: the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) Recommendation R0139 (O-139) The Marking of Man-Made Offshore Structures; the Coast Guard's Local Notice to Mariners (D1 LNM: 33/20) on Ocean-Structure PATON Marking Guidance; and BOEM's Guidelines for Lighting and Marking of Structures Supporting Renewable Energy Development (April 28, 2021). Should any part of Recommendation O-139 conflict with Federal law or regulation, or if the Lessee seeks an alternative to Recommendation O-139, then the Lessee must consult with and gain approval from the Coast Guard;
- 3.1.1.2 Mark each individual WTG and ESP with clearly visible, unique, alpha-numeric identification characters consistent with the attached Rhode Island and Massachusetts Structure Labeling Plot;
- 3.1.1.3 Light each WTG and ESP in a manner that is visible by mariners in a 360-degree arc around the WTG and ESP;
- 3.1.1.4 Light each WTG with red obstruction lighting compatible with night-vision goggles and consistent with the Federal Aviation Administration (FAA) (Advisory Circular (AC) 70/7460-IM);
- 3.1.1.5 Provide signage, which is visible to mariners in a 360-degree arc around the structures, warning vessels of the air draft below the turbine blades as determined at highest astronomical tide;

- 3.1.1.6 Cooperate with the Coast Guard and NOAA to ensure that cable routes, ESPs, and WTGs are depicted on appropriate government-produced and commercially available nautical charts;
 - 3.1.1.7 Provide mariner information sheets on the Lessee's website, with details on the location of the WTGs and ESP(s) and specifics such as blade clearance above sea level; and
 - 3.1.1.8 Submit documentation to DOI within 90 calendar days of beginning commercial operations documenting compliance with Sections 3.1.1.1 through 3.1.1.7.
- 3.1.2 Blade/Nacelle Control. The Lessee must equip all WTG rotors (blade assemblies) with control mechanisms constantly operable from the Lessee's control center.
- 3.1.2.1 Control mechanisms must enable the Lessee to immediately initiate the shutdown of any requested WTGs upon notification from the Department of Defense (DoD) or the Coast Guard. The Lessee must include a formal shutdown procedure in its Emergency Response Plan's Standard Operating Procedures and test this procedure on a regular basis as outlined in the Lessee's annual inspection plan. The Lessee must submit the results of testing with the Project's annual inspection results.
 - 3.1.2.2 The DoD or Coast Guard may request rotor shutdown. The Lessee must immediately initiate emergency shutdown when ordered by the DoD or Coast Guard. Coast Guard-requested shutdowns will be limited to those WTGs in the immediate vicinity of an emergency and limited to the period of time the Coast Guard determines is needed to safely respond to the emergency triggering the emergency shutdown. The Lessee may resume operations only upon notification from the entity (DoD or Coast Guard) that initiated the shutdown. DOI will coordinate with the Lessee and DoD or Coast Guard to facilitate issuance of said notice as soon as resuming operation of the WTGs is not expected to interfere with the emergency that prompted the shutdown.
 - 3.1.2.3 The Lessee must work with the Coast Guard to establish the proper blade configuration during WTG shutdown for Coast Guard search and rescue air assets.
 - 3.1.2.4 The Lessee must participate in Coast Guard periodic coordinated training and exercises to test and refine notification and shutdown

procedures, and to provide search and rescue training opportunities for Coast Guard Command Centers, vessels, and aircraft.

- 3.1.3 Helicopter Landing Platforms. If the Lessee's ESP(s) include helicopter landing platforms, the Lessee must design and build those platforms to accommodate Coast Guard HH60 rescue helicopters. The design must be verified by the DOI-approved CVA.
- 3.1.4 Structure Micrositing. The Lessee must not adjust approved structure locations in a way that narrows any northwest-southeast or northeast-southwest transit corridors to less than 0.6 nautical miles. The Lessee must submit the final as-built structure locations as part of the as-built documentation outlined in Section 2.13.
- 3.1.5 Emergency Response Plan. Prior to construction of the Project, the Lessee must submit an Emergency Response Plan to address non-routine events for review and concurrence by DOI and the Coast Guard. Annually, the Lessee must submit any revisions of the plan for review and concurrence by the Coast Guard. The Lessee must submit to DOI revisions to the Emergency Response Plan accepted by the Coast Guard. The Emergency Response Plan must demonstrate that the control center will be adequately staffed to execute the standard operating procedures, communications capabilities with the Coast Guard, and monitoring capabilities over the Project. The Emergency Response Plan must address the following, which the Lessee may modify with concurrence from the Coast Guard:
 - 3.1.5.1 Standard Operating Procedures. Methods for: (i) establishing and testing WTG rotor shutdown and braking; (ii) lighting control; (iii) notifying the Coast Guard of mariners in distress or potential/actual search and rescue incidents; (iv) notifying the Coast Guard of any events or incidents that may impact maritime safety or security; and (v) providing the Coast Guard with environmental data, imagery, communications and other information pertinent to search and rescue or marine pollution response.
 - 3.1.5.2 Staffing. The number of personnel intended to staff the control center to ensure continuous monitoring of WTG operations; communications and surveillance systems; hours of operation; job qualification requirements; and initial, on-the-job, and refresher training requirements.
 - 3.1.5.3 Communications. Description of the capabilities to be maintained by the control center to communicate with the Coast Guard and mariners within and in the vicinity of the WDA. Control center

communications capability must include, at a minimum, landline and wireless telephone for voice and data. Construction and operations vessel communications capability must include, at a minimum, Very High Frequency (VHF) marine radio.

3.1.5.4 Monitoring. The control center must maintain the capability to monitor the Lessee's installation and operations in real time, including at night and in periods of poor visibility, for: (i) determining the status of all PATONs, immediately reporting discrepancies to the local Coast Guard Sector Command Center (discrepancies must be corrected no later than 21 calendar days after detection); and (ii) searching for and locating mariners in distress upon notification of a maritime distress incident.

- The Lessee must test the monitoring systems to ensure functionality on a regular basis as outlined in the Lessee's annual inspection plan. The Lessee must submit the results of testing to DOI with the Project's annual inspection results.
- The Lessee must contact the Coast Guard immediately if real-time monitoring is unavailable for more than 1 hour. The Lessee must put in place an alternate monitoring plan(s) agreed to by the Coast Guard.
- The Lessee must notify DOI within 24 hours if real-time monitoring becomes unavailable for more than 1 hour.

3.1.5.5 Examples of Non-Routine Events. Non-routine events may include, but are not limited to, area oil spills, major storms, marine incidents, mariners taking refuge within and on the facility. As part of the coordination required under Section 3.1.5, the Lessee must consult with the Coast Guard on the events that must be covered within the Emergency Response Plan.

3.2 Installation Conditions (Planning) (Construction).

3.2.1 Schedule. At least 60 calendar days prior to commencing construction activities, the Lessee must provide DOI and the Coast Guard with a plan that describes the schedule and process for installing the WTGs and ESP(s), including all planned mitigations to be implemented to minimize any adverse impacts to navigation while installation is ongoing. No WTG or ESP installation work may commence at the project site (i.e., on or under the water), without prior review by DOI and the Coast Guard of the plan required under this provision. The Lessee must submit any significant revisions or

updates to the plan at least 60 calendar days prior to commencing the activities described in that update or revision. Appropriate Notice to Mariners submissions must accompany the plan.

3.2.2 Cable Burial. No later than 60 calendar days post-cable installation, the Lessee must submit to DOI and the Coast Guard a copy of the final submarine cable system route positioning list that depicts the precise location and burial depths of the entire cable system.

3.3 Reporting Conditions (Planning) (Construction) (Operations) (Decommissioning).

3.3.1 Complaints. On a monthly basis, the Lessee must: (1) provide DOI with a description of any complaints received (written or oral) by boaters, fishermen, commercial vessel operators, or other mariners regarding impacts to navigation safety allegedly caused by construction or operations vessels, crew transfer vessels, barges, or other equipment; and (2) describe remedial action(s) taken in response to complaints received, if any. DOI reserves the right to require additional remedial action in accordance with 30 C.F.R. part 585.

3.3.2 Correspondence. On a monthly basis, the Lessee must provide DOI and the Coast Guard with copies of any correspondence received from other Federal, state, or local agencies that mention or address navigation safety issues.

3.3.3 Maintenance Schedule. On an annual basis, the Lessee must provide DOI and the Coast Guard with its maintenance schedule for any planned WTG or ESP maintenance. Appropriate Notice to Mariners submissions must accompany each maintenance schedule.

3.4 Meeting Attendance (Planning) (Construction) (Operations). As requested by DOI and the Coast Guard, the Lessee must attend meetings (e.g., Harbor Safety Committee, Area Committee) to provide briefs on the status of construction and operations, and on any problems or issues encountered with respect to navigation safety.

3.5 Area Oil Spill Contingency Planning (Planning) (Construction) (Operations). The Lessee must participate in any Coast Guard-supported efforts to develop area oil spill contingency plans.

3.6 Periodic Review (Planning) (Construction) (Operation). Throughout the life of the Project, the Coast Guard will continue to monitor the construction and operation of the Project for purposes of navigation safety and the execution of Coast Guard missions. To the extent it is technically and economically feasible, the Lessee must cooperate with the Coast Guard in this regard, including participation in Coast Guard exercises and evaluations.

4 NATIONAL SECURITY CONDITIONS

- 4.1 Confirmation that Structures Can Withstand Training Activities (Planning). To prevent interference with the 104th Fighter Wing’s ability to train in Warning Area 105, the Lessee must confirm via letter to the United States Air Force (USAF) that the Lessee’s structures in the WDA can withstand the daily sonic overpressures (sonic booms) and potential falling debris from chaff and flare dispensed by the USAF. The letter must be signed by an authorized representative of the Lessee and provided to USAF and BOEM no later than 15 calendar days after COP approval.
- 4.2 Hold and Save Harmless – United States Government. (Planning) (Construction) (Operation). Whether compensation for such damage or injury might be due under a theory of strict or absolute liability or otherwise, the Lessee assumes all risks of damage or injury to any person or property, which occur in, on, or above the OCS, in connection with any activities being performed by the Lessee in, on, or above the OCS, if the injury or damage to any person or property occurs by reason of the activities of any agency of the United States Government, its contractors, or subcontractors, or any of its officers, agents or employees, being conducted as a part of, or in connection with, the programs or activities of the individual military command headquarters (hereinafter “the appropriate command headquarters”) listed below:

United States Fleet Forces (USFF) N46
1562 Mitscher Ave, Suite 250
Norfolk, VA 23551
(757) 836-6206

Notwithstanding any limitation of the Lessee’s liability in Section 9 of the Lease, the Lessee assumes this risk whether such injury or damage is caused in whole or in part by any act or omission, regardless of negligence or fault, of the United States, its contractors or subcontractors, or any of its officers, agents, or employees. The Lessee further agrees to indemnify and save harmless the United States against all claims for loss, damage, or injury in connection with the programs or activities of the command headquarters, whether the same be caused in whole or in part by the negligence or fault of the United States, its contractors, or subcontractors, or any of its officers, agents, or employees and whether such claims might be sustained under a theory of strict or absolute liability or otherwise.

- 4.3 Falmouth Airport Surveillance Radar-8 and Nantucket Airport Surveillance Radar-9 Radar Systems. (Construction) (Operation). To mitigate impacts on the North American Aerospace Defense Command’s (NORAD) operation of the Falmouth Airport Surveillance Radar-8 (ASR-8) and the Nantucket ASR-9 Radar, the Lessee must complete the following.

- 4.3.1 Mitigation Agreement. The Lessee must enter into a mitigation agreement with the DoD and the Department of the Air Force, for purposes of implementing Sections 4.3.2 and 4.3.3 below. If there is any discrepancy between Sections 4.3.2. and 4.3.3 and the terms of the mitigation agreement, the terms of the mitigation agreement will prevail. Within 15 calendar days of entering into the mitigation agreement, the Lessee must provide BOEM with a copy of the executed mitigation agreement. Within 45 calendar days of completing the requirements in Sections 4.3.2 and 4.3.3, the Lessee must provide BOEM with evidence of compliance with those requirements.
- 4.3.2 NORAD Notification. At least 30, but no more than 60, calendar days prior to completion of construction or initiation of commercial operations (whichever is earlier), the Lessee must notify NORAD for Radar Adverse-impact Management (RAM) scheduling, which is required for the Falmouth ASR-8; and
- 4.3.3 Funding for RAM Execution. At least 30, but no more than 60, calendar days prior to completion of construction or initiation of commercial operations (whichever is earlier), the Lessee must contribute funds in the amount of \$80,000 to NORAD toward the execution of the RAM.
- 4.4 Distributed Acoustic Sensing Technology. (Planning) (Construction) (Operation). To mitigate potential impacts on the Department of the Navy's (DON) operations, the Lessee must coordinate with the DoD/DON on any proposal to utilize distributed acoustic sensing (DAS) technology as part of the Project or associated transmission cables.
- 4.5 Electromagnetic Emissions. (Planning) (Construction) (Operation). Before entering any designated defense operating area, warning area, or water test area for the purpose of carrying out any survey activities under the approved COP, the Lessee must enter into an agreement with the commander of the appropriate command headquarters to coordinate the electromagnetic emissions associated with such survey activities. The Lessee must ensure that all electromagnetic emissions associated with such survey activities are controlled as directed by the commander of the appropriate command headquarters. The Lessee must provide BOEM with a copy of the agreement within 15 calendar days of entering into it. The Lessee must include a summary of associated activities in the Lessee's annual self-inspection reports.

5 CONDITIONS RELATED TO PROTECTED SPECIES⁷ AND HABITAT

5.1 General Environmental Conditions.

- 5.1.1 Aircraft Detection Lighting System (Construction) (Operations). The Lessee must use an FAA-approved Aircraft Detection Lighting System (ADLS), which will activate the FAA hazard lighting only when an aircraft is in the vicinity of the wind facility and will reduce the visibility of lighting at night and will reduce visual impacts at night. The Lessee must confirm the use of FAA-approved ADLS in the FIR.
- 5.1.2 Automated Information System on All Project Construction and Operations Vessels, Turbines, and ESPs (Construction) (Operations) (Decommissioning). The Lessee must ensure that an operational Automated Information System (AIS) is installed on all vessels associated with the construction, operation, and decommissioning of the Project. The Lessee must use AIS to mark the location of WTGs and ESPs as required by the Coast Guard. AIS is required to monitor the number of vessels and traffic patterns for analysis and compliance with vessel speed requirements and to make identification of infrastructure easier for non-Project vessels. The Lessee must submit to BOEM a report with the AIS data at the time it submits the certification of compliance required under 30 C.F.R. § 585.633(b).
- 5.1.3 Marine Debris⁸ Awareness and Elimination (Planning) (Construction) (Operations) (Decommissioning).
- 5.1.3.1 Marine Debris Awareness Training. The Lessee must ensure that vessel operators, employees, and contractors engaged in offshore activities pursuant to the approved COP complete marine trash and debris awareness training annually. The training consists of two parts: (1) viewing a marine trash and debris training video or slide show (described below); and (2) receiving an explanation from management personnel that emphasizes their commitment to the requirements. The marine trash and debris training videos, training slide packs, and other marine debris related educational material may be obtained at <https://www.bsee.gov/debris> or by contacting BSEE. The training videos, slides, and related material may be downloaded

⁷ As used herein, the term “protected species” means species of fish, wildlife, or plant that have been determined to be endangered or threatened under Section 4 of the Endangered Species Act (ESA). ESA-listed species are provided in 50 C.F.R. 17.11-12. The term also includes marine mammals protected under the Marine Mammal Protection Act (MMPA).

⁸ Throughout this document, “marine debris” is defined as any object or fragment of wood, metal, glass, rubber, plastic, cloth, paper, or any other man-made item or material that is lost or discarded in the marine environment.

directly from the website. Operators engaged in marine survey activities must continue to develop and use a marine trash and debris awareness training and certification process that reasonably assures that their employees and contractors are in fact trained. The training process must include the following elements:

- Viewing of either a video or slide show by the personnel specified above;
- An explanation from management personnel that emphasizes their commitment to the requirements;
- Attendance measures (initial and annual); and
- Recordkeeping and the availability of records for inspection by DOI.

5.1.3.2 Training Compliance Report. By January 31 of each year, the Lessee must submit to DOI an annual report that describes its marine trash and debris awareness training process and certifies that the training process has been followed for the previous calendar year. The Lessee must send the reports via email to BOEM (at renewable_reporting@boem.gov) and to BSEE (at marinedebris@bsee.gov).

5.1.3.3 Marking. Materials, equipment, tools, containers, and other items used in OCS activities, which are of such shape or configuration that they are likely to snag or damage fishing devices, and could be lost or discarded overboard, must be clearly marked with the vessel or facility identification and properly secured to prevent loss overboard. All markings must clearly identify the owner and must be durable enough to resist the effects of the environmental conditions to which they may be exposed.

5.1.3.4 Recovery & Prevention. The Lessee must recover marine trash and debris that is lost or discarded in the marine environment while performing OCS activities when such incident is likely to: (a) cause undue harm or damage to natural resources, including their physical, atmospheric, and biological components, with particular attention to marine trash or debris that could entangle, or be ingested by, marine protected species; or (b) significantly interfere with OCS uses (e.g., because the marine trash or debris is likely to snag or damage fishing equipment, or presents a hazard to navigation). The Lessee must notify DOI within 48 hours when recovery activities are: (i) not

possible because conditions are unsafe; or (ii) not practicable because the marine trash and debris released is not likely to result in any of the conditions listed in (a) or (b) above. Notwithstanding this notification, DOI may still order the Lessee to recover the lost or discarded marine trash and debris if DOI finds the reasons provided by the Lessee in the notification unpersuasive. If the marine trash and debris is located within the boundaries of a potential archaeological resource/avoidance area, or a sensitive ecological/benthic resource area, the Lessee must contact DOI for approval prior to conducting any recovery efforts.

Recovery of the marine trash and debris should be completed as soon as practicable, but no later than 30 calendar days from the date on which the incident occurred. If the Lessee is not able to recover the marine trash or debris within 48 hours, the Lessee must submit a recovery plan to DOI explaining the recovery activities to recover the marine trash or debris (Recovery Plan). The Lessee must submit the Recovery Plan no later than 10 calendar days from the date on which the incident occurred. Unless DOI objects within 48 hours of the filing of the Recovery Plan, the Lessee can proceed with the activities described in the Recovery Plan. The Lessee must request and obtain approval of a time extension if recovery activities cannot be completed within 30 calendar days from the date on which the incident occurred. The Lessee must enact steps to prevent similar incidents and must submit a description of these actions to BOEM and BSEE within 30 calendar days from the date on which the incident occurred.

5.1.3.5 Reporting. The Lessee must report to DOI (using the email address listed on DOI's most recent incident reporting guidance) all lost or discarded marine trash and debris. This report must be made monthly, no later than the fifth day of the following month. The Lessee is not required to submit a report for those months in which no marine trash and debris was lost or discarded. The report must include the following:

- Project identification and contact information for the Lessee, operator, and/or contractor;
- The date and time of the incident;
- The lease number, OCS area and block, and coordinates of the object's location (latitude and longitude in decimal degrees);

- A detailed description of the dropped object, including dimensions (approximate length, width, height, and weight) and composition (e.g., plastic, aluminum, steel, wood, paper, hazardous substances, or defined pollutants);
- Pictures, data imagery, data streams, and/or a schematic/illustration of the object, if available;
- An indication of whether the lost or discarded item could be: a magnetic anomaly of greater than 50 nanoTesla; a seafloor target of greater than 1.6 feet (0.5 meters); or a sub-bottom anomaly of greater than 1.6 feet (0.5 meters) when operating a magnetometer or gradiometer, side scan sonar, or sub-bottom profile in accordance with DOI's most recent, applicable guidance;
- An explanation of how the object was lost; and
- A description of immediate recovery efforts and results, including photos.

In addition to the foregoing, the Lessee must submit a report within 48 hours of the incident (48-hour Report) if the marine trash or debris could: (a) cause undue harm or damage to natural resources, including their physical, atmospheric, and biological components, with particular attention to marine trash or debris that could entangle, or be ingested by, marine protected species; or (b) significantly interfere with OCS uses (e.g., because the marine trash or debris is likely to snag or damage fishing equipment, or presents a hazard to navigation). The information in the 48-hour Report must be the same as that listed for the monthly report, but only for the incident that triggered the 48-hour Report. The Lessee must report to DOI if the object is recovered and, as applicable, describe any substantial variance from the activities described in the Recovery Plan that were required during the recovery efforts. The Lessee must include and address information on unrecovered marine trash and debris in the description of the site clearance activities provided in the decommissioning application required under 30 C.F.R. § 585.906.

- 5.1.4 As-Built Anchor Plats (Planning) (Construction) (Operations). The Lessee must ensure vessel operators use a state-of-the-art positioning system (e.g., a differential global positioning system (DGPS)) on their anchor handling vessel(s) and/or vessels deploying anchors for cable laying activities, dive support vessels, or other vessels used in construction and/or operation within

the WDA to ensure that any seafloor disturbances resulting from their use of anchors, including that caused by the anchors, anchor chains, and/or wire ropes, does not occur within the avoidance area for each seafloor feature and/or anomaly (i.e., magnetometer, side-scan sonar, sub-bottom profiler, and identified historic or pre-contact archaeological sites, biological habitat, UXO and other seafloor hazards). The Lessee must submit plats certified by a professional engineer showing the “as-placed” location of all anchors and any associated anchor chains and/or wire ropes on the seafloor for all seabed-disturbing activities. The plats must be at a scale of 1 inch = 1,000 feet (300 meters) with DGPS accuracy. Within 60 calendar days of completing any seabed-disturbing activity, the Lessee must submit the plats to BOEM (at renewable_reporting@boem.gov) and to BSEE (at env-compliance-arc@bsee.gov) to demonstrate that seabed-disturbing activities complied with avoidance requirements for seafloor features and/or anomalies.

5.1.5 Option to Comply with Most Current Measures (Planning) (Construction) (Operations) (Decommissioning). The Lessee may opt to comply with the most current measures related to protected species and habitat in place at the time an activity is undertaken under the Lease. At least 30 calendar days prior to undertaking an activity, the Lessee must notify DOI of its intention to comply with such measures in lieu of those required under the terms and conditions above in this Section 5. DOI reserves the right to object and/or request additional information on how the Lessee intends to comply with such measures. If DOI does not respond with objections within 15 calendar days of receipt of the Lessee’s notification, then the Lessee may conclusively presume DOI’s concurrence.

5.2 Avian and Bat Protection Conditions.

5.2.1 Bird Deterrent Devices (Construction) (Operations). To minimize bird attraction to operating turbines, the Lessee must install bird-deterrent devices on turbines and ESP(s). ~~000000~~. The location of bird-deterrent devices will be proposed by the Lessee based on best management practices applicable to the appropriate operation, and safe installation, of bird-deterrent devices. The Lessee must confirm the location(s) of bird-deterrent devices as part of the as-built documentation it must submit.

5.2.2 Piping Plover Protection Plan (Construction). The Lessee must implement the Piping Plover Protection (PPP) Plan, titled *Piping Plover Protection Plan, Vineyard Wind Connector-Covell’s Beach Landing Site, Barnstable, MA (NHESP File No.: 17-37398; Date: 17 April 2019)*. The Lessee must submit any updates to the PPP Plan to DOI and receive DOI concurrence for all plan amendments. DOI will review any PPP Plan amendments and provide comments, if any, on the amendments within 30 calendar days of their

submittal. The Lessee must resolve all comments on the PPP Plan amendments to DOI's satisfaction prior to implementing them. The Lessee may conclusively presume DOI's concurrence with the PPP Plan amendments if DOI provides no comments on the amendments within 30 calendar days of their submittal. Following demobilization of construction equipment from the Covell's Beach parking area and by January 31, the Lessee must provide a copy of the summary report described in Section V of the PPP Plan to BOEM (at renewables_reporting@boem.gov).

- 5.2.3 Avian and Bat Monitoring Program (Construction) (Operations). At least 45 calendar days prior to the implementation of surveys, the Lessee must finalize, obtain concurrence from DOI, and implement the Monitoring Plan described in Appendix F.5 of the Final Environmental Impact Statement (FEIS) for the Project (*Vineyard Wind 1 Offshore Wind Farm: Framework for Avian and Bat Monitoring - Draft*) in coordination with interested stakeholders. DOI will review the Monitoring Plan and provide comments, if any, on the plan within 30 calendar days of its submittal. The Lessee must resolve all comments on the Monitoring Plan to DOI's satisfaction prior to implementing the plan. The Lessee may conclusively presume DOI's concurrence with the Monitoring Plan if DOI provides no comments on the plan within 30 calendar days of its submittal date.

The Monitoring Plan must include, at a minimum:

- 5.2.3.1 Monitoring. The installation of acoustic monitoring devices for birds and bats on the ESP(s); installation of Motus receivers on WTGs in the WDA and support with upgrades or maintenance of two onshore Motus receivers; up to 150 Motus tags per year for up to 3 years to track Roseate Terns, Common Terns, and/or nocturnal passerine migrants; pre- and post-construction boat surveys; and avian behavior point count surveys at the boat-based survey vessel or from turbine platforms.
- 5.2.3.2 Annual Monitoring Reports. The Lessee must submit to BOEM (at renewable_reporting@boem.gov) a comprehensive report after each full year of monitoring (pre- and post-construction) within 6 months of completion of the last boat-based avian survey. The report must include all data, analyses, and summaries regarding ESA-listed and non-ESA-listed birds and bats. DOI will use the annual monitoring reports to assess the need for reasonable revisions (based on subject matter expert analysis) to the Monitoring Plan. DOI reserves the right to require reasonable revisions to the Monitoring Plan and may require new technologies as they become available for use in offshore environments.

- 5.2.3.3 Post-Construction Quarterly Progress Reports. The Lessee must submit quarterly progress reports during the implementation of the Monitoring Plan to BOEM and the United States Fish and Wildlife Service (USFWS) by the 15th day of the month following the end of each quarter during the first full year that the Project is operational. The progress reports must include a summary of all work performed, an explanation of overall progress, and any technical problems encountered.
- 5.2.3.4 Monitoring Plan Revisions. Within 15 calendar days of submitting the annual monitoring report, the Lessee must meet with BOEM and USFWS to discuss the following: the monitoring results; the potential need for revisions to the Monitoring Plan, including technical refinements and/or additional monitoring; and the potential need for any additional efforts to reduce impacts. If DOI determines after this discussion that revisions to the Monitoring Plan are necessary, DOI may require the Lessee to modify the Monitoring Plan. If the reported monitoring results deviate substantially from the impact analysis included in the FEIS the Lessee must make recommendations for new mitigation measures or monitoring methods.
- 5.2.3.5 Raw Data. The Lessee must store the raw data from all avian and bat surveys and monitoring activities according to accepted archiving practices. Such data must remain accessible to DOI and USFWS, upon request, for the duration of the Lease. The Lessee must work with BOEM to ensure the data is publicly available.
- 5.2.4 Annual Bird Mortality Reporting (Construction) (Operations) (Decommissioning). By January 31 of each year, the Lessee must submit an annual report to BOEM (at renewable_reporting@boem.gov) and BSEE (at protectedspecies@bsee.gov) and USFWS documenting any dead (or injured) birds or bats found on vessels and structures during construction, operations, and decommissioning. The report must contain the following information: the name of species, date found, location, a picture to confirm species identity (if possible), and any other relevant information. Carcasses with Federal or research bands must be reported to the United States Geological Survey Bird Band Laboratory, at <https://www.pwrc.usgs.gov/bbl/>.
- 5.2.5 Tree Clearing Time-of-Year Restriction (Construction). The Lessee must not clear trees greater than 3 inches (7.6 centimeters) in diameter at breast height from June 1 to July 31 of any year to protect northern long-eared bats. The Lessee may choose to conduct presence/probable absence surveys pursuant to current USFWS protocols for purposes of requesting and obtaining a waiver from this time-of-year restriction on tree clearing. The Lessee must

submit any requests for waivers from this time-of-year restriction to DOI and such requests must be approved in writing by DOI.

5.3 Benthic Habitat and Ecosystem Monitoring Conditions.

- 5.3.1 Benthic Monitoring Plan (Planning). The Lessee must consider any new information obtained from 5.4.2 (below) and, when appropriate, revise the approved Benthic Monitoring Plan. The Lessee must submit any revisions to the approved benthic monitoring plan to BOEM (at renewable_reporting@boem.gov) and BSEE (at benthic.ecology@bsee.gov). The Lessee must consult with NMFS, the Massachusetts Department of Environmental Protection (MassDEP), and the Massachusetts Division of Marine Fisheries on revisions to the monitoring plan. DOI will review the Benthic Monitoring Plan revisions and provide comments, if any, on the revisions within 30 calendar days of their submittal. The Lessee must resolve all comments on the Benthic Monitoring Plan revisions to DOI's satisfaction prior to implementing them. The Lessee may conclusively presume DOI's concurrence with the Benthic Monitoring Plan revisions if DOI provides no comments on the revisions within 30 calendar days of their submittal. If recovery of impacted benthic habitat is not observed within 5 years, DOI, in consultation with NMFS, reserves the right to require additional monitoring.
- 5.3.2 Evaluation of Additional Benthic Habitat Data Prior to Cable Laying (Planning) (Construction). At least 90 calendar days prior to construction, the Lessee must collect and process a minimum of 75 benthic grabs over the entire length of the Offshore Export Cable Corridor (OECC) with no fewer than 42 of the processed samples drawn from the eastern Muskeget section. At least 90 calendar days prior to construction, the Lessee must also process 60 underwater video transects over the entire length of the OECC, with approximately 28 of the transects from the eastern Muskeget section. The Lessee must use the data collected from benthic grabs and video transects to avoid eelgrass, hard bottom, and structurally complex habitats – including juvenile cod Habitat Areas of Particular Concern (HAPC) – to the maximum extent practicable without deviating from the approved route corridor.
- 5.3.3 Optical Surveys of Benthic Invertebrates and Habitat (Operations). The Lessee must conduct optical drop camera surveys targeting benthic invertebrates and their habitat for durations of, at a minimum, 1 year during pre-construction, 1 year during construction, and 3 years post-construction. Stations must be established on a 0.9-mile (1.5-kilometer) grid, with four (4) samples taken at each station twice per year. The drop camera surveys must emulate the 2012 and 2013 drop camera surveys conducted in the WDA in order to support a Before-After-Control-Impact study design (University of Massachusetts Dartmouth's School for Marine Science and Technology Fishermen

Workshops Report & Studies Recommendations 26 Mar 2019).⁹ The Lessee may adapt the survey methodology over time based on the results obtained and feedback from stakeholders. The Lessee must submit any revisions to the Optical Survey Plan to NMFS and to BOEM at least 30 calendar days before conducting surveys. DOI will review the Optical Survey Plan revisions and provide comments, if any, on them within 30 calendar days of their submittal. The Lessee must resolve all comments on the Optical Survey Plan revisions to DOI's satisfaction before conducting surveys. The Lessee may conclusively presume DOI's concurrence with the Optical Survey Plan revisions if DOI provides no comments on the revisions within 30 calendar days of their submittal.

- 5.3.4 Plankton Surveys (Operations). The Lessee must conduct plankton surveys to estimate the relative abundance and distribution of planktonic species for durations of, at a minimum, 1 year during pre-construction, 1 year during construction, and 3 years post-construction. These surveys may be conducted in conjunction with other surveys (e.g., ventless trap surveys or bottom trawl surveys).
- 5.3.5 Passive Acoustic Monitoring (Planning) (Construction) (Operations). The Lessee must deploy moored or autonomous Passive Acoustic Monitoring (PAM) devices to record ambient noise and marine mammal species vocalizations in the WDA a minimum of 30 calendar days before construction activities begin, during all construction activities, and for at least 3 years of operation. The archival recorders must have a minimum capability of detecting and storing acoustic data on vessel noise, pile driving, WTG operation, and marine mammal vocalizations in the WDA. The Lessee must submit the results to BOEM (at renewable_reporting@boem.gov) and BSEE (at protectedspecies@bsee.gov) within 90 calendar days of recorder collection and annually within 90 calendar days of the anniversary of the initial recorder deployments. The underwater acoustic monitoring must follow: standardized measurement and processing methods and visualization metrics developed by the Atlantic Deepwater Ecosystem Observatory Network (ADEON) for the U.S. Mid- and South Atlantic Outer Continental Shelf (see <https://adeon.unh.edu/>); and NMFS requirements for marine mammal detections. At least one buoy must be independently deployed within the WDA, or one or more buoys must be deployed in coordination with other regional acoustic monitoring efforts within the Rhode Island and Massachusetts lease areas. No later than 30 calendar days prior to the first buoy deployment, the Lessee must submit its PAM Plan to BOEM (at renewable_reporting@boem.gov) and BSEE (at protectedspecies@bsee.gov),

⁹ Available at: <https://www.vineyardwind.com/fisheries-science>.

and receive DOI's concurrence on it. DOI will review the PAM Plan and provide comments, if any, on the plan within 30 calendar days of its submittal. The Lessee must resolve all comments on the PAM Plan to DOI's satisfaction prior to implementing the plan. The Lessee may conclusively presume DOI's concurrence with the PAM Plan if DOI provides no comments on the plan within 30 calendar days of its submittal.

5.3.6 Trawl Survey for Finfish and Squid (Construction) (Operations). The Lessee must conduct trawl surveys a minimum of 1 year before, 1 year during, and 3 years after construction. The surveys must not commence until BOEM has notified the Lessee that all necessary ESA section 7 consultations addressing this action have concluded. Specific post-construction protocols for the trawl survey must include:

5.3.6.1 Year 1 post-construction. The Lessee must conduct one year of post-construction trawl surveys, consisting of 40 tows (20 in the WDA, and 20 in control areas) four times during the year, with one survey conducted each season. The Lessee must sample a minimum subset of 3 tows in the spring and fall in both the WDA and control sites for biological parameters, including: weight; length to the nearest centimeter, consistent with the species-specific measurement type (e.g., total vs. fork) identified in the Northeast Observer Program Biological Sampling Guide; age through age-length keys; stomach contents; and sex and spawning condition (e.g., spent, ripe, ripe and running, etc.) consistent with Northeast Fisheries Science Center sex and maturity codes. If readily available and feasible to install on a survey vessel, the Lessee must also employ a conductivity, temperature, and depth instrument or similar device to measure environmental parameters. The Lessee must also, in conjunction with the spring and fall trawl surveys in the WDA, sample a minimum subset of 1 spring and 1 fall tow for zooplankton, ichthyoplankton, and fish eggs using a paired 23.6-inch (60 cm) Bongo and a paired 7.9-inch (20 cm) Bongo. Zooplankton, ichthyoplankton, and fish eggs must be processed following Northeast Fisheries Science Center protocols in terms of species identification, length measurements, and staging.

5.3.6.2 Years 2-3 post-construction. The Lessee must maintain the sampling protocols governing the Year 1 post-construction surveys; however, the survey frequency may be reduced to two times per year in the spring and fall.

5.3.7 Ventless Trap Surveys (Planning) (Construction) (Operations). The Lessee must conduct a ventless trap survey a minimum of 1 year before, 1 year during,

and 3 years after construction. The ventless trap survey must follow the protocols of the coast-wide ventless trap survey. The traps must use weak-link technology to minimize whale-entanglement risk, and no sampling may occur between November and early May. For lobsters (*Homarus americanus*) in all pots, the Lessee must record the following information: trap number and trap type; enumeration; carapace length (millimeters) measured with calipers; sex (determined by examining the first pair of swimmerets); cull status (claws missing, buds, or regenerated); V-notch status (presence or absence); mortality (alive or dead); incidence of shell disease (none, light, moderate, severe); presence or absence of eggs; and gross egg stage. For the sampling of all Jonah crabs (*Cancer borealis*), the Lessee must sample two (2) traps (1 vented, 1 ventless) selected randomly and record the following: enumeration; carapace width; sex; ovigery status; incidence of shell disease; cull status, mortality. For all non-sampled traps, the Lessee must enumerate individuals of each species, and record: the station number; start latitude and longitude; end latitude and longitude; start time/date; end time/date; bait type; trap type; and water depth. The ventless trap surveys must not commence until BOEM informs the Lessee that all necessary ESA consultations addressing this action have concluded.

- 5.3.8 Periodic Underwater Surveys, Reporting of Monofilament and Other Fishing Gear Around WTG Foundations (Operations) (Decommissioning). The Lessee must monitor indirect impacts associated with charter and recreational fishing gear lost from expected increases in fishing around WTG foundations by surveying 10 WTGs in the WDA annually. The Lessee may conduct surveys by remotely operated vehicles, divers, or other means to determine the frequency and locations of marine debris. The Lessee must report the results of the surveys to BOEM (at renewable_reporting@boem.gov) and BSEE (at marinedebris@bsee.gov) in an annual report, submitted by April 30, for the preceding calendar year. Annual reports must be submitted in Word format. Photographic and videographic materials must be provided on a portable drive in a lossless format such as TIFF or Motion JPEG 2000. Annual reports must include survey reports that include: the survey date; contact information of the operator; the location and pile identification number; photographic and/or video documentation of the survey and debris encountered; any animals sighted; and the disposition of any located debris (i.e., removed or left in place). Required data and reports may be archived, analyzed, published, and disseminated by BOEM.

5.4 Pre-Seabed Disturbance Conditions.

- 5.4.1 Cable Installation Timing (Construction). Non-Horizontal Directional Drilling (non-HDD) cable-laying operations in the northern part of the OECC within

Nantucket Sound must not occur between April 1 and June 30 of any year. Should non-HDD cable laying be required in the northern portion of the OECC within Nantucket Sound between April 1 and June 30 due to environmental or technical reasons, the Lessee must submit a justification to BOEM, MassDEP, the Massachusetts Division of Marine Fisheries, and NMFS, at least 30 days prior to March 1. BOEM will review the justification and provide comments, if any, on it within 30 calendar days of its submittal. The Lessee must resolve all comments on the justification to BOEM's satisfaction and receive BOEM's written concurrence before conducting any non-HDD activities between April 1 and June 30. However, the Lessee may conclusively presume BOEM's concurrence with the justification if BOEM provides no comments on the justification within 30 calendar days of its submittal.

- 5.4.2 Dredge Disposal Sites (Planning) (Construction). If dredging of sand waves is necessary in the OECC, the Lessee must clearly identify a limited number of dredge disposal sites within known sand-wave areas. The Lessee must use the benthic habitat data collected pursuant to Section 5.3 to confirm, to the maximum extent practicable, that these dredge disposal sites do not contain resources that may be damaged by sediment deposition. The Lessee must receive BOEM concurrence to dispose in the identified locations and also report the locations of dredge disposal sites to the United States Army Corps of Engineers (USACE), BOEM (at renewable_reporting@boem.gov), MassDEP, and the Massachusetts Office of Coastal Zone Management within 30 calendar days of disposal of materials. The Lessee must report these locations in latitude and longitude degrees to the nearest 10 thousandth of a decimal degree (roughly the nearest meter). DOI will review the proposed dredge-disposal locations and provide comments, if any, on the locations within 30 calendar days of receipt of the proposal. The Lessee must resolve all comments on the proposed locations to DOI's satisfaction. The Lessee may conclusively presume DOI's concurrence with the dredge-disposal locations if DOI provides no comments on them within 30 calendar days of their submittal.
- 5.4.3 Anchoring Plan (Planning) (Construction). At least 30 calendar days prior to conducting seabed-disturbing activities, the Lessee must submit to DOI for review and comment an Anchoring Plan for all areas where anchoring is being used within 1,640 feet (500 meters) of sensitive habitats, resources, and submerged infrastructure, including hard bottom and structurally complex habitats. If the Lessee receives new data on benthic habitats (see Section 5.3.2), then the Lessee must submit to DOI an updated Anchoring Plan that demonstrates how the Lessee will avoid and minimize impacts to benthic habitat. The Anchoring Plan must include the planned location of anchoring activities, sensitive habitats and their locations, seabed features, potential hazards, and any related facility-installation activities (such as cable, WTG,

and ESP installation). DOI will require all vessels deploying anchors to use mid-line anchor buoys to reduce the amount of anchor chain or line that touches the seafloor, unless the Lessee demonstrates, and DOI accepts, that (i) the use of mid-line anchor buoys to reduce the amount of anchor chain or line that touches the seafloor is not technically and economically practical or feasible; or (ii) a different alternative is as safe and provides the same or greater environmental protection. The Lessee must provide the Anchoring Plan for DOI and NOAA review and comment before construction begins. DOI will review the Anchoring Plan and provide comments, if any, on the plan within 30 calendar days of its submittal. Before construction may commence, the Lessee must resolve all comments on the Anchoring Plan. If DOI provides no comments on the Anchoring Plan within 45 calendar days of receiving it, then the Lessee may conclusively presume DOI's concurrence with the plan.

- 5.4.4 Final Cable Protection in Hard Bottom (Operations). No later than 3 months prior to the placement of cable protection equipment, the Lessee must submit to BOEM, BSEE, and NMFS a plan for monitoring the effectiveness of natural and engineered cable protection equipment in the OECC. The plan must include a section on monitoring the effects of cable protection equipment on juvenile cod HAPC. The Lessee must submit this plan to BOEM (at renewable_reporting@boem.gov) and BSEE (at benthic.ecology@bsee.gov) for review and comment at least 30 calendar days prior to implementation of provisions in the plan or 3 months prior to the placement of cable protection equipment, whichever is sooner.
- 5.4.5 Post-Installation Cable Monitoring (Operations). See Section 2.7.
- 5.4.6 Monitoring and Minimizing Foundation Scour Protection (Construction) (Operations). See Section 2.9.

5.5 Protected Species Detection and Vessel Strike Avoidance Conditions.

- 5.5.1 Vessel Crew Training Requirements (Planning) (Construction) (Operations) (Decommissioning). The Lessee must provide Project-specific training on the identification of sea turtles and marine mammals, the associated regulations, and best practices for avoiding vessel collisions to all vessel crew members prior to the start of in-water construction activities. Confirmation of the training and understanding of the requirements must be documented on a training course log sheet. The Lessee must provide the log sheets to BOEM upon request. Reference materials must be available aboard all Project vessels for the identification of sea turtles and marine mammals. The Lessee must communicate the process for reporting sea turtles and marine mammals (including live, entangled, and dead individuals) to the designated vessel contact and all crew members, and must post reporting instructions that include

the communication channel(s) in highly visible locations aboard all Project vessels. The Lessee must communicate its expectation for all crew members to report sightings of sea turtles and marine mammals to the designated vessel contacts.

5.5.2 Vessel Observer Requirements (Planning) (Construction) (Operations) (Decommissioning). The Lessee must ensure that vessel operators and crew members maintain a vigilant watch for marine mammals and sea turtles, and reduce vessel speed, alter the vessel's course, or stop the vessel as necessary to avoid striking marine mammals or sea turtles. Vessel personnel must be provided an Atlantic reference guide to help identify marine mammals and sea turtles that may be encountered in the WDA. Vessel personnel must also be provided BSEE-approved material regarding North Atlantic Right Whale (NARW) Seasonal Management Areas (SMAs), sightings information, and reporting. When not on active watch duty, members of the monitoring team must consult NMFS' NARW sightings for the presence of NARWs in the WDA. All vessels transiting to and from the WDA and traveling over 10 knots (18.5 kilometers per hour) must have a Visual Observer for NARW (Visual Observer) on duty at all times, during which the Visual Observer will monitor a vessel strike avoidance zone around the vessel. The Lessee must also have a Trained Lookout for sea turtles (Trained Lookout) on all vessels during all phases of the Project between June 1 and November 30 to observe for sea turtles and communicate with the captain to take required avoidance measures as soon as possible if one is sighted. If a vessel is carrying a Visual Observer for the purposes of maintaining watch for NARWs, a Trained Lookout for sea turtles is not required, and the Visual Observer must maintain watch for marine mammals and sea turtles. If the Trained Lookout is a vessel crew member, the aforementioned lookout obligations must be its designated role and primary responsibility while the vessel is transiting. Any designated crew observers should be trained in the identification of sea turtles and in regulations and best practices for avoiding vessel collisions. The Trained Lookout must check seaturtlesightings.org prior to each trip and report any detections of sea turtles in the vicinity of the planned transit to all vessel operators/captains and lookouts on duty that day.

5.5.3 Vessel Communication of Threatened and Endangered Species Sightings (Planning) (Construction) (Operations) (Decommissioning). The Lessee must ensure that whenever multiple Project vessels are operating, any visual detections of ESA-listed species (marine mammals and sea turtles) are communicated, in near real time, to a third-party Protected Species Observer (hereafter, PSO) and/or vessel captains associated with other Project vessels.

5.5.4 Vessel Speed Requirements November 1 through May 14 (Planning) (Construction) (Operations) (Decommissioning).

5.5.4.1 The Lessee must ensure that from November 1 through May 14, all vessels travel at 10 knots (18.5 kilometers per hour) or less when transiting to, from, or within the WDA, except within Nantucket Sound (unless an active Dynamic Management Area (DMA) is in place) and except for crew transfer vessels as described below in 5.5.5.

5.5.4.2 From November 1 through May 14, crew transfer vessels may travel at more than 10 knots (18.5 kilometers per hour) if: (i) there is at least one Visual Observer on duty at all times aboard the vessel to visually monitor for whales; and (ii) simultaneous real-time PAM is conducted. If a NARW is detected via visual observation or PAM within or approaching the transit route, all crew transfer vessels must travel at 10 knots (18.5 kilometers per hour) or less for the remainder of that day.

5.5.5 Crew Transfer Vessel Speed Requirements in DMAs (Planning) (Construction) (Operations) (Decommissioning). The Lessee must ensure that all vessels, regardless of length, travel at 10 knots (18.5 kilometers per hour) or less within any NMFS-designated DMA, with the following exception for crew transfer vessels, as described in the approved COP. The Lessee must submit a NARW Strike Management Plan to BOEM and NMFS at least 90 calendar days prior to implementation in order for crew transfer vessels to travel greater than 10 knots (18.5 kilometers per hour) between May 15 and October 31 for periods when DMAs are established. The plan must provide details on how the required vessel and/or aerial-based surveys, and PAM, will be conducted to clear the transit corridor of NARW presence during a DMA. The plan must also provide details on the vessel-based observer protocol on transiting vessels and PAM required between November 1 and May 14, as well as any further efforts to minimize potential impacts. DOI will review the NARW Strike Management Plan and provide comments, if any, on the plan within 30 calendar days of its submittal. The Lessee must resolve all comments on the NARW Strike Management Plan to DOI's satisfaction and receive DOI's written concurrence prior to implementing the plan. The Lessee may conclusively presume DOI's concurrence with the NARW Strike Management Plan if DOI provides no comments on the plan within 90 calendar days of its submittal.

Crew transfer vessels traveling within any designated DMA must travel at 10 knots (18.5 kilometers per hour) or less, unless DOI has concurred with the NARW Strike Management Plan and a lead PSO confirms that NARWs are

clear of the transit route and WDA for 2 consecutive calendar days, as confirmed by a lack of detections of NARW vocalizations by PAM and by vessel-based surveys conducted during daylight hours. Alternatively, an aerial survey may be completed under the NARW strike management plan once the lead aerial observer determines adequate visibility to complete the survey. If the vessel transit route is confirmed clear of NARW by one of these measures, vessels may transit within a DMA if they have at least two Trained Lookouts and/or PSOs on duty to monitor for NARWs. If a NARW is observed within or approaching the transit route, vessels must operate at 10 knots (18.5 kilometers per hour) or less until clearance of the transit route for 2 consecutive calendar days is confirmed by the procedures described above.

- 5.5.6 Vessel Speed Requirements in SMAs (Planning) (Construction) (Operations) (Decommissioning). The Lessee must ensure that from November 1 through May 14, all vessels must travel at 10 knots (18.5 kilometers per hour) or less when transiting to, from, or within the WDA, except within Nantucket Sound (unless an active DMA is in place) and except for crew transfer vessels as described below. From November 1 through May 14, crew transfer vessels may travel at more than 10 knots (18.5 kilometers per hour) if there is at least one Visual Observer on duty at all times aboard the vessel to visually monitor for whales, and if simultaneous real-time PAM is conducted. If a NARW is detected via visual observation or PAM within or approaching the transit route, all crew transfer vessels must travel at 10 knots (18.5 kilometers per hour) or less for the remainder of that day. For all other vessels traveling outside the WDA, all vessels greater than or equal to 65 feet (19.8 meters) in overall length must comply with the 10-knot (18.5 kilometers per hour) speed restriction in any SMA (see <https://www.fisheries.noaa.gov/national/endangered-species-conservation/reducing-ship-strikes-north-atlantic-right-whales>).
- 5.5.7 Reporting of All NARW Sightings (Planning) (Construction) (Operations) (Decommissioning). The Lessee must immediately report all NARWs observed at any time by PSOs or vessel personnel on any Project vessels, during any Project-related activity, or during vessel transit to: BOEM (at renewable_reporting@boem.gov); the NOAA Fisheries 24-hour Stranding Hotline number (866-755-6622); the Coast Guard (via channel 16); and WhaleAlert (through the WhaleAlert app at <http://www.whalealert.org/>). The report must include the time, location, and number of animals.
- 5.5.8 Vessel Strike Avoidance of Marine Mammals (Non-Geophysical Survey Vessels) (Planning) (Construction) (Operations) (Decommissioning). The Lessee must ensure that all vessel operators and crews maintain a vigilant watch for all marine mammals and reduce vessel speed, stop the vessel, or alter

the vessel's course, regardless of vessel size, to avoid striking any marine mammal except when taking such measures would threaten the safety of the vessel or crew. Vessel operators must reduce vessel speeds to 10 knots (18.5 kilometers per hour) or less when mother/calf pairs, pods, or large assemblages of cetaceans are observed within the path of the vessel.

5.5.8.1 Whales: The vessel operator must implement vessel strike avoidance measures when any whale is sighted within a 180-degree radius of the forward path of the vessel (90 degrees port to 90 degrees starboard) at a distance of 1,640 feet (500 meters) or less from a survey vessel. Trained crew or PSOs must notify the vessel captain of any whale observed or detected within 1,640 feet (500 meters) of the survey vessel within 180 degrees. Upon notification, the vessel captain must immediately implement vessel strike avoidance procedures to maintain a separation distance of 1,640 feet (500 meters) or to reduce vessel speed to allow the animal to travel away from the vessel. The vessel must come to a full stop when an ESA-listed whale is within 656 feet (200 meters) of an underway vessel, except when taking such a measure would threaten the safety of the vessel or crew. If a whale is observed but cannot be confirmed as a species other than a NARW, the vessel operator must assume that it is a NARW and execute the required vessel strike avoidance measures to avoid the animal.

5.5.8.2 Small cetaceans and seals: For small cetaceans and seals, all vessels must maintain a minimum separation distance of 164 feet (50 meters) to the maximum extent practicable, except when those animals voluntarily approach the vessel. When marine mammals are sighted while a vessel is underway, the vessel operator must take the following actions to avoid violating the 164-foot (50-meter) separation distance: attempt to remain parallel to the animal's course, and avoid excessive speed or abrupt changes in vessel direction until the animal has left the area, except when taking such measures would threaten the safety of the vessel or crew. If marine mammals are sighted within the 164-foot separation distance, the vessel operator must reduce vessel speed and shift the engine to neutral, not engaging the engines until animals are beyond 164 feet (50 meters) from the vessel.

5.5.9 Vessel Strike Avoidance of Sea Turtles (Non-Geophysical Survey Vessels) (Planning) (Construction) (Operations) (Decommissioning). The Lessee must ensure that, during all phases of the Project, vessel operators and crew members are maintaining a vigilant watch for all sea turtles, and reducing vessel speed, stopping the vessel, or altering the vessel's course, regardless of

vessel size, to avoid striking any sea turtles, except when taking such measures would threaten the safety of the vessel or crew. All vessels must maintain a minimum separation distance of 328 feet (100 meters) from sea turtles. Trained crew lookouts must monitor seaturtlesightings.org daily and prior to each trip, and must report any detections of sea turtles in the vicinity of the planned transit route to all vessel operators, captains, and lookouts on duty that day. If a sea turtle is sighted within 328 feet (100 meters) of the operating vessels' forward path, the vessel operator must safely slow down to 4 knots (7.4 kilometers per hour) and may resume normal vessel operations once the vessel has passed the sea turtle. If a sea turtle is sighted within 164 feet (50 meters) of the forward path of the operating vessel, the vessel operator must shift to neutral when safe to do so, and then proceed away from the turtle at a speed of 4 knots (7.4 kilometers per hour) or less until there is a separation distance of at least 328 feet (100 meters), at which time normal vessel operations may be resumed. Between June 1 and November 30, vessels must avoid transiting through areas of visible jellyfish aggregations or floating vegetation lines or mats. In the event that operational safety prevents avoidance of such areas, vessels must slow to 4 knots (7.4 kilometers per hour) while transiting through such areas.

5.6 Detected or Injured Protected Species and Non-Protected Fish Reporting Requirements.

- 5.6.1 Detected or Impacted Protected Species Reporting (Planning) (Construction) (Operations) (Decommissioning). The Lessee is responsible for reporting dead or injured protected species, regardless of whether they were observed during operations or due to Project activities. The Lessee must report any potential take, strikes, or dead/injured protected species caused by Project vessels to the NMFS Protected Resources Division (at incidental.take@noaa.gov), NOAA Fisheries 24-hour Stranding Hotline number (866-755-6622), BOEM (at renewable_reporting@boem.gov), and BSEE (at protectedspecies@bsee.gov) as soon as practicable, but no later than 24 hours from the time the incident took place (Detected or Impacted Protected Species Report). In the event that an injured or dead marine mammal or sea turtle is sighted, regardless of the cause, the Lessee must report the incident to the NMFS Protected Resources Division (at incidental.take@noaa.gov), NOAA Fisheries 24-hour Stranding Hotline number (866-755-6622), BOEM (at renewable_reporting@boem.gov), and BSEE (at protectedspecies@bsee.gov) as soon as practicable (taking into account crew and vessel safety), but no later than 24 hours from the sighting (Protected Species Incident Report). Staff responding to the hotline call will provide any instructions for the handling or disposing of any injured or dead protected species by individuals authorized to collect, possess, and transport sea turtles.

5.6.1.1 The Detected or Impacted Protected Species Report must include the following information:

- Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);
- Species identification (if known) or a description of the animal(s) involved;
- Condition of the animal(s) (including carcass condition if the animal is dead);
- Observed behaviors of the animal(s), if alive;
- If available, photographs or video footage of the animal(s); and
- General circumstances under which the animal was discovered.

5.6.1.2 The Protected Species Incident Report must include the following information:

- Time, date, and location (latitude/longitude) of the incident;
- Species identification (if known) or description of the animal(s) involved;
- Lessee and vessel(s) information;
- Vessel's speed during and leading up to the incident;
- Vessel's course/heading and what operations were being conducted (if applicable);
- Status of all sound sources in use (if applicable);
- Description of avoidance measures/requirements that were in place at the time of the strike and what additional measures were taken, if any, to avoid the strike;
- Environmental conditions (e.g., wind speed and direction, Beaufort scale, cloud cover, visibility) immediately preceding the strike;
- Estimated size and length of animal that was struck;

- Description of the behavior of the animal immediately preceding and following the strike;
- Estimated fate of the animal (e.g., dead, injured but alive, injured and moving, blood or tissue observed in the water, status unknown, disappeared); and
- To the extent practicable, photographs or video footage of the animal(s).

5.6.2 Detected and/or Impacted Dead Non-ESA-Listed Fish (Planning) (Construction) (Operations) (Decommissioning). In addition, any occurrence of dead non-ESA-listed fish of 10 or more individual fish within established shutdown and/or monitoring zones must also be reported to BOEM (at renewable_reporting@boem.gov) as soon as practicable (taking into account crew and vessel safety), but no later than 24 hours after the sighting.

5.7 Pile Driving/Impact Hammer Activity Conditions.

5.7.1 Pile-Driving Time-of-Year Restriction (Construction). The Lessee must not conduct any pile-driving activities between December 1 and April 30. Pile driving must not occur in December unless unanticipated delays due to weather or technical problems arise that necessitate extending pile driving through December, and the pile driving is approved by BOEM in accordance with the following procedures. The Lessee must notify BOEM in writing by November 1 that the Lessee believes that circumstances require pile driving in December. The Lessee must submit to BOEM (at renewable_reporting@boem.gov) for written concurrence an enhanced survey plan for December 1 through December 31 to minimize the risk of exposure of NARWs to pile-driving noise, including noise from daily pre-construction surveys. BOEM will review the enhanced survey plan and provide comments, if any, on the plan within 30 calendar days of its submittal. The Lessee must resolve all comments on the enhanced survey plan to BOEM's satisfaction and receive BOEM's written concurrence before any pile driving occurs. However, the Lessee may conclusively presume BOEM's concurrence with the enhanced survey plan if BOEM provides no comments on the plan within 90 calendar days of its submittal. The Lessee must also follow the time-of-year enhanced mitigation measures specified in the applicable BiOp. The Lessee must confirm adherence to this time-of-year restriction on pile driving in the pile-driving reports submitted with the FIR.

5.7.2 Pile-Driving Weather and Time Restrictions (Construction). The Lessee must ensure effective visual monitoring in all cardinal directions and must not commence pile driving until at least 1 hour after civil sunrise to minimize

the effects of sun glare on visibility. The Lessee must not commence pile driving within 1.5 hours of civil sunset to minimize the potential for pile driving to continue after civil sunset when visibility will be impaired. Additionally, pile driving must only commence when all clearance zones are fully visible (i.e., not obscured by darkness, rain, fog, etc.) for at least 30 minutes between civil sunrise and civil sunset. The lead PSO must determine when sufficient light exists to allow effective visual monitoring in all cardinal directions. The lead PSO must call for a delay until the clearance zone is visible in all directions or must implement the Alternative Monitoring Plan. If conditions (e.g., darkness, rain, fog, etc.) prevent the visual detection of marine mammals in the clearance zones, the Lessee must not initiate construction activities until the full extent of all clearance zones are fully visible as determined by the lead PSO. The Lessee must develop and implement measures for enhanced monitoring in the event that poor visibility conditions unexpectedly arise and stopping pile driving would risk human safety or pile instability. The Lessee must prepare and submit an Alternative Monitoring Plan to NMFS and BOEM at least 90 calendar days prior to commencing the first pile-driving activities for the Project. DOI will review the Alternative Monitoring Plan and must provide comments, if any, on the plan within 30 calendar days of its submittal. The Lessee must resolve all comments on the Alternative Monitoring Plan to DOI's satisfaction prior to implementing the plan. If BOEM provides no comments on the Alternative Monitoring Plan within 90 calendar days of its submittal, then the Lessee may conclusively presume BOEM's concurrence with the plan. The Alternative Monitoring Plan proposed by the Lessee may include deploying additional observers, employing alternative monitoring technologies such as night vision, thermal, infrared, and/or using of PAM technologies, with the goal of ensuring the ability to maintain all clearance and shutdown zones for all ESA-listed species in the event of unexpected poor-visibility conditions.

- 5.7.3 PSO Requirements (Planning) (Construction) (Operations) (Decommissioning). The Lessee must use PSOs provided by a third party. PSOs must have no Project-related tasks other than to observe, collect and report data, and communicate with and instruct relevant vessel crew regarding the presence of protected species and mitigation requirements (including brief alerts regarding maritime hazards). PSOs and/or PAM operators must have completed a commercial PSO training program for the Atlantic with an overall examination score of 80 percent or greater (Baker et. al 2013). The Lessee must provide training certificates for individual PSOs to BOEM upon request. PSOs and PAM operators must be approved by NMFS prior to the start of a survey. Application requirements to become a NMFS-approved PSO for construction activities can be found at <https://www.fisheries.noaa.gov/new-england-mid-atlantic/careers-and-opportunities/protected-species-observers, or>

for geological and geophysical surveys by sending an inquiry to nmfs.psoreview@noaa.gov.

5.7.3.1 PSOs:

- 5.7.3.1.1 At least one lead PSO must be on duty at all times as the lead PSO or as the PSO monitoring coordinator during pile driving.
 - 5.7.3.1.2 At least one lead PSO must be present on each HRG survey vessel.
 - 5.7.3.1.3 PSOs on transit vessels must be approved by NMFS, but need not be authorized as a lead or unconditionally approved PSO.
 - 5.7.3.1.4 Lead PSOs must have prior approval from NMFS as an unconditionally approved PSO.
 - 5.7.3.1.5 All PSOs on duty must be clearly listed and the lead PSO identified on daily data logs for each shift.
 - 5.7.3.1.6 A sufficient number of PSOs, consistent with the BiOp and as prescribed in the final IHA, must be deployed to record data in real time and effectively monitor the required clearance, shutdown, or monitoring zone for the Project, including: visual surveys in all directions around a pile; PAM; and continuous monitoring of sighted NARWs. Where applicable, the number of PSOs deployed must meet the NARW enhanced seasonal monitoring requirements.
 - 5.7.3.1.7 A PSO must not be on watch for more than 4 consecutive hours, and must be granted a break of no fewer than 2 hours after a 4-hour watch.
 - 5.7.3.1.8 A PSO must not work for more than 12 hours in any 24- hour period (NMFS 2013) unless an alternative schedule is authorized in writing by BOEM.
- 5.7.3.2 Visual monitoring must occur from the vantage point on the associated operational platforms that allows for 360-degree visual coverage around a vessel.

- 5.7.3.3 The Lessee must ensure that suitable equipment is available to PSOs, including binoculars, range-finding equipment, a digital camera, and electronic data recording devices (e.g., a tablet) to adequately monitor the distance of the watch and shutdown zones, to determine the distance to protected species during surveys, to record sightings and verify species identification, and to record data.
- 5.7.3.4 PSO observations must be conducted while free from distractions and in a consistent, systematic, and diligent manner.
- 5.7.4 Daily Pre-Construction Surveys (Planning) (Construction) (Operations) (Decommissioning). To establish the numbers, surface presence, behavior, and travel directions of protected species in the area, the Lessee must conduct daily PAM and visual surveys before pile driving begins. These surveys must follow standard protocols and data collection requirements specified by BOEM. In addition to standard daily surveys, the Lessee must submit to BOEM (at renewable_reporting@boem.gov) an enhanced survey plan for May 1 through May 31 to minimize the risk of exposure of NARWs to pile-driving noise. BOEM will review the enhanced survey plan and provide comments, if any, on the plan within 30 calendar days of its submittal. The Lessee must resolve all comments on the enhanced survey plan to BOEM's satisfaction prior to implementing the plan. If BOEM provides no comments on the enhanced survey plan within 90 calendar days of its submittal, then the Lessee may conclusively presume BOEM's concurrence with the plan.
- 5.7.5 Pile-Driving Monitoring Plan Requirements (Construction). At least 90 calendar days prior to commencing the first pile-driving activities for the Project, the Lessee must submit a Pile-Driving Monitoring (PDM) Plan to BOEM (at renewable_reporting@boem.gov), BSEE (at protectedspecies@bsee.gov), and NMFS for review. DOI will review the PDM Plan and provide comments, if any, on the plan within 30 calendar days of its submittal. The Lessee must resolve all comments on the PDM Plan to DOI's satisfaction prior to implementing the plan. If DOI provides no comments on the PDM Plan within 90 calendar days of its submittal, then the Lessee may conclusively presume DOI's concurrence with the plan.
- 5.7.5.1 The PDM Plan must:
- 5.7.5.1.1 Contain information on the visual and PAM components of monitoring, describing all equipment, procedures, and protocols;

- 5.7.5.1.2 Demonstrate a near-real-time capability of detection capability to 6.21 miles (10 kilometers) from the pile-driving location;
- 5.7.5.1.3 Ensure that the full extent of the distance over which harassment may occur from piles is monitored for marine mammals (160 dB RMS) and sea turtles (175 dB RMS) to document all potential take;
- 5.7.5.1.4 Include a PAM Plan with a 75-percent detection confidence by the PAM operator to determine that a possible NARW vocalization originated from within the clearance and shutdown zones. Any possible NARW vocalization must be reported as a detection if it is determined by the PSO to be within the clearance and shutdown zones;
- 5.7.5.1.5 Include the number of NMFS-approved PSOs and/or monitors that will be employed, the platforms and/or vessels upon which they will be deployed, and contact information for the PSO provider(s);
- 5.7.5.1.6 Include an Alternative Monitoring Plan that includes measures for enhanced monitoring capabilities in the event that poor visibility conditions unexpectedly arise, and pile driving cannot be stopped. The Alternative Monitoring Plan must also include measures for deploying additional observers, using night vision goggles (for all marine mammals and sea turtles), or using PAM (for marine mammals) with the goal of ensuring the ability to maintain all clearance and shutdown zones in the event of unexpected poor visibility conditions; and
- 5.7.5.1.7 Describe a communication plan detailing the chain of command, mode of communication, and decision authority. PSOs must be previously approved by NMFS to conduct mitigation and monitoring duties for pile-driving activity. In accordance with the PDM Plan, the Lessee must use an adequate number of PSOs, as determined by NMFS and BOEM, to monitor the area of the clearance and shutdown zones. The PDM Plan must also describe seasonal and species-specific clearance and shutdown zones, including time-of-year requirements for NARWs.

- 5.7.5.2 A copy of the PDM Plan must be in the possession of the Lessee representative, the PSOs, impact-hammer operators, and/or any other relevant designees operating under the authority of the approved COP and carrying out the requirements of the PDM Plan on site.
- 5.7.6 Soft Start for Pile Driving (Construction). The Lessee must implement soft-start techniques for impact pile driving. The soft start must include an initial set of three strikes from the impact hammer at reduced energy, followed by a 1-minute waiting period. This process must be repeated a total of three times prior to the initiation of pile driving. Soft start is required for any impact driving, including at the beginning of the day, for each new pile or pile segment started, and at any time following a cessation of impact pile driving of 30 minutes or longer. The Lessee must confirm the use of a soft-start technique for pile driving and document the timing of each application in PSO reports and in pile-driving reports submitted with the FIR.
- 5.7.7 Pile-Driving Sound Source Verification Plan (Construction). The Lessee must ensure that the required 6 dB re 1 μ Pa noise attenuation is met by conducting field verification during pile driving. At least 90 calendar days prior to commencing the first pile-driving activities for the Project, the Lessee must submit a Sound Source Verification (SSV) Plan to the USACE, BOEM (at renewable_reporting@boem.gov), and NMFS (at incidental.take@noaa.gov) for review and comment. DOI will review the SSV Plan and provide comments, if any, on the plan within 30 calendar days of its submittal. The Lessee must resolve all comments on the SSV Plan to DOI's satisfaction prior to implementing the plan. The Lessee may conclusively presume DOI's concurrence with the SSV Plan if DOI provides no comments on the plan within 90 calendar days of its submittal. The Lessee must execute the SSV and report the associated findings to BOEM for at least 1 monopile and 1 jacket foundation. The Lessee must conduct additional field measurements if installing piles with a diameter greater than the initial piles or if using a greater hammer size or energy, or if additional foundations will be measured to support any request to decrease the distance of the clearance and shutdown zones. The Lessee must complete SSV on at least 3 foundations for BOEM to consider reducing zone distances. The Lessee will ensure that the location selected for any SSV for each pile type is representative of the rest of the piles of that type to be installed and that the SSV results are representative to predict actual installation noise propagation for subsequent piles. The SSV plan must describe how the effectiveness of the sound attenuation methodology will be evaluated. The SSV plan must be sufficient to document sound propagation from the pile and distances to isopleths for potential injury and harassment. The measurements must be compared to the Level A and

Level B harassment zones for marine mammals and to the injury and behavioral disturbance zones for sea turtles and Atlantic sturgeon.

5.7.8 Adaptive Refinement of Clearance Zones, Shutdown Zones, and Monitoring Protocols (Construction). The Lessee must reduce unanticipated impacts on marine mammals and sea turtles through near-term refinement of clearance and shutdown zones by refining pile-driving monitoring protocols based on monthly and/or annual monitoring results. Any modifications to monitoring protocols must be approved by DOI and NMFS prior to executing the modified protocols. Any reduction in the size of the clearance and shutdown zones for each foundation type must be based on at least 3 SSV measurements submitted to BOEM for review.

5.7.9 Pile-Driving Clearance Zones (No-go Zones) for Sea Turtles (Construction). The Lessee must minimize the exposure of ESA-listed sea turtles to noise that may result in injury or behavioral disturbance during pile-driving operations by tasking the PSOs to establish a minimum of 1,640-foot (500-meter) clearance and shutdown zone for sea turtles during all pile-driving activities. Adherence to the 1,640-foot (500-meter) clearance and shutdown zones must be reflected in the PSO reports.

5.7.10 Pile-Driving Clearance Zones (No-go Zones) for Marine Mammals (Construction). The Lessee must use PAM and visual monitoring by PSOs during pile-driving activities following the standard protocols and data collection requirements specified in Section 5.7.17.3 . The Lessee must ensure that PSOs establish the following clearance zones for NARWs to be used between 60 minutes prior to pile-driving activities and 30 minutes post-completion of pile-driving activity:

5.7.10.1 At all times of the year, any unidentified whale sighted by a PSO within 3,281 feet (1,000 meters) of the pile must be treated as if it were a NARW. If the PAM operator has 75-percent or greater confidence that a vocalization originated from a NARW located within 6.2 miles (10 kilometers) of the pile-driving location, the detection will be treated as a NARW detection.

5.7.10.2 The PSO must treat a NARW visually detected at any distance from the pile-driving vessel as a detection that triggers the required pre-construction delay or shutdowns during pile installation, regardless of the minimum distance from the clearance or shutdown zone, as follows:

5.7.10.2.1 May 1 to May 14. The Lessee must establish a PAM and visual clearance (and monitoring) zone of 6.21 miles (10

kilometers) for NARWs for all foundation types *before* pile driving occurs. The Lessee may choose to use either aerial or vessel-based surveys for visual clearance from May 1 to May 14. Upon detection of a NARW within the 6.21-mile (10- kilometer) clearance zone, pile driving must be postponed and must not commence until the following day or a follow-up aerial or vessel-based survey confirms that all NARWs have departed the 6.21-mile (10-kilometer) extended PAM and visual clearance zones (as determined by the lead PSO). The Lessee also must establish a PAM and visual shutdown zone of 1.99 miles (3.20 kilometers) and must employ either visual or PAM detection *during* pile driving. Once pile driving has commenced, pile driving must cease upon detection of a NARW within the PAM or visual shutdown zone for the appropriate pile type, and may not resume until the animal has voluntarily left and been visually confirmed beyond the relevant zone or when 30 minutes have elapsed without redetection.

5.7.10.2.2 May 15 to May 31. The Lessee must establish a PAM monitoring zone of 6.21 miles (10 kilometers) to raise awareness of NARW presence in the area. The Lessee must establish a PAM clearance zone of 3.11 miles (5 kilometers within the monitoring distance) for monopiles and a PAM clearance zone of 1.99 miles (3.2 kilometers) for jacket piles *before* pile driving occurs. The Lessee must establish a visual clearance zone of 1.24- miles (2 kilometers) for monopiles, and a visual clearance zone of 1 mile (1.6 kilometers) for jacket piles for NARWs. No pile driving may commence unless all clearance zones for the appropriate pile type have been free of NARW for 30 minutes immediately prior to pile driving. The Lessee also must establish a PAM and visual shutdown zone of 1.99 miles (3.2 kilometers) for all types of foundation piles *during* pile driving. Once pile driving has commenced, pile driving must cease upon detection of a NARW within the PAM or visual shutdown zone for the appropriate pile type, and may not resume until the animal has voluntarily left and been visually confirmed beyond the relevant zone or when 30 minutes have elapsed without redetection.

5.7.10.2.3 June 1 to October 31. The Lessee must establish a PAM clearance zone of 3.11 miles (5 kilometers within the monitoring distance) for monopiles and a PAM clearance zone of 1.99 miles (3.2 kilometers) for jacket piles *before* pile driving occurs. The Lessee must establish a visual clearance zone of 1.24 miles (2 kilometers) for monopiles, and a visual clearance zone of 1 mile (1.6 kilometers) for jacket piles for NARWs. No pile driving may commence unless all clearance zones for the appropriate pile type have been free of NARW for 30 minutes immediately prior to pile driving. The Lessee also must establish a PAM and visual shutdown zone of 1.99 miles (3.2 kilometers) for all types of foundation piles *during* pile driving. Once pile driving has commenced, pile driving must cease upon detection of a NARW within the PAM or visual shutdown zone for the appropriate pile type, and may not resume until the animal has voluntarily left and been visually confirmed beyond the relevant zone or when 30 minutes have elapsed without redetection.

5.7.10.2.4 November 1 to December 31 (if pile driving authorized in December). The Lessee must establish a 6.21-mile (10 kilometer) PAM clearance (and monitoring) zone for all foundation types *before* pile driving occurs. The Lessee must establish a visual clearance zone of 1.24 miles (2 kilometers) for monopiles, and a visual clearance zone of 1 mile (1.6 kilometers) for jacket piles for NARWs *before* pile driving occurs. The Lessee may choose to use either aerial or vessel-based surveys for visual clearance from November 1 to December 31. Upon detection of a NARW within the 6.21-mile (10-kilometer) clearance zone, pile driving must be postponed and not commence until the following day or a follow-up aerial or vessel-based survey confirms that all NARWs have departed the 6.21-mile (10- kilometer) extended PAM and 1.24 miles (2 kilometers) visual clearance zones (as determined by the lead PSO). The Lessee must establish a shutdown zone of 1.99 miles (3.2 kilometers) with either a visual or PAM detection. Once pile driving has commenced, pile driving must cease upon detection of a NARW within the PAM or visual shutdown zone for the appropriate pile type, and may not resume until the animal has voluntarily left and

been visually confirmed beyond the relevant zone or when 30 minutes have elapsed without redetection.

5.7.10.3 For all pile-driving activity, the Lessee must monitor for all marine mammals over the entire Level B distance and document impacts and any potential take. The Lessee must designate shutdown zones with radial distances as follows:

5.7.10.3.1 All other mysticete whales (including humpback, fin, sei, and minke whales): 1,640-foot (500-meter) shutdown zone at all times;

5.7.10.3.2 Harbor porpoises: 394-foot (120-meter) shutdown zone at all times; and

5.7.10.3.3 All other marine mammals not listed above (including dolphin and pinnipeds): 164-foot (50-meter) shutdown zone at all times.

5.7.11 Pile-Driving Noise Reporting and Clearance or Shutdown Zone

Adjustment (Construction). The Lessee must complete and review the initial field-measurement results of at least 3 monopile foundations. The Lessee may request modification of the clearance and shutdown zones based on the field measurements of 3 foundations, but must meet or exceed minimum seasonal distances for threatened and endangered species specified in the BiOp. If the field measurements indicate that the isopleths of concern are larger than those considered in the approved COP, the Lessee, in coordination with BOEM, NMFS, and USACE, must implement additional sound attenuation measures and/or enhanced clearance and/or shutdown zones before driving any additional piles. The Lessee must submit the initial results of the field measurements to NMFS, USACE, and BOEM (at renewable_reporting@boem.gov) as soon as they are available. NMFS, USACE, and BOEM will discuss the results as soon as feasible. BOEM and NMFS will provide direction to the Lessee on the requirements for any additional modifications to the sound attenuation system or for changes to the clearance and shutdown zones.

5.7.12 Pile-Driving Work within a Designated DMA or Right Whale Slow Zone (Construction). Between June 1 and October 31, if a designated DMA or Right Whale Slow Zone is within 2.56 miles (4.12 kilometers) from pile-driving work for monopiles or 2.0 miles (3.22 kilometers) for jacket foundations (the predicted Level B harassment zones), the PAM system detection must extend to the largest practicable detection zone. The PSO must treat any PAM

detection of NARW(s) in the clearance and shutdown zones the same as a visual detection and trigger the required delays or shutdowns in pile installation.

5.7.13 Protocols for Shutdown and Power-Down when Marine Mammals/Sea Turtles are Sighted During Pile Driving (Construction). The PAM operator must notify the visual PSO of all marine mammal detections. Any PAM or visual detection of marine mammals or sea turtles within the shutdown zones during pile-driving activities trigger the required delays in pile installation. Upon a PAM or visual detection of a marine mammal, or visual detection of a sea turtle, entering or within the relevant shutdown zone during pile driving, the Lessee must shut down the pile-driving hammer (unless stopping pile-driving activities would risk human safety or pile instability, in which case reduced hammer energy must be used where practicable). The Lessee must report the decision not to shut down pile-driving equipment to BOEM and NMFS within 24 hours of the decision, with a detailed explanation of the imminent risk presented and the animals potentially impacted.

5.7.14 Pile Driving Restart Procedures for Marine Mammal/Sea Turtle Detections (Construction). The Lessee must delay pile-driving activity and/or cease hammer use when marine mammals or sea turtles are observed entering or within the relevant clearance or shutdown zones prior to the initiation of pile driving or during active hammer use (unless activities would risk human safety or pile instability). Impact hammer use must not resume until:

5.7.14.1 The PSO maintains an active track of the animal(s) during the entire detection period and verifies that the animal(s) voluntarily exited the clearance or shutdown zone and that the animal(s) headed away from the clearance or shutdown area;

5.7.14.2 A 30-minute clearance time has elapsed after the PSO lost track of any mysticetes, sperm whales, Risso's dolphins, and pilot whales – without re-detection; or

5.7.14.3 A 15-minute clearance time has elapsed after the PSO lost track of a sea turtle or any other marine mammals – without re-detection.

5.7.15 Enhanced Time-of-Year Pile-Driving Restart Procedures for NARW Detections (Construction). The Lessee must stop pile-driving activities (unless activities would risk human safety or pile instability) any time a NARW is observed or detected within the 1.99-mile (3.2-kilometer) shutdown zone, and must not resume:

- 5.7.15.1 Between May 1 to 14. Until the following day or a follow-up aerial or vessel-based survey confirms that all NARW(s) have departed the 6.21-mile (10-kilometer) extended PAM and visual clearance zones for any foundation type (as determined by the lead PSO); or
- 5.7.15.2 Between May 15 to October 31. Until 30 minutes of monitoring confirms that all NARW(s) have left the 1.24-mile (2-kilometer) clearance zone (monopiles) or the 1.0-mile (3.2 kilometer) clearance zone (jacket piles); or
- 5.7.15.3 November 1 to November 30. Until the following day, or after a vessel-based survey confirms that NARWs have left the 6.21-mile (10-kilometer) extended PAM and visual clearance zones for any foundation type (as determined by the lead PSO).
- 5.7.16 Submittal of Raw Field Data Collection of Marine Mammals and Sea Turtles in the Pile-Driving Shutdown Zone (Construction). Within 24 hours of detection, the Lessee must report to BOEM (at renewable_reporting@boem.gov) the sighting of all marine mammals and/or sea turtles in the shutdown zone that results in a shutdown or a power-down. In addition, the PSO provider must submit the data report (raw data collected in the field) and must include the daily form with the date, time, species, pile identification number, GPS coordinates, time and distance of the animal when sighted, time the shutdown or power-down occurred, behavior of the animal, direction of travel, time the animal left the shutdown zone, time the pile driver was restarted or powered back up, and any photographs that may have been taken.
- 5.7.17 Weekly Pile-Driving Reports (Construction). Weekly PSO and PAM monitoring reports must be submitted to NMFS and DOI during the pile-driving and construction period of the Project. Weekly reports must document the daily start and stop times of all pile-driving activities, the daily start and stop times of associated observation periods by the PSOs, details on the deployment of PSOs, and a record of all detections of marine mammals and sea turtles. DOI will work with the Lessee to ensure that no confidential business information is released in the monitoring reports.
- 5.7.17.1 The third-party PSO providers must submit the weekly monitoring reports to BOEM (at renewable_reporting@boem.gov) and NMFS (at incidental.take@noaa.gov) every Wednesday during construction for the previous week (Sunday through Saturday) of monitoring of pile-driving activity. Weekly reports can consist of raw data. Required data and reports provided to DOI may be archived, analyzed, published, and disseminated by BOEM. PSO data must be reported

weekly (Sunday through Saturday) from the start of visual monitoring and/or PAM efforts during pile-driving activities, and every week thereafter until the final reporting period, upon the conclusion of pile-driving activity. Any editing, review, and quality assurance checks must be completed only by the PSO provider prior to submission to NMFS and DOI.

5.7.17.2 The Lessee must submit to BOEM (at renewable_reporting@boem.gov) and BSEE (at protectedspecies@bsee.gov) a final report of PSO monitoring 90 calendar days following the completion of pile driving.

5.7.17.3 Reporting Instructions for Pile-Driving PSO Monitoring Reports.

5.7.17.3.1 Weekly summary monitoring reports must include: summaries of pile-driving activities (5.7.17.3.3); vessel operations (including port departures, number of vessels, type of vessel(s), and route); protected species sightings; vessel strike-avoidance measures taken; and any equipment shutdowns or takes that may have occurred. PSO providers must submit PSO data in Excel format every 7 calendar days. The data must be collected in accordance with standard reporting forms, software tools, or electronic data forms authorized by BOEM for the particular activity. The forms must be filled out for each vessel with PSOs aboard. Unfilled cells must be left empty and must not contain "NA." The reports must be submitted in Word and Excel formats (not as a pdf). All dates must be entered as YYYY-MM-DD. All times must be entered in 24 Hour UTC as HH:MM. New entries should be made on the Effort form each time a pile segment changes or weather conditions change, and at least once an hour as a minimum. Before submittal, the forms must always be checked for completeness and have any problems resolved. The file name must follow this format: Lease#_ProjectName_PSOData_YearMonthDay to YearMonthDay.xls

5.7.17.3.2 Data fields must be reported in Excel format as weekly reports during construction. Data categories must include Project, Operations, Monitoring Effort, and Detection. Data must be generated through software applications or otherwise recorded electronically by PSOs. Applications

developed to record PSO data are encouraged as long as the data fields listed below can be recorded and exported to Excel. Alternatively, BOEM has developed an Excel spreadsheet, with all the necessary data fields, that is available upon request.

5.7.17.3.3 Required data fields include:

Project Information:

- Project Name
- Lease Number
- State Coastal Zones
- PSO Contractor(s)
- Vessel Name(s)
- Reporting Date(s)
- Visual monitoring equipment used (e.g., bionics, magnification, IR cameras, etc.)
- Distance finding method used
- PSO names (last, first) and training
- Observation height above sea surface

Operations Information:

- Date (YYYY-MM-DD)
- Hammer type used (make and model)
- Greatest hammer power used for each pile
- Pile identifier and pile number for the day (e.g., pile 2 of 3 for the day)
- Pile diameters
- Pile length

- Pile locations (latitude and longitude)

Monitoring Effort Information:

- Date (YYYY-MM-DD)
- Noise Source (ON=Hammer On; OFF=Hammer Off)
- PSO name(s) (Last, First)
- If visual, how many PSOs on watch at one time?
- Time pre-clearance visual monitoring began in UTC (HH:MM)
- Time pre-clearance monitoring ended in UTC (HH:MM)
- Time pre-clearance PAM monitoring began in UTC (HH:MM)
- Time PAM monitoring ended in UTC (HH:MM)
- Duration of pre-clearance PAM and visual monitoring
- Time power-up/ramp-up began
- Time equipment full power was reached
- Duration of power-up/ramp-up
- Time pile driving began (hammer on)
- Time pile-driving activity ended (hammer off)
- Duration of activity
- Duration of visual detection
- Wind speed (knots), from direction
- Swell height (meters)
- Water depth (meters)
- Visibility (km)

- Glare severity
- Latitude (decimal degrees), longitude (decimal degrees)
- Compass heading of vessel (degrees)
- Beaufort scale
- Precipitation
- Cloud coverage (%)
- Did a shutdown/power-down occur?
- Time shutdown was called for (UTC)
- Time equipment was shut down (UTC)
- Habitat or prey observations
- Marine debris sighted

Detection Information:

- Date (YYYY-MM-DD)
- Sighting ID (V01, V02, or sequential sighting number for that day) (multiple sightings of the same animal or group should use the same ID)
- Date and time at first detection in UTC (YY-MM-DDT HH:MM)
- Time at last detection in UTC (YY-MM-DDT HH:MM)
- PSO name(s) (Last, First)
- Effort (ON=Hammer On; OFF=Hammer Off)
- If visual, how many PSOs on watch at one time?
- Start time of observations
- End time of observations

- Duration of visual observation
- Wind speed (knots), from direction
- Swell height (meters)
- Water depth (meters)
- Visibility (km)
- Glare severity
- Latitude (decimal degrees), longitude (decimal degrees)
- Compass heading of vessel (degrees)
- Beaufort scale
- Precipitation
- Cloud coverage (%)
- Sightings including common name, scientific name, or family
- Certainty of identification
- Number of adults
- Number of juveniles
- Total number of animals
- Bearing to animal(s) when first detected (ship heading + clock face)
- Range from vessel (reticle distance in meters)
- Description (include features such as overall size; shape of head; color and pattern; size, shape, and position of dorsal fin; height, direction, and shape of blow, etc.)
- Detection narrative (note behavior, especially changes in relation to survey activity and distance from source vessel)

- Direction of travel/first approach (relative to vessel)
- Behaviors observed: indicate behaviors and behavioral changes observed in sequential order (use behavioral codes)
- If any bow-riding behavior observed, record total duration during detection (HH:MM)
- Initial heading of animal(s) (degrees) Final heading of animal(s) (degrees)
- Shutdown zone size during detection (meters)
- Was the animal inside the shutdown zone?
- Closest distance to vessel (reticle distance in meters)
- Time at closest approach (UTC HH:MM)
- Time animal entered shutdown zone (UTC HH:MM)
- Time animal left shutdown zone (UTC HH:MM)
- If observed/detected during ramp-up/power-up: first distance (reticle distance in meters), closest distance (reticle distance in meters), last distance (reticle distance in meters), behavior at final detection
- Did a shutdown/power-down occur?
 - Time shutdown was called for (UTC)
 - Time equipment was shut down (UTC)
- Detections with PAM

5.8 Geophysical Survey Conditions.

- 5.8.1 Marine Mammal and Sea Turtle Geophysical Survey Clearance and Shutdown Zones (Planning) (Construction) (Operations) (Decommissioning). The Lessee must ensure that all vessels that operate sub-bottom survey equipment (e.g., boomer, sparker, and bubble-gun categories) below 180 kiloHertz (kHz) can establish minimum clearance and shutdown zone distances for ESA-listed species of marine mammals and sea turtles. For situational awareness, a monitoring zone (500 meters in all directions) for ESA-listed species must be

monitored around all vessels operating boomer, sparker, or bubble-gun equipment. The clearance and shutdown zones must be monitored by approved PSOs at all times.

5.8.1.1 The Lessee must implement clearance zones of 1,640 feet (500 meters) for NARWs and 656 feet (200 meters) for all other ESA-listed whales and sea turtles. Lessee must comply with any applicable Incidental Take Authorizations (ITAs) as required by NMFS for non-ESA listed marine mammals. Unless otherwise required by an ITA, the Lessee must monitor default clearance and shutdown zones of 328 feet (100 meters) for all non-ESA-listed marine mammals. The clearance and shutdown zones must be established with accurate distance finding methods (e.g., reticle binoculars, range-finding sticks, calibrated video cameras, and software). If the shutdown zones cannot be adequately monitored for animal presence (i.e., the lead PSO determines conditions are such that marine mammals cannot be reliably sighted within the shutdown zones), then the survey must be stopped until such time that the shutdown zones can be reliably monitored. For marine mammals, these requirements are for sound sources that are operating within the hearing range of marine mammals (below 180 kHz).

5.8.2 Geophysical Survey Off-Effort PSO Monitoring (Planning) (Construction) (Operations) (Decommissioning). During daylight hours when survey equipment is not operating, the Lessee must ensure that visual PSOs conduct, as rotation schedules allow, observations for comparison of sighting rates and behavior with and without use of the acoustic source and between acquisition periods. Off-effort PSO monitoring must be reflected in the monthly PSO monitoring reports.

5.8.3 Geophysical Survey Vessel Strike-Avoidance and Equipment Shutdown Protocols (Planning) (Construction) (Operations) (Decommissioning). Anytime a survey vessel is underway (transiting or surveying), a PSO must monitor a Vessel Strike Avoidance Zone (500 meters or greater from any sighted ESA-listed whale or other unidentified large marine mammal and 200 meters or greater from any other ESA-listed species visible at the surface) to ensure detection of that animal in time to take necessary measures to avoid striking the animal. If the survey vessel does not require a PSO for the type of survey equipment used, a trained crew lookout or PSO must be used.

5.8.3.1 If any whale is identified within 656-1,640 feet (200-500 meters) of the forward path of any vessel (defined as 90 degrees port to 90 degrees starboard), the vessel operator must steer a course away from the whale at 10 knots (18.5 kilometers/hour) or less until the

1,640 -foot (500-meter) minimum separation distance has been established. If an ESA-listed whale or other unidentified marine mammal is sighted within 656 feet (200 meters) of the forward path of a vessel, the vessel operator must reduce speed by immediately shifting the engine to neutral. Engines must not be engaged until the whale has moved outside of the vessel's path and beyond 1,640 feet (500 meters). If stationary, the vessel must not engage engines until the ESA-listed whale or other large unidentified whale has moved beyond 1,640 feet (500 meters).

5.8.3.2 If a sea turtle or manta ray is sighted within 656 feet (200 meters) of the operating vessel's forward path, the vessel operator must slow down to 4 knots (unless doing so would put the safety of the vessel or crew at risk) and may resume normal vessel operations once the vessel has passed the sea turtle or manta ray. If a sea turtle or manta ray is sighted within 656 feet (200 meters) of the forward path of the operating vessel, the vessel operator must shift to neutral (unless doing so would put the safety of the vessel or crew at risk) and then proceed away from the sea turtle or manta ray at a speed of 4 knots (7.4 kilometers per hour) or less until there is a separation distance of at least 565 feet (200 meters), at which time normal vessel speeds may be resumed.

5.8.3.3 During summer and fall, when sea turtles are most likely to be present in the survey area, vessels must avoid transiting through areas of visible jellyfish aggregations or floating vegetation (e.g., sargassum lines or mats). In the event that doing so would put the safety of the vessel or crew at risk, vessels must slow to 4 knots while transiting through such areas.

5.8.4 Geophysical Survey Clearance of Shutdown Zone and Restart Protocols Following Shutdowns (Planning) (Construction) (Operations) (Decommissioning). The Lessee must comply with the following requirements for geophysical survey shutdown zone monitoring, survey equipment powerup, and post-shutdown shutdown protocols for all ESA-listed species, in addition to any applicable ITA requirements under the MMPA for marine mammals.

5.8.4.1 For threatened and endangered marine mammals and sea turtles, a 1,640-foot (500-meter) clearance zone for NARWs, 656 feet (200 meters) for other ESA-listed whales, 328 feet (100 meters) for non-listed marine mammals, and 164 feet (50 meters) for sea turtles must be established around each vessel operating boomer, sparker, or bubble-gun equipment. Before any noise-producing survey equipment is deployed, the clearance zones must be monitored for

30 minutes. If any ESA-listed species is observed within the clearance zone during the 30-minute pre-clearance period, the 30-minute clock must be paused. If the PSO confirms that the animal has exited the zone and headed away from the survey vessel, the 30-minute clock that was paused may resume. The pre-clearance clock will reset to 30 minutes if the animal dives or visual contact is otherwise lost during the clearance period.

- 5.8.4.2 For non-ESA-listed marine mammals, Lessee must comply with NMFS Project-specific mitigation and any applicable ITAs. If an ITA is not obtained, the Lessee must adhere to the following measures for non-ESA-listed species. Prior to powering up survey equipment, a 328-foot (100-meter) clearance zone must be clear of all: non-ESA-listed small cetaceans and seals for 15 minutes; and humpback whales, *Kogia*, and beaked whales for 30 minutes. If any non-ESA-listed marine mammal is observed within the clearance zone during the monitoring period, the clock must be paused for 15 or 30 minutes depending on the species sighted. If the PSO confirms that the animal has exited the shutdown zone and is headed away from the survey vessel, the clock that was paused may resume. The clock will reset to 15 minutes for small cetaceans and seals or 30 minutes for humpback whales, *Kogia*, and beaked whales if an observed marine mammal dives and is not resighted by the PSO.
- 5.8.4.3 Following pre-clearance and commencement of equipment operation, any time any marine mammal is sighted by a PSO within the applicable shutdown zone, the PSO must immediately notify the resident engineer or other authorized individual, who must shut down the survey equipment. Geophysical survey equipment may be allowed to continue operating if small cetaceans or seals voluntarily approach the vessel to bow ride, as determined by the PSO on duty, when the sound sources are at full operating power. Following a shutdown, the survey equipment may resume operating immediately only if visual monitoring of the shutdown zone continues throughout the shutdown, the animals causing the shutdown were visually followed and confirmed by PSOs to be outside of the shutdown zone and heading away from the vessel, and the shutdown zone remains clear of all protected species. The clock will reset to 15 minutes for small cetaceans and seals or 30 minutes for humpback whales, *Kogia*, and beaked whales if an observed marine mammal dives and is not resighted by the PSO.

5.8.4.4 Following a shutdown due to protected species sightings or any other reason, power-up of the equipment may begin immediately if: (a) the shutdown is less than 30 minutes; (b) visual monitoring of the shutdown zones continued throughout the shutdown; (c) any animal(s) causing a shutdown were visually followed and confirmed by PSOs to be outside of the shutdown zones and heading away from the vessel; and (d) the shutdown zones remain clear of all threatened and endangered species. If all these conditions (a, b, c, and d) are not met, then, before survey equipment can be turned back on, the clearance of the shutdown zone must be completed for threatened and endangered species, humpback whales, *Kogia*, and beaked whales for 30 minutes of observation, and 15 minutes for all other marine mammals.

5.8.5 Monthly HRG Survey Reporting for Protected Species (Planning) (Construction) (Operations) (Decommissioning). The Lessee must ensure that monthly reporting of survey activities is submitted to BOEM (at renewable_reporting@boem.gov) by the PSO provider on the 15th of each month for each vessel conducting survey work. Any editing, review, and quality assurance checks must be completed only by the PSO provider prior to submission to BOEM. The PSOs may record data electronically, but the data fields listed below must be recorded and exported to an Excel file. Alternatively, BOEM has developed an Excel spreadsheet with all the necessary data fields that is available upon request. The Lessee must submit final monthly reports to BOEM in coordination with PSO Providers within 90 calendar days following completion of a survey. Final monthly reports must contain vessel departure and return ports, PSO names and training certifications, the PSO provider contact information, dates of the survey, a vessel track, a summary of all PSO documented sightings of protected species, survey equipment shutdowns that occurred, any vessel strike-avoidance measures taken, takes of protected species that occurred, and any observed injured or dead protected species. PSOs must be approved by NMFS prior to the start of a survey, and the Lessee must submit documentation of NMFS' approval upon request to BOEM (at renewable_reporting@boem.gov). Application requirements to become a NMFS-approved PSO for geological and geophysical surveys can be obtained by sending an inquiry to nmfs.psoreview@noaa.gov. DOI will work with the Lessee to ensure that DOI does not release confidential business information found in the monitoring reports.

5.8.5.1 Instructions for HRG Survey Reports. The following data fields for PSO reports of geological and geophysical surveys must be reported in Excel format (.xml file):

Project Information:

- Project Name
- Lease Number
- State Coastal Zones
- Survey Contractor
- Vessel Name(s)
- Survey Type (typically HRG)
- Reporting start and end dates
- Visual monitoring equipment used (e.g., bionics, magnification, IR cameras, etc.)
- Distance finding method used
- PSO names (last, first) and training
- Observation height above sea surface

Operations Information:

- Vessel name(s)
- Sound sources, including equipment type, power levels, and frequencies used
- Greatest RMS source Level

Monitoring Effort Information:

- Date (YYYY-MM-DD)
- Noise source (ON=source on; OFF=source off)
- If visual, how many PSOs on watch at one time?
- PSOs (Last, First)
- Start time of observations
- End time of observations

- Duration of visual observation
- Wind speed (knots), from direction
- Swell (meters)
- Water depth (meters)
- Visibility (km)
- Glare severity
- Block name and number
- Location: Latitude and Longitude;
- Time pre-clearance visual monitoring began in UTC (HH:MM)
- Time pre-clearance monitoring ended in UTC (HH:MM)
- Duration of pre-clearance visual monitoring
- Was pre-clearance conducted during day or night?
- Time power-up/ramp-up began
- Time equipment full power was reached
- Duration of power-up/ramp-up
- Time survey activity began (equipment on)
- Time survey activity ended (equipment off)
- Survey Duration
- Did a shutdown/power-down occur?
 - Time shutdown was called for (UTC)
 - Time equipment was shut down (UTC)
- Vessel positions (logged every 30 seconds)
- Habitat or prey observations
- Marine debris sighted

Detection Information:

- Date (YYYY-MM-DD)
- Sighting ID (V01, V02, or sequential sighting number for that day) (multiple sightings of the same animal or group should use the same ID)
- Date and time at first detection in UTC (YY-MM-DDT HH:MM)
- Time at last detection in UTC (YY-MM-DDT HH:MM)
- PSO name(s) (Last, First)
- Effort (ON=Source On; OFF=Source Off)
- Latitude (decimal degrees dd.ddddd), longitude (decimal degrees dd.ddddd) dd.ddddd), longitude (decimal degrees dd.ddddd)
- Compass heading of vessel (degrees)
- Water depth (meters)
- Swell height (meters)
- Beaufort scale
- Precipitation
- Visibility (km)
- Cloud coverage (%)
- Glare
- Sightings including common name, scientific name, or family
- Certainty of identification
- Number of adults
- Number of juveniles
- Total number of animals
- Bearing to animal(s) when first detected (ship heading + clock face)
- Range from vessel (reticle distance in meters)

- Description (include features such as overall size; shape of head; color and pattern; size, shape, and position of dorsal fin; height, direction, and shape of blow, etc.)
- Detection narrative (note behavior, especially changes in relation to survey activity and distance from source vessel)
- Direction of travel/first approach (relative to vessel)
- Behaviors observed: indicate behaviors and behavioral changes observed in sequential order (use behavioral codes)
- If any bow-riding behavior observed, record total duration during detection (HH:MM)
- Initial heading of animal(s) (degrees)
- Final heading of animal(s) (degrees)
- Source activity at initial detection
- Source activity at final detection (on or off)
- Shutdown zone size during detection (meters)
- Was the animal inside the shutdown zone?
- Closest distance to vessel (reticle distance in meters)
- Time at closest approach (UTC HH:MM)
- Time animal entered shutdown zone (UTC HH:MM)
- Time animal left shutdown zone (UTC HH:MM)
- If observed/detected during ramp-up/power-up: first distance (reticle distance in meters), closest distance (reticle distance in meters), last distance (reticle distance in meters), behavior at final detection
- Shutdown or power-down occurrences
 - Time shutdown was called for (UTC)
 - Time equipment was shut down (UTC)
- Detections with IR? (Y/N)

6 CONDITIONS RELATED TO COMMERCIAL FISHERIES, FOR-HIRE RECREATIONAL FISHING, AND ENVIRONMENTAL JUSTICE

- 6.1 Communication with the Fishing Community (Planning) (Construction) (Operations) (Decommissioning). The Lessee must establish clear daily two-way communication channels among fishermen and the Project construction vessel operators during construction activities in the WDA and ports utilized by Project vessels. The Lessee is responsible for ensuring that this communication is executed by all contractors and sub-contractors.
- 6.2 Data Sharing with the Fishing Community (Operations). The Lessee must make available to the fishing community electronic chart information showing the as-built location of Project infrastructure – including the cables, cable protection measures, turbine foundations, turbine foundation scour protection, and ESP(s) – no later than 1 year after the date on which the Project commences commercial operations (Commercial Operations Date or COD).
- 6.3 Fisheries Compensation and Mitigation Funds (Planning) (Construction) (Operations) (Decommissioning).
- 6.3.1 No later than 1 year after the approval of the COP, the Lessee must establish the following compensation/mitigation funds to compensate commercial fishermen for losses directly related to the Project and mitigate other impacts:
- 6.3.1.1 Rhode Island Compensation Fund - \$4,200,000 (Record of Decision, Appendix A, Mitigation Measure No. 75);
- 6.3.1.2 Massachusetts Compensation Fund - \$19,185,016 (Record of Decision, Appendix A, Mitigation Measure No. 76);
- 6.3.1.3 Other States' Compensation Fund - \$3,000,000 (Record of Decision, Appendix A, Mitigation Measure No. 77) Rhode Island Fisherman's Future Viability Trust - \$12,500,000 (Record of Decision, Appendix A, Mitigation No. 78); and
- 6.3.1.4 Massachusetts Fisheries Innovation Fund - \$1,750,000 (Record of Decision, Appendix A, Mitigation No. 79).
- 6.3.2 The Lessee must establish the compensation/mitigation funds listed in Section 6.3.1 in accordance with consistency certifications issued for the Project under the Coastal Zone Management Act. The Lessee must require the administrator of each compensation/mitigation fund (Administrator/Trustee) to notify BOEM that the compensation/mitigation fund has been established and is processing claims to mitigate impacts to fisheries. Notification can be accomplished by the Administrator/Trustee transmitting to BOEM an annual

financial statement of the trust/fund. The Administrator/Trustee submit the required notification by December 31 of each year, beginning on the second anniversary of the Project's COD. The notification must be signed by the Administrator/Trustee.

6.3.3 No later than 1 year after the approval of the COP, the Lessee must host at least 1 outreach event, held virtually or in person, with the federally recognized tribes that are interested in and could be eligible for the funds listed in Section 6.3.1, based on geographic location. The following federally recognized tribes must be invited to the outreach event at least 28 calendar days in advance of the event: the Mashpee Wampanoag Tribe, the Wampanoag of Gay Head (Aquinnah); the Mashantucket Pequot Indian Tribe; the Mohegan Tribe of Indians of Connecticut; the Shinnecock Indian Nation; the Narraganset Indian Tribe; and the Delaware Tribe of Indians. In advance of sending an invitation, the Lessee must solicit input from the Tribes about their availability to meet and must make reasonable efforts to maximize participation of tribal representatives. If a Tribe informs the Lessee that it is not able or does not wish to participate, the Lessee must make available to that Tribe any materials from the event along with a recording of the event or a summary.

6.4 Survey Monitoring Program (Planning) (Construction) (Operations) (Decommissioning). The Lessee must participate in good faith with the establishment of the Federal Survey Monitoring Program. Participation includes, but is not limited to, the sharing of information and engagement in scientific studies needed to understand the impact of wind energy development on: (I) marine ecosystems and the human communities that use these marine ecosystems; and (II) the following surveys: (a) NOAA Spring and Autumn Bottom Trawl surveys; (b) NOAA Ecosystem Monitoring surveys; (c) NOAA NARW aerial surveys; (d) NOAA aerial and shipboard marine mammal and sea turtle surveys; (e) NOAA Atlantic surfclam and ocean quahog surveys; (f) NOAA and industry-based Atlantic sea scallop surveys; and (g) any other surveys in the region impacted by wind energy development.

6.5 Environmental Data Sharing with Federally Recognized Tribes (Planning) (Construction) (Operations) (Decommissioning). No later than 90 calendar days after COP approval, the Lessee must contact the federally recognized tribes participating in government-to-government consultations with BOEM for the Project in order to solicit their interest in receiving access to the results of non-proprietary/non-business confidential reports or portions of reports generated as a result of: the Benthic Monitoring Plan; optical surveys of benthic invertebrates and habitat; evaluation of additional benthic habitat data in Muskeget Channel prior to cable lay operations; trawl survey for finfish and squid; reporting of all NARW sightings; injured or dead protected species reporting (turtles and NARW); NARW PAM monitoring; PSO

reports (e.g., weekly pile-driving reports); and pile-driving schedule and changes thereto. At a minimum, the Lessee must contact and offer this access to the following federally recognized tribes: the Mashpee Wampanoag Tribe; the Wampanoag of Gay Head (Aquinnah); the Mashantucket Pequot Indian Tribe; the Mohegan Tribe of Indians of Connecticut; the Shinnecock Indian Nation; the Narraganset Indian Tribe; and the Delaware Tribe of Indians. For any of these federally recognized tribes confirming interest in receiving the results of these non-proprietary/non-business confidential reports or portions of reports, the Lessee must provide such materials no later than 30 calendar days after the information becomes available.

- 6.6 Coordination with Federally Recognized Tribes in Local Hiring Plan (Planning) (Construction) (Operations) (Decommissioning). No later than 6 months after COP approval, the Lessee must prepare and implement a local hiring plan to maximize Vineyard Wind's direct hiring of southeastern Massachusetts residents. Components of the plan must include coordination with unions, training facilities, schools, the Mashpee Wampanoag Tribe, and the Wampanoag Tribe of Gay Head (Aquinnah).

7 CONDITIONS RELATED TO CULTURAL RESOURCES

- 7.1 Remove Six Northeastern Turbine Placement Locations (Planning) (Construction). The Lessee must not construct wind turbines in the 6 northeastern-most turbine placement locations depicted in the proposed layout closest to Martha's Vineyard, Nantucket, and adjacent islands, as shown in Figure 2.1-2 of the FEIS. The Lessee must provide as-built documents showing turbine locations within 1 year of installation.
- 7.2 Apply Paint Color No Lighter than RAL (Reichs-Ausschuß für Lieferbedingungen und Gütesicherung) 9010 Pure White and No Darker than RAL 7035 Light Grey to the Turbines (Planning) (Construction) (Operations). The Lessee must paint the wind turbines an off white/grey color (no lighter than RAL 9010 Pure White and no darker than RAL 7035 Light Grey) prior to commencing commercial operations. The BOEM-approved CVA or the Lessee must confirm the paint color as part of the FIR.
- 7.3 Fund a Restoration and Stabilization Project at Gay Head Light (Planning) (Construction). The Lessee must fund and conduct, at a cost not to exceed \$137,500, a restoration and stabilization project for the Gay Head Light to address the advanced state of corrosion of the lantern curtain wall in accordance with both the Section 106 MOA and the Gay Head Light Treatment Plan (Attachment 4 of the Section 106 MOA), and in a manner acceptable to BOEM. The Lessee must fund and commence the restoration and stabilization project prior to initiating construction of any offshore Project elements within the WDA on the OCS included as part of this undertaking. Prior to initiating such construction, the Lessee must provide BOEM with documentation demonstrating that the Massachusetts Historical Commission has approved the restoration and stabilization project plans.

- 7.4 Fund an Ethnographic Study and Prepare a National Register of Historic Places Nomination Package for the Chappaquiddick Island Traditional Cultural Property (Planning) (Construction). The Lessee must fund and conduct, at a cost not to exceed \$150,000, an ethnographic study of and prepare a National Register of Historic Places (NRHP) nomination package for the Chappaquiddick Island Traditional Cultural Property (TCP) in accordance with both the Section 106 MOA and the Chappaquiddick Island Traditional Cultural Property Treatment Plan (Attachment 5 of the Section 106 MOA), and in a manner acceptable to BOEM. The Lessee must fund and commence the study prior to initiating construction of any offshore Project elements within the WDA on the OCS included as part of this undertaking. Documentation confirming the funding and commencement of the study must be submitted to BOEM prior to the initiation of such construction.
- 7.5 Fund an Ethnographic Study and Prepare an NRHP Nomination Package for the Vineyard Sound and Moshup's Bridge TCP (Planning) (Construction). The Lessee must fund and conduct, at a cost not to exceed \$150,000, an ethnographic study of and prepare an NRHP nomination package for the Vineyard Sound and Moshup's Bridge TCP in accordance with both the Section 106 MOA and the Vineyard Sound and Moshup's Bridge Traditional Cultural Property Treatment Plan (Attachment 6 of the Section 106 MOA), and in a manner acceptable to BOEM. The Lessee must fund and commence the study prior to initiating construction of any offshore Project elements within the WDA on the OCS included as part of this undertaking. Documentation confirming the funding and commencement of the study must be submitted to BOEM prior to the initiation of such construction.
- 7.6 Avoid Identified Shipwrecks, Debris Fields, and Submerged Landform Features that Can be Avoided (Planning) (Construction) (Operations) (Decommissioning). The Lessee must avoid all identified potential shipwrecks and potentially significant debris fields—as well as the following submerged ancient landform features identified during marine archaeological surveys of the WDA and OECC—by a distance no less than that required under Stipulations II.A and II.B of the Section 106 MOA: Channel Group 18; Channel Group 19; Channel Group 20; PSW-1/OECC KP 25.45; PSW-2/OECC KP 27.5; PSW-3/NHAL KP 1.0; PSW-4/NHAL KP 2.9; PSW-5/NHAL KP 3.5; Channel Group 23; Channel Group 26; Channel Group 27; Channel Group 28; Channel Group 30; Channel Group 31; Channel Group 33; Channel Group 34; and Channel Group 46. If the Lessee determines that it cannot avoid any of the listed submerged ancient landform features, the potential shipwrecks, or potentially significant debris fields as required under Stipulations II.A and II.B of the Section 106 MOA, the Lessee must notify BOEM prior to entering or disturbing the seabed in the excluded area. BOEM will notify the Lessee of any additional requirements, which may include additional investigations to confirm the nature of the resource, additional investigations to determine the resource's eligibility for the National Register of Historic Places, and data recovery excavations. If any vessel conducting work on behalf of the Lessee

enters or impacts the seafloor within the avoidance areas noted above, the Lessee must submit an incident report to BOEM within 24 hours.

- 7.7 Conduct Mitigation Investigations of 19 Previously Identified Submerged Landform Features that Cannot be Avoided (Planning) (Construction). The Lessee must fund mitigation investigations of the 19 submerged ancient landform features identified during marine archaeological surveys of the WDA and OECC that remain in the Area of Potential Effects (APE) and cannot be avoided due to the undertaking's design constraints. The Lessee must execute all aspects of this condition of COP approval in accordance with the Section 106 MOA and the Treatment Plan for Submerged Ancient Landform Features (Attachment 8 of the Section 106 MOA), and in a manner acceptable to BOEM. The Lessee must fund and commence these measures prior to the initiation of any offshore, seabed-disturbing Project elements included as part of this undertaking, and the core samples described in the Treatment plan for Ancient Submerged Landform Features (Attachment 8 of the Section 106 MOA) must be collected prior to any construction disturbance within 1,640 feet (500 meters) of the 19 unavoidable submerged ancient landform features. All aspects of the Treatment Plan for Submerged Ancient Landform Features (Attachment 8 of the Section 106 MOA) and associated reports and training, must be completed within 5 years of the date of execution of the Section 106 MOA. The report(s) prepared must be submitted to BOEM (at renewable_reporting@boem.gov) and to BSEE (at env-compliance-arc@bsee.gov).
- 7.8 Archaeological Survey Required (Planning). In accordance with the provisions of the MOA implementing 36 C.F.R. § 800.4(b)(2), the Lessee must provide to BOEM the results of a marine archaeological resources assessment, and supporting data, in accordance with BOEM's *Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 C.F.R. Part 585*, for all portions of the marine archaeological APE that were not previously available for BOEM's Section 106 review of the approved COP. The Lessee must provide these materials at least 90 calendar days prior to any intended seafloor disturbance within 1,640 feet (500 meters) of this portion of the APE.
- 7.8.1 The Lessee must ensure that the analysis of archaeological survey data collected in support of this assessment and the preparation of archaeological reports created in support of this assessment are conducted by a Qualified Marine Archaeologist. A Qualified Marine Archaeologist must meet the Secretary of the Interior's Professional Qualifications Standards (48 Fed. Reg. 44738- 44739) and possess experience in conducting HRG surveys and in processing and interpreting the resulting data for archaeological potential.
- 7.8.2 The Lessee must inform the Qualified Marine Archaeologist that they may be present during data collection and seabed-disturbing activities performed in support of this assessment. In the event that this Qualified Marine

Archaeologist indicates that they wish to be present, the Lessee must facilitate the Qualified Marine Archaeologist's presence, as requested by the Qualified Marine Archaeologist, and provide the Qualified Marine Archaeologist the opportunity to inspect data quality.

7.9 Avoid or Investigate and Mitigate Submerged Potential Historic Properties Identified as a Result of Future Marine Archaeological Resources Identification Surveys (Planning) (Construction) (Operations) (Decommissioning). The Lessee must avoid or investigate any potential archaeological resources or submerged ancient landform features identified as a result of the completion of marine archaeological resource identification surveys that will be performed in all portions of the marine archaeological resources APE not previously surveyed, as required under Section 7.8, above. Avoidance or additional investigations will be performed according to the following:

7.9.1 Avoidance of Potential Archaeological Resources. Where feasible, the Lessee will avoid any potential archaeological resource (i.e., one or more geophysical survey anomalies or targets with the potential to be an archaeological resource, as determined by BOEM) identified as a result of marine archaeological resource identification surveys performed under Section 7.8, above, by a distance of no less than 984 feet (300 meters) from the known extent of the resource, unless the buffer would preclude the installation of facilities at their engineered locations, but in no event may the buffer be less than 328 feet (100 meters) from the known extent of the resource.

7.9.2 Additional Investigation of Potential Archaeological Resources. If the Lessee determines that avoidance of the potential archaeological resource is not possible, the Lessee must investigate and assess the potential resource to BOEM's and Massachusetts State Historic Preservation Officer's satisfaction using acceptable methodologies that meet industry standard ground truthing techniques to determine whether it constitutes an identified archaeological resource. The Lessee must perform the additional investigations in accordance with Stipulation III.B.2 of the Section 106 MOA.

7.9.3 Avoidance of Submerged Ancient Landform Features. The Lessee must evaluate and determine the feasibility of avoiding submerged ancient landform features with the potential to contain archaeological resources identified as a result of future marine archaeological resource identification surveys performed under Section 7.8, above, and must avoid as many features as possible unless the avoidance would preclude the installation of facilities at their engineered locations. The Lessee must report its evaluation(s) and determination(s) in accordance with Stipulation III.A. of the Section 106 MOA.

- 7.9.4 Mitigation of Unavoidable Submerged Ancient Landform Features. If the Lessee determines that avoidance of the identified submerged ancient landform features with the potential to contain archaeological resources is not possible, the Lessee must conduct additional mitigation investigations to resolve the adverse effect pursuant to 36 C.F.R. § 800.6. The Lessee will perform the same mitigation that will be used to resolve effects to the known 19 unavoidable submerged landform features, including conducting additional investigations and development of educational and documentary materials, in accordance with Stipulation II.C, Stipulation III.B.4, and the Treatment Plan for Submerged Ancient Landform Features with the Potential to Contain Pre-Contact Period Archaeological Sites (Attachment 8) of the Section 106 MOA and referenced in Section 7.7. The Lessee must fund and commence these measures prior to the initiation of any offshore seabed-disturbing Project elements included as part of this undertaking, and all core samples must be collected prior to any construction disturbance within 1,640 feet (500 meters) of the 19 unavoidable submerged ancient landform features and any other identified submerged ancient landform features determined by the Lessee to be unavoidable pursuant to Section 7.9.3. All aspects of the Treatment Plan for Submerged Ancient Landform Features (Attachment 8) of the Section 106 MOA, and associated reports and training must be completed within 5 years of the date of execution of that Agreement. The report(s) prepared must be submitted to BOEM (at renewable_reporting@boem.gov) and to BSEE (at env-compliance-arc@bsee.gov).
- 7.9.5 Mitigation of Unavoidable National Register Eligible Archaeological Resources. For any archaeological resources determined eligible for listing on the National Register (i.e., historic properties) under Stipulation III.A of the MOA, the Lessee will complete a Phase III Archaeological Data Recovery mitigation, pursuant to 36 C.F.R. § 800.6. The Lessee will fund and complete these measures prior to the initiation of construction of any Project elements within 1,640 feet (500) meters of the identified resource.
- 7.9.6 Archaeological Monitoring of Onshore Cable Route Corridor Construction (Construction). The Lessee must ensure that a qualified archaeologist performs terrestrial archaeological monitoring during all ground disturbing activities in areas of moderate to high archaeological sensitivity, to include construction activities within the staging areas for the horizontal directional drill or open trenching in the landfall area and during installation of upland cable within the identified zones of high and moderate archaeological sensitivity along existing roads, as defined by the Vineyard Wind's cultural resource consultant. The Lessee must perform the archaeological monitoring in accordance with Stipulation IV of the Section 106 MOA.

7.10 Post-Review Discoveries (Planning) (Construction) (Operations) (Decommissioning).

If, while conducting activities under the approved COP, the Lessee discovers a potential archaeological resource, such as the presence of a shipwreck (e.g., a sonar image or visual confirmation of an iron, steel, or wooden hull, wooden timbers, anchors, concentration of historic objects, piles of ballast rock), prehistoric artifacts, relict landforms, or other items potentially of an archaeological nature within the WDA, then the Lessee must:

- 7.10.1 Immediately halt seabed-disturbing activities within the area of discovery;
- 7.10.2 As soon as practicable and no later than 24 hours after the discovery, notify BOEM (at renewable_reporting@boem.gov) and BSEE (at 504-388-3464 and env-compliance-arc@bsee.gov) for additional instructions;
- 7.10.3 Notify DOI in writing via written report, describing the discovery in detail, including a narrative description of the manner of discovery (e.g., date, time, heading, weather, information from logs); a narrative description of the potential resource, including measurements; images of the potential resource that may have been captured; portions of raw and processed datasets relevant to the discovery area; and any other information considered by the Lessee to be relevant to DOI's understanding of the potential resource. Provide the notification to BOEM (at renewable_reporting@boem.gov) and to BSEE (at env-compliance-arc@bsee.gov) within 72 hours of its discovery. DOI may request additional information and/or request revisions to the report;
- 7.10.4 Keep the location of the discovery confidential and take no action that may adversely affect the archaeological resource until DOI has made an evaluation and instructs the Lessee on how to proceed, including when activities may recommence; and
- 7.10.5 Conduct any additional investigations and submit documentation as directed by DOI to determine if the resource is eligible for listing in the National Register of Historic Places (30 C.F.R. § 585.802(b)). The Lessee must satisfy this requirement only if: (1) the site has been impacted by the Lessee's Project activities; and/or (2) impacts to the site or to the APE cannot be avoided. If investigations indicate that the resource is potentially eligible for listing in the National Register of Historic Places, DOI will instruct the Lessee how to protect the resource or how to mitigate adverse effects to the site. If DOI incurs costs in protecting the resource, then DOI may charge, under Section 110(g) of the National Historic Preservation Act, the Lessee reasonable costs for carrying out preservation responsibilities under OCSLA (30 C.F.R. § 585.802(c-d)).

- 7.11 No Impact without Approval (Planning) (Construction) (Operations) (Decommissioning). The Lessee must not knowingly impact a potential archaeological resource without DOI's prior authorization. If a possible impact to a potential archaeological resource occurs, the Lessee must: immediately halt operations; report the incident with 24 hours to BOEM (at renewable_reporting@boem.gov) and BSEE (at 504-388-3464 and env-compliance-arc@bsee.gov); and provide a written report to BOEM (at renewable_reporting@boem.gov) and BSEE (at env-compliance-arc@bsee.gov) within 72 hours.
- 7.12 PAM Placement Review (Construction) (Operations) (Decommissioning). The Lessee may only place PAMs in locations where an analysis of the results of geophysical surveys has been completed. This analysis must include a determination by a Qualified Marine Archaeologist as to whether any potential archaeological resources are present in the area. This activity may have been performed already as part of the Lessee's submission of archaeological resources reports in support of its approved COP. Except as allowed by DOI under Stipulation 4.2.6 of the Lease and Section 7.11 above, the PAM placement activities must avoid potential archaeological resources by a minimum of 328 feet (100 meters), and the avoidance distance must be calculated from the maximum discernible extent of the archaeological resource. If the placement area was not previously reviewed and certified by a Qualified Marine Archaeologist in support of the Lessee's approved COP, a Qualified Marine Archaeologist must certify, in an annual letter to DOI, that the Lessee's PAM placement activities did not impact potential historic properties identified as a result of the Qualified Marine Archaeologist's determination, except as follows: in the event that the PAM placement activities did impact potential historic properties identified in the archaeological surveys without the DOI's prior authorization, the Lessee and the Qualified Marine Archaeologist who prepared the report must instead provide to DOI a statement documenting the extent of these impacts. This statement must be made to DOI in accordance with Stipulation 4.2.7 of the Lease and Section 7.10, above. BOEM reserves the right to require additional mitigation measures based on a review of the results and supporting information.

ATTACHMENT 1: LIST OF ACRONYMS

| | |
|-------|--|
| AC | Advisory Circular |
| ADEON | Atlantic Deepwater Ecosystem Observatory Network |
| ADLS | Aircraft Detection Lighting System |
| AIS | Automated Information System |
| ALARP | As Low as Reasonably Practical |
| ANSI | American National Standards Institute |
| APE | Area of Potential Effects |
| ASR | Airport Surveillance Radar |
| ASSE | American Society of Safety Engineers |
| BiOp | Biological Opinion |
| BOEM | Bureau of Ocean Energy Management |
| BSEE | Bureau of Safety and Environmental Enforcement |
| CBRA | Cable Burial Risk Assessment |
| COD | Commercial Operations Date |
| COP | Construction and Operations Plan |
| CPT | Cone Penetration Testing or Cone Penetration Test |
| CVA | Certified Verification Agents |
| CZM | Coastal Zone Management |
| DAS | Distributed Acoustic Sensing |
| DGPS | Differential Global Positioning System |
| DMA | Dynamic Management Area |
| DMM | Discarded Military Munitions |
| DoD | Department of Defense |
| DOI | Department of the Interior |
| DON | Department of the Navy |
| DTS | Desktop Study |
| ESA | Endangered Species Act |
| ESP | Electrical Service Platform |
| FAA | Federal Aviation Administration |
| FDR | Facility Design Report |
| FEIS | Final Environmental Impact Statement |
| FIR | Fabrication and Installation Report |
| HAPC | Habitat Areas of Particular Concern |
| HD | High Definition |
| HDD | Horizontal Directional Drilling |
| HF | High Frequency |
| HRG | High Resolution Geophysical |
| IALA | International Association of Marine Aids to Navigations and Lighthouse Authorities |

| | |
|---------|--|
| IEC | International Electric Code |
| IHA | Incidental Harassment Authorization |
| IMT | Incident Management Team |
| ISO | International Organization for Standardization |
| ITA | Incidental Take Authorization |
| LERA | Least Expensive Radar |
| LOI | Letter of Intent |
| LOS | Line of Sight |
| MassDEP | Massachusetts Department of Environmental Protection |
| MOA | Memorandum of Agreement |
| NARW | North Atlantic Right Whale |
| NMFS | NOAA National Marine Fisheries Service |
| NOAA | National Oceanic and Atmospheric Administration |
| NORAD | North American Aerospace Defense Command |
| NRHP | National Register of Historic Places |
| OCS | Outer Continental Shelf |
| OCSLA | Outer Continental Shelf Lands Act |
| OECC | Offshores Export Cable Corridor |
| OEM | Original Equipment Manufacturer |
| OSRO | Oil Spill Removal Organization |
| OSRP | Oil Spill Response Plan |
| PAM | Passive Acoustic Monitoring or Passive Acoustic Monitor(s) |
| PATON | Private Aids to Navigation |
| PDM | Pile-Driving Monitoring |
| PPP | Piping Plover Protection |
| PSO | Protected Species Observer |
| QI | Qualified Individual |
| RAL | Reichs-Ausschuß für Lieferbedingungen und Gütesicherung |
| RAM | Radar Adverse-impact Management |
| SDS | Safety Data Sheets |
| SMA | Seasonal Management Area |
| SMS | Safety Management System |
| SROT | Spill Response Operating Team |
| SSV | Sound Source Verification |
| TCP | Traditional Cultural Property |
| USACE | United States Army Corps of Engineers |
| USAF | United States Air Force |
| USFF | United States Fleet Forces |
| USFWS | United States Fish and Wildlife Service |
| UXO | Unexploded Ordnance |
| VHF | Very High Frequency |

| | |
|-----|------------------------|
| WCD | Worst-Case Discharge |
| WDA | Wind Development Area |
| WTG | Wind Turbine Generator |

ATTACHMENT 2: RHODE ISLAND AND MASSACHUSETTS STRUCTURE LABELING PLOT (COORDINATES)

| Lease Number | Owner | Longitude | Latitude | Row | Column |
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| OCS-A 0520 | Equinor | -70.37183434 | 40.95464237 | AX | 42 |
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| OCS-A 0520 | Equinor | -70.45836303 | 40.88684933 | BB | 38 |

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| Lease Number | Owner | Longitude | Latitude | Row | Column |
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| OCS-A 0520 | Equinor | -70.69625561 | 40.73345063 | BL | 27 |
| OCS-A 0520 | Equinor | -70.56431922 | 40.71863148 | BM | 33 |
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| OCS-A 0520 | Equinor | -70.60815822 | 40.71802893 | BM | 31 |
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| Lease Number | Owner | Longitude | Latitude | Row | Column |
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| OCS-A 0520 | Equinor | -70.58584308 | 40.70165459 | BN | 32 |
| OCS-A 0520 | Equinor | -70.60775695 | 40.70135141 | BN | 31 |
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| OCS-A 0521 | Mayflower Wind Energy | -70.26088105 | 40.90586069 | BA | 47 |
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| OCS-A 0521 | Mayflower Wind Energy | -70.26056433 | 40.88918118 | BB | 47 |
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| OCS-A 0521 | Mayflower Wind Energy | -70.25993169 | 40.85582201 | BD | 47 |
| OCS-A 0521 | Mayflower Wind Energy | -70.391385 | 40.83762812 | BE | 41 |
| OCS-A 0521 | Mayflower Wind Energy | -70.36942417 | 40.83789094 | BE | 42 |
| OCS-A 0521 | Mayflower Wind Energy | -70.34746304 | 40.83814958 | BE | 43 |
| OCS-A 0521 | Mayflower Wind Energy | -70.32550164 | 40.83840404 | BE | 44 |
| OCS-A 0521 | Mayflower Wind Energy | -70.30353995 | 40.83865433 | BE | 45 |
| OCS-A 0521 | Mayflower Wind Energy | -70.28157799 | 40.83890043 | BE | 46 |
| OCS-A 0521 | Mayflower Wind Energy | -70.25961576 | 40.83914235 | BE | 47 |
| OCS-A 0521 | Mayflower Wind Energy | -70.41299139 | 40.82068245 | BF | 40 |
| OCS-A 0521 | Mayflower Wind Energy | -70.39103635 | 40.82094929 | BF | 41 |

| Lease Number | Owner | Longitude | Latitude | Row | Column |
|--------------|-----------------------|--------------|-------------|-----|--------|
| OCS-A 0521 | Mayflower Wind Energy | -70.36908101 | 40.82121196 | BF | 42 |
| OCS-A 0521 | Mayflower Wind Energy | -70.34712539 | 40.82147045 | BF | 43 |
| OCS-A 0521 | Mayflower Wind Energy | -70.32516948 | 40.82172477 | BF | 44 |
| OCS-A 0521 | Mayflower Wind Energy | -70.30321329 | 40.8219749 | BF | 45 |
| OCS-A 0521 | Mayflower Wind Energy | -70.28125683 | 40.82222086 | BF | 46 |
| OCS-A 0521 | Mayflower Wind Energy | -70.2593001 | 40.82246264 | BF | 47 |
| OCS-A 0521 | Mayflower Wind Energy | -70.23734311 | 40.82270025 | BF | 48 |
| OCS-A 0521 | Mayflower Wind Energy | -70.21538586 | 40.82293368 | BF | 49 |
| OCS-A 0521 | Mayflower Wind Energy | -70.43458679 | 40.80373287 | BG | 39 |
| OCS-A 0521 | Mayflower Wind Energy | -70.41263753 | 40.80400373 | BG | 40 |
| OCS-A 0521 | Mayflower Wind Energy | -70.39068798 | 40.80427042 | BG | 41 |
| OCS-A 0521 | Mayflower Wind Energy | -70.36873814 | 40.80453293 | BG | 42 |
| OCS-A 0521 | Mayflower Wind Energy | -70.34678801 | 40.80479127 | BG | 43 |
| OCS-A 0521 | Mayflower Wind Energy | -70.3248376 | 40.80504544 | BG | 44 |
| OCS-A 0521 | Mayflower Wind Energy | -70.30288691 | 40.80529543 | BG | 45 |
| OCS-A 0521 | Mayflower Wind Energy | -70.28093594 | 40.80554124 | BG | 46 |
| OCS-A 0521 | Mayflower Wind Energy | -70.25898471 | 40.80578288 | BG | 47 |
| OCS-A 0521 | Mayflower Wind Energy | -70.43422774 | 40.78705426 | BH | 39 |
| OCS-A 0521 | Mayflower Wind Energy | -70.41228397 | 40.78732496 | BH | 40 |
| OCS-A 0521 | Mayflower Wind Energy | -70.39033991 | 40.78759149 | BH | 41 |
| OCS-A 0521 | Mayflower Wind Energy | -70.36839556 | 40.78785385 | BH | 42 |
| OCS-A 0521 | Mayflower Wind Energy | -70.34645092 | 40.78811204 | BH | 43 |
| OCS-A 0521 | Mayflower Wind Energy | -70.32450599 | 40.78836606 | BH | 44 |
| OCS-A 0521 | Mayflower Wind Energy | -70.30256079 | 40.7886159 | BH | 45 |
| OCS-A 0521 | Mayflower Wind Energy | -70.28061532 | 40.78886157 | BH | 46 |
| OCS-A 0521 | Mayflower Wind Energy | -70.25866958 | 40.78910307 | BH | 47 |
| OCS-A 0521 | Mayflower Wind Energy | -70.4561712 | 40.78677938 | BH | 38 |
| OCS-A 0521 | Mayflower Wind Energy | -70.43386899 | 40.77037559 | BJ | 39 |
| OCS-A 0521 | Mayflower Wind Energy | -70.41193071 | 40.77064614 | BJ | 40 |
| OCS-A 0521 | Mayflower Wind Energy | -70.38999213 | 40.77091251 | BJ | 41 |
| OCS-A 0521 | Mayflower Wind Energy | -70.36805326 | 40.77117472 | BJ | 42 |
| OCS-A 0521 | Mayflower Wind Energy | -70.34611411 | 40.77143276 | BJ | 43 |
| OCS-A 0521 | Mayflower Wind Energy | -70.32417467 | 40.77168662 | BJ | 44 |
| OCS-A 0521 | Mayflower Wind Energy | -70.30223495 | 40.77193632 | BJ | 45 |
| OCS-A 0521 | Mayflower Wind Energy | -70.28029497 | 40.77218185 | BJ | 46 |
| OCS-A 0521 | Mayflower Wind Energy | -70.45580697 | 40.77010088 | BJ | 38 |
| OCS-A 0521 | Mayflower Wind Energy | -70.47774465 | 40.769822 | BJ | 37 |
| OCS-A 0521 | Mayflower Wind Energy | -70.43351054 | 40.75369688 | BK | 39 |
| OCS-A 0521 | Mayflower Wind Energy | -70.41157774 | 40.75396726 | BK | 40 |
| OCS-A 0521 | Mayflower Wind Energy | -70.38964464 | 40.75423348 | BK | 41 |
| OCS-A 0521 | Mayflower Wind Energy | -70.36771125 | 40.75449554 | BK | 42 |
| OCS-A 0521 | Mayflower Wind Energy | -70.34577758 | 40.75475342 | BK | 43 |
| OCS-A 0521 | Mayflower Wind Energy | -70.32384362 | 40.75500714 | BK | 44 |
| OCS-A 0521 | Mayflower Wind Energy | -70.30190939 | 40.7552567 | BK | 45 |
| OCS-A 0521 | Mayflower Wind Energy | -70.45544304 | 40.75342232 | BK | 38 |
| OCS-A 0521 | Mayflower Wind Energy | -70.47737524 | 40.7531436 | BK | 37 |
| OCS-A 0521 | Mayflower Wind Energy | -70.49930712 | 40.75286072 | BK | 36 |

| Lease Number | Owner | Longitude | Latitude | Row | Column |
|--------------|-----------------------|--------------|-------------|-----|--------|
| OCS-A 0521 | Mayflower Wind Energy | -70.43315239 | 40.73701811 | BL | 39 |
| OCS-A 0521 | Mayflower Wind Energy | -70.41122506 | 40.73728834 | BL | 40 |
| OCS-A 0521 | Mayflower Wind Energy | -70.38929744 | 40.7375544 | BL | 41 |
| OCS-A 0521 | Mayflower Wind Energy | -70.36736953 | 40.7378163 | BL | 42 |
| OCS-A 0521 | Mayflower Wind Energy | -70.34544133 | 40.73807404 | BL | 43 |
| OCS-A 0521 | Mayflower Wind Energy | -70.32351285 | 40.73832761 | BL | 44 |
| OCS-A 0521 | Mayflower Wind Energy | -70.45507941 | 40.73674372 | BL | 38 |
| OCS-A 0521 | Mayflower Wind Energy | -70.47700614 | 40.73646516 | BL | 37 |
| OCS-A 0521 | Mayflower Wind Energy | -70.49893255 | 40.73618244 | BL | 36 |
| OCS-A 0521 | Mayflower Wind Energy | -70.52085865 | 40.73589556 | BL | 35 |
| OCS-A 0521 | Mayflower Wind Energy | -70.43279454 | 40.72033929 | BM | 39 |
| OCS-A 0521 | Mayflower Wind Energy | -70.41087268 | 40.72060937 | BM | 40 |
| OCS-A 0521 | Mayflower Wind Energy | -70.38895053 | 40.72087527 | BM | 41 |
| OCS-A 0521 | Mayflower Wind Energy | -70.36702809 | 40.72113702 | BM | 42 |
| OCS-A 0521 | Mayflower Wind Energy | -70.34510536 | 40.72139461 | BM | 43 |
| OCS-A 0521 | Mayflower Wind Energy | -70.45471609 | 40.72006506 | BM | 38 |
| OCS-A 0521 | Mayflower Wind Energy | -70.47663735 | 40.71978667 | BM | 37 |
| OCS-A 0521 | Mayflower Wind Energy | -70.49855829 | 40.71950411 | BM | 36 |
| OCS-A 0521 | Mayflower Wind Energy | -70.52047892 | 40.7192174 | BM | 35 |
| OCS-A 0521 | Mayflower Wind Energy | -70.54239923 | 40.71892652 | BM | 34 |
| OCS-A 0521 | Mayflower Wind Energy | -70.43243699 | 40.70366043 | BN | 39 |
| OCS-A 0521 | Mayflower Wind Energy | -70.4105206 | 40.70393034 | BN | 40 |
| OCS-A 0521 | Mayflower Wind Energy | -70.38860391 | 40.70419609 | BN | 41 |
| OCS-A 0521 | Mayflower Wind Energy | -70.36668694 | 40.70445769 | BN | 42 |
| OCS-A 0521 | Mayflower Wind Energy | -70.45435308 | 40.70338635 | BN | 38 |
| OCS-A 0521 | Mayflower Wind Energy | -70.47626886 | 40.70310812 | BN | 37 |
| OCS-A 0521 | Mayflower Wind Energy | -70.49818434 | 40.70282573 | BN | 36 |
| OCS-A 0521 | Mayflower Wind Energy | -70.52009951 | 40.70253919 | BN | 35 |
| OCS-A 0521 | Mayflower Wind Energy | -70.54201436 | 40.70224848 | BN | 34 |
| OCS-A 0521 | Mayflower Wind Energy | -70.56392888 | 40.70195361 | BN | 33 |
| OCS-A 0521 | Mayflower Wind Energy | -70.43207974 | 40.68698151 | BP | 39 |
| OCS-A 0521 | Mayflower Wind Energy | -70.41016881 | 40.68725126 | BP | 40 |
| OCS-A 0521 | Mayflower Wind Energy | -70.38825759 | 40.68751686 | BP | 41 |
| OCS-A 0521 | Mayflower Wind Energy | -70.45399037 | 40.6867076 | BP | 38 |
| OCS-A 0521 | Mayflower Wind Energy | -70.47590069 | 40.68642953 | BP | 37 |
| OCS-A 0521 | Mayflower Wind Energy | -70.49781071 | 40.6861473 | BP | 36 |
| OCS-A 0521 | Mayflower Wind Energy | -70.51972041 | 40.68586092 | BP | 35 |
| OCS-A 0521 | Mayflower Wind Energy | -70.5416298 | 40.68557039 | BP | 34 |
| OCS-A 0521 | Mayflower Wind Energy | -70.56353887 | 40.68527569 | BP | 33 |
| OCS-A 0521 | Mayflower Wind Energy | -70.58544761 | 40.68497685 | BP | 32 |
| OCS-A 0521 | Mayflower Wind Energy | -70.43172278 | 40.67030254 | BQ | 39 |
| OCS-A 0521 | Mayflower Wind Energy | -70.40981731 | 40.67057214 | BQ | 40 |
| OCS-A 0521 | Mayflower Wind Energy | -70.45362796 | 40.67002879 | BQ | 38 |
| OCS-A 0521 | Mayflower Wind Energy | -70.47553283 | 40.66975088 | BQ | 37 |
| OCS-A 0521 | Mayflower Wind Energy | -70.49743739 | 40.66946882 | BQ | 36 |
| OCS-A 0521 | Mayflower Wind Energy | -70.51934164 | 40.66918261 | BQ | 35 |
| OCS-A 0521 | Mayflower Wind Energy | -70.54124557 | 40.66889224 | BQ | 34 |

| Lease Number | Owner | Longitude | Latitude | Row | Column |
|--------------|-----------------------|--------------|-------------|-----|--------|
| OCS-A 0521 | Mayflower Wind Energy | -70.56314918 | 40.66859772 | BQ | 33 |
| OCS-A 0521 | Mayflower Wind Energy | -70.58505246 | 40.66829905 | BQ | 32 |
| OCS-A 0521 | Mayflower Wind Energy | -70.60695542 | 40.66799622 | BQ | 31 |
| OCS-A 0521 | Mayflower Wind Energy | -70.43136613 | 40.65362352 | BR | 39 |
| OCS-A 0521 | Mayflower Wind Energy | -70.45326585 | 40.65334993 | BR | 38 |
| OCS-A 0521 | Mayflower Wind Energy | -70.47516527 | 40.65307218 | BR | 37 |
| OCS-A 0521 | Mayflower Wind Energy | -70.49706438 | 40.65279029 | BR | 36 |
| OCS-A 0521 | Mayflower Wind Energy | -70.51896318 | 40.65250424 | BR | 35 |
| OCS-A 0521 | Mayflower Wind Energy | -70.54086166 | 40.65221405 | BR | 34 |
| OCS-A 0521 | Mayflower Wind Energy | -70.56275982 | 40.6519197 | BR | 33 |
| OCS-A 0521 | Mayflower Wind Energy | -70.58465765 | 40.6516212 | BR | 32 |
| OCS-A 0521 | Mayflower Wind Energy | -70.60655516 | 40.65131855 | BR | 31 |
| OCS-A 0521 | Mayflower Wind Energy | -70.62845233 | 40.65101175 | BR | 30 |
| OCS-A 0521 | Mayflower Wind Energy | -70.45290405 | 40.63667101 | BS | 38 |
| OCS-A 0521 | Mayflower Wind Energy | -70.47479802 | 40.63639343 | BS | 37 |
| OCS-A 0521 | Mayflower Wind Energy | -70.49669168 | 40.6361117 | BS | 36 |
| OCS-A 0521 | Mayflower Wind Energy | -70.51858503 | 40.63582583 | BS | 35 |
| OCS-A 0521 | Mayflower Wind Energy | -70.54047807 | 40.6355358 | BS | 34 |
| OCS-A 0521 | Mayflower Wind Energy | -70.56237078 | 40.63524162 | BS | 33 |
| OCS-A 0521 | Mayflower Wind Energy | -70.58426317 | 40.6349433 | BS | 32 |
| OCS-A 0521 | Mayflower Wind Energy | -70.60615523 | 40.63464083 | BS | 31 |
| OCS-A 0521 | Mayflower Wind Energy | -70.62804695 | 40.63433421 | BS | 30 |
| OCS-A 0521 | Mayflower Wind Energy | -70.4963193 | 40.61943307 | BT | 36 |
| OCS-A 0521 | Mayflower Wind Energy | -70.51820721 | 40.61914736 | BT | 35 |
| OCS-A 0521 | Mayflower Wind Energy | -70.49594722 | 40.60275438 | BU | 36 |
| OCS-A 0521 | Mayflower Wind Energy | -70.51782969 | 40.60246884 | BU | 35 |
| OCS-A 0522 | Vineyard Wind | -70.23703321 | 40.80602035 | BG | 48 |
| OCS-A 0522 | Vineyard Wind | -70.21508146 | 40.80625364 | BG | 49 |
| OCS-A 0522 | Vineyard Wind | -70.23672357 | 40.7893404 | BH | 48 |
| OCS-A 0522 | Vineyard Wind | -70.21477731 | 40.78957355 | BH | 49 |
| OCS-A 0522 | Vineyard Wind | -70.25835471 | 40.77242321 | BJ | 47 |
| OCS-A 0522 | Vineyard Wind | -70.23641419 | 40.7726604 | BJ | 48 |
| OCS-A 0522 | Vineyard Wind | -70.21447341 | 40.77289342 | BJ | 49 |
| OCS-A 0522 | Vineyard Wind | -70.27997488 | 40.75550208 | BK | 46 |
| OCS-A 0522 | Vineyard Wind | -70.25804011 | 40.7557433 | BK | 47 |
| OCS-A 0522 | Vineyard Wind | -70.23610507 | 40.75598035 | BK | 48 |
| OCS-A 0522 | Vineyard Wind | -70.21416977 | 40.75621323 | BK | 49 |
| OCS-A 0522 | Vineyard Wind | -70.30158409 | 40.73857702 | BL | 45 |
| OCS-A 0522 | Vineyard Wind | -70.27965506 | 40.73882226 | BL | 46 |
| OCS-A 0522 | Vineyard Wind | -70.25772577 | 40.73906334 | BL | 47 |
| OCS-A 0522 | Vineyard Wind | -70.23579621 | 40.73930025 | BL | 48 |
| OCS-A 0522 | Vineyard Wind | -70.21386639 | 40.73953299 | BL | 49 |
| OCS-A 0522 | Vineyard Wind | -70.19193632 | 40.73976157 | BL | 50 |
| OCS-A 0522 | Vineyard Wind | -70.17000599 | 40.73998599 | BL | 51 |
| OCS-A 0522 | Vineyard Wind | -70.14807543 | 40.74020624 | BL | 52 |
| OCS-A 0522 | Vineyard Wind | -70.12614462 | 40.74042232 | BL | 53 |
| OCS-A 0522 | Vineyard Wind | -70.10421358 | 40.74063423 | BL | 54 |

| Lease Number | Owner | Longitude | Latitude | Row | Column |
|--------------|---------------|--------------|-------------|-----|--------|
| OCS-A 0522 | Vineyard Wind | -70.0822823 | 40.74084199 | BL | 55 |
| OCS-A 0522 | Vineyard Wind | -70.0603508 | 40.74104557 | BL | 56 |
| OCS-A 0522 | Vineyard Wind | -70.03841908 | 40.74124499 | BL | 57 |
| OCS-A 0522 | Vineyard Wind | -70.32318236 | 40.72164803 | BM | 44 |
| OCS-A 0522 | Vineyard Wind | -70.30125907 | 40.72189729 | BM | 45 |
| OCS-A 0522 | Vineyard Wind | -70.27933551 | 40.72214239 | BM | 46 |
| OCS-A 0522 | Vineyard Wind | -70.25741169 | 40.72238332 | BM | 47 |
| OCS-A 0522 | Vineyard Wind | -70.2354876 | 40.7226201 | BM | 48 |
| OCS-A 0522 | Vineyard Wind | -70.21356326 | 40.7228527 | BM | 49 |
| OCS-A 0522 | Vineyard Wind | -70.19163866 | 40.72308115 | BM | 50 |
| OCS-A 0522 | Vineyard Wind | -70.16971381 | 40.72330543 | BM | 51 |
| OCS-A 0522 | Vineyard Wind | -70.14778872 | 40.72352555 | BM | 52 |
| OCS-A 0522 | Vineyard Wind | -70.12586338 | 40.72374151 | BM | 53 |
| OCS-A 0522 | Vineyard Wind | -70.10393781 | 40.7239533 | BM | 54 |
| OCS-A 0522 | Vineyard Wind | -70.08201201 | 40.72416093 | BM | 55 |
| OCS-A 0522 | Vineyard Wind | -70.06008599 | 40.7243644 | BM | 56 |
| OCS-A 0522 | Vineyard Wind | -70.03815974 | 40.7245637 | BM | 57 |
| OCS-A 0522 | Vineyard Wind | -70.34476968 | 40.70471512 | BN | 43 |
| OCS-A 0522 | Vineyard Wind | -70.32285214 | 40.7049684 | BN | 44 |
| OCS-A 0522 | Vineyard Wind | -70.30093432 | 40.70521751 | BN | 45 |
| OCS-A 0522 | Vineyard Wind | -70.27901623 | 40.70546246 | BN | 46 |
| OCS-A 0522 | Vineyard Wind | -70.25709788 | 40.70570326 | BN | 47 |
| OCS-A 0522 | Vineyard Wind | -70.23517926 | 40.70593989 | BN | 48 |
| OCS-A 0522 | Vineyard Wind | -70.21326038 | 40.70617237 | BN | 49 |
| OCS-A 0522 | Vineyard Wind | -70.19134125 | 40.70640068 | BN | 50 |
| OCS-A 0522 | Vineyard Wind | -70.16942187 | 40.70662483 | BN | 51 |
| OCS-A 0522 | Vineyard Wind | -70.14750225 | 40.70684482 | BN | 52 |
| OCS-A 0522 | Vineyard Wind | -70.12558238 | 40.70706065 | BN | 53 |
| OCS-A 0522 | Vineyard Wind | -70.10366228 | 40.70727232 | BN | 54 |
| OCS-A 0522 | Vineyard Wind | -70.08174195 | 40.70747983 | BN | 55 |
| OCS-A 0522 | Vineyard Wind | -70.0598214 | 40.70768318 | BN | 56 |
| OCS-A 0522 | Vineyard Wind | -70.03790062 | 40.70788236 | BN | 57 |
| OCS-A 0522 | Vineyard Wind | -70.36634607 | 40.6877783 | BP | 42 |
| OCS-A 0522 | Vineyard Wind | -70.34443428 | 40.68803559 | BP | 43 |
| OCS-A 0522 | Vineyard Wind | -70.3225222 | 40.68828871 | BP | 44 |
| OCS-A 0522 | Vineyard Wind | -70.30060984 | 40.68853768 | BP | 45 |
| OCS-A 0522 | Vineyard Wind | -70.27869722 | 40.68878249 | BP | 46 |
| OCS-A 0522 | Vineyard Wind | -70.25678432 | 40.68902315 | BP | 47 |
| OCS-A 0522 | Vineyard Wind | -70.23487117 | 40.68925964 | BP | 48 |
| OCS-A 0522 | Vineyard Wind | -70.21295776 | 40.68949198 | BP | 49 |
| OCS-A 0522 | Vineyard Wind | -70.19104409 | 40.68972016 | BP | 50 |
| OCS-A 0522 | Vineyard Wind | -70.16913017 | 40.68994418 | BP | 51 |
| OCS-A 0522 | Vineyard Wind | -70.14721601 | 40.69016404 | BP | 52 |
| OCS-A 0522 | Vineyard Wind | -70.12530162 | 40.69037975 | BP | 53 |
| OCS-A 0522 | Vineyard Wind | -70.10338698 | 40.69059129 | BP | 54 |
| OCS-A 0522 | Vineyard Wind | -70.08147212 | 40.69079868 | BP | 55 |
| OCS-A 0522 | Vineyard Wind | -70.05955703 | 40.6910019 | BP | 56 |

| Lease Number | Owner | Longitude | Latitude | Row | Column |
|--------------|---------------|--------------|-------------|-----|--------|
| OCS-A 0522 | Vineyard Wind | -70.03764172 | 40.69120097 | BP | 57 |
| OCS-A 0522 | Vineyard Wind | -70.38791155 | 40.67083758 | BQ | 41 |
| OCS-A 0522 | Vineyard Wind | -70.36600549 | 40.67109887 | BQ | 42 |
| OCS-A 0522 | Vineyard Wind | -70.34409915 | 40.671356 | BQ | 43 |
| OCS-A 0522 | Vineyard Wind | -70.32219253 | 40.67160898 | BQ | 44 |
| OCS-A 0522 | Vineyard Wind | -70.30028564 | 40.6718578 | BQ | 45 |
| OCS-A 0522 | Vineyard Wind | -70.27837847 | 40.67210247 | BQ | 46 |
| OCS-A 0522 | Vineyard Wind | -70.25647104 | 40.67234298 | BQ | 47 |
| OCS-A 0522 | Vineyard Wind | -70.23456334 | 40.67257934 | BQ | 48 |
| OCS-A 0522 | Vineyard Wind | -70.21265538 | 40.67281154 | BQ | 49 |
| OCS-A 0522 | Vineyard Wind | -70.19074718 | 40.67303959 | BQ | 50 |
| OCS-A 0522 | Vineyard Wind | -70.16883872 | 40.67326348 | BQ | 51 |
| OCS-A 0522 | Vineyard Wind | -70.14693002 | 40.67348321 | BQ | 52 |
| OCS-A 0522 | Vineyard Wind | -70.12502108 | 40.67369879 | BQ | 53 |
| OCS-A 0522 | Vineyard Wind | -70.10311191 | 40.67391021 | BQ | 54 |
| OCS-A 0522 | Vineyard Wind | -70.08120251 | 40.67411748 | BQ | 55 |
| OCS-A 0522 | Vineyard Wind | -70.05929288 | 40.67432058 | BQ | 56 |
| OCS-A 0522 | Vineyard Wind | -70.03738303 | 40.67451954 | BQ | 57 |
| OCS-A 0522 | Vineyard Wind | -70.40946611 | 40.65389296 | BR | 40 |
| OCS-A 0522 | Vineyard Wind | -70.3875658 | 40.65415824 | BR | 41 |
| OCS-A 0522 | Vineyard Wind | -70.3656652 | 40.65441938 | BR | 42 |
| OCS-A 0522 | Vineyard Wind | -70.34376431 | 40.65467636 | BR | 43 |
| OCS-A 0522 | Vineyard Wind | -70.32186314 | 40.65492919 | BR | 44 |
| OCS-A 0522 | Vineyard Wind | -70.2999617 | 40.65517787 | BR | 45 |
| OCS-A 0522 | Vineyard Wind | -70.27805999 | 40.6554224 | BR | 46 |
| OCS-A 0522 | Vineyard Wind | -70.25615801 | 40.65566277 | BR | 47 |
| OCS-A 0522 | Vineyard Wind | -70.23425577 | 40.65589899 | BR | 48 |
| OCS-A 0522 | Vineyard Wind | -70.21235327 | 40.65613105 | BR | 49 |
| OCS-A 0522 | Vineyard Wind | -70.19045052 | 40.65635897 | BR | 50 |
| OCS-A 0522 | Vineyard Wind | -70.16854752 | 40.65658272 | BR | 51 |
| OCS-A 0522 | Vineyard Wind | -70.14664427 | 40.65680233 | BR | 52 |
| OCS-A 0522 | Vineyard Wind | -70.12474079 | 40.65701778 | BR | 53 |
| OCS-A 0522 | Vineyard Wind | -70.10283707 | 40.65722908 | BR | 54 |
| OCS-A 0522 | Vineyard Wind | -70.08093312 | 40.65743622 | BR | 55 |
| OCS-A 0522 | Vineyard Wind | -70.05902895 | 40.65763921 | BR | 56 |
| OCS-A 0522 | Vineyard Wind | -70.03712456 | 40.65783805 | BR | 57 |
| OCS-A 0522 | Vineyard Wind | -70.43100978 | 40.63694445 | BS | 39 |
| OCS-A 0522 | Vineyard Wind | -70.4091152 | 40.63721373 | BS | 40 |
| OCS-A 0522 | Vineyard Wind | -70.38722034 | 40.63747886 | BS | 41 |
| OCS-A 0522 | Vineyard Wind | -70.36532519 | 40.63773984 | BS | 42 |
| OCS-A 0522 | Vineyard Wind | -70.34342975 | 40.63799667 | BS | 43 |
| OCS-A 0522 | Vineyard Wind | -70.32153403 | 40.63824936 | BS | 44 |
| OCS-A 0522 | Vineyard Wind | -70.29963804 | 40.63849789 | BS | 45 |
| OCS-A 0522 | Vineyard Wind | -70.27774177 | 40.63874227 | BS | 46 |
| OCS-A 0522 | Vineyard Wind | -70.25584524 | 40.6389825 | BS | 47 |
| OCS-A 0522 | Vineyard Wind | -70.23394845 | 40.63921858 | BS | 48 |
| OCS-A 0522 | Vineyard Wind | -70.2120514 | 40.63945051 | BS | 49 |

| Lease Number | Owner | Longitude | Latitude | Row | Column |
|--------------|---------------|--------------|-------------|-----|--------|
| OCS-A 0522 | Vineyard Wind | -70.1901541 | 40.63967829 | BS | 50 |
| OCS-A 0522 | Vineyard Wind | -70.16825655 | 40.63990192 | BS | 51 |
| OCS-A 0522 | Vineyard Wind | -70.14635876 | 40.6401214 | BS | 52 |
| OCS-A 0522 | Vineyard Wind | -70.12446073 | 40.64033672 | BS | 53 |
| OCS-A 0522 | Vineyard Wind | -70.10256246 | 40.6405479 | BS | 54 |
| OCS-A 0522 | Vineyard Wind | -70.08066396 | 40.64075492 | BS | 55 |
| OCS-A 0522 | Vineyard Wind | -70.05876524 | 40.64095779 | BS | 56 |
| OCS-A 0522 | Vineyard Wind | -70.0368663 | 40.64115651 | BS | 57 |
| OCS-A 0522 | Vineyard Wind | -70.43065372 | 40.62026532 | BT | 39 |
| OCS-A 0522 | Vineyard Wind | -70.40876459 | 40.62053445 | BT | 40 |
| OCS-A 0522 | Vineyard Wind | -70.38687517 | 40.62079942 | BT | 41 |
| OCS-A 0522 | Vineyard Wind | -70.36498546 | 40.62106025 | BT | 42 |
| OCS-A 0522 | Vineyard Wind | -70.34309547 | 40.62131694 | BT | 43 |
| OCS-A 0522 | Vineyard Wind | -70.32120519 | 40.62156947 | BT | 44 |
| OCS-A 0522 | Vineyard Wind | -70.45254255 | 40.61999205 | BT | 38 |
| OCS-A 0522 | Vineyard Wind | -70.47443108 | 40.61971463 | BT | 37 |
| OCS-A 0522 | Vineyard Wind | -70.43029796 | 40.60358615 | BU | 39 |
| OCS-A 0522 | Vineyard Wind | -70.40841427 | 40.60385512 | BU | 40 |
| OCS-A 0522 | Vineyard Wind | -70.38653029 | 40.60411994 | BU | 41 |
| OCS-A 0522 | Vineyard Wind | -70.36464602 | 40.60438062 | BU | 42 |
| OCS-A 0522 | Vineyard Wind | -70.34276146 | 40.60463715 | BU | 43 |
| OCS-A 0522 | Vineyard Wind | -70.32087663 | 40.60488954 | BU | 44 |
| OCS-A 0522 | Vineyard Wind | -70.45218135 | 40.60331304 | BU | 38 |
| OCS-A 0522 | Vineyard Wind | -70.47406444 | 40.60303578 | BU | 37 |
| OCS-A 0501 | | -70.44183139 | 41.13729442 | AL | 39 |
| OCS-A 0501 | | -70.46389109 | 41.13701615 | AL | 38 |
| OCS-A 0501 | | -70.48595048 | 41.13673366 | AL | 37 |
| OCS-A 0501 | | -70.44146627 | 41.12061682 | AM | 39 |
| OCS-A 0501 | | -70.46352039 | 41.12033872 | AM | 38 |
| OCS-A 0501 | | -70.48557419 | 41.12005639 | AM | 37 |
| OCS-A 0501 | | -70.44110145 | 41.10393918 | AN | 39 |
| OCS-A 0501 | | -70.46314999 | 41.10366124 | AN | 38 |
| OCS-A 0501 | | -70.48519822 | 41.10337908 | AN | 37 |
| OCS-A 0501 | | -70.50724614 | 41.1030927 | AN | 36 |
| OCS-A 0501 | | -70.44073694 | 41.08726149 | AP | 39 |
| OCS-A 0501 | | -70.41869366 | 41.08753505 | AP | 40 |
| OCS-A 0501 | | -70.39665009 | 41.0878044 | AP | 41 |
| OCS-A 0501 | | -70.37460621 | 41.08806953 | AP | 42 |
| OCS-A 0501 | | -70.46277991 | 41.08698371 | AP | 38 |
| OCS-A 0501 | | -70.48482256 | 41.08670171 | AP | 37 |
| OCS-A 0501 | | -70.50686491 | 41.0864155 | AP | 36 |
| OCS-A 0501 | | -70.52890693 | 41.08612507 | AP | 35 |
| OCS-A 0501 | | -70.44037273 | 41.07058374 | AQ | 39 |
| OCS-A 0501 | | -70.41833502 | 41.07085715 | AQ | 40 |
| OCS-A 0501 | | -70.39629701 | 41.07112634 | AQ | 41 |
| OCS-A 0501 | | -70.37425871 | 41.07139132 | AQ | 42 |
| OCS-A 0501 | | -70.46241013 | 41.07030612 | AQ | 38 |

| Lease Number | Owner | Longitude | Latitude | Row | Column |
|--------------|-------|--------------|-------------|-----|--------|
| OCS-A 0501 | | -70.48444722 | 41.07002429 | AQ | 37 |
| OCS-A 0501 | | -70.506484 | 41.06973825 | AQ | 36 |
| OCS-A 0501 | | -70.52852046 | 41.06944799 | AQ | 35 |
| OCS-A 0501 | | -70.55055659 | 41.06915352 | AQ | 34 |
| OCS-A 0501 | | -70.44000883 | 41.05390594 | AR | 39 |
| OCS-A 0501 | | -70.41797669 | 41.05417919 | AR | 40 |
| OCS-A 0501 | | -70.39594424 | 41.05444822 | AR | 41 |
| OCS-A 0501 | | -70.3739115 | 41.05471305 | AR | 42 |
| OCS-A 0501 | | -70.46204067 | 41.05362849 | AR | 38 |
| OCS-A 0501 | | -70.4840722 | 41.05334682 | AR | 37 |
| OCS-A 0501 | | -70.50610341 | 41.05306095 | AR | 36 |
| OCS-A 0501 | | -70.52813431 | 41.05277086 | AR | 35 |
| OCS-A 0501 | | -70.55016488 | 41.05247656 | AR | 34 |
| OCS-A 0501 | | -70.57219512 | 41.05217806 | AR | 33 |
| OCS-A 0501 | | -70.43964523 | 41.0372281 | AS | 39 |
| OCS-A 0501 | | -70.41761865 | 41.03750118 | AS | 40 |
| OCS-A 0501 | | -70.39559176 | 41.03777006 | AS | 41 |
| OCS-A 0501 | | -70.37356458 | 41.03803473 | AS | 42 |
| OCS-A 0501 | | -70.46167151 | 41.0369508 | AS | 38 |
| OCS-A 0501 | | -70.48369749 | 41.0366693 | AS | 37 |
| OCS-A 0501 | | -70.50572314 | 41.03638359 | AS | 36 |
| OCS-A 0501 | | -70.52774848 | 41.03609367 | AS | 35 |
| OCS-A 0501 | | -70.54977349 | 41.03579955 | AS | 34 |
| OCS-A 0501 | | -70.57179818 | 41.03550122 | AS | 33 |
| OCS-A 0501 | | -70.59382253 | 41.03519868 | AS | 32 |
| OCS-A 0501 | | -70.43928194 | 41.0205502 | AT | 39 |
| OCS-A 0501 | | -70.41726091 | 41.02082312 | AT | 40 |
| OCS-A 0501 | | -70.39523958 | 41.02109185 | AT | 41 |
| OCS-A 0501 | | -70.37321795 | 41.02135636 | AT | 42 |
| OCS-A 0501 | | -70.46130267 | 41.02027307 | AT | 38 |
| OCS-A 0501 | | -70.48332309 | 41.01999173 | AT | 37 |
| OCS-A 0501 | | -70.50534319 | 41.01970618 | AT | 36 |
| OCS-A 0501 | | -70.52736298 | 41.01941644 | AT | 35 |
| OCS-A 0501 | | -70.54938244 | 41.01912248 | AT | 34 |
| OCS-A 0501 | | -70.57140157 | 41.01882433 | AT | 33 |
| OCS-A 0501 | | -70.59342038 | 41.01852197 | AT | 32 |
| OCS-A 0501 | | -70.61543884 | 41.0182154 | AT | 31 |
| OCS-A 0501 | | -70.43891896 | 41.00387225 | AU | 39 |
| OCS-A 0501 | | -70.41690347 | 41.00414502 | AU | 40 |
| OCS-A 0501 | | -70.46093414 | 41.00359528 | AU | 38 |
| OCS-A 0501 | | -70.48294901 | 41.0033141 | AU | 37 |
| OCS-A 0501 | | -70.50496356 | 41.00302873 | AU | 36 |
| OCS-A 0501 | | -70.5269778 | 41.00273915 | AU | 35 |
| OCS-A 0501 | | -70.54899171 | 41.00244537 | AU | 34 |
| OCS-A 0501 | | -70.5710053 | 41.00214738 | AU | 33 |
| OCS-A 0501 | | -70.59301855 | 41.0018452 | AU | 32 |
| OCS-A 0501 | | -70.61503147 | 41.00153881 | AU | 31 |

| Lease Number | Owner | Longitude | Latitude | Row | Column |
|--------------|-------|--------------|-------------|-----|--------|
| OCS-A 0501 | | -70.63704405 | 41.00122822 | AU | 30 |
| OCS-A 0501 | | -70.43855628 | 40.98719425 | AV | 39 |
| OCS-A 0501 | | -70.46056591 | 40.98691744 | AV | 38 |
| OCS-A 0501 | | -70.48257524 | 40.98663643 | AV | 37 |
| OCS-A 0501 | | -70.50458425 | 40.98635122 | AV | 36 |
| OCS-A 0501 | | -70.52659294 | 40.98606181 | AV | 35 |
| OCS-A 0501 | | -70.54860131 | 40.9857682 | AV | 34 |
| OCS-A 0501 | | -70.57060936 | 40.98547039 | AV | 33 |
| OCS-A 0501 | | -70.59261707 | 40.98516838 | AV | 32 |
| OCS-A 0501 | | -70.61462444 | 40.98486217 | AV | 31 |
| OCS-A 0501 | | -70.63663148 | 40.98455177 | AV | 30 |
| OCS-A 0501 | | -70.65863817 | 40.98423716 | AV | 29 |
| OCS-A 0501 | | -70.6806445 | 40.98391835 | AV | 28 |
| OCS-A 0501 | | -70.46019799 | 40.97023955 | AW | 38 |
| OCS-A 0501 | | -70.48220178 | 40.9699587 | AW | 37 |
| OCS-A 0501 | | -70.50420525 | 40.96967366 | AW | 36 |
| OCS-A 0501 | | -70.52620841 | 40.96938442 | AW | 35 |
| OCS-A 0501 | | -70.54821124 | 40.96909098 | AW | 34 |
| OCS-A 0501 | | -70.57021375 | 40.96879335 | AW | 33 |
| OCS-A 0501 | | -70.59221592 | 40.96849151 | AW | 32 |
| OCS-A 0501 | | -70.61421776 | 40.96818548 | AW | 31 |
| OCS-A 0501 | | -70.63621926 | 40.96787526 | AW | 30 |
| OCS-A 0501 | | -70.65822041 | 40.96756083 | AW | 29 |
| OCS-A 0501 | | -70.68022121 | 40.96724222 | AW | 28 |
| OCS-A 0501 | | -70.48182864 | 40.95328093 | AX | 37 |
| OCS-A 0501 | | -70.50382658 | 40.95299605 | AX | 36 |
| OCS-A 0501 | | -70.5258242 | 40.95270698 | AX | 35 |
| OCS-A 0501 | | -70.5478215 | 40.95241371 | AX | 34 |
| OCS-A 0501 | | -70.56981847 | 40.95211625 | AX | 33 |
| OCS-A 0501 | | -70.59181511 | 40.95181459 | AX | 32 |
| OCS-A 0501 | | -70.61381142 | 40.95150874 | AX | 31 |
| OCS-A 0501 | | -70.63580738 | 40.9511987 | AX | 30 |
| OCS-A 0501 | | -70.657803 | 40.95088446 | AX | 29 |
| OCS-A 0501 | | -70.67979827 | 40.95056602 | AX | 28 |
| OCS-A 0501 | | -70.70179318 | 40.9502434 | AX | 27 |
| OCS-A 0501 | | -70.72378774 | 40.94991658 | AX | 26 |
| OCS-A 0501 | | -70.50344822 | 40.93631839 | AY | 36 |
| OCS-A 0501 | | -70.52544031 | 40.93602948 | AY | 35 |
| OCS-A 0501 | | -70.54743208 | 40.93573639 | AY | 34 |
| OCS-A 0501 | | -70.56942352 | 40.9354391 | AY | 33 |
| OCS-A 0501 | | -70.59141463 | 40.93513762 | AY | 32 |
| OCS-A 0501 | | -70.61340541 | 40.93483195 | AY | 31 |
| OCS-A 0501 | | -70.63539585 | 40.93452208 | AY | 30 |
| OCS-A 0501 | | -70.65738594 | 40.93420803 | AY | 29 |
| OCS-A 0501 | | -70.67937568 | 40.93388978 | AY | 28 |
| OCS-A 0501 | | -70.70136507 | 40.93356734 | AY | 27 |
| OCS-A 0501 | | -70.7233541 | 40.93324071 | AY | 26 |

| Lease Number | Owner | Longitude | Latitude | Row | Column |
|--------------|-------|--------------|-------------|-----|--------|
| OCS-A 0501 | | -70.52505674 | 40.91935194 | AZ | 35 |
| OCS-A 0501 | | -70.54704299 | 40.91905901 | AZ | 34 |
| OCS-A 0501 | | -70.56902891 | 40.9187619 | AZ | 33 |
| OCS-A 0501 | | -70.59101449 | 40.9184606 | AZ | 32 |
| OCS-A 0501 | | -70.61299975 | 40.9181551 | AZ | 31 |
| OCS-A 0501 | | -70.63498466 | 40.91784542 | AZ | 30 |
| OCS-A 0501 | | -70.65696923 | 40.91753155 | AZ | 29 |
| OCS-A 0501 | | -70.67895345 | 40.91721349 | AZ | 28 |
| OCS-A 0501 | | -70.70093732 | 40.91689124 | AZ | 27 |
| OCS-A 0501 | | -70.72292082 | 40.9165648 | AZ | 26 |
| OCS-A 0501 | | -70.74490397 | 40.91623417 | AZ | 25 |
| OCS-A 0501 | | -70.76688675 | 40.91589935 | AZ | 24 |
| OCS-A 0501 | | -70.52467349 | 40.90267434 | BA | 35 |
| OCS-A 0501 | | -70.54665422 | 40.90238159 | BA | 34 |
| OCS-A 0501 | | -70.56863462 | 40.90208465 | BA | 33 |
| OCS-A 0501 | | -70.59061469 | 40.90178352 | BA | 32 |
| OCS-A 0501 | | -70.61259443 | 40.90147821 | BA | 31 |
| OCS-A 0501 | | -70.63457382 | 40.9011687 | BA | 30 |
| OCS-A 0501 | | -70.65655287 | 40.90085501 | BA | 29 |
| OCS-A 0501 | | -70.67853157 | 40.90053714 | BA | 28 |
| OCS-A 0501 | | -70.70050992 | 40.90021508 | BA | 27 |
| OCS-A 0501 | | -70.72248791 | 40.89988883 | BA | 26 |
| OCS-A 0501 | | -70.74446554 | 40.89955839 | BA | 25 |
| OCS-A 0501 | | -70.7664428 | 40.89922377 | BA | 24 |
| OCS-A 0501 | | -70.56824067 | 40.88540735 | BB | 33 |
| OCS-A 0501 | | -70.59021522 | 40.88510639 | BB | 32 |
| OCS-A 0501 | | -70.61218944 | 40.88480126 | BB | 31 |
| OCS-A 0501 | | -70.63416332 | 40.88449194 | BB | 30 |
| OCS-A 0501 | | -70.65613686 | 40.88417843 | BB | 29 |
| OCS-A 0501 | | -70.67811005 | 40.88386074 | BB | 28 |
| OCS-A 0501 | | -70.70008288 | 40.88353887 | BB | 27 |
| OCS-A 0501 | | -70.72205536 | 40.88321281 | BB | 26 |
| OCS-A 0501 | | -70.74402748 | 40.88288257 | BB | 25 |
| OCS-A 0501 | | -70.76599923 | 40.88254814 | BB | 24 |
| OCS-A 0501 | | -70.7879706 | 40.88220953 | BB | 23 |
| OCS-A 0501 | | -70.56784704 | 40.86872999 | BC | 33 |
| OCS-A 0501 | | -70.58981609 | 40.86842922 | BC | 32 |
| OCS-A 0501 | | -70.6117848 | 40.86812426 | BC | 31 |
| OCS-A 0501 | | -70.63375317 | 40.86781512 | BC | 30 |
| OCS-A 0501 | | -70.6557212 | 40.86750179 | BC | 29 |
| OCS-A 0501 | | -70.67768888 | 40.86718429 | BC | 28 |
| OCS-A 0501 | | -70.6996562 | 40.8668626 | BC | 27 |
| OCS-A 0501 | | -70.72162317 | 40.86653674 | BC | 26 |
| OCS-A 0501 | | -70.74358978 | 40.86620669 | BC | 25 |
| OCS-A 0501 | | -70.76555602 | 40.86587246 | BC | 24 |
| OCS-A 0501 | | -70.78752189 | 40.86553405 | BC | 23 |
| OCS-A 0501 | | -70.80948739 | 40.86519146 | BC | 22 |

| Lease Number | Owner | Longitude | Latitude | Row | Column |
|--------------|-----------|--------------|-------------|-----|--------|
| OCS-A 0501 | | -70.61138049 | 40.8514472 | BD | 31 |
| OCS-A 0501 | | -70.63334336 | 40.85113824 | BD | 30 |
| OCS-A 0501 | | -70.65530588 | 40.8508251 | BD | 29 |
| OCS-A 0501 | | -70.67726806 | 40.85050779 | BD | 28 |
| OCS-A 0501 | | -70.69922988 | 40.85018629 | BD | 27 |
| OCS-A 0501 | | -70.72119135 | 40.84986061 | BD | 26 |
| OCS-A 0501 | | -70.74315245 | 40.84953076 | BD | 25 |
| OCS-A 0501 | | -70.76511319 | 40.84919672 | BD | 24 |
| OCS-A 0501 | | -70.78707356 | 40.84885851 | BD | 23 |
| OCS-A 0501 | | -70.80903355 | 40.84851612 | BD | 22 |
| OCS-A 0501 | | -70.83099316 | 40.84816955 | BD | 21 |
| OCS-A 0501 | | -70.61097653 | 40.8347701 | BE | 31 |
| OCS-A 0501 | | -70.63293389 | 40.83446132 | BE | 30 |
| OCS-A 0501 | | -70.65489092 | 40.83414836 | BE | 29 |
| OCS-A 0501 | | -70.67684759 | 40.83383123 | BE | 28 |
| OCS-A 0501 | | -70.69880392 | 40.83350992 | BE | 27 |
| OCS-A 0501 | | -70.72075989 | 40.83318443 | BE | 26 |
| OCS-A 0501 | | -70.74271549 | 40.83285477 | BE | 25 |
| OCS-A 0501 | | -70.6544763 | 40.81747157 | BF | 29 |
| OCS-A 0501 | | -70.67642748 | 40.81715462 | BF | 28 |
| OCS-A 0501 | | -70.69837831 | 40.8168335 | BF | 27 |
| OCS-A 0501 | | -70.72032878 | 40.81650821 | BF | 26 |
| OCS-A 0501 | | -70.7422789 | 40.81617874 | BF | 25 |
| OCS-A 0501 | | -70.67600772 | 40.80047797 | BG | 28 |
| OCS-A 0501 | | -70.69795306 | 40.80015703 | BG | 27 |
| OCS-A 0501 | | -70.71989804 | 40.79983192 | BG | 26 |
| OCS-A 0501 | | -70.74184267 | 40.79950265 | BG | 25 |
| OCS-A 0501 | | -70.69752816 | 40.78348051 | BH | 27 |
| OCS-A 0501 | | -70.71946766 | 40.78315559 | BH | 26 |
| OCS-A 0501 | | -70.7414068 | 40.78282651 | BH | 25 |
| OCS-A 0501 | | -70.71903764 | 40.76647921 | BJ | 26 |
| OCS-A 0501 | | -70.7409713 | 40.76615031 | BJ | 25 |
| OCS-A 0501 | | -70.74053616 | 40.74947407 | BK | 25 |
| OCS-A 0500 | Orsted US | -70.50800955 | 41.13644695 | AL | 36 |
| OCS-A 0500 | Orsted US | -70.5300683 | 41.13615601 | AL | 35 |
| OCS-A 0500 | Orsted US | -70.55212673 | 41.13586086 | AL | 34 |
| OCS-A 0500 | Orsted US | -70.57418483 | 41.13556148 | AL | 33 |
| OCS-A 0500 | Orsted US | -70.59624259 | 41.13525788 | AL | 32 |
| OCS-A 0500 | Orsted US | -70.50762768 | 41.11976985 | AM | 36 |
| OCS-A 0500 | Orsted US | -70.52968086 | 41.11947908 | AM | 35 |
| OCS-A 0500 | Orsted US | -70.5517337 | 41.1191841 | AM | 34 |
| OCS-A 0500 | Orsted US | -70.57378622 | 41.1188849 | AM | 33 |
| OCS-A 0500 | Orsted US | -70.5958384 | 41.11858147 | AM | 32 |
| OCS-A 0500 | Orsted US | -70.61789024 | 41.11827383 | AM | 31 |
| OCS-A 0500 | Orsted US | -70.63994174 | 41.11796197 | AM | 30 |
| OCS-A 0500 | Orsted US | -70.52929373 | 41.10280211 | AN | 35 |
| OCS-A 0500 | Orsted US | -70.551341 | 41.10250729 | AN | 34 |

| Lease Number | Owner | Longitude | Latitude | Row | Column |
|--------------|-----------|--------------|-------------|-----|--------|
| OCS-A 0500 | Orsted US | -70.57338794 | 41.10220826 | AN | 33 |
| OCS-A 0500 | Orsted US | -70.59543455 | 41.10190502 | AN | 32 |
| OCS-A 0500 | Orsted US | -70.61748081 | 41.10159756 | AN | 31 |
| OCS-A 0500 | Orsted US | -70.63952674 | 41.10128588 | AN | 30 |
| OCS-A 0500 | Orsted US | -70.66157231 | 41.10096998 | AN | 29 |
| OCS-A 0500 | Orsted US | -70.68361754 | 41.10064987 | AN | 28 |
| OCS-A 0500 | Orsted US | -70.7056624 | 41.10032555 | AN | 27 |
| OCS-A 0500 | Orsted US | -70.7277069 | 41.099997 | AN | 26 |
| OCS-A 0500 | Orsted US | -70.74975104 | 41.09966424 | AN | 25 |
| OCS-A 0500 | Orsted US | -70.7717948 | 41.09932727 | AN | 24 |
| OCS-A 0500 | Orsted US | -70.79383819 | 41.09898608 | AN | 23 |
| OCS-A 0500 | Orsted US | -70.55094863 | 41.08583043 | AP | 34 |
| OCS-A 0500 | Orsted US | -70.57299 | 41.08553158 | AP | 33 |
| OCS-A 0500 | Orsted US | -70.59503104 | 41.08522851 | AP | 32 |
| OCS-A 0500 | Orsted US | -70.61707173 | 41.08492123 | AP | 31 |
| OCS-A 0500 | Orsted US | -70.63911209 | 41.08460973 | AP | 30 |
| OCS-A 0500 | Orsted US | -70.66115209 | 41.08429402 | AP | 29 |
| OCS-A 0500 | Orsted US | -70.68319175 | 41.0839741 | AP | 28 |
| OCS-A 0500 | Orsted US | -70.70523104 | 41.08364996 | AP | 27 |
| OCS-A 0500 | Orsted US | -70.72726998 | 41.08332161 | AP | 26 |
| OCS-A 0500 | Orsted US | -70.74930855 | 41.08298905 | AP | 25 |
| OCS-A 0500 | Orsted US | -70.77134674 | 41.08265227 | AP | 24 |
| OCS-A 0500 | Orsted US | -70.815422 | 41.08196608 | AP | 22 |
| OCS-A 0500 | Orsted US | -70.57259239 | 41.06885484 | AQ | 33 |
| OCS-A 0500 | Orsted US | -70.59462786 | 41.06855195 | AQ | 32 |
| OCS-A 0500 | Orsted US | -70.616663 | 41.06824485 | AQ | 31 |
| OCS-A 0500 | Orsted US | -70.63869779 | 41.06793353 | AQ | 30 |
| OCS-A 0500 | Orsted US | -70.66073223 | 41.06761801 | AQ | 29 |
| OCS-A 0500 | Orsted US | -70.68276632 | 41.06729827 | AQ | 28 |
| OCS-A 0500 | Orsted US | -70.70480005 | 41.06697432 | AQ | 27 |
| OCS-A 0500 | Orsted US | -70.72683342 | 41.06664616 | AQ | 26 |
| OCS-A 0500 | Orsted US | -70.74886642 | 41.06631379 | AQ | 25 |
| OCS-A 0500 | Orsted US | -70.77089906 | 41.06597721 | AQ | 24 |
| OCS-A 0500 | Orsted US | -70.79293131 | 41.06563642 | AQ | 23 |
| OCS-A 0500 | Orsted US | -70.59422503 | 41.05187534 | AR | 32 |
| OCS-A 0500 | Orsted US | -70.6162546 | 41.05156842 | AR | 31 |
| OCS-A 0500 | Orsted US | -70.63828383 | 41.05125728 | AR | 30 |
| OCS-A 0500 | Orsted US | -70.66031271 | 41.05094194 | AR | 29 |
| OCS-A 0500 | Orsted US | -70.68234124 | 41.05062239 | AR | 28 |
| OCS-A 0500 | Orsted US | -70.70436941 | 41.05029863 | AR | 27 |
| OCS-A 0500 | Orsted US | -70.72639723 | 41.04997066 | AR | 26 |
| OCS-A 0500 | Orsted US | -70.74842467 | 41.04963849 | AR | 25 |
| OCS-A 0500 | Orsted US | -70.77045175 | 41.0493021 | AR | 24 |
| OCS-A 0500 | Orsted US | -70.79247845 | 41.04896151 | AR | 23 |
| OCS-A 0500 | Orsted US | -70.61584655 | 41.03489193 | AS | 31 |
| OCS-A 0500 | Orsted US | -70.63787022 | 41.03458098 | AS | 30 |
| OCS-A 0500 | Orsted US | -70.65989355 | 41.03426582 | AS | 29 |

| Lease Number | Owner | Longitude | Latitude | Row | Column |
|--------------|-----------|--------------|-------------|-----|--------|
| OCS-A 0500 | Orsted US | -70.68191652 | 41.03394646 | AS | 28 |
| OCS-A 0500 | Orsted US | -70.70393914 | 41.03362289 | AS | 27 |
| OCS-A 0500 | Orsted US | -70.7259614 | 41.03329511 | AS | 26 |
| OCS-A 0500 | Orsted US | -70.74798329 | 41.03296313 | AS | 25 |
| OCS-A 0500 | Orsted US | -70.77000481 | 41.03262694 | AS | 24 |
| OCS-A 0500 | Orsted US | -70.79202596 | 41.03228655 | AS | 23 |
| OCS-A 0500 | Orsted US | -70.81404673 | 41.03194195 | AS | 22 |
| OCS-A 0500 | Orsted US | -70.63745696 | 41.01790463 | AT | 30 |
| OCS-A 0500 | Orsted US | -70.65947474 | 41.01758965 | AT | 29 |
| OCS-A 0500 | Orsted US | -70.68149216 | 41.01727048 | AT | 28 |
| OCS-A 0500 | Orsted US | -70.70350923 | 41.0169471 | AT | 27 |
| OCS-A 0500 | Orsted US | -70.72552594 | 41.01661951 | AT | 26 |
| OCS-A 0500 | Orsted US | -70.74754228 | 41.01628772 | AT | 25 |
| OCS-A 0500 | Orsted US | -70.76955825 | 41.01595173 | AT | 24 |
| OCS-A 0500 | Orsted US | -70.79157385 | 41.01561154 | AT | 23 |
| OCS-A 0500 | Orsted US | -70.81358907 | 41.01526714 | AT | 22 |
| OCS-A 0500 | Orsted US | -70.65905628 | 41.00091343 | AU | 29 |
| OCS-A 0500 | Orsted US | -70.68106815 | 41.00059444 | AU | 28 |
| OCS-A 0500 | Orsted US | -70.70307968 | 41.00027125 | AU | 27 |
| OCS-A 0500 | Orsted US | -70.72509084 | 40.99994386 | AU | 26 |
| OCS-A 0500 | Orsted US | -70.74710164 | 40.99961226 | AU | 25 |
| OCS-A 0500 | Orsted US | -70.76911207 | 40.99927647 | AU | 24 |
| OCS-A 0500 | Orsted US | -70.79112212 | 40.99893647 | AU | 23 |
| OCS-A 0500 | Orsted US | -70.8131318 | 40.99859228 | AU | 22 |
| OCS-A 0487 | Orsted US | -70.83514109 | 40.99824388 | AU | 21 |
| OCS-A 0487 | Orsted US | -70.85714999 | 40.99789129 | AU | 20 |
| OCS-A 0487 | Orsted US | -70.8791585 | 40.99753449 | AU | 19 |
| OCS-A 0487 | Orsted US | -70.90116662 | 40.9971735 | AU | 18 |
| OCS-A 0487 | Orsted US | -70.92317433 | 40.99680831 | AU | 17 |
| OCS-A 0487 | Orsted US | -70.94518164 | 40.99643892 | AU | 16 |
| OCS-A 0487 | Orsted US | -70.96718853 | 40.99606533 | AU | 15 |
| OCS-A 0487 | Orsted US | -70.98919501 | 40.99568754 | AU | 14 |
| OCS-A 0487 | Orsted US | -71.01120107 | 40.99530555 | AU | 13 |
| OCS-A 0487 | Orsted US | -71.0332067 | 40.99491937 | AU | 12 |
| OCS-A 0500 | Orsted US | -70.70265049 | 40.98359535 | AV | 27 |
| OCS-A 0500 | Orsted US | -70.72465611 | 40.98326815 | AV | 26 |
| OCS-A 0500 | Orsted US | -70.74666137 | 40.98293675 | AV | 25 |
| OCS-A 0500 | Orsted US | -70.76866626 | 40.98260115 | AV | 24 |
| OCS-A 0500 | Orsted US | -70.79067077 | 40.98226135 | AV | 23 |
| OCS-A 0500 | Orsted US | -70.81267491 | 40.98191736 | AV | 22 |
| OCS-A 0500 | Orsted US | -70.83467866 | 40.98156917 | AV | 21 |
| OCS-A 0500 | Orsted US | -70.85668203 | 40.98121678 | AV | 20 |
| OCS-A 0487 | Orsted US | -70.878685 | 40.98086019 | AV | 19 |
| OCS-A 0487 | Orsted US | -70.90068758 | 40.98049941 | AV | 18 |
| OCS-A 0487 | Orsted US | -70.92268975 | 40.98013443 | AV | 17 |
| OCS-A 0487 | Orsted US | -70.94469152 | 40.97976525 | AV | 16 |
| OCS-A 0487 | Orsted US | -70.96669288 | 40.97939188 | AV | 15 |

| Lease Number | Owner | Longitude | Latitude | Row | Column |
|--------------|-----------|--------------|-------------|-----|--------|
| OCS-A 0487 | Orsted US | -70.98869382 | 40.97901431 | AV | 14 |
| OCS-A 0487 | Orsted US | -71.01069434 | 40.97863255 | AV | 13 |
| OCS-A 0487 | Orsted US | -71.03269444 | 40.97824659 | AV | 12 |
| OCS-A 0500 | Orsted US | -70.70222166 | 40.9669194 | AW | 27 |
| OCS-A 0500 | Orsted US | -70.72422174 | 40.96659239 | AW | 26 |
| OCS-A 0500 | Orsted US | -70.74622146 | 40.96626118 | AW | 25 |
| OCS-A 0500 | Orsted US | -70.76822082 | 40.96592578 | AW | 24 |
| OCS-A 0500 | Orsted US | -70.7902198 | 40.96558618 | AW | 23 |
| OCS-A 0500 | Orsted US | -70.8122184 | 40.96524239 | AW | 22 |
| OCS-A 0500 | Orsted US | -70.83421662 | 40.9648944 | AW | 21 |
| OCS-A 0500 | Orsted US | -70.85621445 | 40.96454222 | AW | 20 |
| OCS-A 0500 | Orsted US | -70.87821189 | 40.96418584 | AW | 19 |
| OCS-A 0487 | Orsted US | -70.90020894 | 40.96382527 | AW | 18 |
| OCS-A 0487 | Orsted US | -70.92220558 | 40.9634605 | AW | 17 |
| OCS-A 0487 | Orsted US | -70.94420182 | 40.96309154 | AW | 16 |
| OCS-A 0487 | Orsted US | -70.96619764 | 40.96271839 | AW | 15 |
| OCS-A 0487 | Orsted US | -70.98819305 | 40.96234104 | AW | 14 |
| OCS-A 0487 | Orsted US | -71.01018805 | 40.9619595 | AW | 13 |
| OCS-A 0487 | Orsted US | -71.03218261 | 40.96157377 | AW | 12 |
| OCS-A 0500 | Orsted US | -70.74578193 | 40.94958556 | AX | 25 |
| OCS-A 0500 | Orsted US | -70.76777575 | 40.94925036 | AX | 24 |
| OCS-A 0500 | Orsted US | -70.78976921 | 40.94891096 | AX | 23 |
| OCS-A 0500 | Orsted US | -70.81176228 | 40.94856736 | AX | 22 |
| OCS-A 0500 | Orsted US | -70.83375497 | 40.94821958 | AX | 21 |
| OCS-A 0500 | Orsted US | -70.85574727 | 40.9478676 | AX | 20 |
| OCS-A 0500 | Orsted US | -70.87773918 | 40.94751143 | AX | 19 |
| OCS-A 0500 | Orsted US | -70.8997307 | 40.94715107 | AX | 18 |
| OCS-A 0487 | Orsted US | -70.92172181 | 40.94678652 | AX | 17 |
| OCS-A 0487 | Orsted US | -70.94371252 | 40.94641777 | AX | 16 |
| OCS-A 0487 | Orsted US | -70.96570282 | 40.94604484 | AX | 15 |
| OCS-A 0487 | Orsted US | -70.98769271 | 40.94566771 | AX | 14 |
| OCS-A 0487 | Orsted US | -71.00968217 | 40.94528639 | AX | 13 |
| OCS-A 0487 | Orsted US | -71.03167121 | 40.94490088 | AX | 12 |
| OCS-A 0500 | Orsted US | -70.74534277 | 40.93290989 | AY | 25 |
| OCS-A 0500 | Orsted US | -70.76733106 | 40.93257488 | AY | 24 |
| OCS-A 0500 | Orsted US | -70.78931899 | 40.93223568 | AY | 23 |
| OCS-A 0500 | Orsted US | -70.81130654 | 40.93189229 | AY | 22 |
| OCS-A 0500 | Orsted US | -70.8332937 | 40.93154471 | AY | 21 |
| OCS-A 0500 | Orsted US | -70.85528048 | 40.93119293 | AY | 20 |
| OCS-A 0500 | Orsted US | -70.87726687 | 40.93083697 | AY | 19 |
| OCS-A 0500 | Orsted US | -70.89925286 | 40.93047682 | AY | 18 |
| OCS-A 0487 | Orsted US | -70.92123845 | 40.93011248 | AY | 17 |
| OCS-A 0487 | Orsted US | -70.94322364 | 40.92974395 | AY | 16 |
| OCS-A 0487 | Orsted US | -70.96520842 | 40.92937123 | AY | 15 |
| OCS-A 0487 | Orsted US | -70.98719278 | 40.92899433 | AY | 14 |
| OCS-A 0487 | Orsted US | -71.00917672 | 40.92861323 | AY | 13 |
| OCS-A 0487 | Orsted US | -71.03116024 | 40.92822795 | AY | 12 |

| Lease Number | Owner | Longitude | Latitude | Row | Column |
|--------------|-----------|--------------|-------------|-----|--------|
| OCS-A 0500 | Orsted US | -70.78886915 | 40.91556035 | AZ | 23 |
| OCS-A 0500 | Orsted US | -70.81085118 | 40.91521716 | AZ | 22 |
| OCS-A 0500 | Orsted US | -70.83283282 | 40.91486978 | AZ | 21 |
| OCS-A 0500 | Orsted US | -70.85481408 | 40.91451821 | AZ | 20 |
| OCS-A 0500 | Orsted US | -70.87679495 | 40.91416246 | AZ | 19 |
| OCS-A 0500 | Orsted US | -70.89877542 | 40.91380252 | AZ | 18 |
| OCS-A 0500 | Orsted US | -70.9207555 | 40.91343839 | AZ | 17 |
| OCS-A 0487 | Orsted US | -70.94273517 | 40.91307008 | AZ | 16 |
| OCS-A 0487 | Orsted US | -70.96471443 | 40.91269758 | AZ | 15 |
| OCS-A 0487 | Orsted US | -70.98669327 | 40.91232089 | AZ | 14 |
| OCS-A 0487 | Orsted US | -71.0086717 | 40.91194002 | AZ | 13 |
| OCS-A 0487 | Orsted US | -71.0306497 | 40.91155496 | AZ | 12 |
| OCS-A 0500 | Orsted US | -70.78841969 | 40.89888497 | BA | 23 |
| OCS-A 0500 | Orsted US | -70.8103962 | 40.89854198 | BA | 22 |
| OCS-A 0500 | Orsted US | -70.83237233 | 40.8981948 | BA | 21 |
| OCS-A 0500 | Orsted US | -70.85434807 | 40.89784344 | BA | 20 |
| OCS-A 0500 | Orsted US | -70.87632343 | 40.89748789 | BA | 19 |
| OCS-A 0500 | Orsted US | -70.89829839 | 40.89712816 | BA | 18 |
| OCS-A 0500 | Orsted US | -70.92027295 | 40.89676425 | BA | 17 |
| OCS-A 0500 | Orsted US | -70.9422471 | 40.89639615 | BA | 16 |
| OCS-A 0487 | Orsted US | -70.96422085 | 40.89602387 | BA | 15 |
| OCS-A 0487 | Orsted US | -70.98619418 | 40.8956474 | BA | 14 |
| OCS-A 0487 | Orsted US | -71.00816709 | 40.89526675 | BA | 13 |
| OCS-A 0487 | Orsted US | -71.03013959 | 40.89488192 | BA | 12 |
| OCS-A 0500 | Orsted US | -70.8099416 | 40.88186674 | BB | 22 |
| OCS-A 0500 | Orsted US | -70.83191222 | 40.88151977 | BB | 21 |
| OCS-A 0500 | Orsted US | -70.85388246 | 40.88116861 | BB | 20 |
| OCS-A 0500 | Orsted US | -70.8758523 | 40.88081328 | BB | 19 |
| OCS-A 0500 | Orsted US | -70.89782175 | 40.88045376 | BB | 18 |
| OCS-A 0500 | Orsted US | -70.9197908 | 40.88009005 | BB | 17 |
| OCS-A 0500 | Orsted US | -70.94175945 | 40.87972217 | BB | 16 |
| OCS-A 0500 | Orsted US | -70.96372768 | 40.8793501 | BB | 15 |
| OCS-A 0500 | Orsted US | -70.98569551 | 40.87897386 | BB | 14 |
| OCS-A 0487 | Orsted US | -71.00766291 | 40.87859343 | BB | 13 |
| OCS-A 0487 | Orsted US | -71.0296299 | 40.87820882 | BB | 12 |
| OCS-A 0500 | Orsted US | -70.8314525 | 40.86484469 | BC | 21 |
| OCS-A 0500 | Orsted US | -70.85341723 | 40.86449374 | BC | 20 |
| OCS-A 0500 | Orsted US | -70.87538157 | 40.86413861 | BC | 19 |
| OCS-A 0500 | Orsted US | -70.89734551 | 40.86377929 | BC | 18 |
| OCS-A 0500 | Orsted US | -70.91930906 | 40.8634158 | BC | 17 |
| OCS-A 0500 | Orsted US | -70.9412722 | 40.86304814 | BC | 16 |
| OCS-A 0500 | Orsted US | -70.96323493 | 40.86267629 | BC | 15 |
| OCS-A 0500 | Orsted US | -70.98519725 | 40.86230026 | BC | 14 |
| OCS-A 0500 | Orsted US | -71.00715916 | 40.86192006 | BC | 13 |
| OCS-A 0500 | Orsted US | -71.02912064 | 40.86153567 | BC | 12 |
| OCS-A 0500 | Orsted US | -70.85295239 | 40.8478188 | BD | 20 |
| OCS-A 0500 | Orsted US | -70.87491123 | 40.84746388 | BD | 19 |

| Lease Number | Owner | Longitude | Latitude | Row | Column |
|--------------|-----------|--------------|-------------|-----|--------|
| OCS-A 0500 | Orsted US | -70.89686967 | 40.84710478 | BD | 18 |
| OCS-A 0500 | Orsted US | -70.91882772 | 40.8467415 | BD | 17 |
| OCS-A 0500 | Orsted US | -70.94078536 | 40.84637405 | BD | 16 |
| OCS-A 0500 | Orsted US | -70.96274259 | 40.84600242 | BD | 15 |
| OCS-A 0500 | Orsted US | -70.98469942 | 40.84562661 | BD | 14 |
| OCS-A 0500 | Orsted US | -71.00665582 | 40.84524663 | BD | 13 |
| OCS-A 0500 | Orsted US | -71.0286118 | 40.84486247 | BD | 12 |
| OCS-A 0500 | Orsted US | -71.0281034 | 40.82818921 | BE | 12 |
| OCS-A 0500 | Orsted US | -71.02759541 | 40.8115159 | BF | 12 |
| OCS-A 0500 | Orsted US | -71.02708786 | 40.79484254 | BG | 12 |
| OCS-A 0500 | Orsted US | -71.02658072 | 40.77816912 | BH | 12 |
| OCS-A 0500 | Orsted US | -71.02607402 | 40.76149565 | BJ | 12 |
| OCS-A 0500 | Orsted US | -71.02556773 | 40.74482212 | BK | 12 |
| OCS-A 0500 | Orsted US | -71.02506187 | 40.72814855 | BL | 12 |
| OCS-A 0500 | Orsted US | -71.02455644 | 40.71147491 | BM | 12 |
| OCS-A 0486 | Orsted US | -70.83885451 | 41.1316397 | AL | 21 |
| OCS-A 0486 | Orsted US | -70.86090789 | 41.13128546 | AL | 20 |
| OCS-A 0486 | Orsted US | -70.88296087 | 41.13092699 | AL | 19 |
| OCS-A 0486 | Orsted US | -70.90501345 | 41.13056431 | AL | 18 |
| OCS-A 0486 | Orsted US | -70.92706563 | 41.13019741 | AL | 17 |
| OCS-A 0486 | Orsted US | -70.9491174 | 41.12982629 | AL | 16 |
| OCS-A 0486 | Orsted US | -70.97116875 | 41.12945095 | AL | 15 |
| OCS-A 0486 | Orsted US | -70.99321968 | 41.12907139 | AL | 14 |
| OCS-A 0486 | Orsted US | -71.01527019 | 41.12868762 | AL | 13 |
| OCS-A 0486 | Orsted US | -71.03732027 | 41.12829963 | AL | 12 |
| OCS-A 0486 | Orsted US | -71.05936992 | 41.12790742 | AL | 11 |
| OCS-A 0486 | Orsted US | -71.08141913 | 41.12751099 | AL | 10 |
| OCS-A 0486 | Orsted US | -71.10346789 | 41.12711035 | AL | 09 |
| OCS-A 0486 | Orsted US | -71.12551621 | 41.12670549 | AL | 08 |
| OCS-A 0486 | Orsted US | -71.19165844 | 41.12546562 | AL | 05 |
| OCS-A 0486 | Orsted US | -71.21370493 | 41.1250439 | AL | 04 |
| OCS-A 0486 | Orsted US | -71.23575094 | 41.12461796 | AL | 03 |
| OCS-A 0486 | Orsted US | -71.25779648 | 41.12418781 | AL | 02 |
| OCS-A 0486 | Orsted US | -70.94961123 | 41.14649947 | AK | 16 |
| OCS-A 0486 | Orsted US | -70.97166816 | 41.14612391 | AK | 15 |
| OCS-A 0486 | Orsted US | -70.99372467 | 41.14574414 | AK | 14 |
| OCS-A 0486 | Orsted US | -71.01578075 | 41.14536014 | AK | 13 |
| OCS-A 0486 | Orsted US | -71.03783641 | 41.14497192 | AK | 12 |
| OCS-A 0486 | Orsted US | -71.05989163 | 41.14457948 | AK | 11 |
| OCS-A 0486 | Orsted US | -71.08194642 | 41.14418283 | AK | 10 |
| OCS-A 0486 | Orsted US | -71.10400076 | 41.14378195 | AK | 09 |
| OCS-A 0486 | Orsted US | -71.12605466 | 41.14337685 | AK | 08 |
| OCS-A 0486 | Orsted US | -70.95010547 | 41.1631726 | AJ | 16 |
| OCS-A 0486 | Orsted US | -70.97216799 | 41.16279682 | AJ | 15 |
| OCS-A 0486 | Orsted US | -70.99423008 | 41.16241682 | AJ | 14 |
| OCS-A 0486 | Orsted US | -71.01629175 | 41.1620326 | AJ | 13 |
| OCS-A 0486 | Orsted US | -71.03835299 | 41.16164416 | AJ | 12 |

| Lease Number | Owner | Longitude | Latitude | Row | Column |
|--------------|-----------|--------------|-------------|-----|--------|
| OCS-A 0486 | Orsted US | -71.06041379 | 41.16125149 | AJ | 11 |
| OCS-A 0486 | Orsted US | -71.08247416 | 41.1608546 | AJ | 10 |
| OCS-A 0486 | Orsted US | -71.10453408 | 41.16045349 | AJ | 09 |
| OCS-A 0486 | Orsted US | -71.12659356 | 41.16004816 | AJ | 08 |
| OCS-A 0486 | Orsted US | -71.14865258 | 41.15963861 | AJ | 07 |
| OCS-A 0486 | Orsted US | -71.17071114 | 41.15922483 | AJ | 06 |
| OCS-A 0486 | Orsted US | -71.19276925 | 41.15880684 | AJ | 05 |
| OCS-A 0486 | Orsted US | -71.21482688 | 41.15838462 | AJ | 04 |
| OCS-A 0486 | Orsted US | -71.23688405 | 41.15795819 | AJ | 03 |
| OCS-A 0486 | Orsted US | -71.25894074 | 41.15752753 | AJ | 02 |
| OCS-A 0486 | Orsted US | -71.10506785 | 41.17712498 | AH | 09 |
| OCS-A 0486 | Orsted US | -71.12713291 | 41.17671941 | AH | 08 |
| OCS-A 0486 | Orsted US | -71.14919751 | 41.17630962 | AH | 07 |
| OCS-A 0486 | Orsted US | -71.17126166 | 41.17589561 | AH | 06 |
| OCS-A 0486 | Orsted US | -71.19332535 | 41.17547737 | AH | 05 |
| OCS-A 0486 | Orsted US | -71.21538857 | 41.17505491 | AH | 04 |
| OCS-A 0486 | Orsted US | -71.10560206 | 41.19379641 | AG | 09 |
| OCS-A 0486 | Orsted US | -71.12767271 | 41.19339061 | xx | 08 |
| OCS-A 0486 | Orsted US | -71.1497429 | 41.19298058 | AG | 07 |
| OCS-A 0486 | Orsted US | -71.17181264 | 41.19256632 | AG | 06 |
| OCS-A 0486 | Orsted US | -71.19388192 | 41.19214784 | AG | 05 |
| OCS-A 0486 | Orsted US | -71.21595072 | 41.19172513 | AG | 04 |
| OCS-A 0486 | Orsted US | -71.06198289 | 41.21126719 | AF | 11 |
| OCS-A 0486 | Orsted US | -71.08406003 | 41.21086961 | AF | 10 |
| OCS-A 0486 | Orsted US | -71.10613672 | 41.2104678 | AF | 09 |
| OCS-A 0486 | Orsted US | -71.12821296 | 41.21006175 | AF | 08 |
| OCS-A 0486 | Orsted US | -71.15028875 | 41.20965148 | AF | 07 |
| OCS-A 0486 | Orsted US | -71.17236408 | 41.20923699 | AF | 06 |
| OCS-A 0486 | Orsted US | -71.19443895 | 41.20881826 | AF | 05 |
| OCS-A 0486 | Orsted US | -71.0625068 | 41.22793898 | AE | 11 |
| OCS-A 0486 | Orsted US | -71.08458954 | 41.22754117 | AE | 10 |
| OCS-A 0486 | Orsted US | -71.10667183 | 41.22713912 | AE | 09 |
| OCS-A 0486 | Orsted US | -71.12875367 | 41.22673284 | AE | 08 |
| OCS-A 0486 | Orsted US | -71.15083506 | 41.22632233 | AE | 07 |
| OCS-A 0486 | Orsted US | -71.17291599 | 41.22590759 | AE | 06 |
| OCS-A 0486 | Orsted US | -71.06303116 | 41.24461072 | AD | 11 |
| OCS-A 0486 | Orsted US | -71.0851195 | 41.24421268 | AD | 10 |
| OCS-A 0486 | Orsted US | -71.10720739 | 41.24381039 | AD | 09 |
| OCS-A 0486 | Orsted US | -71.12929484 | 41.24340388 | AD | 08 |
| OCS-A 0486 | Orsted US | -71.15138183 | 41.24299313 | AD | 07 |
| OCS-A 0486 | Orsted US | -71.12983646 | 41.26007486 | AC | 08 |
| OCS-A 0486 | Orsted US | -71.13037853 | 41.27674579 | AB | 08 |
| OCS-A 0486 | Orsted US | -71.28563801 | 41.29044734 | AA | 01 |
| OCS-A 0486 | Orsted US | -70.83838897 | 41.11496541 | AM | 21 |
| OCS-A 0486 | Orsted US | -70.86043677 | 41.11461137 | AM | 20 |
| OCS-A 0486 | Orsted US | -70.88248418 | 41.11425312 | AM | 19 |
| OCS-A 0486 | Orsted US | -70.90453119 | 41.11389064 | AM | 18 |

| Lease Number | Owner | Longitude | Latitude | Row | Column |
|--------------|-----------|--------------|-------------|-----|--------|
| OCS-A 0486 | Orsted US | -70.92657779 | 41.11352396 | AM | 17 |
| OCS-A 0486 | Orsted US | -70.94862398 | 41.11315305 | AM | 16 |
| OCS-A 0486 | Orsted US | -70.97066976 | 41.11277793 | AM | 15 |
| OCS-A 0486 | Orsted US | -70.99271512 | 41.1123986 | AM | 14 |
| OCS-A 0486 | Orsted US | -71.01476005 | 41.11201505 | AM | 13 |
| OCS-A 0486 | Orsted US | -71.03680456 | 41.11162728 | AM | 12 |
| OCS-A 0486 | Orsted US | -71.05884864 | 41.1112353 | AM | 11 |
| OCS-A 0517 | Orsted US | -71.08089228 | 41.11083911 | AM | 10 |
| OCS-A 0517 | Orsted US | -71.10293547 | 41.1104387 | AM | 09 |
| OCS-A 0517 | Orsted US | -71.12497822 | 41.11003408 | AM | 08 |
| OCS-A 0517 | Orsted US | -71.14702052 | 41.10962524 | AM | 07 |
| OCS-A 0517 | Orsted US | -71.16906236 | 41.10921219 | AM | 06 |
| OCS-A 0517 | Orsted US | -71.19110374 | 41.10879493 | AM | 05 |
| OCS-A 0486 | Orsted US | -71.21314466 | 41.10837345 | AM | 04 |
| OCS-A 0486 | Orsted US | -71.2351851 | 41.10794776 | AM | 03 |
| OCS-A 0486 | Orsted US | -71.25722508 | 41.10751786 | AM | 02 |
| OCS-A 0486 | Orsted US | -70.94813098 | 41.09647976 | AN | 16 |
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| OCS-A 0486 | Orsted US | -71.0583278 | 41.09456313 | AN | 11 |
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| OCS-A 0517 | Orsted US | -71.1024035 | 41.093767 | AN | 09 |
| OCS-A 0517 | Orsted US | -71.12444068 | 41.09336261 | AN | 08 |
| OCS-A 0517 | Orsted US | -71.14647741 | 41.09295401 | AN | 07 |
| OCS-A 0517 | Orsted US | -71.16851369 | 41.0925412 | AN | 06 |
| OCS-A 0517 | Orsted US | -71.19054951 | 41.09212418 | AN | 05 |
| OCS-A 0486 | Orsted US | -71.21258486 | 41.09170295 | AN | 04 |
| OCS-A 0486 | Orsted US | -70.94763839 | 41.07980642 | AP | 16 |
| OCS-A 0486 | Orsted US | -70.96967303 | 41.07943174 | AP | 15 |
| OCS-A 0486 | Orsted US | -70.99170726 | 41.07905285 | AP | 14 |
| OCS-A 0486 | Orsted US | -71.01374107 | 41.07866975 | AP | 13 |
| OCS-A 0486 | Orsted US | -71.03577444 | 41.07828243 | AP | 12 |
| OCS-A 0486 | Orsted US | -71.05780739 | 41.07789091 | AP | 11 |
| OCS-A 0517 | Orsted US | -71.0798399 | 41.07749518 | AP | 10 |
| OCS-A 0517 | Orsted US | -71.10187197 | 41.07709524 | AP | 09 |
| OCS-A 0517 | Orsted US | -71.12390359 | 41.07669109 | AP | 08 |
| OCS-A 0517 | Orsted US | -71.14593476 | 41.07628273 | AP | 07 |
| OCS-A 0517 | Orsted US | -71.16796548 | 41.07587016 | AP | 06 |
| OCS-A 0517 | Orsted US | -71.18999573 | 41.07545338 | AP | 05 |
| OCS-A 0486 | Orsted US | -71.21202553 | 41.0750324 | AP | 04 |
| OCS-A 0487 | Orsted US | -70.83745906 | 41.08161666 | AP | 21 |
| OCS-A 0487 | Orsted US | -70.83699469 | 41.06494221 | AQ | 21 |
| OCS-A 0487 | Orsted US | -70.85902579 | 41.06458879 | AQ | 20 |
| OCS-A 0487 | Orsted US | -70.8810565 | 41.06423117 | AQ | 19 |
| OCS-A 0487 | Orsted US | -70.94665445 | 41.04645958 | AR | 16 |

| Lease Number | Owner | Longitude | Latitude | Row | Column |
|--------------|-----------|--------------|-------------|-----|--------|
| OCS-A 0487 | Orsted US | -71.21090827 | 41.04169112 | AR | 04 |
| OCS-A 0487 | Orsted US | -71.23292649 | 41.04126642 | AR | 03 |
| OCS-A 0487 | Orsted US | -71.25494424 | 41.04083752 | AR | 02 |
| OCS-A 0487 | Orsted US | -70.83606711 | 41.03159315 | AS | 21 |
| OCS-A 0487 | Orsted US | -70.8580871 | 41.03124015 | AS | 20 |
| OCS-A 0487 | Orsted US | -70.88010671 | 41.03088294 | AS | 19 |
| OCS-A 0487 | Orsted US | -70.90212591 | 41.03052152 | AS | 18 |
| OCS-A 0487 | Orsted US | -70.92414471 | 41.0301559 | AS | 17 |
| OCS-A 0487 | Orsted US | -70.9461631 | 41.02978608 | AS | 16 |
| OCS-A 0487 | Orsted US | -70.96818108 | 41.02941205 | AS | 15 |
| OCS-A 0487 | Orsted US | -70.99019865 | 41.02903382 | AS | 14 |
| OCS-A 0487 | Orsted US | -71.01221579 | 41.02865139 | AS | 13 |
| OCS-A 0487 | Orsted US | -71.03423251 | 41.02826475 | AS | 12 |
| OCS-A 0487 | Orsted US | -71.05624879 | 41.02787392 | AS | 11 |
| OCS-A 0487 | Orsted US | -71.07826464 | 41.02747888 | AS | 10 |
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| OCS-A 0487 | Orsted US | -70.90164606 | 41.01384754 | AT | 18 |
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| OCS-A 0487 | Orsted US | -70.9676846 | 41.01273872 | AT | 15 |
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| OCS-A 0487 | Orsted US | -71.03371939 | 41.01159209 | AT | 12 |
| OCS-A 0487 | Orsted US | -71.05573013 | 41.01120148 | AT | 11 |
| OCS-A 0487 | Orsted US | -71.07774044 | 41.01080667 | AT | 10 |
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| OCS-A 0487 | Orsted US | -71.20979289 | 41.00834963 | AT | 04 |
| OCS-A 0487 | Orsted US | -71.23180002 | 41.00792543 | AT | 03 |
| OCS-A 0487 | Orsted US | -71.25380668 | 41.00749703 | AT | 02 |
| OCS-A 0487 | Orsted US | -71.27581287 | 41.00706443 | AT | 01 |
| OCS-A 0487 | Orsted US | -71.0552119 | 40.99452899 | AU | 11 |
| OCS-A 0487 | Orsted US | -71.07721667 | 40.99413441 | AU | 10 |

| Lease Number | Owner | Longitude | Latitude | Row | Column |
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| OCS-A 0487 | Orsted US | -71.099221 | 40.99373563 | AU | 09 |
| OCS-A 0487 | Orsted US | -71.12122489 | 40.99333266 | AU | 08 |
| OCS-A 0487 | Orsted US | -71.14322832 | 40.99292549 | AU | 07 |
| OCS-A 0487 | Orsted US | -71.16523131 | 40.99251412 | AU | 06 |
| OCS-A 0487 | Orsted US | -71.18723383 | 40.99209856 | AU | 05 |
| OCS-A 0487 | Orsted US | -71.2092359 | 40.9916788 | AU | 04 |
| OCS-A 0487 | Orsted US | -71.2312375 | 40.99125485 | AU | 03 |
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| OCS-A 0487 | Orsted US | -71.05469411 | 40.97785644 | AV | 11 |
| OCS-A 0487 | Orsted US | -71.07669334 | 40.97746209 | AV | 10 |
| OCS-A 0487 | Orsted US | -71.09869214 | 40.97706355 | AV | 09 |
| OCS-A 0487 | Orsted US | -71.12069049 | 40.97666081 | AV | 08 |
| OCS-A 0487 | Orsted US | -71.1426884 | 40.97625388 | AV | 07 |
| OCS-A 0487 | Orsted US | -71.16468585 | 40.97584275 | AV | 06 |
| OCS-A 0487 | Orsted US | -71.18668284 | 40.97542743 | AV | 05 |
| OCS-A 0487 | Orsted US | -71.20867938 | 40.97500792 | AV | 04 |
| OCS-A 0487 | Orsted US | -71.23067544 | 40.97458421 | AV | 03 |
| OCS-A 0487 | Orsted US | -71.25267104 | 40.97415631 | AV | 02 |
| OCS-A 0487 | Orsted US | -71.27466616 | 40.97372422 | AV | 01 |
| OCS-A 0487 | Orsted US | -71.05417675 | 40.96118384 | AW | 11 |
| OCS-A 0487 | Orsted US | -71.07617046 | 40.96078972 | AW | 10 |
| OCS-A 0487 | Orsted US | -71.09816372 | 40.96039141 | AW | 09 |
| OCS-A 0487 | Orsted US | -71.12015655 | 40.95998891 | AW | 08 |
| OCS-A 0487 | Orsted US | -71.14214892 | 40.95958221 | AW | 07 |
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| OCS-A 0487 | Orsted US | -71.20812332 | 40.95833698 | AW | 04 |
| OCS-A 0487 | Orsted US | -71.23011386 | 40.95791352 | AW | 03 |
| OCS-A 0487 | Orsted US | -71.25210393 | 40.95748587 | AW | 02 |
| OCS-A 0487 | Orsted US | -71.27409352 | 40.95705403 | AW | 01 |

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF OCEAN ENERGY MANAGEMENT

ADDENDUM “A”
Revised July 15, 2021

DESCRIPTION OF LEASED AREA AND LEASE ACTIVITIES

Lease Number OCS-A 0501

I. Lessor and Lessee Contact Information

Lessee Company Number: 15097

(a) Lessor’s Contact Information

| | Lease Representative | Operations Representative |
|---------|---|----------------------------------|
| Title | Program Manager, Office of Renewable Energy Programs | Same as Lease Representative |
| Address | U.S. Department of the Interior Bureau of Ocean Energy Management 45600 Woodland Road, Mail Stop VAM-OREP | |
| Phone | (703) 787-1300 | |
| Fax | (703) 787-1708 | |
| Email | renewableenergy@boem.gov | |

(b) Lessee’s Contact Information

| | Lease Representative | Operations Representative |
|---------|---|----------------------------------|
| Name | Rachel Pachter | Same as Lease Representative |
| Title | Chief Development Officer | |
| Address | 700 Pleasant Street Suite 510 New Bedford, MA 02740 | |
| Phone | 508-608-6455 | |
| Fax | | |
| Email | rpachter@vineyardwind.com | |

II. Description of Leased Area

The leased area is defined as the Blocks described below and the project easement described in Addendum “D.” Except for the purpose of rent calculation, any reference to “leased area” in Lease Number OCS-A 0501 should be interpreted to also include the project easement.

The Blocks described below contains 65,296 acres, more or less. The leased area is subject to later adjustment, in accordance with applicable regulations (e.g., contraction, relinquishment, etc.).

Lease OCS-A 0501

The following Blocks or portions of Blocks lying within Official Protraction Diagram Providence NK19-07, are depicted on the map below and comprise 63,516 acres, more or less.

- 1) Block 6977, SE1/4 of NE1/4, SE1/4 of SW1/4, SE1/4
- 2) Block 6978, S1/2, NE1/4, S1/2 of NW1/4, NE1/4 of NW1/4, S1/2 of NW1/4 of NW1/4, NE1/4 of NW1/4 of NW1/4
- 3) Block 7026, SE1/4 of NE1/4, SE1/4 of SW1/4, SE1/4
- 4) Block 7027, All of Block
- 5) Block 7028, All of Block
- 6) Block 7029, All of Block
- 7) Block 7075, SE1/4 of NE1/4, SE1/4
- 8) Block 7076, All of Block
- 9) Block 7077, All of Block
- 10) Block 7078, All of Block
- 11) Block 7079, N1/2, SW1/4, W1/2 of SE1/4, N1/2 of NE1/4 of SE1/4, SW1/4 of NE1/4 of SE1/4
- 12) Block 7126, NE1/4 of NW1/4, N1/2 of NE1/4
- 13) Block 7127, N1/2, SE1/4, N1/2 of SW1/4
- 14) Block 7128, N1/2, SW1/4, N1/2 of SE1/4, SW1/4 of SE1/4
- 15) Block 7129, N1/2 of NW1/4, SW1/4 of NW1/4

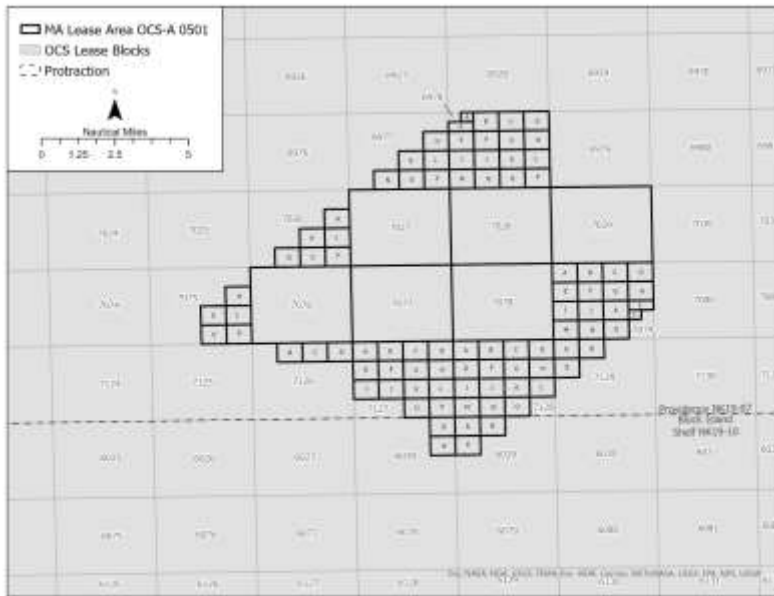
The following Blocks or portions of Blocks lying within Official Protraction Diagram Block Island Shelf NK19-10, are depicted on the map below and comprise 1,780 acres, more or less.

- 1) Block 6028, E1/2 of NE1/4
- 2) Block 6029, N1/2 of NW1/4, SW1/4 of NW1/4

Containing 65,296.00 Acres

Annual Rental: \$195,888.00

For the purposes of these calculations, a full Block is 2,304 hectares. The acreage of a hectare is 2.471043930.



III. Renewable Energy Resource

Wind

IV. Description of the Project

A project to generate energy using wind turbine generators and any associated resource assessment activities, as well as associated offshore substation platforms, inter-array cables, and subsea export cables, located on the OCS in the leased area.

V. Description of Project Easement(s)

The project easement associated with this lease is described in Addendum "D."

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF OCEAN ENERGY MANAGEMENT

ADDENDUM “D”

PROJECT EASEMENT

LEASE NUMBER OCS-A 0501

Granted: July 15, 2021

This section includes a description of the Project Easement associated with this lease, and the associated financial terms.

I. Project Easement Description

This project easement is subject to: all Terms and Conditions of Lease OCS-A 0501, executed April 1, 2015; the Construction and Operations Plan (COP); the Terms and Conditions of COP Approval issued on July 15, 2021; and any subsequent revision, amendments, or supplements to the same.

The map in Figure 1 below depicts the entire export cable corridor for the project described in the COP. Two transmission export cables, separated by 164 feet, will be located within this 1,804-foot wide corridor, which will extend approximately 40 statute miles, from the OCS-A 0501 Wind Development Area, through both federal and state waters, to the landfall location in West Hyannisport.

The project easement consists of the two portions of this corridor that fall within federal waters. In the map, these two portions are bounded by solid lines (as opposed to the dotted lines that bound the corridor portions in state waters) and by BOEM aliquots (OCS sub-blocks). Combined, these project easement portions extend approximately 17 statute miles and include approximately 3,592 acres.¹

The project easement’s centerline, with 902 feet on either side, can be determined by interconnecting the points indicated by the centerline coordinates in Tables 1 and 2 below. In each portion of the federal easement, the centerline coordinates follow an order from north to south and are provided in both geographic NAD(83) (longitude, latitude) and UTM Zone 19N, NAD(83) (eastings, northings).

¹ The northern portion of the easement extends approximately 7 statute miles and includes approximately 1,429 acres, whereas the southern portion of the easement extends approximately 10 statute miles and includes approximately 2,163 acres. Thus, the project easement extends approximately 17 (7 + 10) statute miles and covers approximately 3,592 (1,429 + 2,163) acres.

Figure 1: Offshore Export Cable Corridor and Project Easement (OCS-A 0501)

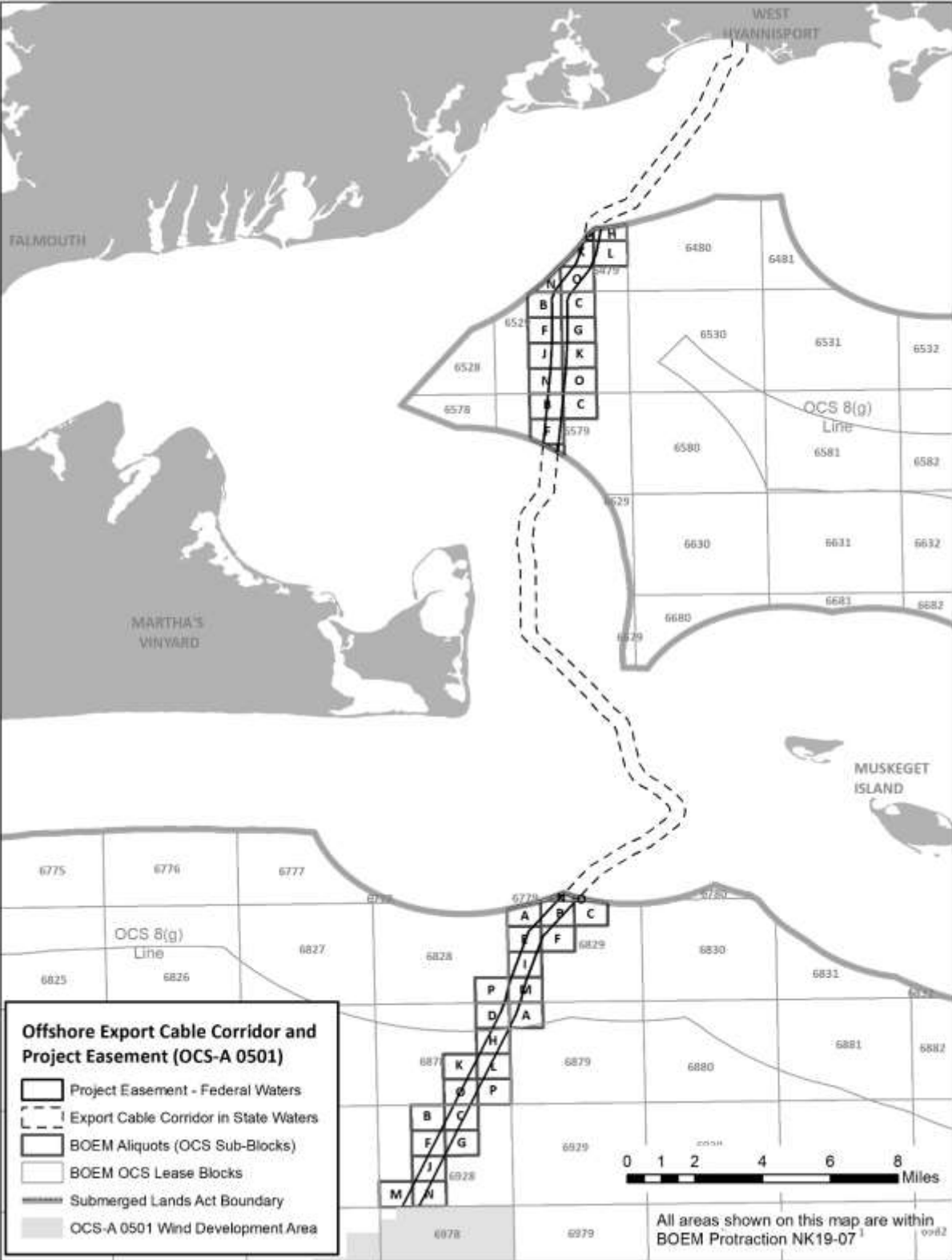


Table 1: Project Easement Centerline Coordinates – Northern Portion

| Point Number | Longitude | Latitude | Easting | Northing |
|--------------|------------|-----------|------------|-------------|
| 1 | -70.395794 | 41.555037 | 383600.43 | 4601315.024 |
| 2 | -70.397575 | 41.54612 | 383435.889 | 4600327.374 |
| 3 | -70.400278 | 41.539461 | 383198.434 | 4599591.709 |
| 4 | -70.40914 | 41.528218 | 382438.903 | 4598355.57 |
| 5 | -70.410181 | 41.525179 | 382346.488 | 4598019.534 |
| 6 | -70.409972 | 41.509376 | 382335.378 | 4596264.771 |
| 7 | -70.410838 | 41.494353 | 382235.881 | 4594598.053 |
| 8 | -70.411901 | 41.483455 | 382127.332 | 4593389.557 |
| 9 | -70.412778 | 41.474473 | 382037.87 | 4592393.567 |
| 10 | -70.413984 | 41.462105 | 381914.677 | 4591022.045 |

Table 2: Project Easement Centerline Coordinates – Southern Portion

| Point Number | Longitude | Latitude | Easting | Northing |
|--------------|------------|-----------|------------|-------------|
| 11 | -70.405051 | 41.271351 | 382317.439 | 4569832.185 |
| 12 | -70.41085 | 41.265186 | 381820.652 | 4569155.606 |
| 13 | -70.420306 | 41.255111 | 381010.199 | 4568050.077 |
| 14 | -70.428045 | 41.234347 | 380323.972 | 4565755.494 |
| 15 | -70.429973 | 41.226709 | 380148.467 | 4564910.15 |
| 16 | -70.432324 | 41.220557 | 379940.102 | 4564230.46 |
| 17 | -70.439408 | 41.206599 | 379320.695 | 4562690.655 |
| 18 | -70.447939 | 41.189778 | 378574.296 | 4560835.153 |
| 19 | -70.456467 | 41.172957 | 377827.896 | 4558979.651 |
| 20 | -70.46499 | 41.156136 | 377081.496 | 4557124.149 |
| 21 | -70.473824 | 41.138691 | 376307.482 | 4555200 |

II. Rent

The Lessee must begin submitting rent payments for any project easement associated with this lease commencing on the date when BOEM approves the COP. Annual rent for a project easement 200 feet wide, centered on the transmission cable, is \$70.00 per statute mile. For any additional acreage required, the Lessee must also pay the greater of \$5.00 per acre per year or \$450.00 per year. The first annual rent payment for the project easement in the amount of \$17,155 is due within 45 days of COP approval. The rent for the next year and for each subsequent year is due on or before each Lease Anniversary.


To calculate the required rent payment for the project easement, BOEM first multiplied \$70 per statute mile by 17 statute miles (the approximate length of the project easement), obtaining \$1,190 for a project easement 200 feet wide. Then, BOEM determined the

additional acreage within the 1,804-foot wide project easement beyond the 200-foot area at the center of the easement. Next, BOEM multiplied that additional area – 3,193 acres – by \$5, obtaining \$15,965. The total project easement rent payment due is therefore \$17,155 (\$1,190 + \$15,965).

From: [Meléndez-Arreaga, Pedro F](#)
To: [Annatoyn, Travis J](#); [Hawbecker, Karen S](#); [Ballenger, Matthew T](#)
Cc: [Vorkoper, Stephen R](#); [Brinkman, Joanna K](#)
Subject: RE: [EXTERNAL] Vineyard Wind

From: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Friday, September 23, 2022 6:54:54 PM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>
Cc: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Brinkman, Joanna K <joanna.brinkman@sol.doi.gov>
Subject: Fw: [EXTERNAL] Vineyard Wind

Please see question from VW below. (b)(5)



I'll send a meeting invite so we can discuss the matter.

Thanks,

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Lilley, Meredith B <Meredith.Lilley@boem.gov>
Sent: Friday, September 23, 2022 2:21 PM
To: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: FW: [EXTERNAL] Vineyard Wind

FYI

From: geri@gedenslaw.com <geri@gedenslaw.com>
Sent: Tuesday, September 20, 2022 4:59 PM
To: Lilley, Meredith B <Meredith.Lilley@boem.gov>
Cc: Michael Clayton <mclayton@vineyardwind.com>
Subject: [EXTERNAL] Vineyard Wind

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Meredith

Thank you for scheduling a call to discuss the Anchoring Plan. We are hoping to align on the scope and expectations of the plan, including its application to federal versus state waters, since the portion of the cable that lies in state waters has been fully permitted by the state. Also, as you recall, the UXO plans only applied in federal waters so it would be helpful to understand expectations for this plan.

Geri Edens
Geraldine Edens, P.A.
geri@gedenslaw.com <<mailto:geri@gedenslaw.com>>

Cell: 240.271.1334

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Meeting ID: 210 592 968 543

Passcode: y3qE3U

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<<https://dialin.teams.microsoft.com/usp/pstnconferencing>>

<<https://aka.ms/JoinTeamsMeeting>> | Meeting options <https://teams.microsoft.com/meetingOptions/?organizerId=022b45a9-b31b-4af1-b6d2-e8da187602c5&tenantId=0693b5ba-4b18-4d7b-9341-f32f400a5494&threadId=19_meeting_NDQ4YmRiMzYtMTk1Mi00Yjc0LTk2NjktNDVIMmQ3YTNmODgz@thread.v2&messageId=0&language=en-US>

<<https://dialin.teams.microsoft.com/usp/pstnconferencing>>

US>

From: [Annatoyn, Travis J](#)
To: [Meléndez-Arreaga, Pedro F](#)
Subject: RE: [EXTERNAL] Vineyard Wind
Date: Thursday, September 29, 2022 3:47:05 PM

Thanks!

From: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Thursday, September 29, 2022 3:25 PM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Subject: Re: [EXTERNAL] Vineyard Wind

Yes, we can move to Monday. No rush.

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Sent: Thursday, September 29, 2022 3:23 PM
To: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: RE: [EXTERNAL] Vineyard Wind

FYI, I've got a standing and conflicting 4:00 today. Are you AWS tomorrow?

-----Original Appointment-----

From: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Friday, September 23, 2022 2:56 PM
To: Meléndez-Arreaga, Pedro F; Annatoyn, Travis J; Hawbecker, Karen S; Ballenger, Matthew T
Cc: Vorkoper, Stephen R; Brinkman, Joanna K; Schifman, Reuben S
Subject: RE: [EXTERNAL] Vineyard Wind
When: Thursday, September 29, 2022 4:00 PM-4:30 PM (UTC-05:00) Eastern Time (US & Canada).
Where:

From: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Friday, September 23, 2022 6:54:54 PM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>
Cc: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Brinkman, Joanna K <joanna.brinkman@sol.doi.gov>
Subject: Fw: [EXTERNAL] Vineyard Wind

Please see question from VW below. (b)(5)

I'll send a meeting invite so we can discuss the matter.

Thanks,

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Lilley, Meredith B <Meredith.Lilley@boem.gov>
Sent: Friday, September 23, 2022 2:21 PM
To: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: FW: [EXTERNAL] Vineyard Wind

FYI

From: geri@gedenslaw.com <geri@gedenslaw.com>
Sent: Tuesday, September 20, 2022 4:59 PM
To: Lilley, Meredith B <Meredith.Lilley@boem.gov>
Cc: Michael Clayton <mclayton@vineyardwind.com>
Subject: [EXTERNAL] Vineyard Wind

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Meredith

Thank you for scheduling a call to discuss the Anchoring Plan. We are hoping to align on the scope and expectations of the plan, including its application to federal versus state waters, since the portion of the cable that lies in state waters has been fully permitted by the state. Also, as you recall, the UXO plans only applied in federal waters so it would be helpful to understand expectations for this plan.

Geri Edens
Geraldine Edens, P.A.
geri@gedenslaw.com
Cell: 240.271.1334

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From: [Meléndez-Arreaga, Pedro F](#)
To: [Annatoyn, Travis J](#); [Hawbecker, Karen S](#); [Ballenger, Matthew T](#)
Cc: [Vorkoper, Stephen R](#); [Brinkman, Joanna K](#); [Schifman, Reuben S](#)
Subject: RE: [EXTERNAL] Vineyard Wind

Sorry - there was another scheduling issue.

From: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Friday, September 23, 2022 6:54:54 PM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Ballenger, Matthew T <matthew.ballenger@sol.doi.gov>
Cc: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Brinkman, Joanna K <joanna.brinkman@sol.doi.gov>
Subject: Fw: [EXTERNAL] Vineyard Wind

Please see question from VW below. (b)(5)

I'll send a meeting invite so we can discuss the matter.

Thanks,

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Lilley, Meredith B <Meredith.Lilley@boem.gov>
Sent: Friday, September 23, 2022 2:21 PM
To: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: FW: [EXTERNAL] Vineyard Wind

FYI

From: geri@gedenslaw.com <geri@gedenslaw.com>
Sent: Tuesday, September 20, 2022 4:59 PM
To: Lilley, Meredith B <Meredith.Lilley@boem.gov>
Cc: Michael Clayton <mclayton@vineyardwind.com>
Subject: [EXTERNAL] Vineyard Wind

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Meredith

Thank you for scheduling a call to discuss the Anchoring Plan. We are hoping to align on the scope and expectations of the plan, including its application to federal versus state waters, since the portion of the cable that lies in state waters has been fully permitted by the state. Also, as you recall, the UXO plans only applied in federal waters so it would be helpful to understand expectations for this plan.

Geri Edens
Geraldine Edens, P.A.
geri@gedenslaw.com <<mailto:geri@gedenslaw.com>>

Cell: 240.271.1334

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US>

From: [Meléndez-Arreaga, Pedro F](#)
To: [Annatoyn, Travis J](#)
Cc: [Hawbecker, Karen S](#); [Vorkoper, Stephen R](#)
Subject: Re: VW - Commencement of Construction and Anchoring Plan Requirement
Date: Friday, October 21, 2022 11:39:33 AM

I missed this email. Available except for 1:45-2:15. Receiving some furniture during that window.

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior


From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Sent: Thursday, October 20, 2022 8:06 PM
To: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Cc: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Subject: RE: VW - Commencement of Construction and Anchoring Plan Requirement

Thanks. Are you around tomorrow to discuss for 10 min, or is it AWS?

From: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Thursday, October 20, 2022 5:54 PM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Cc: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Subject: Re: VW - Commencement of Construction and Anchoring Plan Requirement

Sure -

(b)(5)



Best,

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team

(b)(5)

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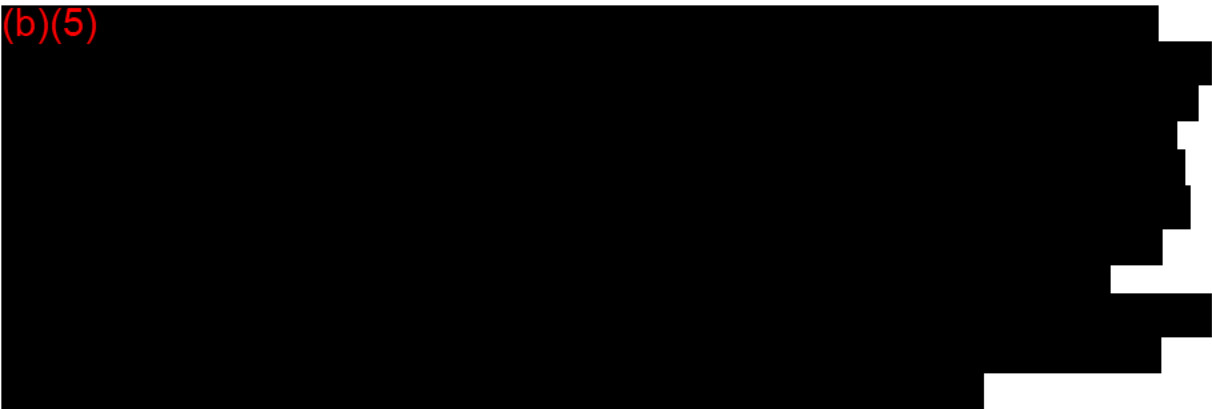
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(b)(5)



Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: [Meléndez-Arreaga, Pedro F](#)
To: [Annatoyn, Travis J](#); [Hawbecker, Karen S](#)
Cc: [Vorkoper, Stephen R](#)
Subject: Fw: Vineyard Wind 1 - Condition 5.4.3 (Anchoring Plan)
Date: Friday, October 21, 2022 11:54:24 AM
Attachments: [Memo to OREP VW1 .docx](#)

FYI.

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Crumpton, Christine V <Christine.Crumpton@boem.gov>
Sent: Friday, October 21, 2022 11:39 AM
To: Baker, Karen J <Karen.Baker@boem.gov>
Cc: Johnson, Crystal S <Crystal.Johnson@boem.gov>; Moore, Annette J <Annette.Moore@boem.gov>; MacDuffee, David T <David.MacDuffee@boem.gov>; Lilley, Meredith B <Meredith.Lilley@boem.gov>; Stromberg, Jessica A. <Jessica.Stromberg@boem.gov>; Sangunett, Brandi M <brandi.sangunett@boem.gov>; Krevor, Brian <Brian.Krevor@boem.gov>; Hooker, Brian <Brian.Hooker@boem.gov>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Hildreth, Emily J <Emily.Hildreth@boem.gov>; Frank, Wright J <Wright.Frank@boem.gov>
Subject: Vineyard Wind 1 - Condition 5.4.3 (Anchoring Plan)

Karen,

Attached for your review is a briefing document prepared by OREP staff regarding Vineyard Wind 1's (VW1) compliance with conditions 5.4.3 (Anchoring Plan) and 5.3.2 (Evaluation of Additional Benthic Habitat Data) of COP Approval and associated coordination with NOAA NMFS. As further explained in the memo, VW1 is proposing to start seabed disturbance activities on Monday, 10/24, (b)(5)

[REDACTED]

Thanks,
Christine

Christine Crumpton
Environmental Protection Specialist (NEPA Coordinator)
Environment Branch for Renewable Energy

Office of Renewable Energy Programs

Bureau of Ocean Energy Management

45600 Woodland Road (VAM-OREP), Sterling, VA 20166

Cell: 703.438.5096 | christine.crumpton@boem.gov

BOEM

Information Memorandum

October 20, 2022

Subject: Status of Compliance Reviews for Vineyard Wind 1 (OCS-A 0501) – Anchoring Plan (Condition 5.4.3)

Background Information

(b)(5) [Redacted text block]

[Redacted text block]

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(b)(5)

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[Redacted text block]

[Redacted text block]

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[Redacted text block]

(b)(5)

[Redacted]

Contact:

Christine Crumpton, EBRE NEPA Coordinator
Christine.Crumpton@boem.gov

Meredith Lilley, PCB Project Coordinator
Meredith.Lilley@boem.gov

Attachment

Attachment – COP Approval Conditions 5.4.3 and 5.3.2

(b)(5)

[Redacted text block]

[Redacted text block]

From: [Meléndez-Arreaga, Pedro F](#)
To: [Annatoyn, Travis J](#)
Subject: Re: Vineyard Wind
Date: Monday, October 24, 2022 9:03:22 AM

Yes, made the request on Friday.

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Sent: Monday, October 24, 2022 9:02 AM
To: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: RE: Vineyard Wind

Thanks. (b)(5) ?

From: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Monday, October 24, 2022 9:01 AM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Subject: Re: Vineyard Wind

Not really. Karen replied to my email saying that she thought that was the case (i.e., (b)(5)).

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Sent: Monday, October 24, 2022 8:59 AM
To: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: Re: Vineyard Wind

Morning! Any developments on this front?

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From: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Friday, October 21, 2022 9:32:20 PM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>

Cc: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>

Subject: Fw: Vineyard Wind

FYI.

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>

Sent: Friday, October 21, 2022 9:31 PM

To: Baker, Karen J <Karen.Baker@boem.gov>

Cc: Sebastian, Robert L <robert.sebastian@sol.doi.gov>

Subject: Re: Vineyard Wind

(b)(5)

.

Available to discuss tomorrow or at your convenience. You can reach me at (b)(6)

Best,

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Baker, Karen J <Karen.Baker@boem.gov>

Sent: Friday, October 21, 2022 6:08 PM

To: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>

Cc: Sebastian, Robert L <robert.sebastian@sol.doi.gov>

Subject: Vineyard Wind

Pedro,

I know you are tracking the issues (b)(5) [REDACTED]
[REDACTED] – please confirm.

Karen J. Baker
Chief, Office of Renewable Energy Programs
Bureau of Ocean Energy Management
Phone: 571-363-9254
Karen.Baker@boem.gov

From: [Annatoyn, Travis J](#)
To: [Meléndez-Arreaga, Pedro F](#); [Hawbecker, Karen S](#)
Cc: [Vorkoper, Stephen R](#); [Sebastian, Robert L](#)
Subject: RE: Vineyard Wind 1 - Condition 5.4.3 (Anchoring Plan)
Date: Monday, October 24, 2022 10:28:33 AM

Thanks for the update.

From: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Monday, October 24, 2022 10:26 AM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>
Cc: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Sebastian, Robert L <robert.sebastian@sol.doi.gov>
Subject: Fw: Vineyard Wind 1 - Condition 5.4.3 (Anchoring Plan)

FYI.

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Baker, Karen J <Karen.Baker@boem.gov>
Sent: Monday, October 24, 2022 10:23 AM
To: Crumpton, Christine V <Christine.Crumpton@boem.gov>
Cc: Johnson, Crystal S <Crystal.Johnson@boem.gov>; Moore, Annette J <Annette.Moore@boem.gov>; MacDuffee, David T <David.MacDuffee@boem.gov>; Lilley, Meredith B <Meredith.Lilley@boem.gov>; Stromberg, Jessica A. <Jessica.Stromberg@boem.gov>; Sangunett, Brandi M <brandi.sangunett@boem.gov>; Krevor, Brian <Brian.Krevor@boem.gov>; Hooker, Brian <Brian.Hooker@boem.gov>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Hildreth, Emily J <Emily.Hildreth@boem.gov>; Frank, Wright J <Wright.Frank@boem.gov>
Subject: RE: Vineyard Wind 1 - Condition 5.4.3 (Anchoring Plan)

Christine/team –

Sending this to all to make sure we have everyone on the same page. (b)(5)

[Redacted]

[Redacted]

(b)(5)

Karen

From: Crumpton, Christine V <Christine.Crumpton@boem.gov>
Sent: Friday, October 21, 2022 11:40 AM
To: Baker, Karen J <Karen.Baker@boem.gov>
Cc: Johnson, Crystal S <Crystal.Johnson@boem.gov>; Moore, Annette J <Annette.Moore@boem.gov>; MacDuffee, David T <David.MacDuffee@boem.gov>; Lilley, Meredith B <Meredith.Lilley@boem.gov>; Stromberg, Jessica A. <Jessica.Stromberg@boem.gov>; Sangunett, Brandi M <brandi.sangunett@boem.gov>; Krevor, Brian <Brian.Krevor@boem.gov>; Hooker, Brian <Brian.Hooker@boem.gov>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Hildreth, Emily J <Emily.Hildreth@boem.gov>; Frank, Wright J <Wright.Frank@boem.gov>
Subject: Vineyard Wind 1 - Condition 5.4.3 (Anchoring Plan)

Karen,

Attached for your review is a briefing document prepared by OREP staff regarding Vineyard Wind 1's (VW1) compliance with conditions 5.4.3 (Anchoring Plan) and 5.3.2 (Evaluation of Additional Benthic Habitat Data) of COP Approval and associated coordination with NOAA NMFS. As further explained in the memo, VW1 is proposing to start seabed disturbance activities on Monday, 10/24, (b)(5)

Thanks,
Christine

Christine Crumpton
Environmental Protection Specialist (NEPA Coordinator)
Environment Branch for Renewable Energy
Office of Renewable Energy Programs
Bureau of Ocean Energy Management

45600 Woodland Road (VAM-OREP), Sterling, VA 20166
Cell: 703.438.5096 | christine.crumpton@boem.gov

BOEM

From: [Meléndez-Arreaga, Pedro F](#)
To: [Annatoyn, Travis J](#)
Subject: Re: [EXTERNAL] Re: Vineyard Wind Anchoring Plan
Date: Monday, October 24, 2022 4:29:38 PM

(b)(5)



[Redacted content]




[Redacted content]

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Sent: Monday, October 24, 2022 4:18 PM
To: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: FW: [EXTERNAL] Re: Vineyard Wind Anchoring Plan


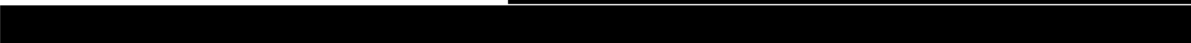

We are getting into fairly complicated games of telephone at this stage and NOAA is (b)(5)
re: (b)(5)



From: Lefton, Amanda B <Amanda.Lefton@boem.gov>
Sent: Monday, October 24, 2022 3:53 PM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Subject: FW: [EXTERNAL] Re: Vineyard Wind Anchoring Plan

From: Baker, Karen J <Karen.Baker@boem.gov>
Sent: Monday, October 24, 2022 3:45 PM
To: Lefton, Amanda B <Amanda.Lefton@boem.gov>
Subject: FW: [EXTERNAL] Re: Vineyard Wind Anchoring Plan

FYSA...at least he didn't put it in a memo. (b)(5)



From: Michael Pentony - NOAA Federal <michael.pentony@noaa.gov>
Sent: Monday, October 24, 2022 2:39 PM
To: Baker, Karen J <Karen.Baker@boem.gov>
Subject: Re: [EXTERNAL] Re: Vineyard Wind Anchoring Plan

Karen,

There's actually quite a lot to unpack here, so this is a longer response than you were probably expecting. (b)(5)

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

Mike

On Mon, Oct 24, 2022 at 1:41 PM Baker, Karen J <Karen.Baker@boem.gov> wrote:

Mike –

Any updates on this? I think one item we will need to discuss (b)(5) [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]. Let me know your thoughts.

Mindful of everything else we are putting on your plate.

Karen

From: Michael Pentony - NOAA Federal <michael.pentony@noaa.gov>

Sent: Friday, October 21, 2022 5:46 PM

To: Baker, Karen J <Karen.Baker@boem.gov>

Subject: [EXTERNAL] Re: Vineyard Wind Anchoring Plan

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Hi Karen,

I've been tied up in meetings all day since our call, and just laid eyes on this now. I've asked my team to give me the run-down, and as soon as I hear back, I'll let you know.

Mike

On Fri, Oct 21, 2022 at 1:25 PM Baker, Karen J <Karen.Baker@boem.gov> wrote:

Mike/Lou –

Need a quick understanding of concerns related to plan and how long your team needs on this.

(b)(5) [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

(b)(5)

Thanks,

Karen

Karen J. Baker
Chief, Office of Renewable Energy Programs
Bureau of Ocean Energy Management
Phone: 571-363-9254
Karen.Baker@boem.gov

--

Michael Pentony
Regional Administrator
[Greater Atlantic Regional Fisheries Office](#)
55 Great Republic Drive
Gloucester, MA 01930
Phone: 978-281-9283



--

Michael Pentony
Regional Administrator
[Greater Atlantic Regional Fisheries Office](#)
55 Great Republic Drive
Gloucester, MA 01930
Phone: 978-281-9283



From: [Meléndez-Arreaga, Pedro F](#)
To: [Annatoy, Travis J](#); [Hawbecker, Karen S](#)
Cc: [Vorkoper, Stephen R](#)
Subject: Fw: FOR MANAGER REVIEW: BOEM and BSEE Concurrence with VW1's Post-Storm Monitoring Plan, and BOEM, BSEE, and USCG Concurrence with the Cable-Installation Aspects of VW1's Emergency Response Plan
Date: Tuesday, October 25, 2022 9:27:10 AM
Attachments: [image001.png](#)

For your awareness. Please note that this email (b)(5)

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Lilley, Meredith B <Meredith.Lilley@boem.gov>
Sent: Tuesday, October 25, 2022 9:15 AM
To: MacDuffee, David T <David.MacDuffee@boem.gov>; Sauls, Marilyn M <Marilyn.Sauls@boem.gov>
Cc: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Kozak, Mark S <Mark.Kozak@bsee.gov>; Fraser, Jonathan B <Jonathan.Fraser@bsee.gov>; Crumpton, Christine V <Christine.Crumpton@boem.gov>; Kemiki, Motunrayo A <Motunrayo.Kemiki@boem.gov>; Reeves, Casey L <Casey.Reeves@bsee.gov>; Shifflett, Tara L <Tara.Shifflett@bsee.gov>; Lan, Christy M <Christy.Lan@bsee.gov>; Lilley, Meredith B <Meredith.Lilley@boem.gov>
Subject: FOR MANAGER REVIEW: BOEM and BSEE Concurrence with VW1's Post-Storm Monitoring Plan, and BOEM, BSEE, and USCG Concurrence with the Cable-Installation Aspects of VW1's Emergency Response Plan

Good morning, Branch Chiefs –

For your review, below is the draft email to Vineyard Wind 1 (VW1) regarding:

- [REDACTED] (b)(5)
- [REDACTED]

VW1 originally submitted its Post-Storm Monitoring Plan on 8/16/22, and its Emergency Response Plan on 8/12/22, in accordance with **Sections 2.10 and 3.1.5**, respectively, of the [PDF VW1 Project COP Approval Conditions](#).

If possible, please provide any edits you may have to the draft email, the [VW1 Post-Storm Monitoring Plan Review Matrix](#), or the [VW1 Emergency Response Plan Review Matrix](#) by COB today, as VW1's cable-lay vessel is scheduled to begin cable-installation operations as early as

tomorrow (10/26/22).

Many thanks,
Meredith

Geri and Mike,

Thank you for submitting the following for the Vineyard Wind 1 (VW1) Project on commercial lease OCS-A-0501 offshore Massachusetts:

- [REDACTED] (b)(5) [REDACTED]
[REDACTED]
[REDACTED] [REDACTED] [REDACTED]
[REDACTED].

VW1 originally submitted these plans on 8/16/22 and 8/12/22, pursuant to Sections 2.10 and 3.1.5, respectively, of the VW1 COP Approval Conditions.

After reviewing these updated plans, as well as VW1's responses to our third round of comments:

- [REDACTED] (b)(5) [REDACTED]
[REDACTED] [REDACTED] [REDACTED]
[REDACTED].

Attached is the **final review matrix for the Post-Storm Monitoring Plan.**

(b)(5) [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED].

If you have any questions or concerns, please contact me.

Many thanks,

Meredith Blaydes Lilley, Ph.D.

Renewable Energy Program Specialist

Office of Renewable Energy Programs

Bureau of Ocean Energy Management | U.S. Department of Interior

45600 Woodland Road | Sterling, VA 20166

703-787-1037 (office) | 571-474-7054 (cell)

meredith.lilley@boem.gov



From: [Annatoyn, Travis J](#)
To: [Meléndez-Arreaga, Pedro F](#)
Subject: RE: [EXTERNAL] Re: Vineyard Wind Anchoring Plan
Date: Tuesday, October 25, 2022 10:21:52 AM
Attachments: [image001.png](#)

Thanks, and yes: your suggested approach in the second graph looks good.

From: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Tuesday, October 25, 2022 10:20 AM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Subject: Re: [EXTERNAL] Re: Vineyard Wind Anchoring Plan

OK. (b)(5)



Please let me know if you want to further discuss.

Best,

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Sent: Tuesday, October 25, 2022 9:30 AM
To: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: RE: [EXTERNAL] Re: Vineyard Wind Anchoring Plan

(b)(5)



(b)(5)

From: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>

Sent: Monday, October 24, 2022 5:04 PM

To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>

Subject: Fw: [EXTERNAL] Re: Vineyard Wind Anchoring Plan

FYI.

(b)(5)

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Hooker, Brian <Brian.Hooker@boem.gov>

Sent: Monday, October 24, 2022 4:43 PM

To: Baker, Karen J <Karen.Baker@boem.gov>; Crumpton, Christine V <Christine.Crumpton@boem.gov>; Sangunett, Brandi M <brandi.sangunett@boem.gov>; Stromberg, Jessica A. <Jessica.Stromberg@boem.gov>

Cc: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>

Subject: Re: [EXTERNAL] Re: Vineyard Wind Anchoring Plan

Karen, I spoke briefly with NMFS staff this morning about their review of the anchoring plan. I believe Mike's email is an accurate summary of what we discussed. (b)(5)

(b)(5)

(b)(5)

(b)(5)

[Redacted text block]

[Redacted text block]

[Redacted text block]

I hope that addresses the question you raised. -Brian

(b)(5)

Brian R. Hooker
Lead Biologist
[Bureau of Ocean Energy Management](#)
Office of Renewable Energy Programs
Mail Stop VAM-OREP
45600 Woodland Road
Sterling Virginia 20166

Office: 703-787-1634
Mobile: 571-393-4367

From: Baker, Karen J <Karen.Baker@boem.gov>
Sent: Monday, October 24, 2022 3:41 PM
To: Hooker, Brian <Brian.Hooker@boem.gov>; Crumpton, Christine V <Christine.Crumpton@boem.gov>; Sangunett, Brandi M <brandi.sangunett@boem.gov>; Stromberg, Jessica A. <Jessica.Stromberg@boem.gov>
Cc: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: FW: [EXTERNAL] Re: Vineyard Wind Anchoring Plan

Team –

Please see discussion below (b)(5) [Redacted]

Karen

From: Michael Pentony - NOAA Federal <michael.pentony@noaa.gov>
Sent: Monday, October 24, 2022 2:39 PM
To: Baker, Karen J <Karen.Baker@boem.gov>
Subject: Re: [EXTERNAL] Re: Vineyard Wind Anchoring Plan

Karen,

There's actually quite a lot to unpack here, so this is a longer response than you were probably expecting. (b)(5) [Redacted]

[Redacted]

[Redacted]

(b)(5) [Redacted]

[Redacted]

[Redacted]

Mike

On Mon, Oct 24, 2022 at 1:41 PM Baker, Karen J <Karen.Baker@boem.gov> wrote:

Mike –

Any updates on this? I think one item we will need to discuss (b)(5) [Redacted]
[Redacted]
[Redacted]
[Redacted] Let me know your thoughts.

Mindful of everything else we are putting on your plate.

Karen

From: Michael Pentony - NOAA Federal <michael.pentony@noaa.gov>
Sent: Friday, October 21, 2022 5:46 PM
To: Baker, Karen J <Karen.Baker@boem.gov>
Subject: [EXTERNAL] Re: Vineyard Wind Anchoring Plan

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Hi Karen,

I've been tied up in meetings all day since our call, and just laid eyes on this now. I've asked my team to give me the run-down, and as soon as I hear back, I'll let you know.

Mike

On Fri, Oct 21, 2022 at 1:25 PM Baker, Karen J <Karen.Baker@boem.gov> wrote:

Mike/Lou –

Need a quick understanding of concerns related to plan and how long your team needs on this.

(b)(5) [Redacted]

[Redacted]

[Redacted]

Thanks,

Karen

Karen J. Baker
Chief, Office of Renewable Energy Programs
Bureau of Ocean Energy Management
Phone: 571-363-9254
Karen.Baker@boem.gov

--

Michael Pentony

Regional Administrator

[Greater Atlantic Regional Fisheries Office](#)

55 Great Republic Drive

Gloucester, MA 01930

Phone: 978-281-9283



--

Michael Pentony

Regional Administrator

[Greater Atlantic Regional Fisheries Office](#)

55 Great Republic Drive

Gloucester, MA 01930

Phone: 978-281-9283



From: [Meléndez-Arreaga, Pedro F](#)
To: [Baker, Karen J](#); [Lilley, Meredith B](#)
Cc: [Sangunett, Brandi M](#); [MacDuffee, David T](#); [Sauls, Marilyn M](#); [Stromberg, Jessica A](#); [Crumpton, Christine V](#); [Annatoyn, Travis J](#)
Subject: Re: Vineyard Wind 1 - Condition 5.4.3 (Anchoring Plan)
Date: Tuesday, October 25, 2022 3:08:59 PM
Attachments: [image002.png](#)

That is the approach that Travis is also recommending.

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior


From: Baker, Karen J <Karen.Baker@boem.gov>
Sent: Tuesday, October 25, 2022 3:06 PM
To: Lilley, Meredith B <Meredith.Lilley@boem.gov>
Cc: Sangunett, Brandi M <brandi.sangunett@boem.gov>; MacDuffee, David T <David.MacDuffee@boem.gov>; Sauls, Marilyn M <Marilyn.Sauls@boem.gov>; Stromberg, Jessica A. <Jessica.Stromberg@boem.gov>; Crumpton, Christine V <Christine.Crumpton@boem.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: Re: Vineyard Wind 1 - Condition 5.4.3 (Anchoring Plan)

Thanks- I think in light of Pedro's email, (b)(5)

Get [Outlook for iOS](#)

From: Lilley, Meredith B <Meredith.Lilley@boem.gov>
Sent: Tuesday, October 25, 2022 2:57:35 PM
To: Baker, Karen J <Karen.Baker@boem.gov>
Cc: Sangunett, Brandi M <brandi.sangunett@boem.gov>; MacDuffee, David T <David.MacDuffee@boem.gov>; Sauls, Marilyn M <Marilyn.Sauls@boem.gov>; Stromberg, Jessica A. <Jessica.Stromberg@boem.gov>; Crumpton, Christine V <Christine.Crumpton@boem.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: RE: Vineyard Wind 1 - Condition 5.4.3 (Anchoring Plan)

Hi Karen,

Yes, here is the  [draft email to VW1 regarding our review of VW1's Anchoring Plan](#), which Travis, Pedro, Christine, and I have been working on. (b)(5)

(b)(5)

Many thanks,

Meredith Blaydes Lilley, Ph.D.

Renewable Energy Program Specialist

Office of Renewable Energy Programs

Bureau of Ocean Energy Management | U.S. Department of Interior

45600 Woodland Road | Sterling, VA 20166

703-787-1037 (office) | 571-474-7054 (cell)

meredith.lilley@boem.gov



From: Baker, Karen J <Karen.Baker@boem.gov>

Sent: Tuesday, October 25, 2022 2:42 PM

To: Lilley, Meredith B <Meredith.Lilley@boem.gov>; Crumpton, Christine V <Christine.Crumpton@boem.gov>

Cc: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Sangunett, Brandi M <brandi.sangunett@boem.gov>; MacDuffee, David T <David.MacDuffee@boem.gov>

Subject: RE: Vineyard Wind 1 - Condition 5.4.3 (Anchoring Plan)

Are we close on the draft email?

From: Baker, Karen J

Sent: Tuesday, October 25, 2022 12:07 PM

To: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Crumpton, Christine V <Christine.Crumpton@boem.gov>

Cc: Johnson, Crystal S <Crystal.Johnson@boem.gov>; Moore, Annette J <annette.moore@boem.gov>; MacDuffee, David T <david.macduffee@boem.gov>; Lilley, Meredith B <meredith.lilley@boem.gov>; Stromberg, Jessica A. <jessica.stromberg@boem.gov>; Sangunett, Brandi M <brandi.sangunett@boem.gov>; Krevor, Brian <brian.krevor@boem.gov>; Hooker, Brian <brian.hooker@boem.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Hildreth, Emily J <emily.hildreth@boem.gov>; Frank, Wright J <wright.frank@boem.gov>

Subject: RE: Vineyard Wind 1 - Condition 5.4.3 (Anchoring Plan)

Very much appreciate the context, Pedro. You have several key points that haven't been provided to me in this level of detail. (b)(5)

From: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>

Sent: Tuesday, October 25, 2022 11:58 AM

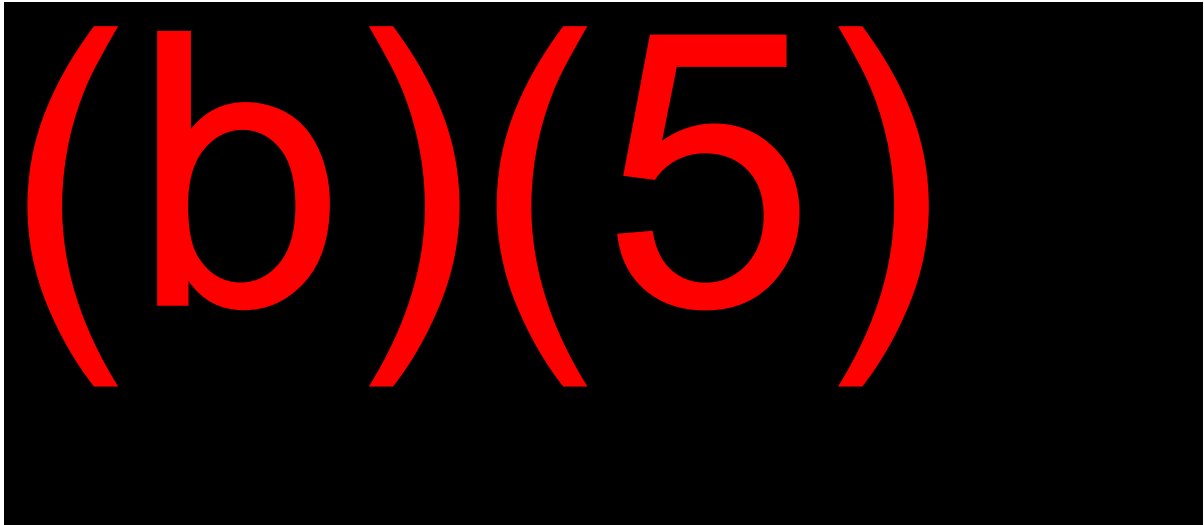
To: Baker, Karen J <Karen.Baker@boem.gov>; Crumpton, Christine V <Christine.Crumpton@boem.gov>

Cc: Johnson, Crystal S <Crystal.Johnson@boem.gov>; Moore, Annette J <Annette.Moore@boem.gov>; MacDuffee, David T <David.MacDuffee@boem.gov>; Lilley, Meredith B <Meredith.Lilley@boem.gov>; Stromberg, Jessica A. <Jessica.Stromberg@boem.gov>; Sangunett, Brandi M <brandi.sangunett@boem.gov>; Krevor, Brian <Brian.Krevor@boem.gov>; Hooker, Brian <Brian.Hooker@boem.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Hildreth, Emily J <Emily.Hildreth@boem.gov>; Frank, Wright J <Wright.Frank@boem.gov>

Subject: Re: Vineyard Wind 1 - Condition 5.4.3 (Anchoring Plan)

Confidential and Deliberative

Team - the following is for internal consumption only and for your consideration when drafting your statements. Travis has asked for SOL to review emails on this topic going out, so thank you for keeping us involved.



I just saw that Meredith sent an email. Will review now.

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Baker, Karen J <Karen.Baker@boem.gov>

Sent: Tuesday, October 25, 2022 10:03 AM

To: Crumpton, Christine V <Christine.Crumpton@boem.gov>

Cc: Johnson, Crystal S <Crystal.Johnson@boem.gov>; Moore, Annette J <Annette.Moore@boem.gov>; MacDuffee, David T <David.MacDuffee@boem.gov>; Lilley, Meredith B <Meredith.Lilley@boem.gov>; Stromberg, Jessica A. <Jessica.Stromberg@boem.gov>; Sangunett,

Brandi M <brandi.sangunett@boem.gov>; Krevor, Brian <Brian.Krevor@boem.gov>; Hooker, Brian <Brian.Hooker@boem.gov>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Hildreth, Emily J <Emily.Hildreth@boem.gov>; Frank, Wright J <Wright.Frank@boem.gov>
Subject: RE: Vineyard Wind 1 - Condition 5.4.3 (Anchoring Plan)

For today –

Meredith/Christy – (b)(5) [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]. Please keep Pedro engaged. Please provide email draft by early afternoon.

Brian – (b)(5) [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED].if you want to reference that in the email for me to send, please go ahead and include.

Thanks,

Karen

From: Crumpton, Christine V <Christine.Crumpton@boem.gov>
Sent: Friday, October 21, 2022 11:40 AM
To: Baker, Karen J <Karen.Baker@boem.gov>
Cc: Johnson, Crystal S <Crystal.Johnson@boem.gov>; Moore, Annette J <Annette.Moore@boem.gov>; MacDuffee, David T <David.MacDuffee@boem.gov>; Lilley, Meredith B <Meredith.Lilley@boem.gov>; Stromberg, Jessica A. <Jessica.Stromberg@boem.gov>; Sangunett, Brandi M <brandi.sangunett@boem.gov>; Krevor, Brian <Brian.Krevor@boem.gov>; Hooker, Brian <Brian.Hooker@boem.gov>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Hildreth, Emily J <Emily.Hildreth@boem.gov>; Frank, Wright J <Wright.Frank@boem.gov>
Subject: Vineyard Wind 1 - Condition 5.4.3 (Anchoring Plan)

Karen,

Attached for your review is a briefing document prepared by OREP staff regarding Vineyard Wind 1’s (VW1) compliance with conditions 5.4.3 (Anchoring Plan) and 5.3.2 (Evaluation of Additional Benthic Habitat Data) of COP Approval and associated coordination with NOAA NMFS. As further explained in the memo, VW1 is proposing to start seabed disturbance activities on Monday, 10/24, (b)(5) [REDACTED]
[REDACTED]
[REDACTED]

(b)(5)

Thanks,
Christine

Christine Crumpton

Environmental Protection Specialist (NEPA Coordinator)
Environment Branch for Renewable Energy
Office of Renewable Energy Programs

Bureau of Ocean Energy Management

45600 Woodland Road (VAM-OREP), Sterling, VA 20166
Cell: 703.438.5096 | christine.crumpton@boem.gov



From: [Meléndez-Arreaga, Pedro F](#)
To: [Annatoyn, Travis J](#); [Hawbecker, Karen S](#); [Vorkoper, Stephen R](#)
Subject: Fw: [EXTERNAL] VW1 anchoring Comments
Date: Wednesday, October 26, 2022 12:11:01 PM
Attachments: [VW1 Anchoring Plan NMFS comments 10.26.22signed.pdf](#)

NMFS comments on the anchoring plan.

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Hooker, Brian <Brian.Hooker@boem.gov>
Sent: Wednesday, October 26, 2022 12:05 PM
To: Crumpton, Christine V <Christine.Crumpton@boem.gov>
Cc: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: Fw: [EXTERNAL] VW1 anchoring Comments

The comments were specific (b)(5).

Brian R. Hooker
Lead Biologist
[Bureau of Ocean Energy Management](#)
Office of Renewable Energy Programs
Mail Stop VAM-OREP
45600 Woodland Road
Sterling Virginia 20166
Office: 703-787-1634
Mobile: 571-393-4367

From: Susan Tuxbury - NOAA Federal <susan.tuxbury@noaa.gov>
Sent: Wednesday, October 26, 2022 11:34 AM
To: Hooker, Brian <Brian.Hooker@boem.gov>
Cc: Turley, Tammy R CIV USARMY CENAE (USA) <(b)(6)>; Handell, Naomi J CIV USARMY CENAN (US) <(b)(6)>; Peter Burns - NOAA Federal <Peter.Burns@noaa.gov>; Alison Verkade - NOAA Federal <alison.verkade@noaa.gov>
Subject: [EXTERNAL] VW1 anchoring Comments

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Brian,

Lou transmitted our comments on the VW1 anchoring plan to Karen Baker this morning. See attached comments. Feel free to reach out if you have any questions. Thank you.

Sue



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930

October 26, 2022

Ms. Karen Baker
Chief, Office of Renewable Energy Programs
Bureau of Ocean Energy Management
45600 Woodland Road VAM-OEP
Sterling, VA 20166

RE: Vineyard Wind 1 Anchoring Plan

Dear Ms. Baker:

We are writing in response to your request for our review and comment of a Vineyard Wind Anchoring Plan, as outlined in your 5.4.2 Anchoring Plan Term and Condition (T&C) for the Vineyard Wind (VW) 1 Construction and Operation Plan (COP) approval. We received this updated plan on October 20, 2022, and you requested review and comments by October 26, 2022, to meet Vineyard Wind's proposal to begin construction on October 26, 2022. We consider this to be an unreasonable timeline for review and comment, but provide herein some initial comments and recommendations to help inform your decision related to the proposed anchoring plan. Our intent in doing so is to encourage you to comply with the accepted recommendations in our EFH consultation and specified as conditions of COP approval so that impacts to habitat areas of particular concern (HAPCs) in the project area can be avoided and minimized.

Based on our review of the documents you provided, we have not received any information to suggest that the COP Anchoring Plan T&C (5.4.2), or other COP T&Cs associated with our EFH consultation, have been met (specifically, 5.3.1- Benthic Monitoring Plan and, 5.3.2 -Evaluation of Additional Benthic Habitat Data Prior to Cable Laying). Despite this, we understand BOEM expects to approve the Anchoring Plan so that Vineyard Wind can begin construction. During a call with your staff on October 25, 2022, we learned that BOEM was recently presented with a proposed schedule for pre-lay grapnel runs and cable laying activities. This schedule suggests that, while some work is proposed for October and November, work within Muskeget Channel and associated juvenile cod HAPC is not expected to begin until February. We propose, as a way forward to avoid schedule delays, that any approval BOEM provides for the anchoring plan be conditional, with incorporation of the comments provided herein and through future correspondence. This approach would allow VW to demonstrate how impacts to hard bottom and juvenile cod HAPC will be avoided and minimized, consistent with T&C 5.4.2 and associated conservation recommendations BOEM accepted and committed to implement as part of our EFH consultation process.

VW Anchoring Plan Comments

Our ability to provide detailed comments on the anchoring plan is challenged by both the time allotted as well as the fact that BOEM has not provided us with the new habitat data collected as part of T&C 5.3.2--Evaluation of Additional Benthic Habitat Data Prior to Cable Laying. That new data collection should have been provided to us (as stated in BOEM's response to our EFH



CR) and used to inform development of the anchoring plan as well as the benthic monitoring plan (COP T&C 5.3.1). Based on our review of the anchoring plan, there is no evidence that the new data were used to evaluate appropriate locations for vessel anchoring. Even if we are to assume the delineations associated with the plan incorporate the new data and represent accurate habitat delineations, the plan does not “[demonstrate] how the Lessee will avoid and minimize impacts to benthic habitat” as required by COP T&C 5.4.2. The anchoring plan provides some discussion of and illustration as to how the 11- to 15-ton anchors will avoid eelgrass around Spindle Rock as well as ancient landforms (i.e., historic sites); however, the plan does not demonstrate how impacts to hard bottom or juvenile cod HAPC would be minimized. The plan simply states “hard/complex habitats” were one of the “main points held in consideration,” but the plan provides no evidence to support that statement based on the proposed locations for vessel anchoring and lacks discussion of how these habitats were considered. The lack of information and analysis is particularly concerning for juvenile cod HAPC within Muskeget Channel. The anchoring plan does not address any measures taken to avoid or minimize impacts to HAPC, as recommended in our EFH consultation and accepted by BOEM. Lastly, the anchoring plan only considers anchoring associated with cable installation and does not incorporate other necessary anchoring associated with pre-lay grapnel runs or boulder relocations. We would note that COP T&C 5.4.2 is “for all areas where anchoring is being used within 1,640 feet (500 meters) of sensitive habitats, resources, and submerged infrastructure, including hard bottom and structurally complex habitats.”

The anchoring plan provides some details related to how anchors will be set to avoid eelgrass around Spindle Rock in the inshore portion of the cable route. Based on our review, it appears more can be done to avoid and minimize impacts to the large-grain complex habitats immediately adjacent to the eelgrass bed. For example, the habitat data provided suggest there is soft sediment immediately adjacent to the hard bottom complex habitat where the anchor location is currently proposed, which may be a more suitable location to avoid and minimize impacts to complex hard bottom habitat. It is important to further reduce impacts to hard bottom and adjacent eelgrass because mid-line anchors are not being used. Recommendations for minimizing impacts to these inshore habitats are included below.

Recommendations and Next Steps

The proposed schedule for cable installation offers a path forward to address our concerns while avoiding schedule delays. Specifically, we recommend that any approval BOEM offers for the anchoring plan be conditional so that recommendations and requested information below can be incorporated into an updated anchoring plan. Such an approach would allow construction to begin while additional measures can be implemented to avoid and minimize impacts to juvenile cod HAPC in Muskeget Channel.

Recommendations for minimizing impacts to inshore habitats in and around Spindle Rock:

We understand that VW is proposing to begin construction in the inshore area in October and November and thus we offer some recommendations to further reduce impacts to hard complex habitats as well as eelgrass around this inshore portion of the cable route.

1. The anchor location closest to the delineated eelgrass bed should be placed further south within soft bottom habitat to avoid direct impacts to large grain hard bottom areas and

allow for greater distance between the anchor and the eelgrass bed. If the habitat information provided is accurate, this should not be a substantial shift south and would move the location out of large grain complex habitats into soft substrates and provide further distance from the eelgrass bed. This is particularly important since mid-line anchors are not being used.

2. Additional monitoring should be done in the inshore area within the eelgrass and adjacent complex habitats to evaluate impacts, determine if these habitats were avoided, and determine if additional mitigation is necessary.
3. The nearshore portion of the export cable corridor should be re-evaluated to avoid anchoring within complex habitats where soft-bottom habitats occur in close proximity to the proposed anchor locations. For any areas where the additional distance (or shorter distance) necessary to relocate anchors into soft bottom habitat is not feasible due to engineering constraints, a rationale for the unavoidable impact to complex habitats should be included in the anchoring plan.

Recommendations related to construction activities with Muskeget Channel:

We understand that VW is proposing to begin construction within Muskeget Channel in February and thus we recommend the additional information and updates to this portion of the anchoring plan be made prior to commencing construction in this area. Below we provide additional recommendations and information needs related to COP T&C 5.4.2, 5.3.1, and 5.3.2.

1. NMFS requests BOEM provide us the acoustic backscatter data with the 2020 sample data overlaid within the VW 1 corridor. This request is consistent with our EFH consultation, the Record of Decision, and COP T&C 5.3.2, and will allow us to better understand how this new habitat data was considered in the anchoring plan.
2. NMFS requests BOEM provide us with the updated benthic monitoring plan that incorporates the new habitat data. This request is consistent with COP T&C 5.3.1 and will be important to accurately understand project impacts to HAPCs within the project area.
3. Prior to commencement of construction within Muskeget Channel, NMFS requests BOEM provide us with an addendum to the Anchoring Plan that demonstrates, based on the updated habitat data, how in-water work is planned to avoid and minimize impacts to juvenile cod HAPC within Muskeget Channel, consistent with COP T&C 5.4.2 and 5.3.2. We recommend this be provided at least 90 days prior to construction to allow for sufficient time to review the updated Anchoring Plan (30 days) and ensure any feedback can be incorporated prior to construction commencement.

This requested information is necessary for us to assess the new habitat data and updated benthic monitoring plan and offer any additional comments or recommendations to help ensure impacts to juvenile cod HAPC is avoided and minimized, consistent with our EFH consultation for this project.

Conclusion

Based on this experience, we recommend BOEM and NMFS staff have a more robust discussion to allow us to better understand the standards BOEM is using to determine when a COP T&C has been met. This appears to be an issue for more than this VW project, as similar issues are

occurring with the South Fork Project. It is critical we ensure that conservation recommendations that are accepted by BOEM are adequately implemented and associated terms and conditions are met. Failing to do so will result in unnecessary and avoidable impacts to NOAA trust resources. Clearly we also need to ensure that NMFS staff are not only getting the information needed to respond to these reviews, but also provided sufficient time to do so. We hope the recommendations put forward in this letter will allow for the identification of measures to reduce impacts to HAPC while allowing construction to move forward as scheduled. If you have any further questions, please contact Sue Tuxbury (susan.tuxbury@noaa.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read "Louis A. Chiarella".

Louis A Chiarella
Assistant Regional Administrator
for Habitat Conservation

cc: Tammy Turley, USACE NAE
Naomi Handell, USACE NAD

Sent: Tuesday, November 1, 2022 5:12 PM

To: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>

Cc: Ellis, Angela (ENRD) <Angela.Ellis@usdoj.gov>

Subject: RE: [EXTERNAL] Vineyard Wind - Air emissions

Luke,

[I drafted the message below, but the attachment size prevented its delivery. What is described below as the third attachment (i.e., the EPA's Statement of Basis) is too big to send. I'm sending the first two attachments and the fourth one here, and what is described as the third attachment is BOEM_0050091. If you're confused about what attachment goes with what point, just let me know.]

I'm still thinking about the (b)(5) [REDACTED] of the argument, but I wanted to get back to you on the other (b)(5) [REDACTED].

(b)(5) [REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

(b)(5)

- [Redacted]

[Redacted]

- [Redacted]

[Redacted]

- [Redacted]

(b)(5) [Redacted]

- [Redacted]

[Redacted]

- [Redacted]
- [Redacted]

I'm happy to chat about any of these points.

Stephen Vorkoper | Attorney-advisor
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From: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>
Sent: Friday, October 28, 2022 5:01 PM
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Cc: Ellis, Angela (ENRD) <Angela.Ellis@usdoj.gov>
Subject: RE: [EXTERNAL] Vineyard Wind - Air emissions

Stephen, (b)(5) [Redacted] If so, they may be helpful.

From: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>

Sent: Wednesday, October 26, 2022 2:19 PM

To: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>

Cc: Ellis, Angela (ENRD) <Angela.Ellis@usdoj.gov>

Subject: RE: [EXTERNAL] Vineyard Wind - Air emissions

Thanks, Luke. I will try to have more considered thoughts within the next couple of days.

Just off the cuff, a couple of quick reactions:

- (b)(5) [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]

(b)(5)

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From: luke.hajek_contact <luke.hajek@usdoj.gov>
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Cc: Ellis, Angela (ENRD) <Angela.Ellis@usdoj.gov>
Subject: [EXTERNAL] Vineyard Wind - Air emissions

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Stephen and Pedro,

(b)(5)

[Redacted]

[Redacted] So let me know if you have thoughts on this.

(b)(5)

[Redacted text block]

In any event, any thoughts you have on this argument would be appreciated.

Thanks,
Luke

Luke Hajek
U.S. Department of Justice
(303) 241-0826

**UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS**

ACK RESIDENTS AGAINST TURBINES and
VALLORIE OLIVER,

Plaintiffs,

v.

U.S. BUREAU OF OCEAN ENERGY
MANAGEMENT; et al.,

Defendants,

and

VINEYARD WIND 1 LLC,

Intervenor-Defendant.

Case No. 1:21-CV-11390-IT

Hon. Indira Talwani

**PLAINTIFFS' MEMORANDUM OF POINTS AND AUTHORITIES IN OPPOSITION
TO CROSS-MOTIONS FOR SUMMARY JUDGMENT FILED BY FEDERAL
DEFENDANTS AND INTERVENOR VINEYARD WIND; PLAINTIFFS' REPLY IN
SUPPORT OF THEIR MOTION FOR SUMMARY JUDGMENT**

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Plaintiffs Nantucket (ACK) Residents Against Turbines and Vallorie Oliver (collectively, “Plaintiffs”) submit the following Memorandum of Points and Authorities in Opposition to the respective Cross-Motions for Summary Judgment filed by the United States Bureau of Ocean Energy Management, et al. (the “Federal Defendants”) and intervenor Vineyard Wind. This Memorandum also serves as Plaintiffs’ Reply Brief in support of its Motion for Summary Judgment.

I. INTRODUCTION AND SUMMARY OF ARGUMENT

On pages 60 and 61, the Biological Opinion (“BiOp”) for the Vineyard project summarizes the various human-related threats to the North Atlantic right whale, including entanglement in fishing gear, vessel strikes, loss of foraging habitat, and reduced prey species. (BOEM 77335-36.) The BiOp goes on to describe the right whales’ sharp and continuing population decline; recent mortality events involving vessel strikes and fishing gear entanglement; the species’ low calving rate; genetic isolation; and catastrophic loss of reproductive females. (*Ibid.*)

Then, in a rare moment of candor and transparency, the BiOp makes the following statement: **“Given the above information, North Atlantic right whales’ resilience to future perturbations is expected to be very low. (Hayes, et al. 2018a) . . . Consistent with this, recent modeling efforts indicate that the species may decline towards extinction if prey conditions worsen and anthropogenic mortalities are not reduced (Meyer-Gubrod et al. 2018).”** (BOEM 77336 [Emphasis added].)

Thus, the fundamental question to be addressed by the BiOp is this: Will the Vineyard Wind project add to the “perturbations” that now threaten the right whale with extinction? Or, to put it in the parlance of the Endangered Species Act (ESA), will the project jeopardize the species by adversely affecting its survivability or impeding its recovery?

The best available scientific and commercial data – some of which the BiOp uses, some of which it ignores – demonstrate that the Vineyard Wind project will not only increase and intensify the perturbations driving the right whale towards extinction, it will directly impact a large percentage of the 356 right whale individuals known to exist in the world, frustrating both the survival and the recovery of the species. The salient facts are these:

- The Vineyard Wind project area – also known as the Wind Development Area (WDA) – is located within the Rhode Island/Massachusetts Wind Energy Area (WEA), where 87 percent of all right whale individuals (327 of 356) were observed between 2011 and 2019. (NMFS 53319, 53324.)
- The Vineyard Wind WDA overlaps a right whale “hot spot” where whales congregate to feed and engage in other critical life history behaviors. (NMFS 53321-22, 53326.)
- The approved Vineyard Wind Construction and Operations Plan (COP) and the BiOp authorize Vineyard Wind to install up to 102 wind turbine generators (WTGs) in the WDA. (BOEM 77425.)
- These WTGs will be installed in the sea floor using pile driving. Pile driving generates high levels of impulsive sound at low-frequency bandwidths that overlap/correspond to right whale hearing. For this reason, the project’s pile driving activities will expose right whales to Level A and Level B harassment noise, leading to physical damage and hearing loss, both permanent and temporary. (BOEM 77461, 77438-40.)
- Vineyard Wind’s pile driving activities – by design – will force right whales out of the WDA into surrounding waters that are known to have high levels of commercial vessel traffic and significant amounts of vertical buoy ropes (VBR) – the very kind of fishing gear that entangles right whales and kills them. (BOEM 77580; NMFS 66321-22.)

- The project’s WTGs, once operational, will generate constant low-frequency noise, which can “mask” right whale vocalizations (e.g., up calls and “gunshots”) and reduce “communication space”. (NMFS 8751, 8756-60.)
- Project construction will require thousands of vessel trips back and forth between the WDA and staging ports in Massachusetts, Rhode Island, and Nova Scotia. These vessel trips will take place within right whale habitat, including right whale “hotspots” like the WDA itself. (BOEM 77293-94; NMFS 53321-22, 53326.)
- The vast majority of these vessel trips will be made by “crew transfer vessels”, which average approximately 90 feet in length and travel at 25 knots per hour. (BOEM 34861.) Although scientific studies show that whales struck by vessels traveling in excess of 15 knots per hour die 100 percent of the time (BOEM 129897, 129902), the BiOp *exempts* crew transfer vessels from the 10-knot per hour speed limits that applies to other project-related boats and ships. (BOEM 77304, 77525.)
- Significant numbers of right whales reside in or migrate through the WDA **year-round**, including during those months when pile driving and other construction activities will be occurring at the project site. (NMFS 53324, 53329.)

Despite this evidence showing the Vineyard Wind project will exacerbate the very threats that are quickly extirpating the North Atlantic right whale, the BiOp concludes that the project will neither reduce the survivability of the species nor impede its recovery – i.e., will not “jeopardize” the species. (BOEM 77630-31.) The author of the BiOp, the National Marine Fisheries Service (NMFS), bases this “no jeopardy” determination on its “expectation” that the mitigation measures proposed by Vineyard Wind and incorporated into the project will effectively protect right whales

from Level A pile driving noise, vessel strikes, and all other project-related impacts. (BOEM 77628.)

But the data in the record, including information set forth in the BiOp itself, demonstrate that this expectation is unfounded. For example, before each pile driving event, the BiOp requires Vineyard Wind to establish a right whale “clearance zone” using Passive Acoustic Monitoring (PAM). From June 1 to October 31 – when most pile driving is anticipated to occur – the clearance zone will extend only 5 kilometers (km) from the pile driving activity, which is substantially less than the Level A noise contour for pile driving, which extends approximately 7.25 km from the pile driving site. (BOEM 77442, 77453, 77457.) This means that some right whales could enter the Level A noise exposure zone and not be detected by PAM, resulting in unauthorized take.

But that’s not the half of it. The BiOp draws a distinction between “clearance” zones, which are established *before* pile driving commences, and “shut-down” zones, which are implemented *during* pile driving activity. (BOEM 77453.) According to the BiOp, from June 1 to October 31, the PAM shut-down zone extends only 3.2 km from the pile-driving site, even though the pile driving activity will generate Level A noise at a radius of 7.25 km. (*Ibid.*) Consequently, during active pile driving, no shut-down order will be given *unless* a whale is detected within that 3.2-km zone. Whales swimming outside the 3.2-km shut-down zone but within the 7.25-km Level A noise contour will be exposed to Level A noise, and no shut-down order will be given to protect them. This, too, will result in unauthorized take.

In addition, PAM has significant limitations in its ability to guarantee that right whales are absent from the pile driving impact area. Unlike sonar, which can detect any physical body within its scope, PAM equipment can only detect whales that are *actively vocalizing* within the PAM coverage area. Baleen whales, including right whales, often go hours, even days, without

vocalizing.¹ Such “silent” whales will not be detected by PAM, even when present within the PAM coverage zone. As a result, these whales would be exposed to the project’s Level A pile driving noise and the PAM operator would not even know about it. In short, PAM cannot ensure that the project’s Level A noise exposure area is free of right whales. The proposed Protected Species Observers (PSOs) will not be able to fill this “detection” gap, because the PSOs, even when stationed on an elevated platform, can only see whales at a distance of 1.5 km or less, and that’s if the whales are on the water’s surface. PSOs cannot detect whales more than a few feet under the water.

Then there is the matter of vessel strikes. The most effective way to avoid vessel strikes on right whales is to restrict vessel speeds to 10 knots per hour or less. (BOEM 77519, 77524; NMFS 3490-96.) The BiOp imposes a 10-knot speed limit on project-related vessels, but with two huge exceptions. (BOEM 77304.) First, all project vessels can disregard the 10-knot speed limit when transiting through Nantucket Sound, which lies between mainland Massachusetts and the project WDA. (BOEM 77304.) Second, the 10-knot speed limit does *not* apply to crew transfer vessels, no matter where they are traveling to or from. (BOEM 77304, 77525.) Crew transfer vessels – which account for the majority of the project’s anticipated vessel trips – average 90 feet in length and travel at 25 knots (BOEM 34746, 34861), well above the speed at which a vessel strike is 100 percent fatal for whales (15 knots). (BOEM 129897, 129902.) These two exceptions completely gut the 10-knot speed limit and undermine its ability to protect right whales from vessel strikes.

¹ See, Barkaszi, et al., “PAMGuard Quality Assurance Module for Marine Mammal Detection Using Passive Acoustic Monitoring: Signal Injection and Detection Evaluator (SIDE),” CSA Ocean Sciences, Inc., August 2020, Executive Summary and Section 2.1.1.3, a true and correct copy can be accessed through the link provided in the declaration of David P. Hubbard in Support of Plaintiffs’ Motion for Summary Judgment; see also Plaintiffs’ Supplemental Statement of Material Facts in Support of Plaintiffs’ Motion for Summary Judgment, ¶ 2.

NMFS and Vineyard Wind, however, tell us not to worry about vessel strikes because each boat will be assigned at least one PSO whose job is to scan the surface of the water looking for right whales. If the PSO sees one, he or she is required to alert the boat captain, who in turn can take evasive action to avoid striking the animal. As noted, however, PSOs cannot see below the water's surface, and research shows that whales swimming as deep as 30 feet can still be caught in the "draft pull" of the boat's hull, resulting in a collision. (NMFS 6117.)

NMFS and Vineyard Wind contend that any whales that slip by the PSOs will be detected by PAM equipment. Again, however, PAM can only detect whales when they are actively vocalizing; non-vocalizing whales will not register. (Barkaszi, et al. (2020).) Also, nothing in the BiOp mandates that such equipment be installed on crew transfer vessels (or any other project-related ship); nor does the BiOp require Vineyard Wind to install PAM equipment to provide full coverage of the 55-mile vessel route between the staging port in New Bedford, Massachusetts and the project WDA. Moreover, none of the BiOp mitigation measures apply to the areas immediately outside the project's "Action Area".² This is critical, because Vineyard Wind, through its "soft start" pile driving procedure, hopes to push right whales away from the project site and into surrounding waters – waters known to have significant vessel traffic, both commercial and recreational. (BOEM 34742; BOEM 77310, 77458; BOEM 194539; BOEM 77411, 77580.)

² The project's "Action Area" is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." The action area includes the 75,614 acre WDA where project activities will occur and the surrounding areas ensounded by proposed Project noise; the OECC, which extends north through Muskeget Channel to landfall in south-central Cape Code; the vessel transit areas between the WDA and ports in Massachusetts (New Bedford, Brayton Point, and Montaup), Rhode Island (Providence and Quonset Point, Rhode Island) and Canada (Sheets Port, St. John, and Halifax) and the routes used by vessels transporting manufactured components from Europe (see Figure 3.4.1, 3.4.2, and 3.4.3) inclusive of the portion of the Atlantic Ocean that will be transited by those vessels and the territorial sea of nations along the European Atlantic coast from which those vessels will originate. (BOEM 77320.)

Simply put, the proposed mitigation measures are insufficient to prevent project-related vessel strikes on right whales. And given that the right whale's Potential Biological Removal (PBR) rate has dropped to 0.8 – meaning it cannot absorb even one human-caused mortality per year and sustain its current population size – any project-related vessel strike will jeopardize the species. (NMFS 33684.)

The BiOp's fundamental defect is its refusal to adjust its impact/jeopardy analysis to recent data showing that (i) right whales have sustained, and continue to sustain, significant “mortality events” each year, causing the species to lose more individuals than it can replace through new births; (ii) right whales, like their prey species, have shifted their geographical preferences and now congregate in the waters south of Nantucket – including the Vineyard Wind WDA – to forage and engage in other live history behaviors; (iii) the WDA itself is a right whale “hotspot”; and (iv) right whales are no longer just seasonal visitors to the waters south of Nantucket but reside in or use these waters year-round, including the summer and fall months when Vineyard Wind plans to conduct pile-driving and other construction activities at the project site.

This failure to use the best available data on right whale threats, population trends, and year-round residency in the Vineyard Wind WDA is perhaps most pronounced in the BiOp's uber-brief, back-of-the-napkin assessment of the project's potential to impede recovery of the species. Rather than test the project's impacts against the right whale's current status – i.e., declining population, low calving rate, increased mortality events, loss of reproductive females, reduced and shifting prey species – the BiOp's recovery analysis simply assumes the project's mitigation measures will be enough to prevent project-related impacts from impairing recovery. In fact, the BiOp does not actually assess the project in relation to the right whale's recovery goals – which are tied to the ultimate delisting of the species – but to four criteria NMFS has developed for

reclassifying the right whale from “endangered” to “threatened”. (BOEM 77630.) In this very real sense, the BiOp includes no true “recovery” analysis at all.

Neither the federal defendants nor Vineyard Wind make a serious effort to address Plaintiffs’ arguments regarding the BiOp’s deficient “recovery” analysis, tacitly admitting that the document fails to provide this legally-required element of the jeopardy assessment.

The flaws in the BiOp are then repeated in the Vineyard Wind Environmental Impact Statement (EIS). Like the BiOp, the EIS downplays the WDA’s importance to the right whale and fails to analyze the project’s impacts in light of recent data showing that the whale has shifted its foraging preferences and now relies heavily on the RI/MA WEA (including the Vineyard Wind WDA) for food. It also makes the same false assumptions regarding the effectiveness of Vineyard Wind’s proposed measures for mitigating noise and vessel strike impacts on right whales. And, just like the BiOp, the Vineyard Wind EIS does not even mention, much less investigate, whether and to what extent the project (and the six other offshore wind farms slated for Massachusetts WEA) will drive right whales into areas of heavy vessel traffic and high concentrations of fixed fishing gear.

On a completely different front, the EIS also provides a deficient analysis of the Vineyard Wind project’s air emissions, both inshore and offshore, including those that contribute to climate change. For example, the EIS fails to compare the project’s emissions to the applicable Clean Air Act (CAA) National Ambient Air Quality Standard (NAAQS) thresholds for each regulated pollutant. The federal defendants and Vineyard Wind claim that this information is set forth in an appendix to Vineyard Wind’s COP; but NEPA does not permit federal agencies to tuck key impact information in appendices to non-NEPA documents. Instead, the impact information must be contained in the EIS itself. More egregious still is the EIS’s utter failure to account for emissions

from the project's much-touted ability to generate economic growth and new employment. The federal defendants and Vineyard Wind are happy to take credit for the economic boom they claim the project will create (see Doc. 28-1 at 2), but they do not assess the air quality and GHG impacts of that growth. In failing to model, measure, analyze, and disclose these growth-related emissions, the EIS violated NEPA.

The federal defendants and Vineyard Wind have no convincing answer to Plaintiffs' *substantive* arguments regarding the legal defects of the BiOp and the EIS. So they retreat to *procedural* defenses, arguing first that Plaintiffs lack standing to pursue this litigation, and second that Plaintiffs' Notice of Intent to Sue letters and NEPA comments did not adequately warn NMFS and BOEM of the claims now made in Plaintiffs' legal brief, resulting in a failure to exhaust administrative remedies.

These defenses are without merit. As shown below, the Plaintiffs have adequately demonstrated injury in fact and causation for purposes of establishing standing on their ESA and NEPA causes of action. The declarations of Vallorie Oliver and Amy DiSibio, both of whom are members of plaintiff Nantucket (ACK) Residents Against Turbines, show that each of them resides on Nantucket; have a significant connection to the North Atlantic right whale; are worried that it is being pushed toward extinction; would be emotionally distraught if the project were to harm or kill any right whale and further jeopardize the species; and have concrete plans to observe the right whale in the future.

To remove any confusion on this point, Vallorie Oliver has submitted a supplement to her original declaration, where she explains and clarifies the emotional and psychological injury she will suffer knowing that the Vineyard Wind project will adversely affect right whales, potentially leading to its extirpation within Ms. Oliver's lifetime. Scientists now refer to this type of injury as

“ecological grief”, which includes the anguish one feels when ecosystems are damaged and species are lost. Ms. Oliver’s supplemental declaration also clears up any misperceptions about her standing to challenge the EIS’s air quality analysis. She *does* live on Nantucket; she *does* breathe while she is there; she *does* visit the onshore areas near New Bedford (Vineyard Wind’s staging port); and she *does* breathe air while on these trips to the mainland.

Finally, there is no question that Plaintiffs exhausted their administrative remedies. Their 60-day Notice of Intent to Sue letters adequately apprised the federal defendants of the defects of the BiOp, including (i) the BiOp’s mistaken assumption that the Vineyard Wind project would not expose right whales to Level A harassment noise, (ii) the potential threats and impacts right whales may encounter when pushed out of the WDA by project pile driving, and (iii) the BiOps failure to present a complete, accurate, and up-to-date picture of the right whale’s currently imperiled status, including its steep slide towards extinction. Plaintiffs’ comments on the Draft, Supplemental, and Final EIS likewise alerted BOEM to the deficiencies in the document’s analysis of project impacts on right whales, air quality, and GHG emissions.

II. THE PROCEDURAL DEFENSES ADVANCED BY FEDERAL DEFENDANTS AND VINEYARD WIND HAVE NO MERIT

A. Plaintiffs Have Standing to Pursue Their ESA and NEPA Claims

Plaintiffs attached to their Opening Brief the declarations of Vallorie Oliver and Amy DiSibio, both of whom are members of plaintiff Nantucket (ACK) Residents Against Turbines. (See Doc. 88-2 and Doc. 88-3.) These declarations establish that Ms. Oliver and Ms. DiSibio – and, by extension, Nantucket Residents Against Turbines – have been or will be injured by the federal defendants’ adoption of the BiOp and EIS for the Vineyard Wind project, as these decisions will lead to the construction and operation of the project itself, which will adversely affect Ms. Oliver’s and Ms. DiSibio’s interests. (*Ibid.*) In their declarations, Ms. Oliver and Ms. DiSibio

provide evidence that they will suffer “injury in fact” should the project, as approved, be implemented, and that their injuries can be redressed by this Court by setting aside the BiOp and/or the EIS challenged in this lawsuit.

In their cross-motion for summary judgment, the federal defendants contend that the declarations of Ms. Oliver and Ms. DiSibio are insufficient to establish injury in fact under the ESA and thus the Plaintiffs lack standing to engage this Court’s jurisdiction on matters pertaining to the adequacy of the Vineyard Wind BiOp. (Doc. 97 at pp. 16-17.) Vineyard Wind joins in this argument (without briefing it), but also asserts that Plaintiffs lack standing under NEPA to challenge the EIS’s analysis of project impacts on air quality and GHG emissions. (Doc. 100 at p. 8.) As shown below, however, the standing bar under the ESA and NEPA is nowhere near as high as the federal defendants and Vineyard Wind want to put it, and Plaintiffs clear it with ease.

1. Plaintiffs Have Standing to Pursue ESA Claims

To establish constitutional standing, plaintiffs must show that they meet three criteria: (1) injury in fact, (2) causation, and (3) redressability. *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992). An association, such as Nantucket Residents Against Turbines, has standing to bring suit on behalf of its members provided “its members would otherwise have standing to sue in their own right.” *Center for Biological Diversity v. Haaland*, 562 F.Supp.3d 68, 78 (2021), quoting *Hunt v. Washington State Apple Advert. Comm.*, 432 U.S. 333, 343 (1977).

In her declaration, Ms. DiSibio states that she is a part-time resident of, and long-time visitor to, Nantucket, and enjoys the rich marine life that surrounds Nantucket Island, including threatened and endangered species. Doc. 88-3 at ¶ 4. She also avers that she has had, and continues to have, “opportunities to observe them [threatened and endangered species] in their natural habitat.” *Ibid.* Next, she states that “[m]y family and I enjoy whale watching off Nantucket” and

“[m]any of these sea animals, including and especially the North Atlantic right whale, are truly magnificent.” *Ibid.* Ms. DiSibio then turns inward, to express her personal feelings of loss should the Vineyard Wind project harm right whales and push the species toward extinction:

I have kept myself informed about the right whale and its recent slide toward extinction. It pains me to think that there are only about 325 of these incredible marine mammals left in the entire world, and that the Vineyard Wind Project may cause them harm or result in further losses. I feel a responsibility to protect the right whale and the other potentially affected marine species against the damage the Project may bring.

Doc. 88-3 at ¶ 4.

Ms. Oliver, in her declaration, expresses similar connections to the North Atlantic right whale. First, for context, she states that she was born on Nantucket and has resided there her entire life (60 years). Doc 88-2 at ¶ 3. Next, she explains that, from the time she was a child, life on Nantucket centered around whales, and that the cultural history of the island “is defined by the whale.” *Ibid.* Ms. Oliver then states she enjoys the natural environment that Nantucket offers, “especially the rich marine life that defines what Nantucket is and what we want it to be in the future” *Ibid.* As to the right whale, Ms. Oliver writes:

I am awe inspired that so many marine animals, including some that are threatened or endangered, still choose to visit and live in the waters around Nantucket. I love that I have had, and continue to have, opportunities to observe them in their natural habitat. Many of these sea animals, including and especially the North Atlantic right whale, are truly magnificent to behold. *Seeing them, whether from a boat or from the air, is a sacred and metaphysical experience that most people never get the chance to encounter.* It is a sublime connection you have with them, one you have been near them and seen how majestic these animals truly are. It comforts me to know that they are still there, just under the surface, sharing the water with me, even when I am not near them.

Doc. 88-2 at ¶ 3. (Emphasis added.)

Ms. Oliver follows up this statement by expressing her fear that the Vineyard Wind project, as approved, will hasten the right whale’s extirpation.

Additionally, the permissions that have been granted to harm and take a whale is disconcerting. This non-logical action will in all likely hood (sic), drive this species toward extinction. Should the Project result in any harm to North Atlantic right whales, or any other listed species, I will feel that I have failed in my duty to protect them”

Doc 88-2 at ¶ 3.

The declarations proffered by Ms. DiSibio and Ms. Oliver establish that they live in, visit, and share the same maritime ecosystem that has become a refuge for the North Atlantic right whale. The declarations also establish that both women have a deep connection to the right whale and are committed to its preservation not only in the waters around Nantucket, but overall. Ms. DiSibio has declared that she and her family go whale watching off Nantucket – a recreational and aesthetic experience that the project could substantially diminish. The Supreme Court, in *Japan Whaling Ass’n v. Am. Cetacean Soc’y*, 478 U.S. 221, 231 n. 4 (1986) found that whale watchers alleged sufficient injury in fact by asserting that their whale watching activities would be adversely affected by the defendants’ whale harvesting. This is no different. And the Supreme Court has stated that “environmental plaintiffs adequately allege injury in fact when they aver that they use the affected area and are persons for whom the aesthetic and recreational values of the area will be lessened by the challenged activity.” *Friends of the Earth, Inc. v. Laidlaw Envtl. Servs. (TOC), Inc.*, 528 U.S. 167, 183 (2000)

The federal defendants, however, are not satisfied. They complain that neither declarant “provides any specific facts to establish that she has ever seen a right whale, or that she has any concrete plans to attempt to see them in the future.” (Doc. 97 at p. 16.) However, while the “desire to use or observe an animal species, even for purely esthetic purposes,” will confer standing under the ESA (*Lujan*, 504 U.S. at 562-63), a plaintiff does not *forfeit* standing simply because she has not seen the animal in question. This issue was squarely addressed in *National Wildlife Federation*

v. Norton, 386 F.Supp.2d 553, where a conservation group challenged a decision of the U.S. Fish and Wildlife Service (USFWS) to reclassify the gray wolf from “endangered” to “threatened”. *National Wildlife Federation v. Norton*, *supra*, 386 F.Supp.2d at 557. The USFWS argued that because none of plaintiff’s declarants had actually seen a gray wolf, plaintiff lacked standing. The court disagreed: “Even though the Declarants have not actually seen a gray wolf, actual observation of a rare, endangered species is not the test for standing in ESA cases, and therefore, plaintiffs have demonstrated ‘injury in fact’.” *Id.*, at p. 560.

But even if “observation of the animal” were the litmus test for standing to bring claims under the ESA, plaintiffs would pass. Ms. Oliver, in her declaration, discusses her opportunities to observe North Atlantic right whales in their natural habitat; how they are “magnificent to behold”; and that “seeing them” from a boat or from the air, is a “sacred and metaphysical experience.” Doc. 88-2 at ¶3. It is difficult to see how the federal defendants can read these words, in the context in which they were provided, and conclude that Ms. Oliver has not observed a right whale and has no concrete intention to ever observe one in the future. Apparently, however, the federal defendants need Ms. Oliver to say the magic words “I’ve seen a right whale and I have concrete plans in the future to see a right whale again.” To appease federal defendants and eliminate all debate on the matter, Ms. Oliver has proffered a supplemental declaration, attached hereto, which includes the very statement that federal defendants want to hear:

As I explained in my first declaration, dated July 25, 2022 (ECF 88-2), the North Atlantic right whale is embedded in the cultural fabric of Nantucket and is an integral part of my personal environment. *I have seen right whales in the waters around Nantucket, including waters potentially affected by the proposed Vineyard Wind project. And while the number of right whales continues to drop to dangerously low levels and now rests at about 350 individuals, I do have concrete plans to observe right whales in the waters around Nantucket in the future.* I will do so, of course, while maintaining the federally mandated 500 yards of separation between myself and any right whale that I might see.

See Supp. Oliver Decl., ¶4 (emphasis added).³

The injuries sustained, or to be sustained, by Ms. Oliver are not limited to reduced opportunities for observing North Atlantic right whales. As she explains in her supplemental declaration, the Vineyard Wind project has the potential to contribute to the extirpation of the right whale, leading Ms. Oliver to suffer what environmental scientists and psychologists now refer to as “ecological grief”.

According to Ashlee Cunsolo and Neville R. Ellis, who first coined the term in their article “Ecological grief as a mental health response to climate change-related loss” (*Nature Climate Change*, Vol.8, April 2018, pp. 275-281), ecological grief is “the grief felt in relation to experience or anticipated ecological losses, *including the loss of species*, ecosystems and meaningful landscapes due to acute or chronic environmental change.” *Id.*, p. 275.⁴ This phenomenon of ecological grief has recently received significant scientific attention. See, for example, Clark, Timothy (2020) “Ecological grief and anthropocene horror.” *American imago* 77(1), pp. 61-80; Agoston, Csilla, et al. (2022), “The psychological consequences of the ecological crisis: Three new questionnaires to assess eco-anxiety, eco-guilt, and ecological grief,” *Climate Risk*

³ In the event federal defendants or Vineyard Wind object to Ms. Oliver’s supplemental declaration on grounds it was attached to Plaintiffs’ Reply Brief, we would point out that when a plaintiff’s standing is challenged on cross-motions for summary judgment, nothing precludes that plaintiff from submitting evidence of standing in a Reply/Opposition Brief. *Ellis v. Housenger*, 252 F.Supp.3d 800, 812 (N.D. Cal. 2017) [“where . . . the issue of standing is raised in a motion for summary judgment filed by the defendant, the plaintiff, in its opposition, may offer evidence to establish its standing at that time”]. Here, the Plaintiffs’ Reply Brief also serves as their Opposition to the respective cross-motions for summary judgment filed by the federal defendants and Vineyard Wind, both of whom have a future opportunity to respond to the evidence set forth in Ms. Oliver’s supplemental declaration. As a result, neither the federal defendants nor Vineyard Wind is prejudiced.

⁴ A true and correct copy of the Cunsolo and Ellis article can be accessed through the link provided in the Declaration of David P. Hubbard in support of Plaintiffs’ Motion for Summary Judgment (Dec. of D. Hubbard).

Management, Vol. 37; Kent, Suzanne and Keri Vacanti Brondo, “‘Years Ago the Crab was so Plenty’: Anthropology’s Role in Ecological Grieving and Conservation Work,” *Culture, Agriculture, Food and Environment* (2019); Ojala, et al., “Anxiety, Worry and Grief in a Time of Environmental and Climate Crisis: A Narrative Review,” *Annual Review of Environmental Resources* (2021), Vol. 46, pp. 35-58; Cunsolo, et al, “You can never replace the caribou: Inuit Experiences of Ecological Grief from Caribou Declines,” *America Imago*, 77(1), pp. 31-59).⁵ There is general consensus among these experts that mental health degradation stemming from ecological loss is becoming more common and more serious. This sense of loss, and the mental and emotional anguish it causes, tends to be most acute among people who share a landscape or ecosystem with a particular species that was once embedded in the culture but has now disappeared. Cunsolo and Ellis (2018).

In her supplemental declaration, Ms. Oliver describes how the Vineyard Wind project, if it were to cause further loss of right whales, would harm her emotionally and psychologically. (Supp. Dec. of Vallorie Oliver, ¶¶ 2-3.) As Ms. Oliver emphasizes, the whale is central to the place she has called home her entire life, and anything that further reduces the whales’ population or its potential for recovery directly damages her in turn, causing her to experience emotional distress. (*Ibid.*) This is the very definition of “ecological grief” and it constitutes injury in fact, thereby conferring standing on Ms. Oliver and Nantucket Residents Against Turbines to pursue this action under the ESA.

⁵ True and correct copies of these five articles can be accessed through the link provided in the Dec. of D. Hubbard.

2. *Plaintiffs' Have Standing to Pursue NEPA Claims*

Plaintiffs have challenged the Vineyard Wind EIS on grounds that it fails to provide a NEPA-compliant analysis of the project's impacts on (i) North Atlantic right whales, (ii) air quality, and (iii) GHG emissions. The federal defendants raise no "standing" defense to these claims, apparently satisfied that Plaintiffs have established a sufficient injury in fact to prosecute them. (See Doc. 97 at pp. 15-18.) Vineyard Wind, however, contends Plaintiffs have no standing to challenge the EIS's air quality analysis because there is insufficient evidence that the project's air emissions will actually reach Plaintiffs and cause them any harm. (Doc. 100 at pp. 9-12.) The fact that Ms. Oliver resides on Nantucket Island, just 14 miles from the Vineyard Wind WDA, is not enough to convince Vineyard Wind that she might inhale air carrying pollutants from the project. According to Vineyard Wind, Ms. Oliver must hire an air emissions expert to establish injury in fact and causation sufficient to give her standing to sue under NEPA. (Doc. 100 at pp. 10-11.) Vineyard Wind's position is absurd and finds no support in the law.

For example, Vineyard Wind contends that "[d]emonstrating one is actually affected by a specific source of air pollutant emissions requires expert testimony." (Doc. 100 at p. 10.) As authority for this contention, Vineyard Wind cites *Heinrich v. Sweet*, 308 F.3d 48, 61 (1st Cir. 2002), *Jackson v. Johnson & Johnson*, 330 F. Supp. 3d 616, 625 (D. Mass. 2018), and *Pritchard v. Stanley Access Techs., LLC*, 2011 WL 309662, at *5 (D. Mass. Jan. 27, 2011). (Doc. 100 at p. 10.) None of these three cases, however, address Article III standing requirements for a NEPA claim. In fact, none of them involves standing issues at all. All three cases were tort actions where the defendants disputed the plaintiffs' ability to prove causation and, by extension, liability.

Heinrich v. Sweet involved a wrongful death claim against two physicians and the hospital with which they were affiliated. *Heinrich v. Sweet*, *supra*, 308 F.3d at 48. In that case, the court

held that expert testimony was required to establish a causal connection between the treatment prescribed by the doctors and the patient's death. *Heinrich v. Sweet, supra*, 308 F.3d at 61. Thus, *Heinrich* does **not** stand for the proposition that a NEPA plaintiff, to establish standing to challenge an EIS's air quality impact analysis, must demonstrate through expert testimony that he or she will be injured by the project's air emissions.

Jackson v. Johnson & Johnson is inapposite for similar reasons. There, the plaintiff sued the defendant pharmaceutical company alleging physical and emotional damage from ingesting the defendant's antipsychotic medication. *Jackson v. Johnson & Johnson, supra*, 330 F. Supp. 3d at 625. Like *Heinrich*, the *Jackson* case did not involve any defense based on lack of standing. Instead, the defendant pharmaceutical company argued, and the court agreed, that without expert testimony, the plaintiff could not establish causation for purposes of imposing tort liability. *Ibid.* Again, this holding has nothing to do with Article III standing requirements for a NEPA claim.

Pritchard v. Stanley Access Techs., LLC also provides no support for Vineyard Wind's position. That case, like *Heinrich* and *Jackson*, involved personal injury torts grounded in negligence. *Pritchard v. Stanley Access Techs., LLC, supra*, 2011 WL 309662, at *1-2. It did not involve a defense based on lack of standing and did not address claims under NEPA.

Fortunately, we are not without guidance as to the type and extent of evidence needed to satisfy the "causation" element of standing in the NEPA context. In *Hall v. Norton*, 266 F.3d 969, 976-977 (9th Cir. 2001), the 9th Circuit addressed this very issue. The plaintiff in *Hall* sued the United States Bureau of Land Management (BLM) over its decision to exchange lands with a private developer, alleging (among other things) that the Environmental Assessment (EA) for the action provided an inadequate analysis of air quality impacts. *Hall v. Norton, supra*, 266 F.3d at 971-72. BLM moved for summary judgment on grounds that the plaintiff had not satisfied the

“causation” criterion for Article III standing. *Id.*, at pp. 973-74. The district court, finding in favor of BLM, ruled that the plaintiff, in order to establish standing, had to demonstrate a linkage between his alleged injury and air emissions from the specific parcels to be exchanged. *Id.*, at p. 974. The Ninth Circuit reversed, and in so doing articulated a clear distinction between the evidence required to establish standing and that required to demonstrate causation for purposes of tort liability:

The purpose of the standing doctrine is to ensure that the plaintiff has a concrete dispute with the defendant, not that the plaintiff will ultimately prevail against the defendant. ***Thus, Hall need not establish causation with the degree of certainty that would be required of him to succeed on the merits, say, of a tort claim.*** Rather, Hall need only establish “the ‘reasonable probability’ of the challenged action’s threat to [his] concrete interest.”

Id., at pp. 976-77, quoting *Churchill County v. Babbitt*, 150 F.3d 1072, 1078 (9th Cir. 1998) [emphasis added].

Despite this clear statement of the law, Vineyard Wind goes on at length describing the scientific proof Vallorie Oliver and Amy DiSibio would have to submit before standing would be conferred. (Doc. 100 at pp. 10-11.) Vineyard Wind even retained an air modeling expert, Shari Libicki, to opine on the precise types of technical analyses that would be required to determine whether the project’s air emissions would affect people on Nantucket. See Doc. 100 at 10-11; see also Declaration of Shari Libicki in support of Doc. 100 at ¶¶ 33-35. Ironically, Ms. Libicki testimony says more about the inadequacy of the Vineyard Wind EIS than it does about Article III standing requirements.

For example, Ms. Libicki states that “Plaintiffs have not asserted any potential air quality impacts and could not do so by simply reviewing the materials provided in the COP appendix or the Final EIS.” Decl. of Shari Libicki, ¶¶ 33-34; Doc. 100 at 11. Thus, according to Ms. Libicki, the air emissions data set forth in the COP appendix and the Final EIS are insufficient to determine

whether there would be air quality impacts on Nantucket (and, presumably, Martha's Vineyard and mainland towns like New Bedford). Not exactly a ringing endorsement of the EIS's air quality analysis. Then, Ms. Libicki indicates that understanding exposure to air pollutants requires emission "dispersion modeling", which "uses mathematical techniques to simulate the air and chemical processes that affect air pollutants as they disperse and react in the atmosphere." Decl. of Shari Libicki, ¶ 35; Doc. 100 at 11. Ms. Libicki goes on, stating that this modeling requires "[c]omplex data sets . . . including meteorological data (a historical record of wind speed, wind direction, atmospheric stability, temperatures, and other meteorological parameters)" as well as "the location, configuration, and emission patterns of the emissions sources." *Ibid.*

Holy mackerel.

It would have been nice if BOEM and Vineyard Wind had provided this kind of detailed impact information in the EIS, but they did not. Yet Vineyard Wind is now arguing that Vallorie Oliver and Amy DiSibio, to demonstrate standing under NEPA, needed to hire an air quality modeling expert to generate these intensive air emissions data. Ridiculous. Fortunately, the law does not require Plaintiff to meet Vineyard Wind's demands. In her supplemental declaration, Vallorie Oliver confirms that she lives on Nantucket Island and thus shares the same air basin where the project's emissions will be received and felt. Supp. Dec. of Vallorie Oliver, ¶ 12. Ms. Oliver's supplemental declaration also establishes that she routinely visits cities and towns on the Massachusetts mainland, including New Bedford, where the project will be conducting most of its staging operations and generating significant employment, economic growth, and, by extension, air emissions. *Ibid.*

In addition, the evidence shows that the project will emit air pollutants regulated under the CAA. (See BOEM 37829, 37840.) The NAAQS for these criteria pollutants were established to

protect human health. By definition, then, emissions of these pollutants have the potential to harm human health, including Vallorie Oliver's. Therefore, she satisfies both the injury in fact and causation requirements for standing to challenge the Vineyard Wind EIS air quality analysis.

3. Plaintiffs Have Met All Criteria for Standing

As shown above, the Plaintiffs have demonstrated injury in fact for their ESA and NEPA claims. It is also clear that the injuries in question have been or will be caused by the Vineyard Wind project – a project that would not be implemented *but for* federal defendants' adoption of the BiOp (including its Incidental Take Authorization) and the EIS. Thus, Plaintiffs satisfy the "causation" element of standing as well. Lastly, there is no question that this court can redress Plaintiffs' complaints and prevent their injuries by declaring the BiOp and EIS legally inadequate, setting them aside, and halting the Project until they are revamped to comply with federal law. Consequently, Plaintiffs satisfy the third and final standing criterion as well.

B. Plaintiffs Exhausted Their Administrative Remedies

The federal defendants contend that Plaintiffs' 60-day NOI letters criticizing the BiOp failed to apprise NMFS and BOEM of five issues raised in Plaintiffs' Opening Brief: (1) that whales, in response to the project's "soft start" pile driving procedure, would flee "to NMFS Statistical Area 537"; (2) that the BiOp fails to consider the right whale's Potential Biological Removal (PBR) threshold; (3) that the override procedure for pile driving was problematic; (4) that the size of the pile driving clearance zone was insufficient; and (5) that the PAM detection limit was inadequate given the size of the project's Level A noise impact area. (Doc. 97 at p. 9.) For its part, Vineyard Wind alleges Plaintiffs failed to notify BOEM that the EIS included insufficient data on the project's air pollution emissions. (Doc. 100 at pp. 28-29.) A quick review

of Plaintiffs' 60-day NOI letters and EIS comments shows that Plaintiffs adequately alerted NMFS and BOEM to each of these issues.

1. Challenges to Biological Opinions Do Not Require 60-Day Notice

As an initial matter, the law is well-settled that challenges to biological opinions are brought pursuant to the Administrative Procedures Act (the "APA"), *not* the citizen suit provision of the ESA. *Strahan v. Linnon*, 967 F.Supp. 581, 592 (D.Mass. 1997). Therefore, such challenges are not subject to the citizen suit provision's 60-day notice requirement. (*Ibid.*) For this reason, federal defendants cannot now assert that Plaintiffs failed to exhaust their administrative remedies regarding challenges to the adequacy of the Vineyard Wind BiOp. There were no administrative remedies to exhaust. But even if Plaintiffs *were* required to submit a 60-day NOI letter to federal defendants as a prerequisite to challenging the Vineyard Wind BiOp, the Plaintiffs complied. In fact, Plaintiffs submitted three such letters, and together they adequately alerted federal defendants of each ESA issue discussed in Plaintiffs Opening Brief and in this Reply.⁶

2. Potential Impacts from Right Whales Fleeing WDA During Pile Driving

Federal defendants allege that Plaintiffs did not raise the issue of right whales leaving the Vineyard Wind WDA and "fleeing to NMFS Statistical Area 537" in response to the project's "soft start" pile driving procedure. (Doc. 97 at p. 18.) Federal defendants are wrong. In paragraph 36 of its 60-day NOI letter, dated November 27, 2021 (Doc. 97-3), Plaintiffs made the following comment:

The BiOp fails to assess vessel strike risk to right whales and other federally-listed species in the context of the already-crowded shipping lanes in or near the Project Area. In addition, the BiOp assumes that right whales and other federally-listed species will move out of the Project Area as an "avoidance response" to pile drilling noise; however, if this is true, these animals, in their

⁶ The three Notice of Intent to Sue letters are attached as Exhibits B, C, and D to federal defendants cross-motion for summary judgment. Docs 97-2, 97-3, and 97-4.

efforts to swim away from the pile driving noise, will likely enter areas of high vessel traffic, increasing the risk of ship strikes. This impact is not analyzed in the BiOp.

Doc. 97-3, at p. 10 [Comment 36].

Plaintiffs could not have been more clear. They were pointing out to NMFS that the BiOp does not analyze what happens to right whales when the project's pile driving noise forces them out of the WDA into surrounding waters known to have high levels of fishing vessel traffic. As NMFS well knows, the project WDA lies completely within Area 537. (See Doc. 100 at p. 12-15.) Thus, as a simple matter of geography, whales forced to leave the WDA will automatically be "fleeing" to Area 537. Plaintiffs adequately alerted federal defendants of this issue and therefore exhausted their administrative remedies.

3. The North Atlantic Right Whale's PBR Threshold

Federal Defendants' second complaint is that Plaintiffs did not notify them that the BiOp should have discussed the project's impacts in relation to the North Atlantic right whale's Potential Biological Removal (PBR) rate of 0.8. (Doc. 97 at p. 9.) Again, the federal defendants are wrong. While it is true that Plaintiffs' 60-day NOI does not mention the phrase "Potential Biological Removal rate" or use the acronym PBR, the NOI is emphatic that the BiOp fails to adequately assess the project's impacts in relation to the right whale's declining population – a population that is diminishing so fast that extinction of the species could occur within the next 30 years. (NMFS 63323.) Take, for example, the following comment from Plaintiffs November 27, 2021 60-Day NOI letter:

The BiOp's no jeopardy determination fails to account for recent sharp declines in right whale populations. It also fails to account for the extremely low abundance number for the species, which is now less than 350 individuals. Given the low number of right whales and the consistent loss of calf-bearing females, the BiOp should analyze and explain how project-related take of *any* individual could be absorbed without jeopardizing the species as a whole. The

BiOp, however, provides no such analysis or explanation and is therefore deficient as a matter of law.

Doc 97-3 at p. 9, [Comment 28].

The comment's specific reference to "how project-related take of *any* individual could be absorbed without jeopardizing the species as a whole" relates directly to the right whale's PBR threshold. Comment 68 from the NOI letter raises the same issue, but with slightly different language:

The BiOp includes a great deal of data showing that the NARW is in sharp decline, with a total population that will soon fall below 300 individuals (see BiOp, 57), yet the BiOp fails to interrelate these data and the anticipated impacts of the VW project. That is, the BiOp fails to adequately assess the project's impacts, such as vessel strikes and noise and potential reductions in prey species, in the context of the NARW's current struggles to maintain population viability and avoid extinction.

Id., at p. 16.

The only reason Plaintiffs did not use the term "PBR" is that the BiOp never mentions it and Plaintiffs didn't know such a term existed until they began reviewing the various documents in the Administrative Record for this case – i.e., long after they submitted their 60-day NOI letter. But there is no escaping the fact that the comment quoted above adequately notified NMFS that the BiOp's fails to assess whether the species could "absorb" even one project-related take of a right whale individual. Therefore, Plaintiffs exhausted their administrative remedies on this issue.

4. The "Override" Procedure During Pile Driving

Next, the federal defendants assert that Plaintiffs failed to apprise them of concerns regarding the project's "override" procedure, in which the project's lead engineer can veto a pile driving shut-down order issued due to right whales presence in the Level A noise impact area. (Doc. 97 at p. 18.) Plaintiffs' 60-day NOI, however, fully informed NMFS and BOEM that by

allowing the project engineer to override the shut-down order, the BiOp vitiated the protective benefits of having PSOs and PAM operators. The following two comments address this issue:

The mitigation measures described in the BiOp provide a “feasibility” exception to pile driving limitations, under which Vineyard Wind can continue pile driving even in the presence of right whales or other listed species if halting the pile driving work is not feasible. This exception makes the pile driving protections and limitations meaningless, as it gives Vineyard Wind complete discretion as to when and under what circumstances they can be disregarded.

Doc 97-3 at p. 7 [Comment 12].

The mitigation measures described in the BiOp provide a “practicability” exception to pile driving limitations, under which Vineyard Wind can continue pile driving even in the presence of right whales or other listed species if halting the pile driving work is not practicable. This exception makes the pile driving protections and limitations meaningless, as it gives Vineyard Wind complete discretion as to when and under what circumstances they can be disregarded.

Id., at p. 7 [Comment 13].

The “feasibility” and “practicality” exceptions discussed in these comments provide the basis for the project engineer’s authority to “override” a pile-driving shut-down order. Thus, federal defendants cannot claim they were uninformed that Plaintiffs’ objected to the “override” procedure on grounds it undermined protections for the right whale. Defendants *were* informed, and Plaintiffs therefore exhausted their administrative remedies on this issue.

5. *Sufficiency of Clearance Zones*

Next, the federal defendants argue that Plaintiffs never objected to the size or sufficiency of the pile driving clearance zone. (Doc. 97 at p. 18.) Not true. The size of the pile driving clearance zone is directly related to the efficacy of the project’s “detect and avoid” measures for preventing Level A noise impacts on right whales. However, if the size of the clearance zone does

not cover the entire Level A noise impact area, right whales will be exposed to Level A noise, resulting in take. Plaintiffs raised this issue in their 60-day NOI letter:

The BiOp improperly accepts Vineyard Wind’s position that the project will result in no Level A harassment of right whales. That position is based on the unproven and unsubstantiated efficiency of Vineyard Wind’s proposed “detect & avoid” measures – the very same measures that include a host of exceptions, qualifications, and loopholes.

Doc 97-3 at p. 11 [Comment 38].

This comment adequately apprised federal defendants that the BiOp’s “detect and avoid” measures, which include establishing a pre-pile driving “clearance” zone, were insufficient to protect right whales from Level A harassment noise. Thus, Plaintiffs exhausted their administrative remedies on this issue.

6. Passive Acoustic Monitoring (PAM) Detection Limit

Lastly, federal defendants claim that Plaintiffs failed to raise objections to the Passive Acoustic Monitoring (PAM) detection limit. (Doc. 97 at p. 18.) However, this is the same issue as the size of the pre-pile driving clearance zone, because the clearance zone is established and maintained using PAM equipment. As shown above, Plaintiffs alerted federal defendants that the Level A “detect and avoid” measures described in the BiOp – the very measures which set the PAM detection limits – were insufficient to protect right whales from the project’s Level A pile driving noise. Consequently, plaintiffs exhausted their administrative remedies on this issue.

7. EIS’s Assessment of Project’s Air Quality and GHG Impacts

Vineyard Wind argues that Plaintiffs should be disqualified from claiming that key emissions data were redacted from the Vineyard Wind COP appendices, thereby thwarting Plaintiffs ability to comment on the project’s air quality impacts. (Doc. 100 at p. 28.) According to Vineyard Wind, Plaintiffs forfeited this issue by not raising it in their comments on the EIS. *Ibid.* Vineyard Wind, however, has missed the point of Plaintiffs argument. Regardless of whether

the air emissions data were redacted or simply omitted from the start, the fact is that the information never made it into the EIS where it belonged. Under NEPA, key impact information, such as how a project's air emissions compare to the NAAQS thresholds, must be set forth in the EIS itself, not in an appendix to a non-NEPA document, such as Vineyard Wind's COP. *Kern v. United States Bureau of Land Management*, 284 F.3d 1062, 1073 (9th Cir. 2002) [EIS impact analysis may not rely on non-NEPA documents].

In their comments on the Draft EIS, Plaintiffs complained that the EIS failed to include project emissions data and also neglected to disclose how the project's emissions compared to the NAAQS thresholds:

Inadequate Analysis and Disclosure of Construction-Related Emissions of NAAQS Pollutants. The DEIS provides only summary information regarding the Project's construction-related emissions. It does not identify each emission source or disclose the quantity of each NAAQS air pollutant that will be emitted (e.g., NO_x, CO, PM₁₀).

(BOEM 78670.)

This statement adequately apprised BOEM that the Draft EIS failed to include important information regarding the project's emission of NAAQS pollutants, which likely explains why BOEM – as the author of the EIS – did not assert a “failure to exhaust” defense to this claim. In short, Plaintiffs did not waive or forfeit this issue.

III. THE VINEYARD WIND BIOLOGICAL OPINION IS LEGALLY INADEQUATE, AND FEDERAL DEFENDANTS ACTED ARBITRARILY AND CAPRICIOUSLY WHEN THEY APPROVED IT

A. Adequacy of BiOp Must Be Based On Project Described in the Approved COP, Not the Project Vineyard Wind Now Claims It Will Implement

1. Number of WTGs to Be Analyzed in BiOp

Vineyard Wind asserts that it will be constructing only 62 WTGs, not the 100 WTGs assumed in the BiOp. (Doc. 100 at p. 20.) For this assertion, Vineyard Wind cites the Declaration

of Rachel Pachter, a company employee. (See VW Separate Statement, pp. 7-8, ¶ 40.) In addition to being outside the record considered by BOEM and NMFS, Ms. Pachter’s declaration is irrelevant because the BOEM-approved COP for the Vineyard Wind project gives Vineyard Wind the ability to install as many as 100 WTGs, without further limitation. Vineyard Wind wanted substantial flexibility in terms of the size, type, and number of WTGs it could install, and BOEM obliged. For this reason, the BiOp includes the following statement:

BOEM’s approval of the COP, with conditions, does not appear to limit the maximum number of WTGs beyond the limits already imposed by the upper bounds of the Project Design Envelope (100 WTGs). While we expect that, with the anticipated commercial availability of a 14 MW turbine, and Vineyard Wind’s consideration of the GE Haliade X (12-14 MW capacity as described by GE), there may be as few as 57 turbines installed, the action that BOEM has requested consultation on remains as the installation of up to 100 WTGs. *Therefore, this consultation considers the effects of installing, operating, and decommissioning up to 100 offshore wind turbine generators (WTGs) of 8 to 14 MW capacity (with higher capacity requiring fewer turbines), and one or two electrical service platforms (ESP), an onshore substation, offshore and onshore cabling, and onshore operations and maintenance facilities.*

(BOEM 77285-86 [Emphasis added].)

But even the 100 WTG figure is not completely accurate. Later in its discussion of “Sources of Increased Underwater Noise,” the BiOp indicates that the COP allows installation of “[u]p to 100 monopile foundations and up to 12 jacket foundation” but that the “total number of foundations installed will not exceed 102.” (BOEM 77425.)

2. *Pile Driving Activity and Noise Impacts*

When Plaintiffs stated that the project’s pile driving activities would create a Level A harassment radius of 7.25 km, Vineyard Wind claimed Plaintiffs were in error. (See Doc. 100 at p. 24, n. 9.) The record shows, however, that Plaintiffs were correct, because the BiOp itself states that the Level A noise impact area has a radius of 7.25 km. (BOEM 77442.). Likewise, Vineyard Wind is wrong to suggest that the pile driving activity will take only 62 days. (Doc. 100 at pp. 19-

20.) The BiOp expressly states that 102 WTGs will require 102 days of pile driving. (BOEM 77425.)

Vineyard Wind also suggests that its “bubble curtain” noise mitigation technique should be credited with 12 dB of noise attenuation. (Doc. 100 at p. 20.) Vineyard Wind made this same pitch to NMFS during consultation, but NMFS rejected it on grounds that the data did not support 12 dB of attenuation and that 6 dB was a more realistic figure. (BOEM 77448.) For this reason, the BiOp appropriately credits the bubble curtain with 6 dB of noise reduction. (*Ibid.*)

Next, Vineyard Wind wants the Court to disregard the BiOp’s discussion of pile driving noise under the Maximum Design scenario with two piles driven per day. (Doc. 100 at p. 20.) This particular scenario would expose 1.39 right whales to Level A harassment noise (BOEM 77445 [Table 7.1.12], 77450 [Table 7.1.16]), resulting in a take. Vineyard Wind claims that this scenario is “unrealistic”. (Doc. 100 at p. 20.) The problem with that argument, however, is that the COP, at Vineyard Wind’s request, approved this scenario as a construction option (BOEM 77426); and Vineyard Wind has never withdrawn it. Therefore, it was appropriate for the BiOp to include this scenario in its underwater noise analysis. (See BOEM 77426.)

B. The BiOp Fails to Use “Best Available” Scientific Data to Determine Baseline Conditions for Jeopardy Analysis

1. The Quintana-Rizzo Study (2021)

In their Opening Brief, Plaintiffs discussed in detail a 2021 study by whale experts, including NMFS biologists from Woods Hole, titled “Residency, demographics, and movement patterns of North Atlantic right whales *Eubalaena glacialis* in an offshore wind energy development area in southern New England” (Quintana-Rizzo et al. 2021). (NMFS 53318-53335.) See Doc 89 at 25-28. This study represents the most recent and comprehensive assessment of right whale population and movement trends so far produced; it is also the *only*

study that analyzes right whales in relation to the Rhode Island/Massachusetts Wind Energy Area (WEA) and the proposed industrial-scale wind farms within it, including the Vineyard Wind Project. In a word, the Quintana-Rizzo (2021) study is the quintessence of the “best available scientific and commercial data”, as that term is used in the ESA.

Plaintiffs pointed out, however, that the BiOp barely mentions the Quintana-Rizzo study and never engages with its specific findings. Doc 89 at 28. The federal defendants argue that the BiOp *did* consider the Quintana-Rizzo study and that no material information was withheld. Doc 97 at 22, n. 11. A quick comparison of the two documents proves otherwise.

For example, the Quintana-Rizzo study connects recent shifts in right whale distribution and foraging behavior to the potential impacts of placing commercial offshore wind projects in precisely the area that whales now rely on for survival:

Since SNE [southern New England] will become one of the largest commercial offshore wind energy leases along the US east coast, the consequences of the construction and operation are relevant to the conservation of the species. The effects of offshore wind development on right whales are unknown (Madsen et al. 2006), but this enormous development could have a local impact on right whales at a critical time when they are becoming more reliant on the region (Leiter et al. 2017).

(NMFS 53319.)

Nowhere does the BiOp make a statement anything like this. The federal defendants respond to this omission by stating “[t]he fact that right whales *may* utilize the [Vineyard Wind] Action Area as a feeding and/or stopover site is not in dispute.” (Doc. 97 at pp. 22-23 [emphasis added].) This takes euphemism to a whole new level. It also mutes the importance of the Vineyard Wind WDA – and the RI/MA WEA as a whole – to right whale survival and recovery.

The Quintana-Rizzo study then describes some of the impacts of large-scale offshore wind projects (habitat changes, water column stratification, increased vessel noise, increased vessel traffic and risk of collisions with whales) and states: “Collectively, these perturbations could

affect the use of this region by right whales as well as influence their migratory movement throughout the mid-Atlantic region (Schick et al. 2009).” (NMFS 53320.) The BiOp does not mention this part of the Quintana-Rizzo study; nor does it independently assess the extent to which “perturbations” associated with offshore wind development will affect right whale use of the RI/MA WEA and/or influence right whale migration throughout the mid-Atlantic.

Next, the Quintana-Rizzo study indicates that its research team identified 327 unique right whales in the RI/MA WEA, which represents **87 percent** of the species’ total population. (NMFS 53324 [emphasis added].) In other words, the RI/MA WEA is not just a seasonal waystation for a few right whales on their yearly migrations. It is a critical feeding area for the vast majority of right whales remaining on this earth. The BiOp, however, never cites this portion of the Quintana-Rizzo study and never discloses that 87 percent of all known right whales use the RI/MA WEA.

The Quintana-Rizzo study also determined that at least 16 of the 327 whales observed by the research team had died as of December 2020. (NMFS 53324.) That is a huge loss for a species with such low abundance numbers. Yet, NMFS ignores this information and omits it from the BiOp’s “baseline conditions” discussion.

One of the other major findings of the Quintana-Rizzo study is that “sighting rates” of right whales, while highest from winter through early spring, were also high during the summer months, especially August. (NMFS 53329.) This data runs counter to the conventional wisdom that right whales are largely absent from Massachusetts waters during summer and fall. In fact, many of the measures that are designed to protect right whales – including those incorporated into the Vineyard Wind BiOp – assume that right whales pass through these waters during the winter and spring and are gone by June, not to reappear until November. (BOEM 77311-12, 77314, 77457.) The Quintana-Rizzo study upends that long-standing assumption, stating that “the

presence of right whales in the SNE during all seasons is an important consideration for the planning and execution of offshore wind development.” (NMFS 53331.) The study then amplifies this point: “[I]ncreasing summer and fall presence deserves special attention since this will overlap with the current schedule for pile driving for turbine foundations in the next few years, the phase of construction considered to have the greatest impact.” (NMFS 53331.) The BiOp, however, ignores this admonition and relies on old-school mitigation measures that assume “seasonal” use of the WDA by right whales. (BOEM 77457.)

Finally, the Quintana-Rizzo study expressly identifies the Vineyard Wind WDA as a right whale “hotspot”, due to high numbers of right whale sightings in that area during Spring 2011-2015 and Spring 2017-2019. (NMFS 53321-22, 53326 [Fig. 5 (Hotspot Analysis)].) The BiOp does not discuss these data or identify the Vineyard Wind WDA as a right whale “hotspot”. Nor does the BiOp evaluate how building and operating a large-scale commercial wind project in such a hotspot might affect right whale survivability and recovery.

In short, it is not enough to cite the Quintana-Rizzo study, which the BiOp does very sparingly. Nor is it enough to just “consider” the data from that study. Rather, the ESA requires that NMFS actually *use* the Quintana-Rizzo study and allow it to inform the BiOp’s assessment of the project’s potential to jeopardize the species. 50 C.F.R. § 402.14(g). That did not happen, and for that reason the BiOp is legally deficient.

2. *The Atlantic Large Whale Take Reduction Team Key Outcomes Memorandum*

The Atlantic Large Whale Take Reduction Team (TRT) Key Outcomes Memorandum is important because it found that recent shifts in right whale feeding patterns could bring the whales into potential conflict with commercial fishing operations in NMFS Statistical Area 537. (BOEM 194539.) The Vineyard Wind WDA lies within Area 537, and according to the BiOp, Area 537

has “approximately 987 to 2,650 vertical [buoy] lines” in the water at any one time, depending on the month. (BOEM 77580.) The greatest number of these vertical buoy lines (approximately 1,717 to 2,650) are fixed into place during the months of May through October – which coincides with the period when Vineyard Wind plans to conduct pile driving for the project. (See BOEM 77580; see also 77306, 77311-13.)

The BiOp does not take the cues provided by the TRT Key Outcomes Memorandum and thus does not analyze whether the extensive use of fixed fishing gear (i.e., vertical buoy ropes) in Area 537 poses risks to whales pushed out of the WDA during the project’s pile driving operations. Instead, the BiOp discusses the 987 to 2,650 vertical buoy lines only in the context of the project’s surveys to assess lobster, crab and black sea bass resources. (See BOEM 77578-77581.) What makes this omission especially frustrating is that the biologists at NMFS – as the chief federal regulators of commercial fishing in the Outer Continental Shelf – *know* where these 987 to 2,659 vertical buoy lines are concentrated, just as they *know* the travel routes of the fishing vessels that set and retrieve these buoy lines. Yet, the BiOp makes no effort to *use* these commercial fishing data from Area 537 for purposes of analyzing whether the project, through pile driving, will force whales into areas with high concentrations of fishing gear and high levels of vessel use. For this reason alone, the BiOp is legally deficient.

3. *The North Atlantic Right Whale Consortium’s “2020 Annual Report Card” and the NOAA “US Atlantic and Gulf of Mexico Marine Mammal Stock Assessment 2020”*

The North Atlantic Right Whale Consortium’s “2020 Annual Report Card” and NOAA’s “US Atlantic and Gulf of Mexico Marine Mammal Stock Assessment 2020” are important because they provide the best and latest information on two critical aspects of right whale population trends. The 2020 Annual Report Card found that the calving interval for right whales is now 7.6 years, more than twice what it was just ten years earlier. (BOEM 208682 [Table 2].) It also determined

that in 2020, “detected mortalities outnumbered births 3:2.” (BOEM 208678.) NOAA’s “Stock Assessment”, issued in July 2021, confirms that right whales have now shifted location and have been seen “in large numbers in a region south of Martha’s Vineyard and Nantucket Islands, an area outside of the Northeastern U.S. Foraging Area Critical Habitat.” (NMFS 33671.) It then concludes that the Potential Biological Removal (PBR) threshold for the right whale has dropped to 0.8 and that, consequently, “human-caused mortality or serious injury for this stock must be considered significant.” (NMFS 33684.)

The BiOp does not discuss the “2020 Report Card” or the “2020 Stock Assessment”. It does not disclose that in 2020 detected mortalities outnumbered births 3:2, or that the right whale’s PBR had fallen to 0.8. And it certainly does not consider these data in light of the right whale’s shift in location (towards the region south of Martha’s Vineyard and Nantucket), on one hand, and the Vineyard Wind project’s impacts, on the other. It is not enough to say, as federal defendants do, that the BiOp discloses the recent population declines of the right whale. (Doc. 97 at p. 27.) The ESA demands that the BiOp *use* the most recent population data to assess whether the action under review (here, the Vineyard Wind project) will put further stress on that population, affecting the species’ survivability and recovery. See 50 C.F.R. § 402.14(g). The BiOp fails in this basic task.

4. The PAMGuard Quality Assurance Module for Marine Mammal Detection Using Passive Acoustic Monitoring (August 2020)

On October 4, 2022, counsel for Plaintiffs located a study that evaluates the limitations of passive acoustic monitoring (PAM) systems when used to detect marine mammals in the regulatory context. (Dec. David P. Hubbard in Support of Plaintiffs’ MSJ, ¶12.) The study is titled “PAMGuard Quality Assurance Module for Marine Mammal Detection Using Passive Acoustic Monitoring.” (*Ibid.*) It was published in August 2020 and prepared by CSA Ocean Sciences, Inc.,

with assistance from scientists at the University of St. Andrews (Scotland) and the Scripps Institution of Oceanography, University of California, San Diego. (*Ibid.*) The primary author of the study is Mary Jo Barkaszi of CSA Ocean Sciences, Inc. (*Ibid.*)

The Administrative Record indices provided by NMFS and BOEM do not include the PAMGuard Quality Assurance Study, though the NMFS index does contain a different study by Mary Jo Barkaszi published in 2012. (NMFS 6067-6116.) This indicates that NMFS was aware of Ms. Barkaszi's work and credentials in the area of underwater acoustics. The BiOp also makes no mention of the PAMGuard Quality Assurance Study (henceforth, "Barkaszi, et al. (2020)").⁷

The importance of the Barkaszi, et al. (2020) study to the issues covered in the Vineyard Wind BiOp cannot be overstated. Specifically, the study discloses that PAM systems have significant limitations when it comes to detecting marine mammals, especially baleen whales like the North Atlantic right whale, which tend to vocalize much less frequently than other cetaceans. The study explains that PAM systems may have a significant "miss rate" when it comes to detecting marine mammals, even those that vocalize many times an hour. Below are some of the key findings from the study:

- "The efficacy of a towed passive acoustic monitoring (PAM) system depends on multiple factors, including the system's ability to detect weak signals that may be masked by background sound levels, present detection events to an operator, an operator's ability to stay attentive and interpret these results, and an operator's judgment when making a final decision on the validity of an acoustic encounter."

(Exec. Sum.)

⁷ A link to the Barkaszi, et al. (2020) study is provided in the Declaration of David Hubbard in Support of Plaintiffs' Motion for Summary Judgment.

- “PAM systems used for either real-time mitigation (i.e., commercial PAM systems) or research monitoring purposes are not routinely accompanied by a standard procedure for predicting detection performance or evaluating the real-time performance of either a human PAM operator or an automated algorithm.” (Exec. Sum.)
- “Ideally, a system is able to detect and localize animals to the edge of a defined mitigation zone. If, however, a system is not able to detect animals, it may be difficult to determine whether that was due to a genuine absence of animals or missed acoustic detections.” (Exec. Sum.)
- “In the absence of detections, no method currently exists for establishing the ‘miss rate’ of a PAM system in real-time, and establishing whether a planned or continuing operation can be reasonably expected to be able to detect marine mammal signals of interest.” (Exec. Sum.)

The Barkaszi, et al. (2020) study explains that while use of PAM systems for regulatory and mitigation purposes continues to increase, there is a general misperception about how efficient PAM systems are for detecting marine mammals: “[T]here is an implied presumption that animal vocalizations will be consistently detected regardless of operator abilities or background noise conditions encountered, as there is no assessment or reporting required of either noise levels or detection efficiency of the operator or automated detector (Barkaszi and Kelly, 2018; Ludwig, et al. 2016; Verfuss et al, 2018).” (Barkaszi, et al. (2020), Introduction.) The study then clarifies that this “implied presumption” of detection efficiency is misplaced: “In reality, for both visual and acoustic monitoring, detection performance at a given distance can be highly variable, as can the response time for mitigation actions. For acoustic monitoring, the frequency, amplitude,

directionality, and repetition rate of the source calls, as well as the continually changing background noise levels, will affect the ability to detect signals generated within a monitoring zone (Andriolo et al., 2018; Clausen et al., 2019; Parks et al., 2009; Clausen et al., 2019; Parks et al., 2009; Thode and Guan, 2019; Van Parijs et al. (2009).” (Barkaszi, et al. (2020), Introduction.)

Moreover, the study discloses that PAM systems will have difficulty detecting marine mammals that vocalize on an infrequent basis, such as baleen whales, In fact, even a “signal injector” (SI), which the authors developed to test whether a PAM system is performing as intended, will not produce actionable results if the animals in question are not vocalizing:

The SI tests the ability of the system to detect animals *should they vocalize*. For example, some species of baleen whales may only vocalize rarely or at a certain time of year. Should the SI be instructed to inject 50 sequences of baleen whale calls at varying distances, it will inject 50 sequences. This can show whether or not the PAM system is working, but if animals are not vocalizing (and will not produce any sequence of calls, let alone 50), they will not be detected in a real survey situation.

(Barkaszi, et al. (2020), Section 2.1.1.3.) (Emphasis in the original.)

What this means is that even with the Sequence Injector (SI) tool that Barkaszi et al. have developed, expert technicians cannot accurately test a PAM system’s performance efficiency if the animals in question do not vocalize often enough to generate a discernable sequence of calls. Baleen whales, including right whales, do not vocalize very often, which means they are difficult for PAM systems to detect, even when those systems are working properly.

Given that so much of NMFS’s “no jeopardy” determination is based on the efficient use of PAM to detect right whales so that immediate evasive/avoidance action can be taken to protect them from project-related harm, the Barkaszi, et al. (2020) study should have been discussed at length in the BiOp. Unfortunately, the BiOp does not mention the Barkaszi, et al. (2020) study at all; nor does the BiOp examine any other literature which addresses the real-world and real-time limitations of the very PAM systems on which the Vineyard Wind mitigation plan is based. By

failing to consult, disclose, and discuss the Barkaszi, et al. (2020) study, the BiOp violated its duty to use the “best available scientific and commercial data”.

5. *The Stober and Thomsen Study re Operational Noise Impacts of Large Offshore Wind Arrays*

In their Opening Brief, Plaintiffs showed that the BiOp largely ignored a very recent study published by Uwe Stober and Frank Thomsen that examined the underwater noise implications of operating large wind turbines (i.e., those capable of generating more than 10 megawatts (MW)) at industrial-scale wind farms. (Plaintiffs Opn.Br., pp. 23-25, 39, citing Stober, Uwe and Frank Thomsen (2021) “How could operational underwater sound from future offshore wind turbines impact marine life?” at NMFS 57132-36.)

Given that Vineyard Wind intends to install and operate WTGs with a power capacity of 14 MW, the Stober study is not only relevant; it addresses a potential operational impact of the project that has received little scientific attention. Rather than actively engage with the Stober study, the BiOp waves it away, claiming the authors themselves were uncertain of their methodology. (BOEM 77432; Doc. 100, at 21-22.) Vineyard Wind contends that the BiOp also rejected the Stober study because it only assessed gearbox-driven turbines, not the quieter “direct-drive” turbines Vineyard Wind plans to install. Doc. 100 at 22. This is incorrect. The Stober study *does* account for direct-drive turbines and determined that “[i]f the sound reduction for new direct drive turbines of 10 dB is representative for all wind turbines and nominal powers, the 10 MW example with direct drive would be expected to cause behavioral disruption up to 1.4 km and 120 m for the 5 MW turbine.” (NMFS 57135.) Even the BiOp acknowledged that the Stober study addressed noise from direct-drive turbines: “Using this methodology, and considering the lower sound levels measured at projects with direct drive turbines (e.g., Elliot et al. 2019) compared to WTGs with gearboxes, they predicted that a 10 MW direct-drive WTG would produce underwater

noise above the 120 dB re 1uPa RMS at a distance of up to 1.4 km from the turbine.” (BOEM 77432.)⁸ Rather than use the Stober study, the BiOp relies on operational noise data from the Block Island Wind Farm (BIWF), which has just 5 WTGs, each with a power capacity of only 6 MW. (BOEM 77432, 77464; NMFS 27989, 27993, 28061.)

There is no support for the BiOp’s position that the Stober study used uncertain methods. Nor is there support for the BiOp’s reliance on the BIWF noise data. The BIWF turbines are simply too small and too few in number to provide a meaningful comparison with the much larger and more numerous Vineyard Wind turbines. The Stober study, on the other hand, clearly states that even direct-drive wind turbines, when they reach 10 MW capacity and are concentrated in large numbers within a wind array, can generate underwater noise that is capable of adversely affecting baleen whales. (NMFS 57132, 57135.) In failing to engage with this study, NMFS not only abrogated its duty to use the best available scientific data, it failed to give the benefit of the doubt to the species, as the ESA requires. *Conner v. Burford*, 848 F.2d 1441, 1454 (9th Cir. 1988).

C. Evidence Does Not Support BiOp’s Conclusion That Mitigation Measures Will Prevent Jeopardy to Right Whales from Vessel Strikes

Mitigation measures supporting a BiOp’s no jeopardy finding must be “certain to occur”, “capable of implementation”, and “most important, they must address the threats to the species in a way that satisfies the jeopardy and adverse modification standards.” *Center for Biological Diversity v. Salazar*, 804 F.Supp.2d 987, 1001, (D. Ariz. 2011). Here, the BiOp’s mitigation measures for preventing project-related vessel strikes on right whales do not meet this test. They

⁸ The BiOp mentions that Stober agrees operational wind turbine noise is less than shipping noise (BOEM 77432), which is true (NMFS 57134), but Stober is equally clear that shipping noise is intermittent while turbine noise is constant and “well above typical background noise levels... . (*Ibid.*)

are facially inadequate and will expose whales to such strikes, adversely affecting both their survivability and recovery.⁹

Whales struck by vessels traveling in excess of 10 knots per hour have a high likelihood of sustaining serious injury or being killed. (BOEM 77519, 77524; BOEM 129897, 129902.) When the speed of the vessel approaches 15 knots, research shows that a collision will be fatal to the whale 100 percent of the time. (BOEM 129897, 129902.) The IHA and BiOp for Vineyard Wind, however, do not require all project vessels to maintain speeds of 10 knots or less at all times. Instead, the IHA and BiOp provide two huge exceptions to the 10-knot speed limit.

First, all of the project's vessels, of whatever type and size, can travel in excess of 10 knots – indeed, can travel however fast their captains wish to go – when transiting through Nantucket Sound, an area of approximately 760 square miles that lies between the Vineyard Wind WDA and mainland Massachusetts. (BOEM 34732.)

Second, the project's crew transfer vessels may also disregard the 10-knot speed limit, no matter where they are traveling. (BOEM 77304, 77525.) The BiOp does not disclose how large or fast the crew transfer vessels will be, but according to the EIS, such vessels will average 90 feet in length and travel at 25 knots per hour (BOEM 34861) – well over the speed at which a collision with a right whale will be fatal 100 percent of the time (15 knots). The EIS also discloses that the vast majority of project-related vessel trips will be made by crew transfer vessels. (BOEM 34746, 34861.)

⁹ The mitigation measures for avoiding vessel strikes and protecting right whales from Level A pile driving noise, as set forth in the IHA and the BiOp, are considered *part* of the project itself. (See, e.g., BOEM 77628.) As such, they are integral to, and form part of, the BiOp's "no jeopardy" determination. They are not "reasonable and prudent measures" imposed after the BiOp's "no jeopardy" determination, as Vineyard Wind suggests in its brief. (See Doc. 100 at pp. 18-19.)

Neither the federal defendants nor Vineyard Wind have a satisfactory response to this regulatory anomaly. They cannot explain how these two exceptions to the 10-knot speed limit will not increase vessel strike risk and jeopardize the right whale. The federal defendants provide only a *logistical* – not a *biological* – rationale for exempting crew transfer vessels from the 10-knot speed limit. They say that if crew transfer vessels kept to 10 knots, crew members would spend 9-10 hours of each day transiting back and forth between staging ports (e.g., New Bedford) and the WDA, leaving little time for work. (Doc. 97 at pp. 40-41.) While this may be true, it does not change the fact that crew transfer vessels, if allowed to travel at 10 knots or more, pose a significant collision risk to North Atlantic right whales – a risk not analyzed, disclosed, or authorized in the IHA or the BiOp.¹⁰

Federal defendants and Vineyard Wind contend that the collision risk posed by vessels traveling in excess of 10 knots will be adequately mitigated by placing at least one Protected Species Observer (PSO) on each boat/ship. (Doc. 97 at p. 32; Doc. 100 at pp. 23-24.) The PSO's task is to scan the water's surface while the vessel is traveling, looking for signs of right whales. If the PSO sees a whale, he or she must alert the captain who can then take evasive action to avoid colliding with the whale. As Plaintiffs explained in their Opening Brief, however, PSOs on boats cannot detect whales that are more than 1,000 meters away, even with good visibility conditions (i.e., no fog, plenty of light, calm seas). (BOEM 77524-25.) In addition, they cannot detect whales beneath the water, and research shows that even when whales are swimming as deep as 30 feet below the surface, they can be pulled into the draft of a vessel's hull and propeller. (NMFS 6117.)

¹⁰ Furthermore, this logistical problem is not insoluble. Vineyard Wind can provide ships with cabin at the WDA so that crew members can stay at the project site overnight and for multiple days. This would have the added benefit of reducing the total number of vessel trips, which in turn would protect whales.

Plaintiffs also pointed out that neither the IHA nor the BiOp prevents Vineyard Wind from operating its vessels – including high-speed crew transfer vessels – at night or during the dark pre-dawn hours of the morning. Doc. 89 at 44. PSOs will be of little use under such conditions. Vineyard Wind, however, argues that the PSOs could be outfitted with night vision goggles. (Doc. 100 at p. 24.) But there is no evidence in the record that night vision goggles would be helpful in this particular application, given their limitations as to distance and resolution. And there is still the problem of whales going unseen beneath the water’s surface. Not even night goggles will fix that.

We are told, however, that any whales that slip by the PSOs will be picked up by Passive Acoustic Monitoring (PAM) equipment. (Doc. 97 at p. 38-39; Doc. 100 at pp. 24-27.) This position finds no support in logic or the record. **First**, the BiOp does not require that the project’s vessels be kitted with PAM systems. **Second**, the transit routes the vessels will use have not been definitively established as to location and width, and they will likely fluctuate over the course of the project’s construction period and operational life. The BiOp does not explain how PAM equipment will be deployed to provide coverage for such route changes. **Third**, the transit routes themselves are long – 55 miles one way between New Bedford and more than 400 miles one way between the WDA and the selected ports in Canada. (BOEM 77294.) The BiOp does not discuss how PAM equipment will be deployed to provide coverage over such huge areas. **Fourth**, PAM only works as a detection tool if and when whales are actively vocalizing, and if the vocalizations are not masked by other noise sources, such as vessel traffic. (Barkaszi, et al. (2020).) Whales that are *not* actively vocalizing, or whales whose calls are drowned out by other ambient noise, will evade PAM. (*Ibid.*)

Given that the whales and the crew transfer vessels will be moving in a dynamic relation to one another, at different speeds and at different vectors, and given that right whales have a notoriously low “call frequency”, it is unlikely that the PAM system – even if robust enough to provide coverage of the entire transit corridor – will detect every right whale that may come in contact with a project vessel. In fact, the PAM “miss rate” can be significant and leave many whales undetected. (Barkaszi, et al. (2020).)

So, in the end, the BiOp allows the vast majority of the project’s vessels (i.e., crew transfer vessels) to travel at speeds well over 10 knots (i.e., 25 knots) throughout most of project’s defined Action Area, and the only thing preventing these vessels from potentially striking and injuring/killing a right whale are (1) PSOs who cannot see at distance, in the dark, or underwater, and (2) PAM equipment which will not be deployed to provide full coverage of the project’s vessel routes and which cannot detect whales unless they are actively vocalizing loud enough to be detected over other noise in the water. Based on these facts, there is no way to square the BiOp’s conclusion that the project poses no vessel strike threat to right whales and thus no jeopardy to the species.

D. Evidence Does Not Support BiOp’s Conclusion That Project Mitigation Measures Will Prevent Jeopardy to Right Whales from Pile Driving Noise

1. Proposed “Soft Start” Procedure is Unproven and Constitutes Intentional Harassment and Take

Vineyard Wind intends to use a so-called “soft start” procedure to push whales out of the project’s pile driving noise impact area. (BOEM 77458.) Under this procedure, the lead engineer will order pile driving to commence but only at power levels capable of generating Level B harassment noise, as this is expected to annoy the whales sufficiently to force them to swim away from the project site. (*Ibid.*) Once the whales are cleared through this procedure, the lead engineer

can order full-throttle pile driving – i.e., pile driving that generates Level A harassment noise. (*Ibid.*)

Theoretically, the soft start procedure enables Vineyard Wind to “clear” the pile driving noise impact area of all right whales whenever Vineyard Wind decides it wants to start installing the WTGs. Put differently, the soft start allows Vineyard Wind engineers – not the whales – to control when pile driving takes place; they don’t have to wait for the whales to leave on their own volition.

The record contains no evidence that the soft start procedure has been used successfully in the past to encourage right whales, or any other cetacean, to leave an area where pile driving or some other project-related noise event will take place. It may work; it may not. And, if the “soft start” procedure fails and right whales decide to stay in the Level A noise contour – i.e., within 7.5 km of the pile driving site – the PAM equipment may not even detect them, since PAM coverage during the summer and fall only extends 5 km from the pile driving site and will only pick up actively vocalizing whales. (BOEM 77453, 77457.) This would lead to a Level A harassment take of right whales.

Even assuming the soft start procedure works as planned, it is a form of purposeful harassment or hazing not authorized under the Marine Mammal Protection Act (MMPA) or the ESA. The federal defendants contend that the soft start procedure is not “intentional” but simply a by-product of normal pile driving ramp-up. (Doc. 97 at p. 36.) The BiOp, however, describes it differently and clearly discusses the soft start procedure as a measure for ensuring right whales are removed from the pile driving noise impact area before full-power pile driving starts. (BOEM 77458 [“soft start procedure is designed to provide a warning to marine mammals or provide them with a chance to leave the area prior to the hammer operating at full capacity.”].)

Vineyard Wind acknowledges that the soft start process is intentional but claims that it is still “incidental” to a lawful activity (development of an offshore wind farm) and thus permissible under the MMPA and ESA. (Doc. 100 at pp. 22-23.) Thus, according to Vineyard Wind, hazing of endangered species – no matter how intentional, aggressive, or harmful – qualifies as *incidental take* under the MMPA and ESA as long as it is connected to a larger, legally-sanctioned action. Following this logic, then, Vineyard Wind could use high-speed boats to chase right whales out of the pile driving impact area. But there is not legal support for this. Neither the federal defendants nor Vineyard Wind have cited any statute, regulation, or case demonstrating that *intentional* hazing of an endangered species can be authorized pursuant to an *incidental take* permit under the MMPA and ESA. For this reason, the entire soft start procedure is unlawful.

2. *The Project’s Right Whale “Detection” Measures Are Flawed*

To protect right whales from Level A pile driving noise, the Vineyard Wind project will use PAM to implement three right whale “detection” zones – one for monitoring, one for pre-pile driving “clearance”, and one for pile driving “shut-down”. For example, between June 1 and October 31 – the period when most pile driving is expected to occur – Vineyard Wind must establish a right whale monitoring zone extending 5 km from the pile driving site. (BOEM 77312, 77319.) Within that 5 km area, Vineyard Wind must implement pre-pile driving clearance activities, such as “soft start” hammer drops, to push right whales out and beyond the 5 km boundary. (*Id.*) Note also that the 5 km PAM clearance zone only applies to monopile foundations; the clearance zone for jacket foundations is only 3.2 km. (*Id.*) When “clearance” is achieved, full-power pile driving can commence.

Once pile driving starts, however, the situation changes. Regardless of whether a right whale is detected within the 5 km monitoring zone, no order to shutdown pile driving will be

issued unless that whale comes within 3.2 km of the pile driving site, regardless of the type of WTG foundation (monopile or jacket) being installed. (BOEM 77312, 77319.)

Simple arithmetic shows that these PAM zones – whether for monitoring, clearance, or shutdown – will be insufficient for protecting right whales from the project’s Level A pile driving noise. This is because noise modeling indicates that the project’s Level A noise impact area extends 7.25 km (BOEM 77442) – well beyond the limits of the required zones for monitoring (5km), clearance (5 km/3.2 km), and shutdown (3.2 km). This means that a right whale could be swimming within a large portion of the project’s Level A noise contour (7.25 km) but would not be detected during pre-pile driving *monitoring*; would not be detected during pre-pile driving *clearance* activity; and would not trigger pile driving *shutdown*. Consequently, such a whale would be exposed to Level A pile driving noise, resulting in take and potential jeopardy. The BiOp never discusses this highly-probable scenario.

And, of course, the entire “detect and avoid” program assumes that all right whales that might swim into the monitoring, clearance, and shutdown zones are actively vocalizing and thus capable of being picked up by the PAM equipment. That is a huge and unfounded assumption, given that right whales, like many baleen whales, exhibit a low “call frequency” and often go long periods of time without vocalizing at all. (Barkaszi, et al. (2020).) This is especially true of mother and calf pairs. (NMFS 77464.) Strangely, the BiOp provides no information on right whale call frequency; nor does it examine whether the whale’s low vocalization rate might affect the PAM system’s ability to detect right whales during real-time pile driving events. This alone is a major defect in the BiOp.

According to the BiOp, the solution to the PAM detection problem is the project’s PSO (Protected Species Observer) program, where trained personnel will visually scan the pile driving

area looking for evidence of right whales. The theory is that any whale that slips past the PAM equipment will be detected by the PSOs. PSOs, however, cannot see very far (only about 1.5 km), cannot see in poor light or fog, and cannot see but a few feet under the water's surface. Thus, the chances that a PSO will see *all* right whales that avoid detection by PAM is virtually nil.

This is not to say that PAM and PSOs are not helpful or worthwhile, only that they are insufficient, even when working together, to ensure that all right whales are absent – and stay absent – from the Level A noise impact area during each pile driving event. The PAM equipment, the PAM operator, and the PSOs would have to throw a no-hitter, every day, for 102 days. And that's simply not possible given the inherent limitations of both PAM and PSOs. They do not adequately fill each other gaps; those gaps will always exist; and quiet whales, swimming beneath the water's surface, will find those gaps, go through them, and suffer damage.

The BiOp's other response to concerns about the efficacy of the "detect and avoid" mitigation measures is that pile driving activity will take place during the summer and fall when right whales are less likely to be present in the WDA. (BOEM 77306, 77311-13.) However, recent studies confirm that right whales have shifted their movement and feeding patterns and are now present year-round in the waters south of Martha's Vineyard and Nantucket. According to the Quintana-Rizzo (2021) surveys, August 2019 was one of the busiest months in the RI/MA WEA in terms of right whale presence. (NMFS 53329.) For this reason, the BiOp cannot rely on right whales leaving the WDA during the summer/fall migratory season as they did in the past. All that has changed. The BiOp simply hasn't adjusted to the new right whale conditions off the coast of Massachusetts.

3. Shutdown “Override” Undermines Noise Protections

Even if a PSO or PAM operator detects a right whale and orders a shutdown of pile driving until the whale leaves the “shutdown zone”, the whale is still not safe, because Vineyard Wind’s lead engineer can “override” the shutdown order if, in his or her opinion, the pile driving must continue to protect human safety or the integrity of the pile itself. (BOEM 77314, 77454.) The federal defendants argue that the “override” is nothing to worry about because the lead engineer’s discretion is not unfettered. (Doc. 97 at p. 37.) He or she must follow certain “procedures” before overriding the shutdown and continuing the pile driving effort. (*Ibid.*) According to federal defendants, “the Federal Register notice approving the IHA [Incidental Harassment Authorization] explains in detail the applicable procedure for determining when shutdown is not practicable for human safety or operational concerns. NMFS 3345.” (*Ibid.*)

Federal defendants’ argument fails for at least two reasons. First, the shutdown override “procedures” are not described or defined in the BiOp. That they can be found in the “Federal Register notice approving the IHA” is immaterial to whether the BiOp, as a stand-alone ESA document, is adequate. Second, a quick review of the Federal Register notice in question reveals that the procedures hardly impinge on the lead engineer’s discretion at all:

In situations when shutdown is called for but Vineyard Wind determines shutdown is not practicable due to human safety or operational concerns, reduced hammer energy would be implemented when practicable. In cases where pile driving is already started and a PSO calls for shutdown, the lead engineer on duty will evaluate the following to determine whether shutdown is technically feasible: (1) Use the site-specific soil data and the real-time hammer log information to judge whether a stoppage would risk causing piling refusal at re-start of piling; and (2) Check that the pile penetration is deep enough to secure pile stability in the interim situation, taking into account weather statistics for the relevant season and the current weather forecast. Determinations by the lead engineer on duty will be made for each pile as the installation progresses and not for the site as a whole.

(NMFS 3545.)

As can be gleaned from the quoted text, the so-called override “procedures” provide no regulatory oversight of the lead engineer’s decision to veto a shutdown order. The procedures simply require the lead engineer to reduce hammer energy when a shutdown request is made, unless doing so is “impracticable” or “technically infeasible”. Note, however, that the procedures still leave it to the lead engineer to determine whether shutdown of pile driving is “impracticable” and “infeasible”. He or she merely must consult “site specific soil data and real time hammer log information to judge whether a stoppage would risk causing piling refusal at re-start of piling.” (*Ibid.*) Given the pressure the lead engineer will be under to finish a pile driving event once it has begun, it is difficult to imagine a scenario where that engineer could not develop a rationale for declaring work stoppage impracticable and/or infeasible. With no regulatory oversight of that decision, one can expect overrides to be routine and for right whales to be exposed to Level A pile driving noise.

E. BiOp’s “No Jeopardy” Finding Relies Entirely the Ability of Project’s Mitigation Measures to Protect Right Whales from Vessel Strikes and Pile Driving Noise

The reason Plaintiffs have focused so extensively on the project’s mitigation measures is that, without their successful implementation, the project will expose right whales to Level A noise take, as well as take by vessel strike. Neither the IHA nor the BiOp authorize such take, and the BiOp’s “no jeopardy” determination assumes *zero* take of right whales. (BOEM 77627-31.) It follows, then, that if the project’s mitigation measures are shown to be ineffective, take of right whales will occur. In such case, the BiOp’s “no jeopardy” finding is null and void.

As shown above, the mitigation measures required under the IHA and BiOp – soft start pile driving, PSOs, PAM, and seasonal restrictions on construction work – will not adequately protect right whales from project-related take from pile driving noise and/or vessel strikes. Thus, the BiOp’s “no jeopardy” finding cannot stand.

F. The Biological Opinion Does Not Analyze Threats to Right Whale Due to Pile Driving “Clearance” Operations

The ESA requires that NMFS evaluate the “effects of the action”. These include “indirect effects” which are “caused by the proposed action and are later in time, but still are reasonably certain to occur.” *Center for Biological Diversity v. Salazar, supra*, 804 F.Supp.2d at p. 1006, quoting 16 U.S.C. § 1536(b)(3)(A); 50 C.F.R. § 402.14(g)(3) and 402.02. In this case, Vineyard Wind’s “soft start” pile driving procedure, which is expressly intended to force right whales to leave the WDA, will have potential indirect effects on these whales, including exposure to threats and loss of foraging habitat. The BiOp, however, does not analyze these impacts. Specifically, pursuant to the IHA and BiOp, Vineyard Wind intends to “protect” right whales from Level A pile driving noise by “clearing” them from the Level A impact zone – which extends 7.25 km from the pile driving site – prior to the start of each pile driving episode. (BOEM 77458.) To accomplish this, Vineyard Wind will use a “soft start” pile driving technique, where the hammer blows are delivered at reduced power and generate only Level B harassment noise – enough to annoy the whales and cause them to leave the area, but not enough to permanently damage their hearing. (BOEM 77458.) That’s the (untested) theory, anyway.

Assuming the “soft start” works as planned, right whales will be denied feeding areas in the WDA for about three hours, which covers the time it takes to complete the soft start procedure, plus the time it takes to finish driving one pile. (BOEM 77458, 77461, 77462.) The BiOp, however, does not analyze what happens to the whales during this 3-hour exclusion period. For example, the BiOp does not assess whether and to what extent whales forced out of the WDA will enter areas with significant vessel traffic and/or high concentrations of fixed fishing gear, including vertical buoy ropes. In its discussion of Vineyard Wind’s proposed surveys of lobster, crab, and black seabass fisheries, the BiOp acknowledges that NMFS Statistical Area 537 contains between

987 and 2,650 vertical buoy rope emplacements, depending on the month. (BOEM 77580.) The BiOp does not, however, evaluate whether right whales pushed out of the WDA during project pile driving might become entangled in these ropes or be struck by fishing vessels.

The BiOp also makes no effort to analyze where the right whales will go to find alternative forage opportunities once they are shut out of the WDA. Finding replacement feeding areas is no simple matter, because a right whale eats only one thing – planktonic copepods (*Calanus finmarchicus*) – and the whale must find these copepods in very dense concentrations; otherwise, they will not serve the nutritional needs of the whale. (NMFS 57137.) Studies show that in recent years, as right whale access to dense accumulations of lipid-rich copepods has diminished, right whales have lost significant body mass, likely affecting reproduction and calving rates. (NMFS 26386, 26397-98.)

The federal defendants point to no section of the BiOp that addresses this issue. Instead, they argue that the whales will simply return to the WDA after each 3-hour pile driving episode is concluded. (Doc. 97 at p. 43; see also BOEM 77462.) There is no evidence that right whales, once subjected to “soft start” Level B noise and pushed out of the WDA, will wait at the edge of the clearance zone for three to four hours and then, like trained spaniels, come racing back into the WDA to feed once pile driving for the day has stopped. Despite the BiOp’s assertions (BOEM 77462-63), no study in the record indicates that right whales will behave in this manner. On the contrary. The evidence indicates that baleen whales like the right whale react unpredictably to repetitious impulsive sound, which is what three hours of pile driving produces. (NMFS 56463, 56466; NMFS 56428-29, 56437, 56440, 56463, 56469, 56494.)

Vineyard Wind offers a different argument, claiming that whales cleared from the WDA during pile driving can swim up and forage at Nantucket Shoals, an area known to support dense

pockets of copepods. (Doc. 100 at p. 21.) But Nantucket Shoals is 12 to 15 miles north of the WDA, and the BiOp does not analyze what threats the right whales might encounter (vessels, fishing gear) on their 12- to 15-mile swim from the WDA to the shoals.

In short, the BiOp's jeopardy analysis does not consider, much less investigate, the impacts of clearing right whales from the WDA during 3-hour pile driving episodes. This analytical failure/omission makes the BiOp deficient as a matter of law.

G. The BiOp Provides an Inadequate Assessment of Project's Operational Noise Impact on Right Whales

Plaintiffs' Opening Brief argued that the BiOp's analysis of the project's *operational* noise impacts on right whales was inadequate. (Doc. 89, at 45-46.) Not only did the BiOp fail to use the Stober noise study – the only document in the record that addresses the underwater noise implications of the industry trend toward using larger and more powerful wind turbines – the BiOp relied instead on the on operational noise data from the BIWF, which has only 5 WTGs, each with a power capacity of 6 MW. Plaintiffs pointed out that noise data from the BIWF could not provide a meaningful or accurate estimate of the underwater noise that would be generated day-in, day-out by Vineyard Wind's wind farm, which may include 57 WTGs, each with a power capacity of 14 MW. (Doc. 89, at 46.) This defect could have been overcome had the BiOp extrapolated the BIWF noise data to a scale that would match the Vineyard Wind project, but the BiOp did not perform such an extrapolation, even though the Stober study shows how such an extrapolation can be done. (NMFS 57135.) As a result, the BiOp's analysis of the project's operational noise impacts on right whales is deficient.

H. The BiOp's "Recovery" Analysis is Flawed

Under Section 7 of the ESA, a Biological Opinion cannot complete its jeopardy determination until it analyzes the proposed action's impacts on (1) the *survivability* of the listed

species in question and (2) the *recovery* of that species, defined as the point where the species' population has improved to a level warranting de-listing. *Center for Biological Diversity v. Salazar*, 804 F.Supp.2d 987, 997-98 (D. Arizona 2011). As the courts have stated repeatedly, survivability and recovery are distinct concepts and require different analyses. *Id.*, at p. 99. An action or project may not create impacts sufficient enough to significantly degrade a listed species' survivability, but those impacts may be enough to undermine recovery of that species, especially when the affected species is already in steep decline or when the action contributes to the known impediments to recovery. *Wild Fish Conservancy v. Salazar*, 628 F.3d 513 (9th Cir. 2010) [Even before a population is extinguished, it may reach a point at which it is no longer recoverable]; see also *Nat'l Wildlife Federation v. National Marine Fisheries Service*, 524 F.3d 917, 931 (9th Cir. 2008) ["a species can cling to survival even when recovery is far out of reach".]

In addition, the wildlife agency must perform "a full *analysis* of the effect of the action on the recovery..." *Center for Biological Diversity v. Salazar*, *supra*, 804 F.Supp.2d at p. 999 [emphasis in original]. The court may not "imply [] an analysis that is not shown in the record." *Ibid.*, quoting *Gifford Pinchot*, 378 F.3d at 1074 and *Nat'l Wildlife Fed'n*, 524 F.3d at 932, n. 10. Finally, "it is impermissible for an agency not to 'incorporate degraded baseline conditions into its jeopardy analysis.'" *Save Our Cabinets v. United States Fish and Wildlife Service*, 255 F.Supp.3d 1035, 1047, (D. Mont. 2017) citing *Nat'l Wildlife Federation*, 524 F.3d at 929.

1. Project Contributes to Threats That Thwart Right Whale Recovery

On page 60 of the Vineyard Wind BiOp, NMFS admits that "anthropogenic mortality" is "limiting the recovery of North Atlantic right whales" and that "currently, none of the species recovery goals . . . have been met." (BOEM 77335.) The BiOp also acknowledges that the two most prominent human threats to the species (vessel strikes and entanglement in fishing gear)

“appear to be worsening”, resulting in “elevated right whale mortalities along the Western North Atlantic Coast.” (*Ibid.*)

As discussed in Plaintiffs’ Opening Brief and in this Reply, the Vineyard Wind project has the strong potential to increase the threat of vessel strikes and fishing gear entanglement relative to the right whale. The project will also subject whales to Level A and Level B pile driving noise, which can physically damage a right whale’s hearing organs and/or alter the whale’s ability to forage or conduct other key life history behaviors, such as avoiding predators or finding mates. In addition, recent studies confirm that the project itself will be constructed and operated in an area that overlaps a right whale “hotspot” – i.e., where right whales congregate to feed on copepods. Thus, the project – both its construction and its operation – will likely affect right whale feeding behavior in this particular area. These are the very concerns voiced by the authors of the Quintana-Rizzo (2021) study. (NMFS 53318-35.) These facts necessarily inform how the project will affect right whale recovery. Yet, the BiOp recovery “analysis” does not dynamically assess the project in the context of the right whale’s current situation.

2. BiOp Relies on Flawed Mitigation Measures to Declare Project No Impediment to Right Whale Recovery

Because the project has the potential to contribute to the very threats and conditions that drive down right whale abundance, one would have expected the BiOp to include a robust analysis of the project’s potential to impede recovery of the right whale, especially since the prospects for recovering this species are quickly dimming. But this expectation is disappointed. The BiOp’s recovery analysis is brief and perfunctory. Rather than test the project’s impacts against each of the recovery goals set forth in the *2005 North Atlantic Right Whale Recovery Plan*, the BiOp leans heavily on the project’s mitigation measures and then summarily declares the project benign in terms of its impediments to right whale recovery. (See BOEM 77631 [project not expected to

reduce likelihood of survival or recovery of right whale].) Here, for example, is the BiOp's short discussion regarding the vessel strike threat:

A number of measures designed to reduce the risk of vessel strike, including deploying lookouts and traveling at reduced speeds in areas where right whales are most likely to occur, as well as the use of PAM to enhance detection of right whales are part of the proposed action. As explained above, we have determined that strike of a right whale by a project vessel is extremely unlikely to occur. No injury (auditory or other) or mortality is expected due to exposure to any aspect of the proposed action during construction, operations, or decommissioning phases of the project.”

(BOEM 77628.)

Plaintiffs have already shown that the project's measures for avoiding vessel strikes on right whales are inadequate, but it bears repeating that (i) lookouts (i.e., PSOs) cannot see underwater or in the dark, (ii) the 10-knot speed limit does not apply to fast-moving crew transfer vessels, and does not apply to any vessel transiting through Nantucket Sound; (iii) PAM only detects whales when and if they are actively vocalizing; (iv) none of the project's vessels will be equipped with PAM systems; and (v) there is no evidence PAM systems will provide adequate coverage of vessel routes.

On the issue of pile driving noise and its impact on right whale recovery, the BiOp again focuses on the project's mitigation measures to find that project-related noise creates no drag to recovery: “A number of measures that are part of the proposed action, including seasonal restriction of pile driving and clearance and shutdown measures during pile driving, reduce the potential for exposure of right whales to pile driving noise.” (BOEM 77628.) The BiOp then concludes that “[n]o right whales are expected to be exposed to pile driving noise that could result in PTS [permanent threshold shift] or any other injury.” (*Ibid.*) Again, Plaintiffs have shown that the proposed measures for protecting right whales from Level A pile driving noise (i.e., noise that

will cause PTS) are insufficient to their purpose and will, in fact, leave right whales exposed to dangerous and physically damaging noise levels.

Because the BiOp's "recovery" determination relies so heavily on the flawed mitigation measures for protecting right whales from vessel strikes and pile driving noise, that determination is itself flawed.

3. *The BiOp's "Recovery" Analysis Fails to Consider Impacts From "Clearing" Right Whales from Project Area During Pile Driving*

As to whether the project's pile driving "clearance" activities might force right whales into contact with fishing gear and non-project vessels (e.g., fishing boats) outside the WDA, the BiOp's "recovery" analysis is dead silent. This particular threat – despite being an obvious consequence of the project's "soft start" pile driving program – is missed altogether. By failing to consider this threat in its "recovery" calculus, the BiOp violated the ESA.

4. *The BiOp Tests Project Impacts Against "Reclassification" Goals, Not "Recovery" Goals*

Perhaps the strangest thing about the BiOp's so-called "recovery" analysis, is that it does not actually assess the project in relation to NMFS's *recovery* goals for the right whale. Instead, the BiOp evaluates the project in relation to four criteria for "reclassifying" the right whale from "endangered" to "threatened". (BOEM 77630.) After listing these four "reclassification" criteria, the BiOp concludes that:

The proposed action will not result in any condition that impacts the time it will take to reach these goals or the likelihood that these goals will be met. This is because the proposed action will not affect the trend of the species or prevent or delay it from achieving an increasing population or otherwise affect its growth rate and will not affect the chance of quasi-extinction.

(BOEM 77630.)

Then, based on this assessment of project impacts on the "reclassification" goals/criteria, the BiOp leaps to the conclusion that the "effects of the proposed action are not expected to cause

an appreciable reduction in the likelihood of survival and recovery of North American right whales in the wild.” (BOEM 77631.) This entire approach is wrong. The ESA requires NMFS to conduct a “recovery” analysis, not a “reclassification” analysis. For this reason alone, the BiOp is legally defective.

5. *BiOp Makes No Attempt to Identify Right Whale Abundance Goals and Analyze Project’s Potential to Slow Attainment of Those Goals*

Case law establishes that a legally adequate recovery analysis must include a species abundance goal or target, as this enables the wildlife agency (here, NMFS) to assess the proposed action/project for its potential to frustrate or slow down progress toward that goal/target. *National Wildlife Federation v. National Marine Fisheries Service*, 184 F.Supp.3d 861, 894 (D. Oregon 2016) [without identifying “rough” recovery abundance levels and timeframes, NOAA Fisheries cannot logically conclude that action will not appreciably reduce likelihood of recovery]. The Vineyard Wind BiOp does not identify any recovery abundance target for the right whale. It thus comes as no surprise that the BiOp’s recovery “analysis” does not examine whether the project’s impacts on the right whale will hamper attainment of such an abundance target. For these reasons, the BiOp fails to provide a legally-adequate recovery analysis. And in the absence of a proper recovery analysis, the BiOp’s “no jeopardy” determination cannot stand.

6. *Cursory Response by Federal Defendants Cannot Save Deficient Recovery Analysis*

In their Opening Brief, Plaintiff’s argued that the BiOp failed to provide a legally adequate analysis of the project’s impacts on right whale recovery. (Plaintiffs’ Opn.Brf., pp. 41-43.) The federal defendants did not respond to the argument except to assert, without evidence, that the BiOp’s recovery analysis was sufficient. (Doc. 97 at pp. 34-35.) Vineyard Wind did not even do this much, choosing to ignore the issue altogether. The weak responses by the federal defendants and Vineyard Wind indicate that they, too, found little evidence in the record to support the BiOp’s

cursory and flawed recovery analysis. The law is clear that a “no jeopardy” determination cannot be made absent a legally-adequate recovery assessment. *National Wildlife Federation v. National Marine Fisheries Service*, 524 F.3d 917, 931 (9th Cir. 2008). In this case, no such assessment was made. Therefore, the BiOp’s no jeopardy finding fails.

I. NMFS and BOEM Acted Arbitrarily and Capriciously

As shown above, the BiOp for the Vineyard Wind project is deeply flawed and does not satisfy ESA requirements or standards. It fails to use the best available scientific and commercial data; its analyses proceed from an inaccurate and incomplete understanding baseline conditions; its “no jeopardy” determination relies on facially inadequate mitigation measures; and its assessment of project impacts on right whale recovery is deficient. For these reasons, NMFS acted arbitrarily and capriciously when it adopted the BiOp, and BOEM acted arbitrarily and capriciously when it relied on the BiOp and approved the Vineyard Wind project.

IV. THE VINEYARD WIND ENVIRONMENTAL IMPACT STATEMENT VIOLATES NEPA

A. EIS Provides Inadequate Analysis of Project’s Impacts on North Atlantic Right Whale

1. Inadequate Discussion of Existing Conditions Regarding Right Whale

As pointed out in Plaintiffs’ Opening Brief, the EIS’s analysis of project impacts on the right whale is defective because it relies almost entirely on the flawed analysis set forth in the BiOp. Doc. 89, at 53. For example, to comply with NEPA, an EIS impact assessment must proceed from an accurate description of existing conditions, which is similar to the ESA concept of “baseline”. *Great Basin Resource Watch v. Bureau of Land Management*, 844 F.3d 1095, 1101 (9th Cir. 2016); see also *Half Moon Bay Fishermans’ Mktg. Ass’n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988). Plaintiffs argued that the EIS fails this basic requirement, as it downplays the importance of the Vineyard Wind WDA as a feeding and habitat area for the right whale;

downplays the imminent peril of extinction now facing the right whale; and fails to disclose that due to human-caused fatalities, low calving rates, and ever-lengthening calving intervals, right whale mortalities now outpace births by a ratio of 3 to 2. (BOEM 208678.) Doc 89, at 53.

Federal defendants respond by stating that the EIS adequately describes existing conditions as to the WDA and the right whale. (Doc. 97 at p. 51-52.) Well, let's see.

- Does the EIS disclose that, due to a shift in right whale feeding and movement patterns, approximately 87 percent of all right whale individuals, including more than 50 percent of reproductive females, have been observed in the RI/MA WEA between 2011 and 2019? (NMFS 53324, 53330.) No, it does not.
- Does it disclose that 16 of the 323 unique right whale individuals observed in the RI/MA WEA between 2011 and 2019 were confirmed dead as of December 2020? (NMFS 53324.) No, it does not.
- Does it disclose that right whale observations from 2011-2015 and 2017-2019 confirmed that the Vineyard Wind WDA is a right whale “hotspot”? (NMFS 53321-22, 53326.) No, it does not.
- Does it disclose that the waters in and surrounding the WDA are very popular with the lobster fishing fleet and thus, in some areas, contain significant concentrations of fixed fishing gear, including vertical buoy lines, that can entangle right whales? (BOEM 194539.) No, it does not.
- Does it disclose that anthropogenic mortalities, combined with low calving rates and long calving intervals, have caused right whale deaths to outnumber right whale births 3:2? (BOEM 208678.) No, it does not.

- Does it disclose that the right whale’s PBR rate has fallen to 0.8, meaning that the species cannot absorb even one human-caused death per year and maintain its already disturbing low population? (NMFS 33684.) No, it does not.
- Does it disclose that, according to marine biologists who have studied the issue, right whales now rely heavily on the RI/MA WEA for food year-round, including during those months when project construction activities will take place? (NMFS 53319, 55324, 55329, 53331.) No, it does not.

By not disclosing this critically important “existing conditions” data, the EIS fails as a public information document, and fatally undermines its own *impact* analysis. Federal defendants’ arguments to the contrary simply do not hold up under scrutiny.¹¹ The record evidence cited by federal defendants only serves to display the EIS’s blasé attitude toward right whale conditions and the importance of the waters south of Martha’s Vineyard and Nantucket to the whale’s continue survival and recovery.

2. *EIS Repeats Errors of BiOp as to Noise and Vessel Strike Impacts on Right Whales, and Mitigation for Those Impacts*

Like the BiOp, the EIS mixes its discussion of project *impacts* on right whales with its discussion of *mitigation measures* for those impacts. (BOEM 34858-59.) Thus, the quality and accuracy of the EIS’s analysis of pile driving noise and vessel strikes on right whales is directly determined by the adequacy of the mitigation measures recommended to address those impacts. As Plaintiffs’ have shown, the proposed (and now adopted) mitigation measures for minimizing pile driving noise impacts on right whale are facially flawed and cannot/will not provide right whales sufficient protection from Level A noise exposure and permanent threshold shift (PTS).

¹¹ Note that Vineyard Wind, in its Cross-Motion for Summary Judgment, did not address any of Plaintiffs’ arguments regarding the EIS’s analysis of impacts to the right whale.

The same holds for vessel strike impacts. The mitigation measures discussed in the EIS, such as the 10-knot speed limit, are so full of exceptions (e.g., crew transfer vessels need not comply) and other defects that they will be unable to protect right whales from vessel strikes and any mortality/serious injury deriving therefrom.

3. Inadequate Analysis of Cumulative Impacts on Right Whale

The Draft EIS for Vineyard Wind treated the project in isolation, as if it were the only large-scale offshore wind facility planned for the RI/MA WEA. This, of course, is false. The Vineyard Wind 1 project is only one of seven offshore wind facilities that will be built in the RI/MA WEA. Plaintiffs and others submitted comments to BOEM stating that the Draft EIS needed to analyze the project's impacts – especially those on right whales – in connection with the impacts anticipated to occur when the other six wind arrays are constructed and begin operating. In response, BOEM agreed to prepare a “supplement” to the Draft EIS that would include the required “cumulative” analysis (the “SEIS”). (See, BOEM 57578.)

The problem, however, is that neither the SEIS nor the FEIS actually analyzes the cumulative effects of seven industrial-scale wind energy projects on the right whale. For example, neither document bothers to estimate the total number of pile driving days that would be required to install all seven projects; nor do they analyze how many vessel trips would be needed to construct and operate the seven projects. The SEIS and FEIS do not discuss whether and to what extent having so many wind turbines concentrated in a popular (and possibly obligate) right whale foraging area might affect right whale feeding and movement patterns. The SEIS and FEIS do acknowledge that all seven wind projects will generally have similar impacts on right whales. (See, e.g., BOEM 68576-88, 68589, 68602-03, 69020-31.) NEPA, however, requires more than stating the obvious. The purpose of a cumulative impact assessment is to *analyze* those combined,

synergistic effects and discern whether they will result in significant damage to the resource in question (here, right whales). The SEIS and FEIS provides no such assessment, and federal defendants offer no evidence to the contrary. (See Doc. 97 at p. 58.)¹²

B. EIS Provides Inadequate Analysis of Project’s Impacts on Air Quality and GHG Emissions

1. EIS Does Not Compare Project Emissions of Criteria Pollutants to NAAQS Thresholds

In their Opening Brief, Plaintiffs argued that the Draft EIS, SEIS, and Final EIS fail to compare the project’s air emissions against the National Ambient Air Quality Standard (NAAQS) thresholds for each criteria pollutant, including those for nitrogen oxide (NOx), volatile organic compounds (VOCs), and carbon monoxide (CO) – all of which are precursors to ozone. (Doc. 89, at 50-52.)

The federal defendants counter by claiming that “the FEIS contains specific figures regarding the emission of Clean Air Act (“CAA”) criteria pollutants, such as carbon monoxide, sulfur dioxide, particulate matter smaller than 10 microns, particulate matter smaller than 2.5 microns, nitrogen oxide, ozone, and lead. BOEM_0068850-52.” (Doc. 97 at p. 47.)¹³ However, while the FEIS does provide emissions figures for each CAA criteria pollutant, those figures are not compared to the NAAQS thresholds. The standards are not provided at all. So the reader is

¹² Vineyard Wind provided no response to any of Plaintiffs’ arguments regarding the EIS’s analysis of project impacts on right whale, including the argument regarding cumulative impacts. Thus, Vineyard Wind has waived its right to respond to those arguments in the future.

¹³ Vineyard Wind provided no response to any of Plaintiffs’ arguments regarding the EIS’s failure to compare project emissions against the applicable NAAQS thresholds. Thus, Vineyard Wind has waived its right to respond to those arguments in the future.

left with a bunch of numbers that are meaningless. For example, the FEIS describes the project's offshore construction emissions as follows:

For Alternative A alone, construction emissions are estimated to be 1,116 tons of CO, 4,961 tons of NO_x, 172 tons of PM₁₀, 38 tons of SO₂, and 122 tons of VOC. Note that both NO_x and VOC are ozone precursors and these emissions may contribute to some increase in ozone production during construction. BOEM anticipates **minor** air quality impacts due to the construction and installation of Alternative A alone.” (BOEM 68850.)

These emissions figures explain nothing in terms of whether the project will result in an “exceedance” of any human health benchmark for air pollutants. In failing to compare project emissions of CAA criteria pollutants to the applicable NAAQS standards, the Final EIS withheld critical health information from the public and therefore violated NEPA.

2. Air Emissions Data Cannot Be Hidden in an Appendix to a Non-NEPA Document

The federal defendants also believe they are excused from placing these key emissions data in the EIS so long as the data are “contained in the draft COP, which is directly referenced in the DEIS.” (Doc. 97 at p. 48.) According to federal defendants, NEPA and its implementing guidelines allow agencies to “incorporate material into an [EIS] by reference.” (*Ibid.*) There is a key limitation, however, to the *type* of material that an EIS can reference. The following statement from *Kern v. United States Bureau of Land Management*, 284 F.3d 1062 (9th Cir. 2002) is instructive:

Tiering, or avoiding detailed discussion by referring to another document containing the required discussion, is expressly permitted by federal regulation [quoted regulation (40 C.F.R. § 1502.20) omitted]. However, tiering to a document ***that has not itself been subject to NEPA review is not permitted***, for it circumvents the purpose of NEPA.

Kern v. United States Bureau of Land Management, *supra*, 284 F.3d at p. 1073. (Emphasis added.)

Thus, regardless of whether the practice is called “tiering” or “incorporation by reference”, BOEM may not sidestep its duty to prepare a NEPA-compliant air quality impact analysis by

directing readers to the air emissions data in the “draft COP.” The draft COP is not a document prepared pursuant to NEPA; nor has it been subjected to NEPA review. For these reasons, it cannot be used as a substitute for a full, robust, and NEPA-compliant air quality assessment in the EIS itself. *Kern v. Bureau of Land Management, supra*, 284 F.3d at p. 1073.

3. *Plaintiffs Withdraw Claim Regarding Redacted Air Quality Data*

Plaintiffs Opening Brief argued that critical project-related air emissions data had been redacted from COP Appendix B and withheld from members of the public who wished to track down and review that data. (Doc. 89 at 51.) Federal defendants and Vineyard Wind have provided evidence that the redactions occurred in the 2017 version of the COP but were restored in the 2018 version to which the Draft EIS referred. (Doc. 97 at p. 48; Doc. 100 at p. 29-30.) Plaintiffs are satisfied with and accept federal defendants’ and Vineyard Winds’ explanation. Therefore, Plaintiffs withdraw their claim regarding alleged unlawful redactions of project-related air emissions data.

4. *The EIS Does Not Analyze Onshore Emissions or Emissions from Project-Related Economic Growth*

The EIS limits its air quality impacts analysis to emissions from the project’s offshore activities. Most of these relate to vessel trips and the pollutants generated thereby. As Plaintiffs pointed out in their Opening Brief, however, the project’s emissions are not limited to those from vessels and other offshore operations. (Doc. 89 at 52.) A significant amount of project-related work will take place at the various ports where construction staging will take place. *Ibid*. The EIS does not account for these emissions; nor does it account for the landside mobile emissions from the many employees who will work on the project or provide support for the project.

It is not that BOEM and Vineyard Wind have no idea how many jobs the project will generate. They talk about it all the time. The EIS itself states that project construction jobs will

result in 2,371 full-time employment (FTE) positions in Massachusetts alone. (BOEM 68635-36.) The EIS was required to account for, quantify, and analyze the CAA “criteria” pollutants and greenhouse gas (GHG) emissions that these new employees will generate. It failed to do so. As a result, the EIS’s air quality assessment is deficient.

Federal defendants respond by arguing that the project’s “indirect” air quality impacts *were* analyzed in the EIS. (Doc. 97 at p. 50.) But the only evidence they cite is the following sentence: “Primary emissions sources would be increased commercial traffic, air traffic, public vehicular traffic, combustion emissions from construction equipment, and some fugitive emissions.” Doc. 97 at p. 50. But a laundry list of onshore “emission sources” is not an impact analysis. Then the federal defendants claim they were absolved from analyzing or quantifying the emissions from such sources because they “are expected to be minor”. (*Ibid.*) But in the absence of any data on the onshore emissions in question – including those from project employees driving to and from work each day – it is impossible for BOEM to declare such emissions “minor”. The EIS simply omitted the required analysis, and it is deficient for that reason.

C. BOEM Acted Arbitrarily and Capriciously When It Approved the EIS

As shown, the Vineyard Wind EIS does not include an adequate analysis of the project’s impacts on the North Atlantic right whale and air quality/GHG emissions. Thus, the EIS fails to comply with NEPA, and BOEM acted arbitrarily and capriciously when it approved it.

V. CONCLUSION

For the reasons discussed above, the court should grant Plaintiffs’ Motion for Summary Judgment on its ESA, NEPA, and APA causes of action, and deny the Cross-Motions for Summary Judgment filed by Federal Defendants and Vineyard. Plaintiffs also request that the BiOp, Final EIS, and Record of Decision for the Vineyard Wind project be set aside.

DATED: October 19, 2022

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CERTIFICATE OF SERVICE

I hereby certify that this document filed through the CM/ECF system will be sent electronically to the registered participants as identified on the NEF on October 19, 2022.

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Hello all,

Here is a shared version of the first draft of the reply brief in ACK RATs. Mark requested comments by Tuesday. 
[WILDLIFE-#374762-v2-VINEYARD_WIND-ack_sj_reply_first_draft-DMR.docx](#)

I'm prioritizing working with DOJ on the TRO motion in Kinsella today, and so I won't get to this until tomorrow at the earliest.

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Here is a first draft of our ack rats summary judgment reply brief, which is due for filing on 11/23. I plan to circulate the next draft by COB Wed. 11/9, so please send any initial comments by COB Tues. 11/8. (b)(5)
[REDACTED] We have a 50-page limit for this reply brief. Copies of our opening brief and Plaintiffs' response brief are also attached for reference. Thanks.

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**UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS**

ACK RESIDENTS AGAINST TURBINES and
VALLORIE OLIVER,

Plaintiffs,

v.

U.S. BUREAU OF OCEAN ENERGY
MANAGEMENT; et al.,

Defendants,

and

VINEYARD WIND 1 LLC,

Intervenor-Defendant.

Case No. 1:21-CV-11390-IT

Hon. Indira Talwani

**PLAINTIFFS' MEMORANDUM OF POINTS AND AUTHORITIES IN OPPOSITION
TO CROSS-MOTIONS FOR SUMMARY JUDGMENT FILED BY FEDERAL
DEFENDANTS AND INTERVENOR VINEYARD WIND; PLAINTIFFS' REPLY IN
SUPPORT OF THEIR MOTION FOR SUMMARY JUDGMENT**

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Plaintiffs Nantucket (ACK) Residents Against Turbines and Vallorie Oliver (collectively, “Plaintiffs”) submit the following Memorandum of Points and Authorities in Opposition to the respective Cross-Motions for Summary Judgment filed by the United States Bureau of Ocean Energy Management, et al. (the “Federal Defendants”) and intervenor Vineyard Wind. This Memorandum also serves as Plaintiffs’ Reply Brief in support of its Motion for Summary Judgment.

I. INTRODUCTION AND SUMMARY OF ARGUMENT

On pages 60 and 61, the Biological Opinion (“BiOp”) for the Vineyard project summarizes the various human-related threats to the North Atlantic right whale, including entanglement in fishing gear, vessel strikes, loss of foraging habitat, and reduced prey species. (BOEM 77335-36.) The BiOp goes on to describe the right whales’ sharp and continuing population decline; recent mortality events involving vessel strikes and fishing gear entanglement; the species’ low calving rate; genetic isolation; and catastrophic loss of reproductive females. (*Ibid.*)

Then, in a rare moment of candor and transparency, the BiOp makes the following statement: **“Given the above information, North Atlantic right whales’ resilience to future perturbations is expected to be very low. (Hayes, et al. 2018a) . . . Consistent with this, recent modeling efforts indicate that the species may decline towards extinction if prey conditions worsen and anthropogenic mortalities are not reduced (Meyer-Gubrod et al. 2018).”** (BOEM 77336 [Emphasis added].)

Thus, the fundamental question to be addressed by the BiOp is this: Will the Vineyard Wind project add to the “perturbations” that now threaten the right whale with extinction? Or, to put it in the parlance of the Endangered Species Act (ESA), will the project jeopardize the species by adversely affecting its survivability or impeding its recovery?

The best available scientific and commercial data – some of which the BiOp uses, some of which it ignores – demonstrate that the Vineyard Wind project will not only increase and intensify the perturbations driving the right whale towards extinction, it will directly impact a large percentage of the 356 right whale individuals known to exist in the world, frustrating both the survival and the recovery of the species. The salient facts are these:

- The Vineyard Wind project area – also known as the Wind Development Area (WDA) – is located within the Rhode Island/Massachusetts Wind Energy Area (WEA), where 87 percent of all right whale individuals (327 of 356) were observed between 2011 and 2019. (NMFS 53319, 53324.)
- The Vineyard Wind WDA overlaps a right whale “hot spot” where whales congregate to feed and engage in other critical life history behaviors. (NMFS 53321-22, 53326.)
- The approved Vineyard Wind Construction and Operations Plan (COP) and the BiOp authorize Vineyard Wind to install up to 102 wind turbine generators (WTGs) in the WDA. (BOEM 77425.)
- These WTGs will be installed in the sea floor using pile driving. Pile driving generates high levels of impulsive sound at low-frequency bandwidths that overlap/correspond to right whale hearing. For this reason, the project’s pile driving activities will expose right whales to Level A and Level B harassment noise, leading to physical damage and hearing loss, both permanent and temporary. (BOEM 77461, 77438-40.)
- Vineyard Wind’s pile driving activities – by design – will force right whales out of the WDA into surrounding waters that are known to have high levels of commercial vessel traffic and significant amounts of vertical buoy ropes (VBR) – the very kind of fishing gear that entangles right whales and kills them. (BOEM 77580; NMFS 66321-22.)

- The project’s WTGs, once operational, will generate constant low-frequency noise, which can “mask” right whale vocalizations (e.g., up calls and “gunshots”) and reduce “communication space”. (NMFS 8751, 8756-60.)
- Project construction will require thousands of vessel trips back and forth between the WDA and staging ports in Massachusetts, Rhode Island, and Nova Scotia. These vessel trips will take place within right whale habitat, including right whale “hotspots” like the WDA itself. (BOEM 77293-94; NMFS 53321-22, 53326.)
- The vast majority of these vessel trips will be made by “crew transfer vessels”, which average approximately 90 feet in length and travel at 25 knots per hour. (BOEM 34861.) Although scientific studies show that whales struck by vessels traveling in excess of 15 knots per hour die 100 percent of the time (BOEM 129897, 129902), the BiOp *exempts* crew transfer vessels from the 10-knot per hour speed limits that applies to other project-related boats and ships. (BOEM 77304, 77525.)
- Significant numbers of right whales reside in or migrate through the WDA **year-round**, including during those months when pile driving and other construction activities will be occurring at the project site. (NMFS 53324, 53329.)

Despite this evidence showing the Vineyard Wind project will exacerbate the very threats that are quickly extirpating the North Atlantic right whale, the BiOp concludes that the project will neither reduce the survivability of the species nor impede its recovery – i.e., will not “jeopardize” the species. (BOEM 77630-31.) The author of the BiOp, the National Marine Fisheries Service (NMFS), bases this “no jeopardy” determination on its “expectation” that the mitigation measures proposed by Vineyard Wind and incorporated into the project will effectively protect right whales

from Level A pile driving noise, vessel strikes, and all other project-related impacts. (BOEM 77628.)

But the data in the record, including information set forth in the BiOp itself, demonstrate that this expectation is unfounded. For example, before each pile driving event, the BiOp requires Vineyard Wind to establish a right whale “clearance zone” using Passive Acoustic Monitoring (PAM). From June 1 to October 31 – when most pile driving is anticipated to occur – the clearance zone will extend only 5 kilometers (km) from the pile driving activity, which is substantially less than the Level A noise contour for pile driving, which extends approximately 7.25 km from the pile driving site. (BOEM 77442, 77453, 77457.) This means that some right whales could enter the Level A noise exposure zone and not be detected by PAM, resulting in unauthorized take.

But that’s not the half of it. The BiOp draws a distinction between “clearance” zones, which are established *before* pile driving commences, and “shut-down” zones, which are implemented *during* pile driving activity. (BOEM 77453.) According to the BiOp, from June 1 to October 31, the PAM shut-down zone extends only 3.2 km from the pile-driving site, even though the pile driving activity will generate Level A noise at a radius of 7.25 km. (*Ibid.*) Consequently, during active pile driving, no shut-down order will be given *unless* a whale is detected within that 3.2-km zone. Whales swimming outside the 3.2-km shut-down zone but within the 7.25-km Level A noise contour will be exposed to Level A noise, and no shut-down order will be given to protect them. This, too, will result in unauthorized take.

In addition, PAM has significant limitations in its ability to guarantee that right whales are absent from the pile driving impact area. Unlike sonar, which can detect any physical body within its scope, PAM equipment can only detect whales that are *actively vocalizing* within the PAM coverage area. Baleen whales, including right whales, often go hours, even days, without

vocalizing.¹ Such “silent” whales will not be detected by PAM, even when present within the PAM coverage zone. As a result, these whales would be exposed to the project’s Level A pile driving noise and the PAM operator would not even know about it. In short, PAM cannot ensure that the project’s Level A noise exposure area is free of right whales. The proposed Protected Species Observers (PSOs) will not be able to fill this “detection” gap, because the PSOs, even when stationed on an elevated platform, can only see whales at a distance of 1.5 km or less, and that’s if the whales are on the water’s surface. PSOs cannot detect whales more than a few feet under the water.

Then there is the matter of vessel strikes. The most effective way to avoid vessel strikes on right whales is to restrict vessel speeds to 10 knots per hour or less. (BOEM 77519, 77524; NMFS 3490-96.) The BiOp imposes a 10-knot speed limit on project-related vessels, but with two huge exceptions. (BOEM 77304.) First, all project vessels can disregard the 10-knot speed limit when transiting through Nantucket Sound, which lies between mainland Massachusetts and the project WDA. (BOEM 77304.) Second, the 10-knot speed limit does *not* apply to crew transfer vessels, no matter where they are traveling to or from. (BOEM 77304, 77525.) Crew transfer vessels – which account for the majority of the project’s anticipated vessel trips – average 90 feet in length and travel at 25 knots (BOEM 34746, 34861), well above the speed at which a vessel strike is 100 percent fatal for whales (15 knots). (BOEM 129897, 129902.) These two exceptions completely gut the 10-knot speed limit and undermine its ability to protect right whales from vessel strikes.

¹ See, Barkaszi, et al., “PAMGuard Quality Assurance Module for Marine Mammal Detection Using Passive Acoustic Monitoring: Signal Injection and Detection Evaluator (SIDE),” CSA Ocean Sciences, Inc., August 2020, Executive Summary and Section 2.1.1.3, a true and correct copy can be accessed through the link provided in the declaration of David P. Hubbard in Support of Plaintiffs’ Motion for Summary Judgment; see also Plaintiffs’ Supplemental Statement of Material Facts in Support of Plaintiffs’ Motion for Summary Judgment, ¶ 2.

NMFS and Vineyard Wind, however, tell us not to worry about vessel strikes because each boat will be assigned at least one PSO whose job is to scan the surface of the water looking for right whales. If the PSO sees one, he or she is required to alert the boat captain, who in turn can take evasive action to avoid striking the animal. As noted, however, PSOs cannot see below the water's surface, and research shows that whales swimming as deep as 30 feet can still be caught in the "draft pull" of the boat's hull, resulting in a collision. (NMFS 6117.)

NMFS and Vineyard Wind contend that any whales that slip by the PSOs will be detected by PAM equipment. Again, however, PAM can only detect whales when they are actively vocalizing; non-vocalizing whales will not register. (Barkaszi, et al. (2020).) Also, nothing in the BiOp mandates that such equipment be installed on crew transfer vessels (or any other project-related ship); nor does the BiOp require Vineyard Wind to install PAM equipment to provide full coverage of the 55-mile vessel route between the staging port in New Bedford, Massachusetts and the project WDA. Moreover, none of the BiOp mitigation measures apply to the areas immediately outside the project's "Action Area".² This is critical, because Vineyard Wind, through its "soft start" pile driving procedure, hopes to push right whales away from the project site and into surrounding waters – waters known to have significant vessel traffic, both commercial and recreational. (BOEM 34742; BOEM 77310, 77458; BOEM 194539; BOEM 77411, 77580.)

² The project's "Action Area" is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." The action area includes the 75,614 acre WDA where project activities will occur and the surrounding areas ensounded by proposed Project noise; the OECC, which extends north through Muskeget Channel to landfall in south-central Cape Code; the vessel transit areas between the WDA and ports in Massachusetts (New Bedford, Brayton Point, and Montaup), Rhode Island (Providence and Quonset Point, Rhode Island) and Canada (Sheets Port, St. John, and Halifax) and the routes used by vessels transporting manufactured components from Europe (see Figure 3.4.1, 3.4.2, and 3.4.3) inclusive of the portion of the Atlantic Ocean that will be transited by those vessels and the territorial sea of nations along the European Atlantic coast from which those vessels will originate. (BOEM 77320.)

Simply put, the proposed mitigation measures are insufficient to prevent project-related vessel strikes on right whales. And given that the right whale's Potential Biological Removal (PBR) rate has dropped to 0.8 – meaning it cannot absorb even one human-caused mortality per year and sustain its current population size – any project-related vessel strike will jeopardize the species. (NMFS 33684.)

The BiOp's fundamental defect is its refusal to adjust its impact/jeopardy analysis to recent data showing that (i) right whales have sustained, and continue to sustain, significant "mortality events" each year, causing the species to lose more individuals than it can replace through new births; (ii) right whales, like their prey species, have shifted their geographical preferences and now congregate in the waters south of Nantucket – including the Vineyard Wind WDA – to forage and engage in other live history behaviors; (iii) the WDA itself is a right whale "hotspot"; and (iv) right whales are no longer just seasonal visitors to the waters south of Nantucket but reside in or use these waters year-round, including the summer and fall months when Vineyard Wind plans to conduct pile-driving and other construction activities at the project site.

This failure to use the best available data on right whale threats, population trends, and year-round residency in the Vineyard Wind WDA is perhaps most pronounced in the BiOp's uber-brief, back-of-the-napkin assessment of the project's potential to impede recovery of the species. Rather than test the project's impacts against the right whale's current status – i.e., declining population, low calving rate, increased mortality events, loss of reproductive females, reduced and shifting prey species – the BiOp's recovery analysis simply assumes the project's mitigation measures will be enough to prevent project-related impacts from impairing recovery. In fact, the BiOp does not actually assess the project in relation to the right whale's recovery goals – which are tied to the ultimate delisting of the species – but to four criteria NMFS has developed for

reclassifying the right whale from “endangered” to “threatened”. (BOEM 77630.) In this very real sense, the BiOp includes no true “recovery” analysis at all.

Neither the federal defendants nor Vineyard Wind make a serious effort to address Plaintiffs’ arguments regarding the BiOp’s deficient “recovery” analysis, tacitly admitting that the document fails to provide this legally-required element of the jeopardy assessment.

The flaws in the BiOp are then repeated in the Vineyard Wind Environmental Impact Statement (EIS). Like the BiOp, the EIS downplays the WDA’s importance to the right whale and fails to analyze the project’s impacts in light of recent data showing that the whale has shifted its foraging preferences and now relies heavily on the RI/MA WEA (including the Vineyard Wind WDA) for food. It also makes the same false assumptions regarding the effectiveness of Vineyard Wind’s proposed measures for mitigating noise and vessel strike impacts on right whales. And, just like the BiOp, the Vineyard Wind EIS does not even mention, much less investigate, whether and to what extent the project (and the six other offshore wind farms slated for Massachusetts WEA) will drive right whales into areas of heavy vessel traffic and high concentrations of fixed fishing gear.

On a completely different front, the EIS also provides a deficient analysis of the Vineyard Wind project’s air emissions, both inshore and offshore, including those that contribute to climate change. For example, the EIS fails to compare the project’s emissions to the applicable Clean Air Act (CAA) National Ambient Air Quality Standard (NAAQS) thresholds for each regulated pollutant. The federal defendants and Vineyard Wind claim that this information is set forth in an appendix to Vineyard Wind’s COP; but NEPA does not permit federal agencies to tuck key impact information in appendices to non-NEPA documents. Instead, the impact information must be contained in the EIS itself. More egregious still is the EIS’s utter failure to account for emissions

from the project's much-touted ability to generate economic growth and new employment. The federal defendants and Vineyard Wind are happy to take credit for the economic boom they claim the project will create (see Doc. 28-1 at 2), but they do not assess the air quality and GHG impacts of that growth. In failing to model, measure, analyze, and disclose these growth-related emissions, the EIS violated NEPA.

The federal defendants and Vineyard Wind have no convincing answer to Plaintiffs' *substantive* arguments regarding the legal defects of the BiOp and the EIS. So they retreat to *procedural* defenses, arguing first that Plaintiffs lack standing to pursue this litigation, and second that Plaintiffs' Notice of Intent to Sue letters and NEPA comments did not adequately warn NMFS and BOEM of the claims now made in Plaintiffs' legal brief, resulting in a failure to exhaust administrative remedies.

These defenses are without merit. As shown below, the Plaintiffs have adequately demonstrated injury in fact and causation for purposes of establishing standing on their ESA and NEPA causes of action. The declarations of Vallorie Oliver and Amy DiSibio, both of whom are members of plaintiff Nantucket (ACK) Residents Against Turbines, show that each of them resides on Nantucket; have a significant connection to the North Atlantic right whale; are worried that it is being pushed toward extinction; would be emotionally distraught if the project were to harm or kill any right whale and further jeopardize the species; and have concrete plans to observe the right whale in the future.

To remove any confusion on this point, Vallorie Oliver has submitted a supplement to her original declaration, where she explains and clarifies the emotional and psychological injury she will suffer knowing that the Vineyard Wind project will adversely affect right whales, potentially leading to its extirpation within Ms. Oliver's lifetime. Scientists now refer to this type of injury as

“ecological grief”, which includes the anguish one feels when ecosystems are damaged and species are lost. Ms. Oliver’s supplemental declaration also clears up any misperceptions about her standing to challenge the EIS’s air quality analysis. She *does* live on Nantucket; she *does* breathe while she is there; she *does* visit the onshore areas near New Bedford (Vineyard Wind’s staging port); and she *does* breathe air while on these trips to the mainland.

Finally, there is no question that Plaintiffs exhausted their administrative remedies. Their 60-day Notice of Intent to Sue letters adequately apprised the federal defendants of the defects of the BiOp, including (i) the BiOp’s mistaken assumption that the Vineyard Wind project would not expose right whales to Level A harassment noise, (ii) the potential threats and impacts right whales may encounter when pushed out of the WDA by project pile driving, and (iii) the BiOps failure to present a complete, accurate, and up-to-date picture of the right whale’s currently imperiled status, including its steep slide towards extinction. Plaintiffs’ comments on the Draft, Supplemental, and Final EIS likewise alerted BOEM to the deficiencies in the document’s analysis of project impacts on right whales, air quality, and GHG emissions.

II. THE PROCEDURAL DEFENSES ADVANCED BY FEDERAL DEFENDANTS AND VINEYARD WIND HAVE NO MERIT

A. Plaintiffs Have Standing to Pursue Their ESA and NEPA Claims

Plaintiffs attached to their Opening Brief the declarations of Vallorie Oliver and Amy DiSibio, both of whom are members of plaintiff Nantucket (ACK) Residents Against Turbines. (See Doc. 88-2 and Doc. 88-3.) These declarations establish that Ms. Oliver and Ms. DiSibio – and, by extension, Nantucket Residents Against Turbines – have been or will be injured by the federal defendants’ adoption of the BiOp and EIS for the Vineyard Wind project, as these decisions will lead to the construction and operation of the project itself, which will adversely affect Ms. Oliver’s and Ms. DiSibio’s interests. (*Ibid.*) In their declarations, Ms. Oliver and Ms. DiSibio

provide evidence that they will suffer “injury in fact” should the project, as approved, be implemented, and that their injuries can be redressed by this Court by setting aside the BiOp and/or the EIS challenged in this lawsuit.

In their cross-motion for summary judgment, the federal defendants contend that the declarations of Ms. Oliver and Ms. DiSibio are insufficient to establish injury in fact under the ESA and thus the Plaintiffs lack standing to engage this Court’s jurisdiction on matters pertaining to the adequacy of the Vineyard Wind BiOp. (Doc. 97 at pp. 16-17.) Vineyard Wind joins in this argument (without briefing it), but also asserts that Plaintiffs lack standing under NEPA to challenge the EIS’s analysis of project impacts on air quality and GHG emissions. (Doc. 100 at p. 8.) As shown below, however, the standing bar under the ESA and NEPA is nowhere near as high as the federal defendants and Vineyard Wind want to put it, and Plaintiffs clear it with ease.

1. Plaintiffs Have Standing to Pursue ESA Claims

To establish constitutional standing, plaintiffs must show that they meet three criteria: (1) injury in fact, (2) causation, and (3) redressability. *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992). An association, such as Nantucket Residents Against Turbines, has standing to bring suit on behalf of its members provided “its members would otherwise have standing to sue in their own right.” *Center for Biological Diversity v. Haaland*, 562 F.Supp.3d 68, 78 (2021), quoting *Hunt v. Washington State Apple Advert. Comm.*, 432 U.S. 333, 343 (1977).

In her declaration, Ms. DiSibio states that she is a part-time resident of, and long-time visitor to, Nantucket, and enjoys the rich marine life that surrounds Nantucket Island, including threatened and endangered species. Doc. 88-3 at ¶ 4. She also avers that she has had, and continues to have, “opportunities to observe them [threatened and endangered species] in their natural habitat.” *Ibid.* Next, she states that “[m]y family and I enjoy whale watching off Nantucket” and

“[m]any of these sea animals, including and especially the North Atlantic right whale, are truly magnificent.” *Ibid.* Ms. DiSibio then turns inward, to express her personal feelings of loss should the Vineyard Wind project harm right whales and push the species toward extinction:

I have kept myself informed about the right whale and its recent slide toward extinction. It pains me to think that there are only about 325 of these incredible marine mammals left in the entire world, and that the Vineyard Wind Project may cause them harm or result in further losses. I feel a responsibility to protect the right whale and the other potentially affected marine species against the damage the Project may bring.

Doc. 88-3 at ¶ 4.

Ms. Oliver, in her declaration, expresses similar connections to the North Atlantic right whale. First, for context, she states that she was born on Nantucket and has resided there her entire life (60 years). Doc 88-2 at ¶ 3. Next, she explains that, from the time she was a child, life on Nantucket centered around whales, and that the cultural history of the island “is defined by the whale.” *Ibid.* Ms. Oliver then states she enjoys the natural environment that Nantucket offers, “especially the rich marine life that defines what Nantucket is and what we want it to be in the future” *Ibid.* As to the right whale, Ms. Oliver writes:

I am awe inspired that so many marine animals, including some that are threatened or endangered, still choose to visit and live in the waters around Nantucket. I love that I have had, and continue to have, opportunities to observe them in their natural habitat. Many of these sea animals, including and especially the North Atlantic right whale, are truly magnificent to behold. *Seeing them, whether from a boat or from the air, is a sacred and metaphysical experience that most people never get the chance to encounter.* It is a sublime connection you have with them, one you have been near them and seen how majestic these animals truly are. It comforts me to know that they are still there, just under the surface, sharing the water with me, even when I am not near them.

Doc. 88-2 at ¶ 3. (Emphasis added.)

Ms. Oliver follows up this statement by expressing her fear that the Vineyard Wind project, as approved, will hasten the right whale’s extirpation.

Additionally, the permissions that have been granted to harm and take a whale is disconcerting. This non-logical action will in all likely hood (sic), drive this species toward extinction. Should the Project result in any harm to North Atlantic right whales, or any other listed species, I will feel that I have failed in my duty to protect them”

Doc 88-2 at ¶ 3.

The declarations proffered by Ms. DiSibio and Ms. Oliver establish that they live in, visit, and share the same maritime ecosystem that has become a refuge for the North Atlantic right whale. The declarations also establish that both women have a deep connection to the right whale and are committed to its preservation not only in the waters around Nantucket, but overall. Ms. DiSibio has declared that she and her family go whale watching off Nantucket – a recreational and aesthetic experience that the project could substantially diminish. The Supreme Court, in *Japan Whaling Ass’n v. Am. Cetacean Soc’y*, 478 U.S. 221, 231 n. 4 (1986) found that whale watchers alleged sufficient injury in fact by asserting that their whale watching activities would be adversely affected by the defendants’ whale harvesting. This is no different. And the Supreme Court has stated that “environmental plaintiffs adequately allege injury in fact when they aver that they use the affected area and are persons for whom the aesthetic and recreational values of the area will be lessened by the challenged activity.” *Friends of the Earth, Inc. v. Laidlaw Envtl. Servs. (TOC), Inc.*, 528 U.S. 167, 183 (2000)

The federal defendants, however, are not satisfied. They complain that neither declarant “provides any specific facts to establish that she has ever seen a right whale, or that she has any concrete plans to attempt to see them in the future.” (Doc. 97 at p. 16.) However, while the “desire to use or observe an animal species, even for purely esthetic purposes,” will confer standing under the ESA (*Lujan*, 504 U.S. at 562-63), a plaintiff does not *forfeit* standing simply because she has not seen the animal in question. This issue was squarely addressed in *National Wildlife Federation*

v. Norton, 386 F.Supp.2d 553, where a conservation group challenged a decision of the U.S. Fish and Wildlife Service (USFWS) to reclassify the gray wolf from “endangered” to “threatened”. *National Wildlife Federation v. Norton*, *supra*, 386 F.Supp.2d at 557. The USFWS argued that because none of plaintiff’s declarants had actually seen a gray wolf, plaintiff lacked standing. The court disagreed: “Even though the Declarants have not actually seen a gray wolf, actual observation of a rare, endangered species is not the test for standing in ESA cases, and therefore, plaintiffs have demonstrated ‘injury in fact’.” *Id.*, at p. 560.

But even if “observation of the animal” were the litmus test for standing to bring claims under the ESA, plaintiffs would pass. Ms. Oliver, in her declaration, discusses her opportunities to observe North Atlantic right whales in their natural habitat; how they are “magnificent to behold”; and that “seeing them” from a boat or from the air, is a “sacred and metaphysical experience.” Doc. 88-2 at ¶3. It is difficult to see how the federal defendants can read these words, in the context in which they were provided, and conclude that Ms. Oliver has not observed a right whale and has no concrete intention to ever observe one in the future. Apparently, however, the federal defendants need Ms. Oliver to say the magic words “I’ve seen a right whale and I have concrete plans in the future to see a right whale again.” To appease federal defendants and eliminate all debate on the matter, Ms. Oliver has proffered a supplemental declaration, attached hereto, which includes the very statement that federal defendants want to hear:

As I explained in my first declaration, dated July 25, 2022 (ECF 88-2), the North Atlantic right whale is embedded in the cultural fabric of Nantucket and is an integral part of my personal environment. *I have seen right whales in the waters around Nantucket, including waters potentially affected by the proposed Vineyard Wind project. And while the number of right whales continues to drop to dangerously low levels and now rests at about 350 individuals, I do have concrete plans to observe right whales in the waters around Nantucket in the future.* I will do so, of course, while maintaining the federally mandated 500 yards of separation between myself and any right whale that I might see.

See Supp. Oliver Decl., ¶4 (emphasis added).³

The injuries sustained, or to be sustained, by Ms. Oliver are not limited to reduced opportunities for observing North Atlantic right whales. As she explains in her supplemental declaration, the Vineyard Wind project has the potential to contribute to the extirpation of the right whale, leading Ms. Oliver to suffer what environmental scientists and psychologists now refer to as “ecological grief”.

According to Ashlee Cunsolo and Neville R. Ellis, who first coined the term in their article “Ecological grief as a mental health response to climate change-related loss” (*Nature Climate Change*, Vol.8, April 2018, pp. 275-281), ecological grief is “the grief felt in relation to experience or anticipated ecological losses, *including the loss of species*, ecosystems and meaningful landscapes due to acute or chronic environmental change.” *Id.*, p. 275.⁴ This phenomenon of ecological grief has recently received significant scientific attention. See, for example, Clark, Timothy (2020) “Ecological grief and anthropocene horror.” *American imago* 77(1), pp. 61-80; Agoston, Csilla, et al. (2022), “The psychological consequences of the ecological crisis: Three new questionnaires to assess eco-anxiety, eco-guilt, and ecological grief,” *Climate Risk*

³ In the event federal defendants or Vineyard Wind object to Ms. Oliver’s supplemental declaration on grounds it was attached to Plaintiffs’ Reply Brief, we would point out that when a plaintiff’s standing is challenged on cross-motions for summary judgment, nothing precludes that plaintiff from submitting evidence of standing in a Reply/Opposition Brief. *Ellis v. Housenger*, 252 F.Supp.3d 800, 812 (N.D. Cal. 2017) [“where . . . the issue of standing is raised in a motion for summary judgment filed by the defendant, the plaintiff, in its opposition, may offer evidence to establish its standing at that time”]. Here, the Plaintiffs’ Reply Brief also serves as their Opposition to the respective cross-motions for summary judgment filed by the federal defendants and Vineyard Wind, both of whom have a future opportunity to respond to the evidence set forth in Ms. Oliver’s supplemental declaration. As a result, neither the federal defendants nor Vineyard Wind is prejudiced.

⁴ A true and correct copy of the Cunsolo and Ellis article can be accessed through the link provided in the Declaration of David P. Hubbard in support of Plaintiffs’ Motion for Summary Judgment (Dec. of D. Hubbard).

Management, Vol. 37; Kent, Suzanne and Keri Vacanti Brondo, “‘Years Ago the Crab was so Plenty’: Anthropology’s Role in Ecological Grieving and Conservation Work,” *Culture, Agriculture, Food and Environment* (2019); Ojala, et al., “Anxiety, Worry and Grief in a Time of Environmental and Climate Crisis: A Narrative Review,” *Annual Review of Environmental Resources* (2021), Vol. 46, pp. 35-58; Cunsolo, et al, “You can never replace the caribou: Inuit Experiences of Ecological Grief from Caribou Declines,” *America Imago*, 77(1), pp. 31-59).⁵ There is general consensus among these experts that mental health degradation stemming from ecological loss is becoming more common and more serious. This sense of loss, and the mental and emotional anguish it causes, tends to be most acute among people who share a landscape or ecosystem with a particular species that was once embedded in the culture but has now disappeared. Cunsolo and Ellis (2018).

In her supplemental declaration, Ms. Oliver describes how the Vineyard Wind project, if it were to cause further loss of right whales, would harm her emotionally and psychologically. (Supp. Dec. of Vallorie Oliver, ¶¶ 2-3.) As Ms. Oliver emphasizes, the whale is central to the place she has called home her entire life, and anything that further reduces the whales’ population or its potential for recovery directly damages her in turn, causing her to experience emotional distress. (*Ibid.*) This is the very definition of “ecological grief” and it constitutes injury in fact, thereby conferring standing on Ms. Oliver and Nantucket Residents Against Turbines to pursue this action under the ESA.

⁵ True and correct copies of these five articles can be accessed through the link provided in the Dec. of D. Hubbard.

2. *Plaintiffs' Have Standing to Pursue NEPA Claims*

Plaintiffs have challenged the Vineyard Wind EIS on grounds that it fails to provide a NEPA-compliant analysis of the project's impacts on (i) North Atlantic right whales, (ii) air quality, and (iii) GHG emissions. The federal defendants raise no "standing" defense to these claims, apparently satisfied that Plaintiffs have established a sufficient injury in fact to prosecute them. (See Doc. 97 at pp. 15-18.) Vineyard Wind, however, contends Plaintiffs have no standing to challenge the EIS's air quality analysis because there is insufficient evidence that the project's air emissions will actually reach Plaintiffs and cause them any harm. (Doc. 100 at pp. 9-12.) The fact that Ms. Oliver resides on Nantucket Island, just 14 miles from the Vineyard Wind WDA, is not enough to convince Vineyard Wind that she might inhale air carrying pollutants from the project. According to Vineyard Wind, Ms. Oliver must hire an air emissions expert to establish injury in fact and causation sufficient to give her standing to sue under NEPA. (Doc. 100 at pp. 10-11.) Vineyard Wind's position is absurd and finds no support in the law.

For example, Vineyard Wind contends that "[d]emonstrating one is actually affected by a specific source of air pollutant emissions requires expert testimony." (Doc. 100 at p. 10.) As authority for this contention, Vineyard Wind cites *Heinrich v. Sweet*, 308 F.3d 48, 61 (1st Cir. 2002), *Jackson v. Johnson & Johnson*, 330 F. Supp. 3d 616, 625 (D. Mass. 2018), and *Pritchard v. Stanley Access Techs., LLC*, 2011 WL 309662, at *5 (D. Mass. Jan. 27, 2011). (Doc. 100 at p. 10.) None of these three cases, however, address Article III standing requirements for a NEPA claim. In fact, none of them involves standing issues at all. All three cases were tort actions where the defendants disputed the plaintiffs' ability to prove causation and, by extension, liability.

Heinrich v. Sweet involved a wrongful death claim against two physicians and the hospital with which they were affiliated. *Heinrich v. Sweet*, *supra*, 308 F.3d at 48. In that case, the court

held that expert testimony was required to establish a causal connection between the treatment prescribed by the doctors and the patient's death. *Heinrich v. Sweet, supra*, 308 F.3d at 61. Thus, *Heinrich* does **not** stand for the proposition that a NEPA plaintiff, to establish standing to challenge an EIS's air quality impact analysis, must demonstrate through expert testimony that he or she will be injured by the project's air emissions.

Jackson v. Johnson & Johnson is inapposite for similar reasons. There, the plaintiff sued the defendant pharmaceutical company alleging physical and emotional damage from ingesting the defendant's antipsychotic medication. *Jackson v. Johnson & Johnson, supra*, 330 F. Supp. 3d at 625. Like *Heinrich*, the *Jackson* case did not involve any defense based on lack of standing. Instead, the defendant pharmaceutical company argued, and the court agreed, that without expert testimony, the plaintiff could not establish causation for purposes of imposing tort liability. *Ibid.* Again, this holding has nothing to do with Article III standing requirements for a NEPA claim.

Pritchard v. Stanley Access Techs., LLC also provides no support for Vineyard Wind's position. That case, like *Heinrich* and *Jackson*, involved personal injury torts grounded in negligence. *Pritchard v. Stanley Access Techs., LLC, supra*, 2011 WL 309662, at *1-2. It did not involve a defense based on lack of standing and did not address claims under NEPA.

Fortunately, we are not without guidance as to the type and extent of evidence needed to satisfy the "causation" element of standing in the NEPA context. In *Hall v. Norton*, 266 F.3d 969, 976-977 (9th Cir. 2001), the 9th Circuit addressed this very issue. The plaintiff in *Hall* sued the United States Bureau of Land Management (BLM) over its decision to exchange lands with a private developer, alleging (among other things) that the Environmental Assessment (EA) for the action provided an inadequate analysis of air quality impacts. *Hall v. Norton, supra*, 266 F.3d at 971-72. BLM moved for summary judgment on grounds that the plaintiff had not satisfied the

“causation” criterion for Article III standing. *Id.*, at pp. 973-74. The district court, finding in favor of BLM, ruled that the plaintiff, in order to establish standing, had to demonstrate a linkage between his alleged injury and air emissions from the specific parcels to be exchanged. *Id.*, at p. 974. The Ninth Circuit reversed, and in so doing articulated a clear distinction between the evidence required to establish standing and that required to demonstrate causation for purposes of tort liability:

The purpose of the standing doctrine is to ensure that the plaintiff has a concrete dispute with the defendant, not that the plaintiff will ultimately prevail against the defendant. ***Thus, Hall need not establish causation with the degree of certainty that would be required of him to succeed on the merits, say, of a tort claim.*** Rather, Hall need only establish “the ‘reasonable probability’ of the challenged action’s threat to [his] concrete interest.”

Id., at pp. 976-77, quoting *Churchill County v. Babbitt*, 150 F.3d 1072, 1078 (9th Cir. 1998) [emphasis added].

Despite this clear statement of the law, Vineyard Wind goes on at length describing the scientific proof Vallorie Oliver and Amy DiSibio would have to submit before standing would be conferred. (Doc. 100 at pp. 10-11.) Vineyard Wind even retained an air modeling expert, Shari Libicki, to opine on the precise types of technical analyses that would be required to determine whether the project’s air emissions would affect people on Nantucket. See Doc. 100 at 10-11; see also Declaration of Shari Libicki in support of Doc. 100 at ¶¶ 33-35. Ironically, Ms. Libicki testimony says more about the inadequacy of the Vineyard Wind EIS than it does about Article III standing requirements.

For example, Ms. Libicki states that “Plaintiffs have not asserted any potential air quality impacts and could not do so by simply reviewing the materials provided in the COP appendix or the Final EIS.” Decl. of Shari Libicki, ¶¶ 33-34; Doc. 100 at 11. Thus, according to Ms. Libicki, the air emissions data set forth in the COP appendix and the Final EIS are insufficient to determine

whether there would be air quality impacts on Nantucket (and, presumably, Martha's Vineyard and mainland towns like New Bedford). Not exactly a ringing endorsement of the EIS's air quality analysis. Then, Ms. Libicki indicates that understanding exposure to air pollutants requires emission "dispersion modeling", which "uses mathematical techniques to simulate the air and chemical processes that affect air pollutants as they disperse and react in the atmosphere." Decl. of Shari Libicki, ¶ 35; Doc. 100 at 11. Ms. Libicki goes on, stating that this modeling requires "[c]omplex data sets . . . including meteorological data (a historical record of wind speed, wind direction, atmospheric stability, temperatures, and other meteorological parameters)" as well as "the location, configuration, and emission patterns of the emissions sources." *Ibid.*

Holy mackerel.

It would have been nice if BOEM and Vineyard Wind had provided this kind of detailed impact information in the EIS, but they did not. Yet Vineyard Wind is now arguing that Vallorie Oliver and Amy DiSibio, to demonstrate standing under NEPA, needed to hire an air quality modeling expert to generate these intensive air emissions data. Ridiculous. Fortunately, the law does not require Plaintiff to meet Vineyard Wind's demands. In her supplemental declaration, Vallorie Oliver confirms that she lives on Nantucket Island and thus shares the same air basin where the project's emissions will be received and felt. Supp. Dec. of Vallorie Oliver, ¶ 12. Ms. Oliver's supplemental declaration also establishes that she routinely visits cities and towns on the Massachusetts mainland, including New Bedford, where the project will be conducting most of its staging operations and generating significant employment, economic growth, and, by extension, air emissions. *Ibid.*

In addition, the evidence shows that the project will emit air pollutants regulated under the CAA. (See BOEM 37829, 37840.) The NAAQS for these criteria pollutants were established to

protect human health. By definition, then, emissions of these pollutants have the potential to harm human health, including Vallorie Oliver's. Therefore, she satisfies both the injury in fact and causation requirements for standing to challenge the Vineyard Wind EIS air quality analysis.

3. Plaintiffs Have Met All Criteria for Standing

As shown above, the Plaintiffs have demonstrated injury in fact for their ESA and NEPA claims. It is also clear that the injuries in question have been or will be caused by the Vineyard Wind project – a project that would not be implemented *but for* federal defendants' adoption of the BiOp (including its Incidental Take Authorization) and the EIS. Thus, Plaintiffs satisfy the "causation" element of standing as well. Lastly, there is no question that this court can redress Plaintiffs' complaints and prevent their injuries by declaring the BiOp and EIS legally inadequate, setting them aside, and halting the Project until they are revamped to comply with federal law. Consequently, Plaintiffs satisfy the third and final standing criterion as well.

B. Plaintiffs Exhausted Their Administrative Remedies

The federal defendants contend that Plaintiffs' 60-day NOI letters criticizing the BiOp failed to apprise NMFS and BOEM of five issues raised in Plaintiffs' Opening Brief: (1) that whales, in response to the project's "soft start" pile driving procedure, would flee "to NMFS Statistical Area 537"; (2) that the BiOp fails to consider the right whale's Potential Biological Removal (PBR) threshold; (3) that the override procedure for pile driving was problematic; (4) that the size of the pile driving clearance zone was insufficient; and (5) that the PAM detection limit was inadequate given the size of the project's Level A noise impact area. (Doc. 97 at p. 9.) For its part, Vineyard Wind alleges Plaintiffs failed to notify BOEM that the EIS included insufficient data on the project's air pollution emissions. (Doc. 100 at pp. 28-29.) A quick review

of Plaintiffs' 60-day NOI letters and EIS comments shows that Plaintiffs adequately alerted NMFS and BOEM to each of these issues.

1. Challenges to Biological Opinions Do Not Require 60-Day Notice

As an initial matter, the law is well-settled that challenges to biological opinions are brought pursuant to the Administrative Procedures Act (the "APA"), *not* the citizen suit provision of the ESA. *Strahan v. Linnon*, 967 F.Supp. 581, 592 (D.Mass. 1997). Therefore, such challenges are not subject to the citizen suit provision's 60-day notice requirement. (*Ibid.*) For this reason, federal defendants cannot now assert that Plaintiffs failed to exhaust their administrative remedies regarding challenges to the adequacy of the Vineyard Wind BiOp. There were no administrative remedies to exhaust. But even if Plaintiffs *were* required to submit a 60-day NOI letter to federal defendants as a prerequisite to challenging the Vineyard Wind BiOp, the Plaintiffs complied. In fact, Plaintiffs submitted three such letters, and together they adequately alerted federal defendants of each ESA issue discussed in Plaintiffs Opening Brief and in this Reply.⁶

2. Potential Impacts from Right Whales Fleeing WDA During Pile Driving

Federal defendants allege that Plaintiffs did not raise the issue of right whales leaving the Vineyard Wind WDA and "fleeing to NMFS Statistical Area 537" in response to the project's "soft start" pile driving procedure. (Doc. 97 at p. 18.) Federal defendants are wrong. In paragraph 36 of its 60-day NOI letter, dated November 27, 2021 (Doc. 97-3), Plaintiffs made the following comment:

The BiOp fails to assess vessel strike risk to right whales and other federally-listed species in the context of the already-crowded shipping lanes in or near the Project Area. In addition, the BiOp assumes that right whales and other federally-listed species will move out of the Project Area as an "avoidance response" to pile drilling noise; however, if this is true, these animals, in their

⁶ The three Notice of Intent to Sue letters are attached as Exhibits B, C, and D to federal defendants cross-motion for summary judgment. Docs 97-2, 97-3, and 97-4.

efforts to swim away from the pile driving noise, will likely enter areas of high vessel traffic, increasing the risk of ship strikes. This impact is not analyzed in the BiOp.

Doc. 97-3, at p. 10 [Comment 36].

Plaintiffs could not have been more clear. They were pointing out to NMFS that the BiOp does not analyze what happens to right whales when the project's pile driving noise forces them out of the WDA into surrounding waters known to have high levels of fishing vessel traffic. As NMFS well knows, the project WDA lies completely within Area 537. (See Doc. 100 at p. 12-15.) Thus, as a simple matter of geography, whales forced to leave the WDA will automatically be "fleeing" to Area 537. Plaintiffs adequately alerted federal defendants of this issue and therefore exhausted their administrative remedies.

3. The North Atlantic Right Whale's PBR Threshold

Federal Defendants' second complaint is that Plaintiffs did not notify them that the BiOp should have discussed the project's impacts in relation to the North Atlantic right whale's Potential Biological Removal (PBR) rate of 0.8. (Doc. 97 at p. 9.) Again, the federal defendants are wrong. While it is true that Plaintiffs' 60-day NOI does not mention the phrase "Potential Biological Removal rate" or use the acronym PBR, the NOI is emphatic that the BiOp fails to adequately assess the project's impacts in relation to the right whale's declining population – a population that is diminishing so fast that extinction of the species could occur within the next 30 years. (NMFS 63323.) Take, for example, the following comment from Plaintiffs November 27, 2021 60-Day NOI letter:

The BiOp's no jeopardy determination fails to account for recent sharp declines in right whale populations. It also fails to account for the extremely low abundance number for the species, which is now less than 350 individuals. Given the low number of right whales and the consistent loss of calf-bearing females, the BiOp should analyze and explain how project-related take of *any* individual could be absorbed without jeopardizing the species as a whole. The

BiOp, however, provides no such analysis or explanation and is therefore deficient as a matter of law.

Doc 97-3 at p. 9, [Comment 28].

The comment's specific reference to "how project-related take of *any* individual could be absorbed without jeopardizing the species as a whole" relates directly to the right whale's PBR threshold. Comment 68 from the NOI letter raises the same issue, but with slightly different language:

The BiOp includes a great deal of data showing that the NARW is in sharp decline, with a total population that will soon fall below 300 individuals (see BiOp, 57), yet the BiOp fails to interrelate these data and the anticipated impacts of the VW project. That is, the BiOp fails to adequately assess the project's impacts, such as vessel strikes and noise and potential reductions in prey species, in the context of the NARW's current struggles to maintain population viability and avoid extinction.

Id., at p. 16.

The only reason Plaintiffs did not use the term "PBR" is that the BiOp never mentions it and Plaintiffs didn't know such a term existed until they began reviewing the various documents in the Administrative Record for this case – i.e., long after they submitted their 60-day NOI letter. But there is no escaping the fact that the comment quoted above adequately notified NMFS that the BiOp's fails to assess whether the species could "absorb" even one project-related take of a right whale individual. Therefore, Plaintiffs exhausted their administrative remedies on this issue.

4. The "Override" Procedure During Pile Driving

Next, the federal defendants assert that Plaintiffs failed to apprise them of concerns regarding the project's "override" procedure, in which the project's lead engineer can veto a pile driving shut-down order issued due to right whales presence in the Level A noise impact area. (Doc. 97 at p. 18.) Plaintiffs' 60-day NOI, however, fully informed NMFS and BOEM that by

allowing the project engineer to override the shut-down order, the BiOp vitiated the protective benefits of having PSOs and PAM operators. The following two comments address this issue:

The mitigation measures described in the BiOp provide a “feasibility” exception to pile driving limitations, under which Vineyard Wind can continue pile driving even in the presence of right whales or other listed species if halting the pile driving work is not feasible. This exception makes the pile driving protections and limitations meaningless, as it gives Vineyard Wind complete discretion as to when and under what circumstances they can be disregarded.

Doc 97-3 at p. 7 [Comment 12].

The mitigation measures described in the BiOp provide a “practicability” exception to pile driving limitations, under which Vineyard Wind can continue pile driving even in the presence of right whales or other listed species if halting the pile driving work is not practicable. This exception makes the pile driving protections and limitations meaningless, as it gives Vineyard Wind complete discretion as to when and under what circumstances they can be disregarded.

Id., at p. 7 [Comment 13].

The “feasibility” and “practicality” exceptions discussed in these comments provide the basis for the project engineer’s authority to “override” a pile-driving shut-down order. Thus, federal defendants cannot claim they were uninformed that Plaintiffs’ objected to the “override” procedure on grounds it undermined protections for the right whale. Defendants *were* informed, and Plaintiffs therefore exhausted their administrative remedies on this issue.

5. *Sufficiency of Clearance Zones*

Next, the federal defendants argue that Plaintiffs never objected to the size or sufficiency of the pile driving clearance zone. (Doc. 97 at p. 18.) Not true. The size of the pile driving clearance zone is directly related to the efficacy of the project’s “detect and avoid” measures for preventing Level A noise impacts on right whales. However, if the size of the clearance zone does

not cover the entire Level A noise impact area, right whales will be exposed to Level A noise, resulting in take. Plaintiffs raised this issue in their 60-day NOI letter:

The BiOp improperly accepts Vineyard Wind’s position that the project will result in no Level A harassment of right whales. That position is based on the unproven and unsubstantiated efficiency of Vineyard Wind’s proposed “detect & avoid” measures – the very same measures that include a host of exceptions, qualifications, and loopholes.

Doc 97-3 at p. 11 [Comment 38].

This comment adequately apprised federal defendants that the BiOp’s “detect and avoid” measures, which include establishing a pre-pile driving “clearance” zone, were insufficient to protect right whales from Level A harassment noise. Thus, Plaintiffs exhausted their administrative remedies on this issue.

6. Passive Acoustic Monitoring (PAM) Detection Limit

Lastly, federal defendants claim that Plaintiffs failed to raise objections to the Passive Acoustic Monitoring (PAM) detection limit. (Doc. 97 at p. 18.) However, this is the same issue as the size of the pre-pile driving clearance zone, because the clearance zone is established and maintained using PAM equipment. As shown above, Plaintiffs alerted federal defendants that the Level A “detect and avoid” measures described in the BiOp – the very measures which set the PAM detection limits – were insufficient to protect right whales from the project’s Level A pile driving noise. Consequently, plaintiffs exhausted their administrative remedies on this issue.

7. EIS’s Assessment of Project’s Air Quality and GHG Impacts

Vineyard Wind argues that Plaintiffs should be disqualified from claiming that key emissions data were redacted from the Vineyard Wind COP appendices, thereby thwarting Plaintiffs ability to comment on the project’s air quality impacts. (Doc. 100 at p. 28.) According to Vineyard Wind, Plaintiffs forfeited this issue by not raising it in their comments on the EIS. *Ibid.* Vineyard Wind, however, has missed the point of Plaintiffs argument. Regardless of whether

the air emissions data were redacted or simply omitted from the start, the fact is that the information never made it into the EIS where it belonged. Under NEPA, key impact information, such as how a project's air emissions compare to the NAAQS thresholds, must be set forth in the EIS itself, not in an appendix to a non-NEPA document, such as Vineyard Wind's COP. *Kern v. United States Bureau of Land Management*, 284 F.3d 1062, 1073 (9th Cir. 2002) [EIS impact analysis may not rely on non-NEPA documents].

In their comments on the Draft EIS, Plaintiffs complained that the EIS failed to include project emissions data and also neglected to disclose how the project's emissions compared to the NAAQS thresholds:

Inadequate Analysis and Disclosure of Construction-Related Emissions of NAAQS Pollutants. The DEIS provides only summary information regarding the Project's construction-related emissions. It does not identify each emission source or disclose the quantity of each NAAQS air pollutant that will be emitted (e.g., NO_x, CO, PM₁₀).

(BOEM 78670.)

This statement adequately apprised BOEM that the Draft EIS failed to include important information regarding the project's emission of NAAQS pollutants, which likely explains why BOEM – as the author of the EIS – did not assert a “failure to exhaust” defense to this claim. In short, Plaintiffs did not waive or forfeit this issue.

III. THE VINEYARD WIND BIOLOGICAL OPINION IS LEGALLY INADEQUATE, AND FEDERAL DEFENDANTS ACTED ARBITRARILY AND CAPRICIOUSLY WHEN THEY APPROVED IT

A. Adequacy of BiOp Must Be Based On Project Described in the Approved COP, Not the Project Vineyard Wind Now Claims It Will Implement

1. Number of WTGs to Be Analyzed in BiOp

Vineyard Wind asserts that it will be constructing only 62 WTGs, not the 100 WTGs assumed in the BiOp. (Doc. 100 at p. 20.) For this assertion, Vineyard Wind cites the Declaration

of Rachel Pachter, a company employee. (See VW Separate Statement, pp. 7-8, ¶ 40.) In addition to being outside the record considered by BOEM and NMFS, Ms. Pachter’s declaration is irrelevant because the BOEM-approved COP for the Vineyard Wind project gives Vineyard Wind the ability to install as many as 100 WTGs, without further limitation. Vineyard Wind wanted substantial flexibility in terms of the size, type, and number of WTGs it could install, and BOEM obliged. For this reason, the BiOp includes the following statement:

BOEM’s approval of the COP, with conditions, does not appear to limit the maximum number of WTGs beyond the limits already imposed by the upper bounds of the Project Design Envelope (100 WTGs). While we expect that, with the anticipated commercial availability of a 14 MW turbine, and Vineyard Wind’s consideration of the GE Haliade X (12-14 MW capacity as described by GE), there may be as few as 57 turbines installed, the action that BOEM has requested consultation on remains as the installation of up to 100 WTGs. *Therefore, this consultation considers the effects of installing, operating, and decommissioning up to 100 offshore wind turbine generators (WTGs) of 8 to 14 MW capacity (with higher capacity requiring fewer turbines), and one or two electrical service platforms (ESP), an onshore substation, offshore and onshore cabling, and onshore operations and maintenance facilities.*

(BOEM 77285-86 [Emphasis added].)

But even the 100 WTG figure is not completely accurate. Later in its discussion of “Sources of Increased Underwater Noise,” the BiOp indicates that the COP allows installation of “[u]p to 100 monopile foundations and up to 12 jacket foundation” but that the “total number of foundations installed will not exceed 102.” (BOEM 77425.)

2. *Pile Driving Activity and Noise Impacts*

When Plaintiffs stated that the project’s pile driving activities would create a Level A harassment radius of 7.25 km, Vineyard Wind claimed Plaintiffs were in error. (See Doc. 100 at p. 24, n. 9.) The record shows, however, that Plaintiffs were correct, because the BiOp itself states that the Level A noise impact area has a radius of 7.25 km. (BOEM 77442.). Likewise, Vineyard Wind is wrong to suggest that the pile driving activity will take only 62 days. (Doc. 100 at pp. 19-

20.) The BiOp expressly states that 102 WTGs will require 102 days of pile driving. (BOEM 77425.)

Vineyard Wind also suggests that its “bubble curtain” noise mitigation technique should be credited with 12 dB of noise attenuation. (Doc. 100 at p. 20.) Vineyard Wind made this same pitch to NMFS during consultation, but NMFS rejected it on grounds that the data did not support 12 dB of attenuation and that 6 dB was a more realistic figure. (BOEM 77448.) For this reason, the BiOp appropriately credits the bubble curtain with 6 dB of noise reduction. (*Ibid.*)

Next, Vineyard Wind wants the Court to disregard the BiOp’s discussion of pile driving noise under the Maximum Design scenario with two piles driven per day. (Doc. 100 at p. 20.) This particular scenario would expose 1.39 right whales to Level A harassment noise (BOEM 77445 [Table 7.1.12], 77450 [Table 7.1.16]), resulting in a take. Vineyard Wind claims that this scenario is “unrealistic”. (Doc. 100 at p. 20.) The problem with that argument, however, is that the COP, at Vineyard Wind’s request, approved this scenario as a construction option (BOEM 77426); and Vineyard Wind has never withdrawn it. Therefore, it was appropriate for the BiOp to include this scenario in its underwater noise analysis. (See BOEM 77426.)

B. The BiOp Fails to Use “Best Available” Scientific Data to Determine Baseline Conditions for Jeopardy Analysis

1. The Quintana-Rizzo Study (2021)

In their Opening Brief, Plaintiffs discussed in detail a 2021 study by whale experts, including NMFS biologists from Woods Hole, titled “Residency, demographics, and movement patterns of North Atlantic right whales *Eubalaena glacialis* in an offshore wind energy development area in southern New England” (Quintana-Rizzo et al. 2021). (NMFS 53318-53335.) See Doc 89 at 25-28. This study represents the most recent and comprehensive assessment of right whale population and movement trends so far produced; it is also the *only*

study that analyzes right whales in relation to the Rhode Island/Massachusetts Wind Energy Area (WEA) and the proposed industrial-scale wind farms within it, including the Vineyard Wind Project. In a word, the Quintana-Rizzo (2021) study is the quintessence of the “best available scientific and commercial data”, as that term is used in the ESA.

Plaintiffs pointed out, however, that the BiOp barely mentions the Quintana-Rizzo study and never engages with its specific findings. Doc 89 at 28. The federal defendants argue that the BiOp *did* consider the Quintana-Rizzo study and that no material information was withheld. Doc 97 at 22, n. 11. A quick comparison of the two documents proves otherwise.

For example, the Quintana-Rizzo study connects recent shifts in right whale distribution and foraging behavior to the potential impacts of placing commercial offshore wind projects in precisely the area that whales now rely on for survival:

Since SNE [southern New England] will become one of the largest commercial offshore wind energy leases along the US east coast, the consequences of the construction and operation are relevant to the conservation of the species. The effects of offshore wind development on right whales are unknown (Madsen et al. 2006), but this enormous development could have a local impact on right whales at a critical time when they are becoming more reliant on the region (Leiter et al. 2017).

(NMFS 53319.)

Nowhere does the BiOp make a statement anything like this. The federal defendants respond to this omission by stating “[t]he fact that right whales *may* utilize the [Vineyard Wind] Action Area as a feeding and/or stopover site is not in dispute.” (Doc. 97 at pp. 22-23 [emphasis added].) This takes euphemism to a whole new level. It also mutes the importance of the Vineyard Wind WDA – and the RI/MA WEA as a whole – to right whale survival and recovery.

The Quintana-Rizzo study then describes some of the impacts of large-scale offshore wind projects (habitat changes, water column stratification, increased vessel noise, increased vessel traffic and risk of collisions with whales) and states: “Collectively, these perturbations could

affect the use of this region by right whales as well as influence their migratory movement throughout the mid-Atlantic region (Schick et al. 2009).” (NMFS 53320.) The BiOp does not mention this part of the Quintana-Rizzo study; nor does it independently assess the extent to which “perturbations” associated with offshore wind development will affect right whale use of the RI/MA WEA and/or influence right whale migration throughout the mid-Atlantic.

Next, the Quintana-Rizzo study indicates that its research team identified 327 unique right whales in the RI/MA WEA, which represents **87 percent** of the species’ total population. (NMFS 53324 [emphasis added].) In other words, the RI/MA WEA is not just a seasonal waystation for a few right whales on their yearly migrations. It is a critical feeding area for the vast majority of right whales remaining on this earth. The BiOp, however, never cites this portion of the Quintana-Rizzo study and never discloses that 87 percent of all known right whales use the RI/MA WEA.

The Quintana-Rizzo study also determined that at least 16 of the 327 whales observed by the research team had died as of December 2020. (NMFS 53324.) That is a huge loss for a species with such low abundance numbers. Yet, NMFS ignores this information and omits it from the BiOp’s “baseline conditions” discussion.

One of the other major findings of the Quintana-Rizzo study is that “sighting rates” of right whales, while highest from winter through early spring, were also high during the summer months, especially August. (NMFS 53329.) This data runs counter to the conventional wisdom that right whales are largely absent from Massachusetts waters during summer and fall. In fact, many of the measures that are designed to protect right whales – including those incorporated into the Vineyard Wind BiOp – assume that right whales pass through these waters during the winter and spring and are gone by June, not to reappear until November. (BOEM 77311-12, 77314, 77457.) The Quintana-Rizzo study upends that long-standing assumption, stating that “the

presence of right whales in the SNE during all seasons is an important consideration for the planning and execution of offshore wind development.” (NMFS 53331.) The study then amplifies this point: “[I]ncreasing summer and fall presence deserves special attention since this will overlap with the current schedule for pile driving for turbine foundations in the next few years, the phase of construction considered to have the greatest impact.” (NMFS 53331.) The BiOp, however, ignores this admonition and relies on old-school mitigation measures that assume “seasonal” use of the WDA by right whales. (BOEM 77457.)

Finally, the Quintana-Rizzo study expressly identifies the Vineyard Wind WDA as a right whale “hotspot”, due to high numbers of right whale sightings in that area during Spring 2011-2015 and Spring 2017-2019. (NMFS 53321-22, 53326 [Fig. 5 (Hotspot Analysis)].) The BiOp does not discuss these data or identify the Vineyard Wind WDA as a right whale “hotspot”. Nor does the BiOp evaluate how building and operating a large-scale commercial wind project in such a hotspot might affect right whale survivability and recovery.

In short, it is not enough to cite the Quintana-Rizzo study, which the BiOp does very sparingly. Nor is it enough to just “consider” the data from that study. Rather, the ESA requires that NMFS actually *use* the Quintana-Rizzo study and allow it to inform the BiOp’s assessment of the project’s potential to jeopardize the species. 50 C.F.R. § 402.14(g). That did not happen, and for that reason the BiOp is legally deficient.

2. *The Atlantic Large Whale Take Reduction Team Key Outcomes Memorandum*

The Atlantic Large Whale Take Reduction Team (TRT) Key Outcomes Memorandum is important because it found that recent shifts in right whale feeding patterns could bring the whales into potential conflict with commercial fishing operations in NMFS Statistical Area 537. (BOEM 194539.) The Vineyard Wind WDA lies within Area 537, and according to the BiOp, Area 537

has “approximately 987 to 2,650 vertical [buoy] lines” in the water at any one time, depending on the month. (BOEM 77580.) The greatest number of these vertical buoy lines (approximately 1,717 to 2,650) are fixed into place during the months of May through October – which coincides with the period when Vineyard Wind plans to conduct pile driving for the project. (See BOEM 77580; see also 77306, 77311-13.)

The BiOp does not take the cues provided by the TRT Key Outcomes Memorandum and thus does not analyze whether the extensive use of fixed fishing gear (i.e., vertical buoy ropes) in Area 537 poses risks to whales pushed out of the WDA during the project’s pile driving operations. Instead, the BiOp discusses the 987 to 2,650 vertical buoy lines only in the context of the project’s surveys to assess lobster, crab and black sea bass resources. (See BOEM 77578-77581.) What makes this omission especially frustrating is that the biologists at NMFS – as the chief federal regulators of commercial fishing in the Outer Continental Shelf – *know* where these 987 to 2,659 vertical buoy lines are concentrated, just as they *know* the travel routes of the fishing vessels that set and retrieve these buoy lines. Yet, the BiOp makes no effort to *use* these commercial fishing data from Area 537 for purposes of analyzing whether the project, through pile driving, will force whales into areas with high concentrations of fishing gear and high levels of vessel use. For this reason alone, the BiOp is legally deficient.

3. *The North Atlantic Right Whale Consortium’s “2020 Annual Report Card” and the NOAA “US Atlantic and Gulf of Mexico Marine Mammal Stock Assessment 2020”*

The North Atlantic Right Whale Consortium’s “2020 Annual Report Card” and NOAA’s “US Atlantic and Gulf of Mexico Marine Mammal Stock Assessment 2020” are important because they provide the best and latest information on two critical aspects of right whale population trends. The 2020 Annual Report Card found that the calving interval for right whales is now 7.6 years, more than twice what it was just ten years earlier. (BOEM 208682 [Table 2].) It also determined

that in 2020, “detected mortalities outnumbered births 3:2.” (BOEM 208678.) NOAA’s “Stock Assessment”, issued in July 2021, confirms that right whales have now shifted location and have been seen “in large numbers in a region south of Martha’s Vineyard and Nantucket Islands, an area outside of the Northeastern U.S. Foraging Area Critical Habitat.” (NMFS 33671.) It then concludes that the Potential Biological Removal (PBR) threshold for the right whale has dropped to 0.8 and that, consequently, “human-caused mortality or serious injury for this stock must be considered significant.” (NMFS 33684.)

The BiOp does not discuss the “2020 Report Card” or the “2020 Stock Assessment”. It does not disclose that in 2020 detected mortalities outnumbered births 3:2, or that the right whale’s PBR had fallen to 0.8. And it certainly does not consider these data in light of the right whale’s shift in location (towards the region south of Martha’s Vineyard and Nantucket), on one hand, and the Vineyard Wind project’s impacts, on the other. It is not enough to say, as federal defendants do, that the BiOp discloses the recent population declines of the right whale. (Doc. 97 at p. 27.) The ESA demands that the BiOp *use* the most recent population data to assess whether the action under review (here, the Vineyard Wind project) will put further stress on that population, affecting the species’ survivability and recovery. See 50 C.F.R. § 402.14(g). The BiOp fails in this basic task.

4. The PAMGuard Quality Assurance Module for Marine Mammal Detection Using Passive Acoustic Monitoring (August 2020)

On October 4, 2022, counsel for Plaintiffs located a study that evaluates the limitations of passive acoustic monitoring (PAM) systems when used to detect marine mammals in the regulatory context. (Dec. David P. Hubbard in Support of Plaintiffs’ MSJ, ¶12.) The study is titled “PAMGuard Quality Assurance Module for Marine Mammal Detection Using Passive Acoustic Monitoring.” (*Ibid.*) It was published in August 2020 and prepared by CSA Ocean Sciences, Inc.,

with assistance from scientists at the University of St. Andrews (Scotland) and the Scripps Institution of Oceanography, University of California, San Diego. (*Ibid.*) The primary author of the study is Mary Jo Barkaszi of CSA Ocean Sciences, Inc. (*Ibid.*)

The Administrative Record indices provided by NMFS and BOEM do not include the PAMGuard Quality Assurance Study, though the NMFS index does contain a different study by Mary Jo Barkaszi published in 2012. (NMFS 6067-6116.) This indicates that NMFS was aware of Ms. Barkaszi's work and credentials in the area of underwater acoustics. The BiOp also makes no mention of the PAMGuard Quality Assurance Study (henceforth, "Barkaszi, et al. (2020)").⁷

The importance of the Barkaszi, et al. (2020) study to the issues covered in the Vineyard Wind BiOp cannot be overstated. Specifically, the study discloses that PAM systems have significant limitations when it comes to detecting marine mammals, especially baleen whales like the North Atlantic right whale, which tend to vocalize much less frequently than other cetaceans. The study explains that PAM systems may have a significant "miss rate" when it comes to detecting marine mammals, even those that vocalize many times an hour. Below are some of the key findings from the study:

- "The efficacy of a towed passive acoustic monitoring (PAM) system depends on multiple factors, including the system's ability to detect weak signals that may be masked by background sound levels, present detection events to an operator, an operator's ability to stay attentive and interpret these results, and an operator's judgment when making a final decision on the validity of an acoustic encounter."

(Exec. Sum.)

⁷ A link to the Barkaszi, et al. (2020) study is provided in the Declaration of David Hubbard in Support of Plaintiffs' Motion for Summary Judgment.

- “PAM systems used for either real-time mitigation (i.e., commercial PAM systems) or research monitoring purposes are not routinely accompanied by a standard procedure for predicting detection performance or evaluating the real-time performance of either a human PAM operator or an automated algorithm.” (Exec. Sum.)
- “Ideally, a system is able to detect and localize animals to the edge of a defined mitigation zone. If, however, a system is not able to detect animals, it may be difficult to determine whether that was due to a genuine absence of animals or missed acoustic detections.” (Exec. Sum.)
- “In the absence of detections, no method currently exists for establishing the ‘miss rate’ of a PAM system in real-time, and establishing whether a planned or continuing operation can be reasonably expected to be able to detect marine mammal signals of interest.” (Exec. Sum.)

The Barkaszi, et al. (2020) study explains that while use of PAM systems for regulatory and mitigation purposes continues to increase, there is a general misperception about how efficient PAM systems are for detecting marine mammals: “[T]here is an implied presumption that animal vocalizations will be consistently detected regardless of operator abilities or background noise conditions encountered, as there is no assessment or reporting required of either noise levels or detection efficiency of the operator or automated detector (Barkaszi and Kelly, 2018; Ludwig, et al. 2016; Verfuss et al, 2018).” (Barkaszi, et al. (2020), Introduction.) The study then clarifies that this “implied presumption” of detection efficiency is misplaced: “In reality, for both visual and acoustic monitoring, detection performance at a given distance can be highly variable, as can the response time for mitigation actions. For acoustic monitoring, the frequency, amplitude,

directionality, and repetition rate of the source calls, as well as the continually changing background noise levels, will affect the ability to detect signals generated within a monitoring zone (Andriolo et al., 2018; Clausen et al., 2019; Parks et al., 2009; Clausen et al., 2019; Parks et al., 2009; Thode and Guan, 2019; Van Parijs et al. (2009).” (Barkaszi, et al. (2020), Introduction.)

Moreover, the study discloses that PAM systems will have difficulty detecting marine mammals that vocalize on an infrequent basis, such as baleen whales, In fact, even a “signal injector” (SI), which the authors developed to test whether a PAM system is performing as intended, will not produce actionable results if the animals in question are not vocalizing:

The SI tests the ability of the system to detect animals *should they vocalize*. For example, some species of baleen whales may only vocalize rarely or at a certain time of year. Should the SI be instructed to inject 50 sequences of baleen whale calls at varying distances, it will inject 50 sequences. This can show whether or not the PAM system is working, but if animals are not vocalizing (and will not produce any sequence of calls, let alone 50), they will not be detected in a real survey situation.

(Barkaszi, et al. (2020), Section 2.1.1.3.) (Emphasis in the original.)

What this means is that even with the Sequence Injector (SI) tool that Barkaszi et al. have developed, expert technicians cannot accurately test a PAM system’s performance efficiency if the animals in question do not vocalize often enough to generate a discernable sequence of calls. Baleen whales, including right whales, do not vocalize very often, which means they are difficult for PAM systems to detect, even when those systems are working properly.

Given that so much of NMFS’s “no jeopardy” determination is based on the efficient use of PAM to detect right whales so that immediate evasive/avoidance action can be taken to protect them from project-related harm, the Barkaszi, et al. (2020) study should have been discussed at length in the BiOp. Unfortunately, the BiOp does not mention the Barkaszi, et al. (2020) study at all; nor does the BiOp examine any other literature which addresses the real-world and real-time limitations of the very PAM systems on which the Vineyard Wind mitigation plan is based. By

failing to consult, disclose, and discuss the Barkaszi, et al. (2020) study, the BiOp violated its duty to use the “best available scientific and commercial date”.

5. *The Stober and Thomsen Study re Operational Noise Impacts of Large Offshore Wind Arrays*

In their Opening Brief, Plaintiffs showed that the BiOp largely ignored a very recent study published by Uwe Stober and Frank Thomsen that examined the underwater noise implications of operating large wind turbines (i.e., those capable of generating more than 10 megawatts (MW)) at industrial-scale wind farms. (Plaintiffs Opn.Br., pp. 23-25, 39, citing Stober, Uwe and Frank Thomsen (2021) “How could operational underwater sound from future offshore wind turbines impact marine life?” at NMFS 57132-36.)

Given that Vineyard Wind intends to install and operate WTGs with a power capacity of 14 MW, the Stober study is not only relevant; it addresses a potential operational impact of the project that has received little scientific attention. Rather than actively engage with the Stober study, the BiOp waves it away, claiming the authors themselves were uncertain of their methodology. (BOEM 77432; Doc. 100, at 21-22.) Vineyard Wind contends that the BiOp also rejected the Stober study because it only assessed gearbox-driven turbines, not the quieter “direct-drive” turbines Vineyard Wind plans to install. Doc. 100 at 22. This is incorrect. The Stober study *does* account for direct-drive turbines and determined that “[i]f the sound reduction for new direct drive turbines of 10 dB is representative for all wind turbines and nominal powers, the 10 MW example with direct drive would be expected to cause behavioral disruption up to 1.4 km and 120 m for the 5 MW turbine.” (NMFS 57135.) Even the BiOp acknowledged that the Stober study addressed noise from direct-drive turbines: “Using this methodology, and considering the lower sound levels measured at projects with direct drive turbines (e.g., Elliot et al. 2019) compared to WTGs with gearboxes, they predicted that a 10 MW direct-drive WTG would produce underwater

noise above the 120 dB re 1uPa RMS at a distance of up to 1.4 km from the turbine.” (BOEM 77432.)⁸ Rather than use the Stober study, the BiOp relies on operational noise data from the Block Island Wind Farm (BIWF), which has just 5 WTGs, each with a power capacity of only 6 MW. (BOEM 77432, 77464; NMFS 27989, 27993, 28061.)

There is no support for the BiOp’s position that the Stober study used uncertain methods. Nor is there support for the BiOp’s reliance on the BIWF noise data. The BIWF turbines are simply too small and too few in number to provide a meaningful comparison with the much larger and more numerous Vineyard Wind turbines. The Stober study, on the other hand, clearly states that even direct-drive wind turbines, when they reach 10 MW capacity and are concentrated in large numbers within a wind array, can generate underwater noise that is capable of adversely affecting baleen whales. (NMFS 57132, 57135.) In failing to engage with this study, NMFS not only abrogated its duty to use the best available scientific data, it failed to give the benefit of the doubt to the species, as the ESA requires. *Conner v. Burford*, 848 F.2d 1441, 1454 (9th Cir. 1988).

C. Evidence Does Not Support BiOp’s Conclusion That Mitigation Measures Will Prevent Jeopardy to Right Whales from Vessel Strikes

Mitigation measures supporting a BiOp’s no jeopardy finding must be “certain to occur”, “capable of implementation”, and “most important, they must address the threats to the species in a way that satisfies the jeopardy and adverse modification standards.” *Center for Biological Diversity v. Salazar*, 804 F.Supp.2d 987, 1001, (D. Ariz. 2011). Here, the BiOp’s mitigation measures for preventing project-related vessel strikes on right whales do not meet this test. They

⁸ The BiOp mentions that Stober agrees operational wind turbine noise is less than shipping noise (BOEM 77432), which is true (NMFS 57134), but Stober is equally clear that shipping noise is intermittent while turbine noise is constant and “well above typical background noise levels... . (*Ibid.*)

are facially inadequate and will expose whales to such strikes, adversely affecting both their survivability and recovery.⁹

Whales struck by vessels traveling in excess of 10 knots per hour have a high likelihood of sustaining serious injury or being killed. (BOEM 77519, 77524; BOEM 129897, 129902.) When the speed of the vessel approaches 15 knots, research shows that a collision will be fatal to the whale 100 percent of the time. (BOEM 129897, 129902.) The IHA and BiOp for Vineyard Wind, however, do not require all project vessels to maintain speeds of 10 knots or less at all times. Instead, the IHA and BiOp provide two huge exceptions to the 10-knot speed limit.

First, all of the project's vessels, of whatever type and size, can travel in excess of 10 knots – indeed, can travel however fast their captains wish to go – when transiting through Nantucket Sound, an area of approximately 760 square miles that lies between the Vineyard Wind WDA and mainland Massachusetts. (BOEM 34732.)

Second, the project's crew transfer vessels may also disregard the 10-knot speed limit, no matter where they are traveling. (BOEM 77304, 77525.) The BiOp does not disclose how large or fast the crew transfer vessels will be, but according to the EIS, such vessels will average 90 feet in length and travel at 25 knots per hour (BOEM 34861) – well over the speed at which a collision with a right whale will be fatal 100 percent of the time (15 knots). The EIS also discloses that the vast majority of project-related vessel trips will be made by crew transfer vessels. (BOEM 34746, 34861.)

⁹ The mitigation measures for avoiding vessel strikes and protecting right whales from Level A pile driving noise, as set forth in the IHA and the BiOp, are considered *part* of the project itself. (See, e.g., BOEM 77628.) As such, they are integral to, and form part of, the BiOp's "no jeopardy" determination. They are not "reasonable and prudent measures" imposed after the BiOp's "no jeopardy" determination, as Vineyard Wind suggests in its brief. (See Doc. 100 at pp. 18-19.)

Neither the federal defendants nor Vineyard Wind have a satisfactory response to this regulatory anomaly. They cannot explain how these two exceptions to the 10-knot speed limit will not increase vessel strike risk and jeopardize the right whale. The federal defendants provide only a *logistical* – not a *biological* – rationale for exempting crew transfer vessels from the 10-knot speed limit. They say that if crew transfer vessels kept to 10 knots, crew members would spend 9-10 hours of each day transiting back and forth between staging ports (e.g., New Bedford) and the WDA, leaving little time for work. (Doc. 97 at pp. 40-41.) While this may be true, it does not change the fact that crew transfer vessels, if allowed to travel at 10 knots or more, pose a significant collision risk to North Atlantic right whales – a risk not analyzed, disclosed, or authorized in the IHA or the BiOp.¹⁰

Federal defendants and Vineyard Wind contend that the collision risk posed by vessels traveling in excess of 10 knots will be adequately mitigated by placing at least one Protected Species Observer (PSO) on each boat/ship. (Doc. 97 at p. 32; Doc. 100 at pp. 23-24.) The PSO's task is to scan the water's surface while the vessel is traveling, looking for signs of right whales. If the PSO sees a whale, he or she must alert the captain who can then take evasive action to avoid colliding with the whale. As Plaintiffs explained in their Opening Brief, however, PSOs on boats cannot detect whales that are more than 1,000 meters away, even with good visibility conditions (i.e., no fog, plenty of light, calm seas). (BOEM 77524-25.) In addition, they cannot detect whales beneath the water, and research shows that even when whales are swimming as deep as 30 feet below the surface, they can be pulled into the draft of a vessel's hull and propeller. (NMFS 6117.)

¹⁰ Furthermore, this logistical problem is not insoluble. Vineyard Wind can provide ships with cabin at the WDA so that crew members can stay at the project site overnight and for multiple days. This would have the added benefit of reducing the total number of vessel trips, which in turn would protect whales.

Plaintiffs also pointed out that neither the IHA nor the BiOp prevents Vineyard Wind from operating its vessels – including high-speed crew transfer vessels – at night or during the dark pre-dawn hours of the morning. Doc. 89 at 44. PSOs will be of little use under such conditions. Vineyard Wind, however, argues that the PSOs could be outfitted with night vision goggles. (Doc. 100 at p. 24.) But there is no evidence in the record that night vision goggles would be helpful in this particular application, given their limitations as to distance and resolution. And there is still the problem of whales going unseen beneath the water’s surface. Not even night goggles will fix that.

We are told, however, that any whales that slip by the PSOs will be picked up by Passive Acoustic Monitoring (PAM) equipment. (Doc. 97 at p. 38-39; Doc. 100 at pp. 24-27.) This position finds no support in logic or the record. **First**, the BiOp does not require that the project’s vessels be kitted with PAM systems. **Second**, the transit routes the vessels will use have not been definitively established as to location and width, and they will likely fluctuate over the course of the project’s construction period and operational life. The BiOp does not explain how PAM equipment will be deployed to provide coverage for such route changes. **Third**, the transit routes themselves are long – 55 miles one way between New Bedford and more than 400 miles one way between the WDA and the selected ports in Canada. (BOEM 77294.) The BiOp does not discuss how PAM equipment will be deployed to provide coverage over such huge areas. **Fourth**, PAM only works as a detection tool if and when whales are actively vocalizing, and if the vocalizations are not masked by other noise sources, such as vessel traffic. (Barkaszi, et al. (2020).) Whales that are *not* actively vocalizing, or whales whose calls are drowned out by other ambient noise, will evade PAM. (*Ibid.*)

Given that the whales and the crew transfer vessels will be moving in a dynamic relation to one another, at different speeds and at different vectors, and given that right whales have a notoriously low “call frequency”, it is unlikely that the PAM system – even if robust enough to provide coverage of the entire transit corridor – will detect every right whale that may come in contact with a project vessel. In fact, the PAM “miss rate” can be significant and leave many whales undetected. (Barkaszi, et al. (2020).)

So, in the end, the BiOp allows the vast majority of the project’s vessels (i.e., crew transfer vessels) to travel at speeds well over 10 knots (i.e., 25 knots) throughout most of project’s defined Action Area, and the only thing preventing these vessels from potentially striking and injuring/killing a right whale are (1) PSOs who cannot see at distance, in the dark, or underwater, and (2) PAM equipment which will not be deployed to provide full coverage of the project’s vessel routes and which cannot detect whales unless they are actively vocalizing loud enough to be detected over other noise in the water. Based on these facts, there is no way to square the BiOp’s conclusion that the project poses no vessel strike threat to right whales and thus no jeopardy to the species.

D. Evidence Does Not Support BiOp’s Conclusion That Project Mitigation Measures Will Prevent Jeopardy to Right Whales from Pile Driving Noise

1. Proposed “Soft Start” Procedure is Unproven and Constitutes Intentional Harassment and Take

Vineyard Wind intends to use a so-called “soft start” procedure to push whales out of the project’s pile driving noise impact area. (BOEM 77458.) Under this procedure, the lead engineer will order pile driving to commence but only at power levels capable of generating Level B harassment noise, as this is expected to annoy the whales sufficiently to force them to swim away from the project site. (*Ibid.*) Once the whales are cleared through this procedure, the lead engineer

can order full-throttle pile driving – i.e., pile driving that generates Level A harassment noise. (*Ibid.*)

Theoretically, the soft start procedure enables Vineyard Wind to “clear” the pile driving noise impact area of all right whales whenever Vineyard Wind decides it wants to start installing the WTGs. Put differently, the soft start allows Vineyard Wind engineers – not the whales – to control when pile driving takes place; they don’t have to wait for the whales to leave on their own volition.

The record contains no evidence that the soft start procedure has been used successfully in the past to encourage right whales, or any other cetacean, to leave an area where pile driving or some other project-related noise event will take place. It may work; it may not. And, if the “soft start” procedure fails and right whales decide to stay in the Level A noise contour – i.e., within 7.5 km of the pile driving site – the PAM equipment may not even detect them, since PAM coverage during the summer and fall only extends 5 km from the pile driving site and will only pick up actively vocalizing whales. (BOEM 77453, 77457.) This would lead to a Level A harassment take of right whales.

Even assuming the soft start procedure works as planned, it is a form of purposeful harassment or hazing not authorized under the Marine Mammal Protection Act (MMPA) or the ESA. The federal defendants contend that the soft start procedure is not “intentional” but simply a by-product of normal pile driving ramp-up. (Doc. 97 at p. 36.) The BiOp, however, describes it differently and clearly discusses the soft start procedure as a measure for ensuring right whales are removed from the pile driving noise impact area before full-power pile driving starts. (BOEM 77458 [“soft start procedure is designed to provide a warning to marine mammals or provide them with a chance to leave the area prior to the hammer operating at full capacity.”].)

Vineyard Wind acknowledges that the soft start process is intentional but claims that it is still “incidental” to a lawful activity (development of an offshore wind farm) and thus permissible under the MMPA and ESA. (Doc. 100 at pp. 22-23.) Thus, according to Vineyard Wind, hazing of endangered species – no matter how intentional, aggressive, or harmful – qualifies as *incidental take* under the MMPA and ESA as long as it is connected to a larger, legally-sanctioned action. Following this logic, then, Vineyard Wind could use high-speed boats to chase right whales out of the pile driving impact area. But there is not legal support for this. Neither the federal defendants nor Vineyard Wind have cited any statute, regulation, or case demonstrating that *intentional* hazing of an endangered species can be authorized pursuant to an *incidental take* permit under the MMPA and ESA. For this reason, the entire soft start procedure is unlawful.

2. *The Project’s Right Whale “Detection” Measures Are Flawed*

To protect right whales from Level A pile driving noise, the Vineyard Wind project will use PAM to implement three right whale “detection” zones – one for monitoring, one for pre-pile driving “clearance”, and one for pile driving “shut-down”. For example, between June 1 and October 31 – the period when most pile driving is expected to occur – Vineyard Wind must establish a right whale monitoring zone extending 5 km from the pile driving site. (BOEM 77312, 77319.) Within that 5 km area, Vineyard Wind must implement pre-pile driving clearance activities, such as “soft start” hammer drops, to push right whales out and beyond the 5 km boundary. (*Id.*) Note also that the 5 km PAM clearance zone only applies to monopile foundations; the clearance zone for jacket foundations is only 3.2 km. (*Id.*) When “clearance” is achieved, full-power pile driving can commence.

Once pile driving starts, however, the situation changes. Regardless of whether a right whale is detected within the 5 km monitoring zone, no order to shutdown pile driving will be

issued unless that whale comes within 3.2 km of the pile driving site, regardless of the type of WTG foundation (monopile or jacket) being installed. (BOEM 77312, 77319.)

Simple arithmetic shows that these PAM zones – whether for monitoring, clearance, or shutdown – will be insufficient for protecting right whales from the project’s Level A pile driving noise. This is because noise modeling indicates that the project’s Level A noise impact area extends 7.25 km (BOEM 77442) – well beyond the limits of the required zones for monitoring (5km), clearance (5 km/3.2 km), and shutdown (3.2 km). This means that a right whale could be swimming within a large portion of the project’s Level A noise contour (7.25 km) but would not be detected during pre-pile driving *monitoring*; would not be detected during pre-pile driving *clearance* activity; and would not trigger pile driving *shutdown*. Consequently, such a whale would be exposed to Level A pile driving noise, resulting in take and potential jeopardy. The BiOp never discusses this highly-probable scenario.

And, of course, the entire “detect and avoid” program assumes that all right whales that might swim into the monitoring, clearance, and shutdown zones are actively vocalizing and thus capable of being picked up by the PAM equipment. That is a huge and unfounded assumption, given that right whales, like many baleen whales, exhibit a low “call frequency” and often go long periods of time without vocalizing at all. (Barkaszi, et al. (2020).) This is especially true of mother and calf pairs. (NMFS 77464.) Strangely, the BiOp provides no information on right whale call frequency; nor does it examine whether the whale’s low vocalization rate might affect the PAM system’s ability to detect right whales during real-time pile driving events. This alone is a major defect in the BiOp.

According to the BiOp, the solution to the PAM detection problem is the project’s PSO (Protected Species Observer) program, where trained personnel will visually scan the pile driving

area looking for evidence of right whales. The theory is that any whale that slips past the PAM equipment will be detected by the PSOs. PSOs, however, cannot see very far (only about 1.5 km), cannot see in poor light or fog, and cannot see but a few feet under the water's surface. Thus, the chances that a PSO will see *all* right whales that avoid detection by PAM is virtually nil.

This is not to say that PAM and PSOs are not helpful or worthwhile, only that they are insufficient, even when working together, to ensure that all right whales are absent – and stay absent – from the Level A noise impact area during each pile driving event. The PAM equipment, the PAM operator, and the PSOs would have to throw a no-hitter, every day, for 102 days. And that's simply not possible given the inherent limitations of both PAM and PSOs. They do not adequately fill each other gaps; those gaps will always exist; and quiet whales, swimming beneath the water's surface, will find those gaps, go through them, and suffer damage.

The BiOp's other response to concerns about the efficacy of the "detect and avoid" mitigation measures is that pile driving activity will take place during the summer and fall when right whales are less likely to be present in the WDA. (BOEM 77306, 77311-13.) However, recent studies confirm that right whales have shifted their movement and feeding patterns and are now present year-round in the waters south of Martha's Vineyard and Nantucket. According to the Quintana-Rizzo (2021) surveys, August 2019 was one of the busiest months in the RI/MA WEA in terms of right whale presence. (NMFS 53329.) For this reason, the BiOp cannot rely on right whales leaving the WDA during the summer/fall migratory season as they did in the past. All that has changed. The BiOp simply hasn't adjusted to the new right whale conditions off the coast of Massachusetts.

3. Shutdown “Override” Undermines Noise Protections

Even if a PSO or PAM operator detects a right whale and orders a shutdown of pile driving until the whale leaves the “shutdown zone”, the whale is still not safe, because Vineyard Wind’s lead engineer can “override” the shutdown order if, in his or her opinion, the pile driving must continue to protect human safety or the integrity of the pile itself. (BOEM 77314, 77454.) The federal defendants argue that the “override” is nothing to worry about because the lead engineer’s discretion is not unfettered. (Doc. 97 at p. 37.) He or she must follow certain “procedures” before overriding the shutdown and continuing the pile driving effort. (*Ibid.*) According to federal defendants, “the Federal Register notice approving the IHA [Incidental Harassment Authorization] explains in detail the applicable procedure for determining when shutdown is not practicable for human safety or operational concerns. NMFS 3345.” (*Ibid.*)

Federal defendants’ argument fails for at least two reasons. First, the shutdown override “procedures” are not described or defined in the BiOp. That they can be found in the “Federal Register notice approving the IHA” is immaterial to whether the BiOp, as a stand-alone ESA document, is adequate. Second, a quick review of the Federal Register notice in question reveals that the procedures hardly impinge on the lead engineer’s discretion at all:

In situations when shutdown is called for but Vineyard Wind determines shutdown is not practicable due to human safety or operational concerns, reduced hammer energy would be implemented when practicable. In cases where pile driving is already started and a PSO calls for shutdown, the lead engineer on duty will evaluate the following to determine whether shutdown is technically feasible: (1) Use the site-specific soil data and the real-time hammer log information to judge whether a stoppage would risk causing piling refusal at re-start of piling; and (2) Check that the pile penetration is deep enough to secure pile stability in the interim situation, taking into account weather statistics for the relevant season and the current weather forecast. Determinations by the lead engineer on duty will be made for each pile as the installation progresses and not for the site as a whole.

(NMFS 3545.)

As can be gleaned from the quoted text, the so-called override “procedures” provide no regulatory oversight of the lead engineer’s decision to veto a shutdown order. The procedures simply require the lead engineer to reduce hammer energy when a shutdown request is made, unless doing so is “impracticable” or “technically infeasible”. Note, however, that the procedures still leave it to the lead engineer to determine whether shutdown of pile driving is “impracticable” and “infeasible”. He or she merely must consult “site specific soil data and real time hammer log information to judge whether a stoppage would risk causing piling refusal at re-start of piling.” (*Ibid.*) Given the pressure the lead engineer will be under to finish a pile driving event once it has begun, it is difficult to imagine a scenario where that engineer could not develop a rationale for declaring work stoppage impracticable and/or infeasible. With no regulatory oversight of that decision, one can expect overrides to be routine and for right whales to be exposed to Level A pile driving noise.

E. BiOp’s “No Jeopardy” Finding Relies Entirely the Ability of Project’s Mitigation Measures to Protect Right Whales from Vessel Strikes and Pile Driving Noise

The reason Plaintiffs have focused so extensively on the project’s mitigation measures is that, without their successful implementation, the project will expose right whales to Level A noise take, as well as take by vessel strike. Neither the IHA nor the BiOp authorize such take, and the BiOp’s “no jeopardy” determination assumes *zero* take of right whales. (BOEM 77627-31.) It follows, then, that if the project’s mitigation measures are shown to be ineffective, take of right whales will occur. In such case, the BiOp’s “no jeopardy” finding is null and void.

As shown above, the mitigation measures required under the IHA and BiOp – soft start pile driving, PSOs, PAM, and seasonal restrictions on construction work – will not adequately protect right whales from project-related take from pile driving noise and/or vessel strikes. Thus, the BiOp’s “no jeopardy” finding cannot stand.

F. The Biological Opinion Does Not Analyze Threats to Right Whale Due to Pile Driving “Clearance” Operations

The ESA requires that NMFS evaluate the “effects of the action”. These include “indirect effects” which are “caused by the proposed action and are later in time, but still are reasonably certain to occur.” *Center for Biological Diversity v. Salazar, supra*, 804 F.Supp.2d at p. 1006, quoting 16 U.S.C. § 1536(b)(3)(A); 50 C.F.R. § 402.14(g)(3) and 402.02. In this case, Vineyard Wind’s “soft start” pile driving procedure, which is expressly intended to force right whales to leave the WDA, will have potential indirect effects on these whales, including exposure to threats and loss of foraging habitat. The BiOp, however, does not analyze these impacts. Specifically, pursuant to the IHA and BiOp, Vineyard Wind intends to “protect” right whales from Level A pile driving noise by “clearing” them from the Level A impact zone – which extends 7.25 km from the pile driving site – prior to the start of each pile driving episode. (BOEM 77458.) To accomplish this, Vineyard Wind will use a “soft start” pile driving technique, where the hammer blows are delivered at reduced power and generate only Level B harassment noise – enough to annoy the whales and cause them to leave the area, but not enough to permanently damage their hearing. (BOEM 77458.) That’s the (untested) theory, anyway.

Assuming the “soft start” works as planned, right whales will be denied feeding areas in the WDA for about three hours, which covers the time it takes to complete the soft start procedure, plus the time it takes to finish driving one pile. (BOEM 77458, 77461, 77462.) The BiOp, however, does not analyze what happens to the whales during this 3-hour exclusion period. For example, the BiOp does not assess whether and to what extent whales forced out of the WDA will enter areas with significant vessel traffic and/or high concentrations of fixed fishing gear, including vertical buoy ropes. In its discussion of Vineyard Wind’s proposed surveys of lobster, crab, and black seabass fisheries, the BiOp acknowledges that NMFS Statistical Area 537 contains between

987 and 2,650 vertical buoy rope emplacements, depending on the month. (BOEM 77580.) The BiOp does not, however, evaluate whether right whales pushed out of the WDA during project pile driving might become entangled in these ropes or be struck by fishing vessels.

The BiOp also makes no effort to analyze where the right whales will go to find alternative forage opportunities once they are shut out of the WDA. Finding replacement feeding areas is no simple matter, because a right whale eats only one thing – planktonic copepods (*Calanus finmarchicus*) – and the whale must find these copepods in very dense concentrations; otherwise, they will not serve the nutritional needs of the whale. (NMFS 57137.) Studies show that in recent years, as right whale access to dense accumulations of lipid-rich copepods has diminished, right whales have lost significant body mass, likely affecting reproduction and calving rates. (NMFS 26386, 26397-98.)

The federal defendants point to no section of the BiOp that addresses this issue. Instead, they argue that the whales will simply return to the WDA after each 3-hour pile driving episode is concluded. (Doc. 97 at p. 43; see also BOEM 77462.) There is no evidence that right whales, once subjected to “soft start” Level B noise and pushed out of the WDA, will wait at the edge of the clearance zone for three to four hours and then, like trained spaniels, come racing back into the WDA to feed once pile driving for the day has stopped. Despite the BiOp’s assertions (BOEM 77462-63), no study in the record indicates that right whales will behave in this manner. On the contrary. The evidence indicates that baleen whales like the right whale react unpredictably to repetitious impulsive sound, which is what three hours of pile driving produces. (NMFS 56463, 56466; NMFS 56428-29, 56437, 56440, 56463, 56469, 56494.)

Vineyard Wind offers a different argument, claiming that whales cleared from the WDA during pile driving can swim up and forage at Nantucket Shoals, an area known to support dense

pockets of copepods. (Doc. 100 at p. 21.) But Nantucket Shoals is 12 to 15 miles north of the WDA, and the BiOp does not analyze what threats the right whales might encounter (vessels, fishing gear) on their 12- to 15-mile swim from the WDA to the shoals.

In short, the BiOp's jeopardy analysis does not consider, much less investigate, the impacts of clearing right whales from the WDA during 3-hour pile driving episodes. This analytical failure/omission makes the BiOp deficient as a matter of law.

G. The BiOp Provides an Inadequate Assessment of Project's Operational Noise Impact on Right Whales

Plaintiffs' Opening Brief argued that the BiOp's analysis of the project's *operational* noise impacts on right whales was inadequate. (Doc. 89, at 45-46.) Not only did the BiOp fail to use the Stober noise study – the only document in the record that addresses the underwater noise implications of the industry trend toward using larger and more powerful wind turbines – the BiOp relied instead on the on operational noise data from the BIWF, which has only 5 WTGs, each with a power capacity of 6 MW. Plaintiffs pointed out that noise data from the BIWF could not provide a meaningful or accurate estimate of the underwater noise that would be generated day-in, day-out by Vineyard Wind's wind farm, which may include 57 WTGs, each with a power capacity of 14 MW. (Doc. 89, at 46.) This defect could have been overcome had the BiOp extrapolated the BIWF noise data to a scale that would match the Vineyard Wind project, but the BiOp did not perform such an extrapolation, even though the Stober study shows how such an extrapolation can be done. (NMFS 57135.) As a result, the BiOp's analysis of the project's operational noise impacts on right whales is deficient.

H. The BiOp's "Recovery" Analysis is Flawed

Under Section 7 of the ESA, a Biological Opinion cannot complete its jeopardy determination until it analyzes the proposed action's impacts on (1) the *survivability* of the listed

species in question and (2) the *recovery* of that species, defined as the point where the species' population has improved to a level warranting de-listing. *Center for Biological Diversity v. Salazar*, 804 F.Supp.2d 987, 997-98 (D. Arizona 2011). As the courts have stated repeatedly, survivability and recovery are distinct concepts and require different analyses. *Id.*, at p. 99. An action or project may not create impacts sufficient enough to significantly degrade a listed species' survivability, but those impacts may be enough to undermine recovery of that species, especially when the affected species is already in steep decline or when the action contributes to the known impediments to recovery. *Wild Fish Conservancy v. Salazar*, 628 F.3d 513 (9th Cir. 2010) [Even before a population is extinguished, it may reach a point at which it is no longer recoverable]; see also *Nat'l Wildlife Federation v. National Marine Fisheries Service*, 524 F.3d 917, 931 (9th Cir. 2008) ["a species can cling to survival even when recovery is far out of reach".]

In addition, the wildlife agency must perform "a full *analysis* of the effect of the action on the recovery..." *Center for Biological Diversity v. Salazar*, *supra*, 804 F.Supp.2d at p. 999 [emphasis in original]. The court may not "imply [] an analysis that is not shown in the record." *Ibid.*, quoting *Gifford Pinchot*, 378 F.3d at 1074 and *Nat'l Wildlife Fed'n*, 524 F.3d at 932, n. 10. Finally, "it is impermissible for an agency not to 'incorporate degraded baseline conditions into its jeopardy analysis.'" *Save Our Cabinets v. United States Fish and Wildlife Service*, 255 F.Supp.3d 1035, 1047, (D. Mont. 2017) citing *Nat'l Wildlife Federation*, 524 F.3d at 929.

1. Project Contributes to Threats That Thwart Right Whale Recovery

On page 60 of the Vineyard Wind BiOp, NMFS admits that "anthropogenic mortality" is "limiting the recovery of North Atlantic right whales" and that "currently, none of the species recovery goals . . . have been met." (BOEM 77335.) The BiOp also acknowledges that the two most prominent human threats to the species (vessel strikes and entanglement in fishing gear)

“appear to be worsening”, resulting in “elevated right whale mortalities along the Western North Atlantic Coast.” (*Ibid.*)

As discussed in Plaintiffs’ Opening Brief and in this Reply, the Vineyard Wind project has the strong potential to increase the threat of vessel strikes and fishing gear entanglement relative to the right whale. The project will also subject whales to Level A and Level B pile driving noise, which can physically damage a right whale’s hearing organs and/or alter the whale’s ability to forage or conduct other key life history behaviors, such as avoiding predators or finding mates. In addition, recent studies confirm that the project itself will be constructed and operated in an area that overlaps a right whale “hotspot” – i.e., where right whales congregate to feed on copepods. Thus, the project – both its construction and its operation – will likely affect right whale feeding behavior in this particular area. These are the very concerns voiced by the authors of the Quintana-Rizzo (2021) study. (NMFS 53318-35.) These facts necessarily inform how the project will affect right whale recovery. Yet, the BiOp recovery “analysis” does not dynamically assess the project in the context of the right whale’s current situation.

2. BiOp Relies on Flawed Mitigation Measures to Declare Project No Impediment to Right Whale Recovery

Because the project has the potential to contribute to the very threats and conditions that drive down right whale abundance, one would have expected the BiOp to include a robust analysis of the project’s potential to impede recovery of the right whale, especially since the prospects for recovering this species are quickly dimming. But this expectation is disappointed. The BiOp’s recovery analysis is brief and perfunctory. Rather than test the project’s impacts against each of the recovery goals set forth in the *2005 North Atlantic Right Whale Recovery Plan*, the BiOp leans heavily on the project’s mitigation measures and then summarily declares the project benign in terms of its impediments to right whale recovery. (See BOEM 77631 [project not expected to

reduce likelihood of survival or recovery of right whale].) Here, for example, is the BiOp's short discussion regarding the vessel strike threat:

A number of measures designed to reduce the risk of vessel strike, including deploying lookouts and traveling at reduced speeds in areas where right whales are most likely to occur, as well as the use of PAM to enhance detection of right whales are part of the proposed action. As explained above, we have determined that strike of a right whale by a project vessel is extremely unlikely to occur. No injury (auditory or other) or mortality is expected due to exposure to any aspect of the proposed action during construction, operations, or decommissioning phases of the project.”

(BOEM 77628.)

Plaintiffs have already shown that the project's measures for avoiding vessel strikes on right whales are inadequate, but it bears repeating that (i) lookouts (i.e., PSOs) cannot see underwater or in the dark, (ii) the 10-knot speed limit does not apply to fast-moving crew transfer vessels, and does not apply to any vessel transiting through Nantucket Sound; (iii) PAM only detects whales when and if they are actively vocalizing; (iv) none of the project's vessels will be equipped with PAM systems; and (v) there is no evidence PAM systems will provide adequate coverage of vessel routes.

On the issue of pile driving noise and its impact on right whale recovery, the BiOp again focuses on the project's mitigation measures to find that project-related noise creates no drag to recovery: “A number of measures that are part of the proposed action, including seasonal restriction of pile driving and clearance and shutdown measures during pile driving, reduce the potential for exposure of right whales to pile driving noise.” (BOEM 77628.) The BiOp then concludes that “[n]o right whales are expected to be exposed to pile driving noise that could result in PTS [permanent threshold shift] or any other injury.” (*Ibid.*) Again, Plaintiffs have shown that the proposed measures for protecting right whales from Level A pile driving noise (i.e., noise that

will cause PTS) are insufficient to their purpose and will, in fact, leave right whales exposed to dangerous and physically damaging noise levels.

Because the BiOp's "recovery" determination relies so heavily on the flawed mitigation measures for protecting right whales from vessel strikes and pile driving noise, that determination is itself flawed.

3. *The BiOp's "Recovery" Analysis Fails to Consider Impacts From "Clearing" Right Whales from Project Area During Pile Driving*

As to whether the project's pile driving "clearance" activities might force right whales into contact with fishing gear and non-project vessels (e.g., fishing boats) outside the WDA, the BiOp's "recovery" analysis is dead silent. This particular threat – despite being an obvious consequence of the project's "soft start" pile driving program – is missed altogether. By failing to consider this threat in its "recovery" calculus, the BiOp violated the ESA.

4. *The BiOp Tests Project Impacts Against "Reclassification" Goals, Not "Recovery" Goals*

Perhaps the strangest thing about the BiOp's so-called "recovery" analysis, is that it does not actually assess the project in relation to NMFS's *recovery* goals for the right whale. Instead, the BiOp evaluates the project in relation to four criteria for "reclassifying" the right whale from "endangered" to "threatened". (BOEM 77630.) After listing these four "reclassification" criteria, the BiOp concludes that:

The proposed action will not result in any condition that impacts the time it will take to reach these goals or the likelihood that these goals will be met. This is because the proposed action will not affect the trend of the species or prevent or delay it from achieving an increasing population or otherwise affect its growth rate and will not affect the chance of quasi-extinction.

(BOEM 77630.)

Then, based on this assessment of project impacts on the "reclassification" goals/criteria, the BiOp leaps to the conclusion that the "effects of the proposed action are not expected to cause

an appreciable reduction in the likelihood of survival and recovery of North American right whales in the wild.” (BOEM 77631.) This entire approach is wrong. The ESA requires NMFS to conduct a “recovery” analysis, not a “reclassification” analysis. For this reason alone, the BiOp is legally defective.

5. *BiOp Makes No Attempt to Identify Right Whale Abundance Goals and Analyze Project’s Potential to Slow Attainment of Those Goals*

Case law establishes that a legally adequate recovery analysis must include a species abundance goal or target, as this enables the wildlife agency (here, NMFS) to assess the proposed action/project for its potential to frustrate or slow down progress toward that goal/target. *National Wildlife Federation v. National Marine Fisheries Service*, 184 F.Supp.3d 861, 894 (D. Oregon 2016) [without identifying “rough” recovery abundance levels and timeframes, NOAA Fisheries cannot logically conclude that action will not appreciably reduce likelihood of recovery]. The Vineyard Wind BiOp does not identify any recovery abundance target for the right whale. It thus comes as no surprise that the BiOp’s recovery “analysis” does not examine whether the project’s impacts on the right whale will hamper attainment of such an abundance target. For these reasons, the BiOp fails to provide a legally-adequate recovery analysis. And in the absence of a proper recovery analysis, the BiOp’s “no jeopardy” determination cannot stand.

6. *Cursory Response by Federal Defendants Cannot Save Deficient Recovery Analysis*

In their Opening Brief, Plaintiff’s argued that the BiOp failed to provide a legally adequate analysis of the project’s impacts on right whale recovery. (Plaintiffs’ Opn.Brf., pp. 41-43.) The federal defendants did not respond to the argument except to assert, without evidence, that the BiOp’s recovery analysis was sufficient. (Doc. 97 at pp. 34-35.) Vineyard Wind did not even do this much, choosing to ignore the issue altogether. The weak responses by the federal defendants and Vineyard Wind indicate that they, too, found little evidence in the record to support the BiOp’s

cursory and flawed recovery analysis. The law is clear that a “no jeopardy” determination cannot be made absent a legally-adequate recovery assessment. *National Wildlife Federation v. National Marine Fisheries Service*, 524 F.3d 917, 931 (9th Cir. 2008). In this case, no such assessment was made. Therefore, the BiOp’s no jeopardy finding fails.

I. NMFS and BOEM Acted Arbitrarily and Capriciously

As shown above, the BiOp for the Vineyard Wind project is deeply flawed and does not satisfy ESA requirements or standards. It fails to use the best available scientific and commercial data; its analyses proceed from an inaccurate and incomplete understanding baseline conditions; its “no jeopardy” determination relies on facially inadequate mitigation measures; and its assessment of project impacts on right whale recovery is deficient. For these reasons, NMFS acted arbitrarily and capriciously when it adopted the BiOp, and BOEM acted arbitrarily and capriciously when it relied on the BiOp and approved the Vineyard Wind project.

IV. THE VINEYARD WIND ENVIRONMENTAL IMPACT STATEMENT VIOLATES NEPA

A. EIS Provides Inadequate Analysis of Project’s Impacts on North Atlantic Right Whale

1. Inadequate Discussion of Existing Conditions Regarding Right Whale

As pointed out in Plaintiffs’ Opening Brief, the EIS’s analysis of project impacts on the right whale is defective because it relies almost entirely on the flawed analysis set forth in the BiOp. Doc. 89, at 53. For example, to comply with NEPA, an EIS impact assessment must proceed from an accurate description of existing conditions, which is similar to the ESA concept of “baseline”. *Great Basin Resource Watch v. Bureau of Land Management*, 844 F.3d 1095, 1101 (9th Cir. 2016); see also *Half Moon Bay Fishermans’ Mktg. Ass’n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988). Plaintiffs argued that the EIS fails this basic requirement, as it downplays the importance of the Vineyard Wind WDA as a feeding and habitat area for the right whale;

downplays the imminent peril of extinction now facing the right whale; and fails to disclose that due to human-caused fatalities, low calving rates, and ever-lengthening calving intervals, right whale mortalities now outpace births by a ratio of 3 to 2. (BOEM 208678.) Doc 89, at 53.

Federal defendants respond by stating that the EIS adequately describes existing conditions as to the WDA and the right whale. (Doc. 97 at p. 51-52.) Well, let's see.

- Does the EIS disclose that, due to a shift in right whale feeding and movement patterns, approximately 87 percent of all right whale individuals, including more than 50 percent of reproductive females, have been observed in the RI/MA WEA between 2011 and 2019? (NMFS 53324, 53330.) No, it does not.
- Does it disclose that 16 of the 323 unique right whale individuals observed in the RI/MA WEA between 2011 and 2019 were confirmed dead as of December 2020? (NMFS 53324.) No, it does not.
- Does it disclose that right whale observations from 2011-2015 and 2017-2019 confirmed that the Vineyard Wind WDA is a right whale “hotspot”? (NMFS 53321-22, 53326.) No, it does not.
- Does it disclose that the waters in and surrounding the WDA are very popular with the lobster fishing fleet and thus, in some areas, contain significant concentrations of fixed fishing gear, including vertical buoy lines, that can entangle right whales? (BOEM 194539.) No, it does not.
- Does it disclose that anthropogenic mortalities, combined with low calving rates and long calving intervals, have caused right whale deaths to outnumber right whale births 3:2? (BOEM 208678.) No, it does not.

- Does it disclose that the right whale’s PBR rate has fallen to 0.8, meaning that the species cannot absorb even one human-caused death per year and maintain its already disturbing low population? (NMFS 33684.) No, it does not.
- Does it disclose that, according to marine biologists who have studied the issue, right whales now rely heavily on the RI/MA WEA for food year-round, including during those months when project construction activities will take place? (NMFS 53319, 55324, 55329, 53331.) No, it does not.

By not disclosing this critically important “existing conditions” data, the EIS fails as a public information document, and fatally undermines its own *impact* analysis. Federal defendants’ arguments to the contrary simply do not hold up under scrutiny.¹¹ The record evidence cited by federal defendants only serves to display the EIS’s blasé attitude toward right whale conditions and the importance of the waters south of Martha’s Vineyard and Nantucket to the whale’s continue survival and recovery.

2. *EIS Repeats Errors of BiOp as to Noise and Vessel Strike Impacts on Right Whales, and Mitigation for Those Impacts*

Like the BiOp, the EIS mixes its discussion of project *impacts* on right whales with its discussion of *mitigation measures* for those impacts. (BOEM 34858-59.) Thus, the quality and accuracy of the EIS’s analysis of pile driving noise and vessel strikes on right whales is directly determined by the adequacy of the mitigation measures recommended to address those impacts. As Plaintiffs’ have shown, the proposed (and now adopted) mitigation measures for minimizing pile driving noise impacts on right whale are facially flawed and cannot/will not provide right whales sufficient protection from Level A noise exposure and permanent threshold shift (PTS).

¹¹ Note that Vineyard Wind, in its Cross-Motion for Summary Judgment, did not address any of Plaintiffs’ arguments regarding the EIS’s analysis of impacts to the right whale.

The same holds for vessel strike impacts. The mitigation measures discussed in the EIS, such as the 10-knot speed limit, are so full of exceptions (e.g., crew transfer vessels need not comply) and other defects that they will be unable to protect right whales from vessel strikes and any mortality/serious injury deriving therefrom.

3. Inadequate Analysis of Cumulative Impacts on Right Whale

The Draft EIS for Vineyard Wind treated the project in isolation, as if it were the only large-scale offshore wind facility planned for the RI/MA WEA. This, of course, is false. The Vineyard Wind 1 project is only one of seven offshore wind facilities that will be built in the RI/MA WEA. Plaintiffs and others submitted comments to BOEM stating that the Draft EIS needed to analyze the project's impacts – especially those on right whales – in connection with the impacts anticipated to occur when the other six wind arrays are constructed and begin operating. In response, BOEM agreed to prepare a “supplement” to the Draft EIS that would include the required “cumulative” analysis (the “SEIS”). (See, BOEM 57578.)

The problem, however, is that neither the SEIS nor the FEIS actually analyzes the cumulative effects of seven industrial-scale wind energy projects on the right whale. For example, neither document bothers to estimate the total number of pile driving days that would be required to install all seven projects; nor do they analyze how many vessel trips would be needed to construct and operate the seven projects. The SEIS and FEIS do not discuss whether and to what extent having so many wind turbines concentrated in a popular (and possibly obligate) right whale foraging area might affect right whale feeding and movement patterns. The SEIS and FEIS do acknowledge that all seven wind projects will generally have similar impacts on right whales. (See, e.g., BOEM 68576-88, 68589, 68602-03, 69020-31.) NEPA, however, requires more than stating the obvious. The purpose of a cumulative impact assessment is to *analyze* those combined,

synergistic effects and discern whether they will result in significant damage to the resource in question (here, right whales). The SEIS and FEIS provides no such assessment, and federal defendants offer no evidence to the contrary. (See Doc. 97 at p. 58.)¹²

B. EIS Provides Inadequate Analysis of Project’s Impacts on Air Quality and GHG Emissions

1. EIS Does Not Compare Project Emissions of Criteria Pollutants to NAAQS Thresholds

In their Opening Brief, Plaintiffs argued that the Draft EIS, SEIS, and Final EIS fail to compare the project’s air emissions against the National Ambient Air Quality Standard (NAAQS) thresholds for each criteria pollutant, including those for nitrogen oxide (NOx), volatile organic compounds (VOCs), and carbon monoxide (CO) – all of which are precursors to ozone. (Doc. 89, at 50-52.)

The federal defendants counter by claiming that “the FEIS contains specific figures regarding the emission of Clean Air Act (“CAA”) criteria pollutants, such as carbon monoxide, sulfur dioxide, particulate matter smaller than 10 microns, particulate matter smaller than 2.5 microns, nitrogen oxide, ozone, and lead. BOEM_0068850-52.” (Doc. 97 at p. 47.)¹³ However, while the FEIS does provide emissions figures for each CAA criteria pollutant, those figures are not compared to the NAAQS thresholds. The standards are not provided at all. So the reader is

¹² Vineyard Wind provided no response to any of Plaintiffs’ arguments regarding the EIS’s analysis of project impacts on right whale, including the argument regarding cumulative impacts. Thus, Vineyard Wind has waived its right to respond to those arguments in the future.

¹³ Vineyard Wind provided no response to any of Plaintiffs’ arguments regarding the EIS’s failure to compare project emissions against the applicable NAAQS thresholds. Thus, Vineyard Wind has waived its right to respond to those arguments in the future.

left with a bunch of numbers that are meaningless. For example, the FEIS describes the project's offshore construction emissions as follows:

For Alternative A alone, construction emissions are estimated to be 1,116 tons of CO, 4,961 tons of NO_x, 172 tons of PM₁₀, 38 tons of SO₂, and 122 tons of VOC. Note that both NO_x and VOC are ozone precursors and these emissions may contribute to some increase in ozone production during construction. BOEM anticipates **minor** air quality impacts due to the construction and installation of Alternative A alone.” (BOEM 68850.)

These emissions figures explain nothing in terms of whether the project will result in an “exceedance” of any human health benchmark for air pollutants. In failing to compare project emissions of CAA criteria pollutants to the applicable NAAQS standards, the Final EIS withheld critical health information from the public and therefore violated NEPA.

2. Air Emissions Data Cannot Be Hidden in an Appendix to a Non-NEPA Document

The federal defendants also believe they are excused from placing these key emissions data in the EIS so long as the data are “contained in the draft COP, which is directly referenced in the DEIS.” (Doc. 97 at p. 48.) According to federal defendants, NEPA and its implementing guidelines allow agencies to “incorporate material into an [EIS] by reference.” (*Ibid.*) There is a key limitation, however, to the *type* of material that an EIS can reference. The following statement from *Kern v. United States Bureau of Land Management*, 284 F.3d 1062 (9th Cir. 2002) is instructive:

Tiering, or avoiding detailed discussion by referring to another document containing the required discussion, is expressly permitted by federal regulation [quoted regulation (40 C.F.R. § 1502.20) omitted]. However, tiering to a document ***that has not itself been subject to NEPA review is not permitted***, for it circumvents the purpose of NEPA.

Kern v. United States Bureau of Land Management, *supra*, 284 F.3d at p. 1073. (Emphasis added.)

Thus, regardless of whether the practice is called “tiering” or “incorporation by reference”, BOEM may not sidestep its duty to prepare a NEPA-compliant air quality impact analysis by

directing readers to the air emissions data in the “draft COP.” The draft COP is not a document prepared pursuant to NEPA; nor has it been subjected to NEPA review. For these reasons, it cannot be used as a substitute for a full, robust, and NEPA-compliant air quality assessment in the EIS itself. *Kern v. Bureau of Land Management, supra*, 284 F.3d at p. 1073.

3. *Plaintiffs Withdraw Claim Regarding Redacted Air Quality Data*

Plaintiffs Opening Brief argued that critical project-related air emissions data had been redacted from COP Appendix B and withheld from members of the public who wished to track down and review that data. (Doc. 89 at 51.) Federal defendants and Vineyard Wind have provided evidence that the redactions occurred in the 2017 version of the COP but were restored in the 2018 version to which the Draft EIS referred. (Doc. 97 at p. 48; Doc. 100 at p. 29-30.) Plaintiffs are satisfied with and accept federal defendants’ and Vineyard Winds’ explanation. Therefore, Plaintiffs withdraw their claim regarding alleged unlawful redactions of project-related air emissions data.

4. *The EIS Does Not Analyze Onshore Emissions or Emissions from Project-Related Economic Growth*

The EIS limits its air quality impacts analysis to emissions from the project’s offshore activities. Most of these relate to vessel trips and the pollutants generated thereby. As Plaintiffs pointed out in their Opening Brief, however, the project’s emissions are not limited to those from vessels and other offshore operations. (Doc. 89 at 52.) A significant amount of project-related work will take place at the various ports where construction staging will take place. *Ibid*. The EIS does not account for these emissions; nor does it account for the landside mobile emissions from the many employees who will work on the project or provide support for the project.

It is not that BOEM and Vineyard Wind have no idea how many jobs the project will generate. They talk about it all the time. The EIS itself states that project construction jobs will

result in 2,371 full-time employment (FTE) positions in Massachusetts alone. (BOEM 68635-36.) The EIS was required to account for, quantify, and analyze the CAA “criteria” pollutants and greenhouse gas (GHG) emissions that these new employees will generate. It failed to do so. As a result, the EIS’s air quality assessment is deficient.

Federal defendants respond by arguing that the project’s “indirect” air quality impacts *were* analyzed in the EIS. (Doc. 97 at p. 50.) But the only evidence they cite is the following sentence: “Primary emissions sources would be increased commercial traffic, air traffic, public vehicular traffic, combustion emissions from construction equipment, and some fugitive emissions.” Doc. 97 at p. 50. But a laundry list of onshore “emission sources” is not an impact analysis. Then the federal defendants claim they were absolved from analyzing or quantifying the emissions from such sources because they “are expected to be minor”. (*Ibid.*) But in the absence of any data on the onshore emissions in question – including those from project employees driving to and from work each day – it is impossible for BOEM to declare such emissions “minor”. The EIS simply omitted the required analysis, and it is deficient for that reason.

C. BOEM Acted Arbitrarily and Capriciously When It Approved the EIS

As shown, the Vineyard Wind EIS does not include an adequate analysis of the project’s impacts on the North Atlantic right whale and air quality/GHG emissions. Thus, the EIS fails to comply with NEPA, and BOEM acted arbitrarily and capriciously when it approved it.

V. CONCLUSION

For the reasons discussed above, the court should grant Plaintiffs’ Motion for Summary Judgment on its ESA, NEPA, and APA causes of action, and deny the Cross-Motions for Summary Judgment filed by Federal Defendants and Vineyard. Plaintiffs also request that the BiOp, Final EIS, and Record of Decision for the Vineyard Wind project be set aside.

DATED: October 19, 2022

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CERTIFICATE OF SERVICE

I hereby certify that this document filed through the CM/ECF system will be sent electronically to the registered participants as identified on the NEF on October 19, 2022.

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**UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS**

ACK RESIDENTS AGAINST TURBINES, et al.

Plaintiffs,

v.

U.S. BUREAU OF OCEAN ENERGY
MANAGEMENT, et al.

Defendants,

and

VINEYARD WIND 1 LLC,

Intervenor-Defendant.

Civil Action No. 1:21-cv-11390-IT

Hon. Indira Talwani

**FEDERAL DEFENDANTS' MEMORANDUM IN OPPOSITION TO PLAINTIFFS'
MOTION FOR SUMMARY JUDGMENT, AND IN SUPPORT OF CROSS-MOTION**

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GLOSSARY

| | |
|------------------|---|
| APA | Administrative Procedure Act |
| Area 537 | NMFS Statistical Area 537 |
| AVERT | EPA Avoided Emissions and Generation Tool |
| BiOp | Biological Opinion |
| BOEM | U.S. Bureau of Ocean Energy Management |
| CEQ | Council on Environmental Quality |
| CAA | Clean Air Act |
| COP | Construction and Operations Plan |
| Corps | U.S. Army Corps of Engineers |
| DEIS | Draft Environmental Impact Statement |
| ESA | Endangered Species Act |
| FEIS | Final Environmental Impact Statement |
| FWS | U.S. Fish & Wildlife Service |
| GHG | Greenhouse Gas Emissions |
| IHA | Incidental Harassment Authorization |
| ITS | Incidental Take Statement |
| JROD | Joint Record of Decision |
| MMPA | Marine Mammal Protection Act |
| NAAQS | National Ambient Air Quality Standards |
| NEPA | National Environmental Policy Act |
| NMFS | National Marine Fisheries Service |
| NMFS/GAR | NMFS Greater Atlantic Region |
| NMFS/OPR | NMFS Office of Protected Resources |
| OCS | Outer Continental Shelf |
| OCSLA | Outer Continental Shelf Lands Act |
| PAM | Passive Acoustic Monitoring |
| PBR | Potential Biological Removal |
| PSOs | Protected Species Observers |
| RI/MA WEA | Rhode Island/Massachusetts Wind Energy Area |
| RPMs | Reasonable and Prudent Measures |
| SEIS | Supplemental Environmental Impact Statement |
| WDA | Wind Development Area |
| WTGs | Wind Turbine Generators |

INTRODUCTION

The Vineyard Wind Project (“the Project”) is an offshore wind energy project planned for Lease Area OCS-A -5-1—also known as the wind development area (“WDA”)—an area on the Outer Continental Shelf more than 14 miles from the coasts of Martha’s Vineyard and Nantucket Island. The Project will have the capacity to generate approximately 800 megawatts of electricity, which could supply renewable, virtually emissions-free energy to about 400,000 homes in Massachusetts.

The Project underwent an extensive, multi-year environmental review by several federal and state agencies, which concluded in July 2021 when the Bureau of Ocean Energy Management (“BOEM”) issued final approval of Vineyard Wind’s Construction and Operations Plan (“COP”). BOEM’s environmental review spanned three years, included fifteen public meetings, and culminated in a four-volume final environmental impact statement (“FEIS”). The environmental review also included consultation between BOEM and the National Marine Fisheries Service (“NMFS”) under the Endangered Species Act (“ESA”), which resulted in NMFS’s publication of a 500-page biological opinion (“BiOp”) assessing potential effects of the Project on ESA-listed species, including the North Atlantic right whale. NMFS separately evaluated and authorized the incidental harassment of right whales through an incidental harassment authorization (“IHA”) issued pursuant to the Marine Mammal Protection Act (“MMPA”).

Plaintiffs bring suit pursuant to the Administrative Procedure Act (“APA”), contending that NMFS’s BiOp violates the ESA and that BOEM’s FEIS violates the National Environmental Policy Act (“NEPA”) for their alleged failure to adequately analyze (i) potential impacts to right whales, and (ii) (solely with respect to the FEIS) air quality and greenhouse gas emissions. Plaintiffs lack standing, and also failed to preserve several arguments during the administrative

processes. And on the merits, Plaintiffs’ scattershot arguments do not account for the deference due the agencies here. Indeed, far from bearing out Plaintiffs’ arguments by showing arbitrary or capricious decision-making, the agencies’ administrative records fully support the agencies’ analyses and confirm that the BiOp complies with the ESA and the FEIS complies with NEPA. For instance, in its BiOp, NMFS evaluated the best available scientific information concerning potential effects of the Project on the right whale, including impacts to its habitat, and reasonably concluded that the Project is not likely to jeopardize the continued existence of the right whale. And the FEIS establishes that, in evaluating the Project pursuant to NEPA, BOEM thoroughly analyzed the effects of the Project on air quality and greenhouse gas emissions and took the requisite hard look at potential impacts, including measures to avoid or minimize environmental harm. In drafting the FEIS and deciding to approve the COP, BOEM reasonably relied on NMFS’s considerable expertise, including by incorporating numerous measures to mitigate and avoid impacts to right whales. The record establishes that both agencies complied with applicable laws. For all of the reasons set out below, the Court should enter summary judgment in favor of Federal Defendants.

LEGAL BACKGROUND

A. ESA

ESA section 7(a)(2) provides that each federal agency must ensure that any action it authorizes, funds, or carries out is not likely to “jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary . . . to be critical” 16 U.S.C.

§ 1536(a)(2).¹ To achieve this objective, the ESA requires the action agency to consult with NMFS or FWS whenever a federal action “may affect” an endangered or threatened species. 50 C.F.R. § 402.14(a).²

Section 7 and its implementing regulations set out detailed consultation procedures designed to provide action agencies with expert advice to determine the biological impacts of their proposed activities. 16 U.S.C. § 1536(b); 50 C.F.R. pt. 402. “Formal consultation,” which is described at length at 50 C.F.R. § 402.14, culminates in the issuance of a “biological opinion” by NMFS or FWS, which advises the action agency whether jeopardy or adverse modification is likely to occur for any listed species and, if so, whether “reasonable and prudent alternatives” exist to avoid jeopardy or adverse modification. *Id.* § 402.14(h). The ESA and its implementing regulations require NMFS to utilize the “best scientific and commercial data available” in rendering its biological opinion. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(d).

Section 9 of the ESA prohibits the “taking” of any endangered or threatened species. 16 U.S.C. § 1538(a)(1)(B). “Take” as defined by the ESA means to harass, harm, pursue, hunt,

¹ “Secretary” as used in the ESA means the Secretary of the Interior or the Secretary of Commerce, who in turn have delegated their responsibilities to the U.S. Fish & Wildlife Service (“FWS”) and NMFS, respectively. 16 U.S.C. § 1532(15). In general, NMFS has authority over marine species, such as the right whale at issue here. 50 C.F.R. §§ 222.101, 224.101(h) (listed as endangered), 226.203 (designated critical habitat). To “jeopardize the continued existence” means “to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.” 50 C.F.R. § 402.02. “Destruction or adverse modification” of critical habitat is also defined (50 C.F.R. § 402.02).

² With respect to this Project, NMFS acted in two roles: NMFS’s Office of Protected Resources (“NMFS/OPR”) acted as an action agency in issuing the Incidental Harassment Authorization (“IHA”) pursuant to the Marine Mammal Protection Act (“MMPA”). NMFS’s Greater Atlantic Region (“NMFS/GAR”) acted as the consulting agency in issuing the biological opinion. Where, as here, more than one federal agency’s action regarding a project “may affect” a listed species, each one must fulfill its obligation to consult, and a “lead action agency” is often identified. For the Vineyard Wind project, BOEM was the lead action agency, with whom NMFS/OPR and several other Federal agencies consulted with NMFS/GAR.

shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. 16 U.S.C. § 1532(19). The ESA’s prohibition on taking species applies to all “person[s],” including individuals, corporations, and federal or state agencies. 16 U.S.C. § 1532(13). However, take incidental to federal actions that is “reasonably certain to occur” can be exempted from liability as part of the consultation process in an incidental take statement (“ITS”) in the final biological opinion. 16 U.S.C. § 1536(b)(4); 50 C.F.R. § 402.14(g)(7). An ITS identifies the impact of such taking and specifies reasonable and prudent measures (“RPMs”) “necessary or appropriate to minimize such impact” and terms and conditions to implement those measures. 16 U.S.C. § 1536(b)(4)(ii); 50 C.F.R. § 402.14(i)(1)(i-v). Under Section 7(o) of the ESA, “any taking that is in compliance with the terms and conditions specified in [an ITS] shall not be considered to be a prohibited taking of the species concerned.” 16 U.S.C. § 1536(o)(2), and “no other authorization or permit under the Act is required.”³ *Id.*; 50 C.F.R. § 402.14(i)(5).

B. NEPA

Congress enacted NEPA to establish a process for federal agencies to consider the environmental impacts of their actions. *Vt. Yankee Nuclear Power Corp. v. Nat. Res. Def. Council, Inc.*, 435 U.S. 519, 558 (1978). NEPA is a strictly procedural statute. It does not mandate particular results; rather, “it simply prescribes the necessary process for preventing uninformed—rather than unwise—agency action.” *Allen v. Nat’l Insts. of Health*, 974 F. Supp. 2d 18, 36 (D. Mass. 2013) (quoting *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 333 (1989)). “NEPA does not prevent agencies from then deciding that the benefits of a

³ Contrary to the Plaintiffs’ mistaken reading of the law that ESA section 10(a)(2)(B)(ii) requires NMFS to find that the applicant will minimize and mitigate the impacts of a taking, *see* Doc. No. 88-1 at 45, the formulation of an ITS under ESA Section 7(b), and the take exemption it provides under Section 7(o), is separate and distinct from the ESA’s section 10(a) incidental take permitting provision (16 U.S.C. § 1539(a)), which applies to non-Federal actions.

proposed action outweigh the potential environmental harms: NEPA guarantees process, not specific outcomes.” *Town of Winthrop v. FAA*, 535 F.3d 1, 4 (1st Cir. 2008).

NEPA’s procedural requirements obligate federal agencies to “take a ‘hard look’ at environmental consequences.” *Beyond Nuclear v. U.S. NRC*, 704 F.3d 12, 19 (1st Cir. 2013). An agency gives a sufficient “hard look” when, for example, it obtains opinions from experts inside and outside the agency, provides scientific scrutiny, and offers responses to legitimate concerns. *Massachusetts v. U.S. NRC*, 708 F.3d 63, 78 (1st Cir. 2013) (citing *Hughes River Watershed Conservancy v. Johnson*, 165 F.3d 283, 288 (4th Cir. 1999)).

Council on Environmental Quality (“CEQ”) regulations guide NEPA implementation.⁴ See 40 C.F.R. §§ 1500-1508. NEPA, and the applicable CEQ regulations, generally require an agency to prepare an environmental impact statement before proceeding with any action that the agency concludes will “significantly affect[]” the environment. 42 U.S.C. § 4332(2)(C); 40 C.F.R. § 1508.11.

STANDARD OF REVIEW

Claims challenging federal agency action are reviewed pursuant to the Administrative Procedure Act (“APA”). *Mass. ex rel. Div. of Marine Fisheries v. Daley*, 170 F.3d 23, 28 (1st Cir. 1999); *Allen*, 974 F. Supp. 2d at 36; 5 U.S.C. §§ 702, 706. Under the APA, a court may set aside “agency action, findings, and conclusions” that it finds to be “arbitrary, capricious, an

⁴ The CEQ promulgated regulations implementing NEPA in 1978, 43 Fed. Reg. 55978 (Nov. 29, 1978), and made a minor substantive amendment to those regulations in 1986, see 51 Fed. Reg. 15618 (Apr. 25, 1986). The CEQ revised the regulations again in 2020. See 85 Fed. Reg. 43304 (July 16, 2020). More recently, the CEQ published a new rule, effective May 20, 2022, further revising the regulations. 87 Fed. Reg. 23453 (Apr. 20, 2022). The claims in this case arise under the 1978 regulations, as amended in 1986. See BOEM_0068440. All citations to the Council’s regulations in this brief refer to those regulations as codified at 40 C.F.R. §§ 1500-1508 (2018). For the Court’s convenience, a copy of the 1978 regulations is attached as Exhibit A.

abuse of discretion, or otherwise not in accordance with law.” *Airport Impact Relief, Inc. v. Wykle*, 192 F.3d 197, 202 (1st Cir. 1999); 5 U.S.C. § 706(2)(A). Review under this standard is to be “searching and careful” but “narrow,” and a court is not to substitute its judgment for that of the agency, *Marsh v. Or. Nat. Res. Council*, 490 U.S. 360, 378 (1989), but should make its determination based solely on the record on which the decision was made. *Citizens to Pres. Overton Park v. Volpe*, 401 U.S. 402, 419 (1971). Under the APA standard, a court must uphold an action if it finds a “rational connection between the facts found and the choice made,” *Motor Vehicle Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29 (1983), and that the agency considered the relevant factors did not make a clear error of judgment. *Overton Park*, 401 U.S. at 416. Review under this standard is highly deferential, and “is especially marked in technical or scientific matters within the agency’s area of expertise.” *Citizens Awareness Network v. U.S. NRC*, 59 F.3d 284, 290 (1st Cir. 1995). Where, as here, the agency’s particular technical expertise is involved, the court guards the agency’s discretion very zealously. *Baltimore Gas & Elec. Co. v. NRDC*, 462 U.S. 87, 103 (1983); *FCC v. Nat’l Citizens Comm. for Broad.*, 436 U.S. 775, 813-14 (1978). “When specialists express conflicting views, an agency must have discretion to rely on the reasonable opinions of its own qualified experts even if, as an original matter, a court might find contrary views more persuasive.” *Marsh*, 490 U.S. at 378.

ARGUMENT

I. Plaintiffs lack standing.

“A plaintiff invoking federal jurisdiction bears the burden of establishing standing.” *Strahan v. Sec’y, Mass. Exec. Office of Energy & Env’tl. Affairs*, No. 19-cv-10639, slip op. at 10 (Nov. 30, 2021) (D. Mass. Talwani, J.). To satisfy Article III, a plaintiff must establish an injury that is (i) “concrete, particularized, and actual or imminent”; (ii) “fairly traceable to the

challenged action”; and (iii) “redressable by a favorable ruling.” *Clapper v. Amnesty Int’l USA*, 568 U.S. 398, 409 (2013). An association may have standing to sue on behalf of its members so long as “at least one of the members possesses standing to sue in his or her own right.” *United States v. AVX Corp.*, 962 F.2d 108, 116 (1st Cir. 1992).

At summary judgment, where a plaintiff’s or association’s standing is premised on harm to an endangered species, the plaintiff must “submit affidavits or other evidence showing, through specific facts, not only that listed species were in fact being threatened [by the challenged government action], but also that one or more of [the association’s] members would therefore be ‘directly’ affected apart from their ‘special interest’ in th[e] subject.” *Lujan v. Defs. of Wildlife*, 504 U.S. 555, 563 (1992). Here, Plaintiffs have attempted to establish standing based on declarations from two ACK RAT members, Plaintiff Vallorie Oliver and Ms. Amy Disibio. Doc. Nos. 88-2, 88-3. But neither declaration is sufficient to demonstrate standing.

Neither Ms. Oliver nor Ms. DiSibio has demonstrated that the Project will cause them to suffer any concrete or imminent harm. Both Ms. Oliver and Ms. Disibio declare an affinity for whales and other marine mammals that inhabit the waters in and around Nantucket (*see, e.g.*, Doc. No. 88-2 ¶ 3; Doc. No. 88-3 ¶4).⁵ Each also claims that she “love[s] that [she] ha[s] had, and continue[s] to have, opportunities to observe them in their natural habitat.” Doc. No. 88-2 ¶ 3; Doc. No. 88-3 ¶ 4. But neither provides any specific facts to establish that she has ever seen a right whales, or that she has any concrete plans to attempt to see them in the future. *Id.* Absent such specific facts, Ms. Oliver and Ms. Disibio cannot establish the concrete and imminent

⁵ While their declarations mention whales and other marine species generally, Plaintiffs’ summary judgment motion addresses only North Atlantic right whales, and makes no attempt to establish that the Project will harm any other species, much less harm that would also result in imminent injury to Plaintiffs.

injury that Article III requires. *See Lujan*, 504 U.S. at 564 (“Such ‘some day’ intentions—without any description of concrete plans, or indeed even any specification of when the some day will be—do not support a finding of the ‘actual or imminent’ injury that our cases require.”).

Nor can they establish standing based on their professed desire to protect right whales. *See* Doc. No. 88-2 ¶ 3 (Ms. Oliver “will feel that [she] ha[s] failed in [her] duty to protect them.”); Doc. No. 88-3 ¶ 4 (Ms. DiSibio has “kept herself informed about the right whale” and that she “feel[s] a responsibility to protect” the species). *Id.* As this Court has recognized, a “‘sincere and passionate interest in the well-being of whales’ alone” is not sufficient to establish standing. *Strahan*, slip op. at 15; *see also Sierra Club v. Morton*, 405 U.S. 727, 739-40 (1972). Thus, Ms. Oliver and Ms. DiSibio must show that they would be “directly affected by harm to the whales, apart from [their] . . . special interest” in the species. *Strahan*, No. 19-cv-10639, slip op. at 15 (citing *Strahan v. Linnon*, 967 F. Supp. 581, 617 (D. Mass. 1997)). They have not met that burden.

In addition, because Ms. Oliver and Ms. DiSibio fail to establish any concrete injury, they also cannot establish “procedural injury” based solely on the claim that the agencies allegedly failed to comply with the ESA and NEPA. “[D]eprivation of a procedural right without some concrete interest that is affected by the deprivation—a procedural right *in vacuo*—is insufficient to create Article III standing.” *Summers v. Earth Island Inst.*, 555 U.S. 488, 496 (2009)). As the First Circuit recognized in *AVX Corp.*, “[t]here is nothing talismanic about the phrase ‘procedural harm.’ A party claiming under that rubric is not relieved from compliance with the actual injury requirement for standing.” 962 F.2d at 119.

Finally, because Plaintiffs have not carried their burden to establish that at least one of their members has standing, ACK RATs also lacks standing. *Id.* at 116.

II. Plaintiffs waived several arguments by failing to raise them during the relevant administrative process.

As another threshold matter, the Court’s review of Plaintiffs’ ESA citizen-suit claims against BOEM should be limited according to the substance of arguments raised in their three notices of intent to sue pursuant to the ESA citizen-suit provision, 16 U.S.C. § 1540(g)(2)(A)(i), dated May 24, 2021 (filed herewith as Exhibit B); November 26, 2021 (filed herewith as Exhibit C); and November 29, 2021 (filed herewith as Exhibit D), respectively. These notices failed to alert BOEM and NMFS of Plaintiffs’ claims alleging ESA violations based on right whales fleeing to NMFS Statistical Area 537 (“Area 537”) in response to “soft start” pile-driving procedures. Other arguments not raised in Plaintiffs’ notice letters include: alleged failure to consider the Potential Biological Removal threshold; the override procedure during pile-driving; the sufficiency of size of clearing zone; and the passive acoustic monitoring detection limit. Therefore, Plaintiffs have failed to satisfy the mandatory pre-suit notice requirement as to numerous issues regarding right whales that Plaintiffs currently assert in their summary judgment brief. *See, e.g., Sw. Ctr. for Biological Diversity v. U.S. Bureau of Reclamation*, 143 F.3d 515, 520-22 (9th Cir. 1998) (notice letter must alert the recipients to the actual violation alleged in a subsequently filed complaint). The Court should grant summary judgment in favor of Federal Defendants as to these claims, even before getting to the reasons below why the claims fail on the merits.

Even if the Court determines that Plaintiffs’ notice letters, taken together, suffice for purposes of commencing an ESA suit, the Court’s review of the merits of Plaintiffs’ ESA claims should be informed and circumscribed based on the substance of comments submitted by Plaintiffs during public comment proceedings. Federal Defendants acknowledge that Plaintiffs participated in public comment procedures leading up to BOEM’s decision to approve the

COP.⁶ BOEM responded to Plaintiffs’ right whale-related comments in detail.⁷ Plaintiffs also submitted comments in response to the NMFS IHA. NMFS 3428-34. NMFS responded to these comments in the Notice of Issuance of the IHA. NMFS 3521-23. Although there is no public comment procedure as part of the ESA section 7 consultation process, the 2021 BiOp analyzed NMFS’s IHA, which identified mitigation measures to minimize and avoid harm to right whales and was subject to public comment. As with their ESA notices of intent to sue, none of Plaintiffs’ public comment submittals raised the specific deficiencies cited above, including Plaintiffs’ argument that right whales will flee to Area 537 in response to “soft start” pile-driving procedures.

Courts have long recognized that, even absent a specific statutory or regulatory requirement, “[t]he failure to raise an argument before an agency constitutes a waiver of that argument [for] judicial review.” *Padgett v. Surface Transp. Bd.*, 804 F.3d 103, 109 (1st Cir. 2015) (citing cases).⁸ Thus, the Court may also deny Plaintiffs’ motion for summary judgment

⁶ See BOEM 78666-78683 (comment on DEIS dated January 22, 2019 (comment id 76)); BOEM 79220 – 79222 (second set of comments on DEIS dated February 22, 2019 (comment id 206)); BOEM 79477-BOEM 79478 (comment in Project Public Meeting Transcript February 11, 2019 Nantucket, MA (comment id 297)); BOEM 72746 (comment on supplement to DEIS dated April 7, 2021).

⁷ See BOEM 69444 & BOEM 69487-69500 (responses to comment id 76); BOEM 69446 & BOEM 69666-69668 (responses to comment id 206); BOEM 69448 & BOEM 69777-69778 (responses to comment id 297); and BOEM 76826-76826 (responses to post-FEIS comments on right whales).

⁸ This is the rule because “it accords respect to the agency decisionmaking process by providing the agency with the ‘opportunity to address a party’s objections, . . . apply its expertise, exercise its informed discretion, and create a more finely tuned record for judicial review.’” *Upper Blackstone Water Pollution Abatement Dist. v. EPA*, 690 F.3d 9, 31 (1st Cir. 2012), (quoting *Mass. Dep’t of Pub. Welfare v. Sec’y of Agric.*, 984 F.2d 514, 523-24 (1st Cir. 1993)). The requirement to raise an argument before the agency is essential to the integrity of the administrative process, and therefore strictly enforced. See, e.g., *United States v. L.A. Tucker Truck Lines, Inc.*, 344 U.S. 33, 37 (1952); *Mazariegos-Paiz v. Holder*, 734 F.3d 57, 62 (1st Cir. 2013).

with respect to arguments Plaintiffs neglected to raise during available public comment proceedings based on the doctrine of issue exhaustion. *Sims v. Apfel*, 530 U.S. 103, 112 (2000) (O'Connor, J., concurring) (“In most cases, an issue not presented to an administrative decisionmaker cannot be argued for the first time in federal court. On this underlying principle of administrative law, the Court is unanimous.”); *Mass., Dep’t of Public Welfare*, 984 F.2d at 522-23; *Appalachian Power Co. v. EPA*, 251 F.3d 1026, 1036 (D.C. Cir. 2001). The Court should not indulge Plaintiffs in their *post-hoc* critique of the Defendant agencies’ reasonable assessments concerning the sufficiency of mitigation measures to minimize and avoid harm to right whales when Plaintiffs themselves failed to raise these points of concern during the applicable comment periods. *Vt. Yankee*, 435 U.S. at 553-54 (“[A]dministrative proceedings should not be a game or a forum to engage in unjustified obstructionism by making cryptic and obscure reference to matters that ‘ought to be’ considered and then, after failing to do more to bring the matter to the agency’s attention, seeking to have that agency determination vacated on the ground that the agency failed to consider matters ‘forcefully presented.’”).

III. The Agencies fully complied with the ESA.

The NMFS Greater Atlantic Region Office (“NMFS/GAR”) complied with the ESA in issuing the 2021 BiOp, and BOEM reasonably relied on the 2021 BiOp. Based on the best available scientific information, NMFS/GAR concluded that the Project is not likely to jeopardize right whales or any of the other threatened or endangered species in the action area. NMFS 17558. NMFS/GAR specified RPMs and terms and conditions to avoid and minimize the take of right whales in the form of harassment that it determined was reasonably certain to occur as a result of pile-driving construction. NMFS 17563-17579. The Court should uphold the 2021 BiOp based on the deferential “arbitrary and capricious” standard of review. 5 U.S.C. § 706(2)(A).

A. The BiOp utilizes the best available scientific and commercial data.

The ESA and its implementing regulations require all parties in consultation to utilize the “best scientific and commercial data available.” 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(d), (g)(8). Upon issuance, the 2021 BiOp replaced the previous BiOp⁹, *see* NMFS 17170, and utilized the best and latest information on right whales. NMFS 17230-42 (2021 BiOp); NMFS 16639-40 (Biological Assessment); NMFS 17683-733 (2021 BiOp’s Transmittal Memorandum). In short, this newly available information reiterated that “the status of North Atlantic right whales is poor and that the population size has declined in recent years.” NMFS 17686. It reaffirmed the 2020 BiOp’s description of the right whale patterns of distribution, abundance, and behavior, and it supported the determination that the time of year when pile-driving is prohibited (January – April) is the time of year with the greatest density of right whales in the lease area. NMFS 17687. The 2021 BiOp used the most up-to-date density information for right whales in the area, as well as a new paper on mortality for unknown reasons, to update the vessel strike analysis. *Id.*

Notwithstanding the fact that Federal Defendants have concluded two rounds of ESA consultation culminating in the 2021 BiOp, and took into consideration these Plaintiffs’ and other ESA 60-day notices of intent to sue (*see* NMFS 17696-33), Plaintiffs still assert that NMFS failed to utilize the best scientific and commercial data available to inform the 2021 BiOp. Doc. No. 88-1 at 24. Plaintiffs misapprehend the ESA Section 7 consultation process and its

⁹ In the 2020 BiOp, NMFS/GAR used the best available scientific information concerning the status of right whales at the time, NMFS 16076-83, including the most recent five-year review. When consultation was reinitiated, NMFS added an analysis of the fisheries resource surveys BOEM proposed to require and updated the entire document with the best scientific information that had become available since completion of the 2020 BiOp.

culminating biological opinion; present a conclusory critique that is not supported by the record; and fail to focus on whether the agencies considered all relevant available information and provided rational explanations to support technical and scientific determinations regarding the impacts of the proposed project on the endangered North Atlantic right whale, specifically.¹⁰ Plaintiffs' arguments lacked merit previously (as presented in their original complaint), and they continue to lack merit now.

1. The 2021 BiOp is based on the best available information concerning the current status of right whales in the action area.

Contrary to Plaintiffs' assertions, Doc. No. 88-1 at 24-28, the record before the Court demonstrates that NMFS accounted for the current status of right whales in an "Action Area" that included the WDA and surrounding areas including vessel routes that may be affected by the Project. NMFS 17220. The BiOp includes a robust account of the status of the North Atlantic right whale in the North Atlantic Ocean, the presence, including densities and distribution, of right whales in the Action Area, and the effects of the Project on the right whale. NMFS 17230-42.¹¹ The fact that right whales may utilize the Action Area as a feeding and/or stopover site is

¹⁰ The BiOp evaluates impacts on many different species, but only the right whale will be referenced in this brief. Plaintiffs apparently concluded the analysis was sufficient for all other endangered and threatened species referenced in their amended complaint, as Plaintiffs' summary judgment brief addresses only right whales. *See* Doc. No. 59 ¶¶ 1, 3, 5, 75. Plaintiffs' claims concerning other threatened and endangered species should be deemed waived.

¹¹ Plaintiffs' memorandum quotes extensively from the Quintana-Rizzo (2021) study, NMFS 53318-35, to support their argument that NMFS/GAR failed to "analytically engage with the 'best scientific data' on the current status of the right whale" in an area described in the study as the Rhode Island/Massachusetts Wind Energy Area ("WEA"). *See* Doc. No. 88-1 at 24-28. Plaintiffs incorrectly assert that NMFS "barely mentions" the Quintana-Rizzo (2021) study in its own BiOp, and incorrectly state that NMFS must "engage with its findings." Doc. No. 88-1 at 25, 28. NMFS cited the study and discussed its results numerous times in the 2021 BiOp, NMFS 17295, 17297, 17362, 17363, 17468, and Transmittal Memorandum. *See, e.g.*, NMFS 17687, 17703 ¶16, 17706 ¶26. Plaintiffs' citations to the Quintana-Rizzo (2021) study do not contradict or undermine any of the 2021 BiOp's conclusions with respect to potential effects of the Project

not in dispute. NMFS 17297 (feeding “during the months of March and April”), 17295, 17703 ¶16 (mean residence time of individual right whales at 13 days).

The 2021 BiOp analyzes a suite of measures including “soft start” procedures¹² imposed as conditions of Project approval to avoid and minimize exposure of ESA-listed whales to pile-driving noise during construction. In total, the IHA authorizing incidental harassment of right whales during project construction for purposes of complying with the MMPA includes “nine overarching mitigation measures related to pile driving.” NMFS 3550.¹³ Taken together, this suite of avoidance measures makes it unlikely that right whales will be in proximity to pile-driving operations when soft start procedures commence. NMFS 17358. NMFS reasonably concluded that it is “extremely unlikely” that a right whale will be exposed to noise that could result in Level A harassment. *Id.*

Whether individual right whales leave the WDA in response to the ramp-up protocols or are incidentally exposed to sound during the pile-driving operations, NMFS explained that “[e]ffects to distribution will be limited to avoiding the area with disturbing levels of noise

on right whales or the sufficiency of the mitigation measures emanating from the COP, BOEM’s conditions of COP approval, and the IHA, or the “reasonable and prudent measures” specified in the ITS to minimize the impacts of any exempted incidental take of right whales.

¹² “Soft start” procedures consist of three single hammer strikes at 40 percent energy, followed by at least a one-minute delay before full energy hammer strikes begin. NMFS 17210. Given pile-driving has to start at some energy level, it is better for listed species to have the initial hammer strikes be at reduced capacity. These procedures are not purposeful harassment or hazing but part of the installation process for the piles. NMFS 17699-17700.

¹³ As analyzed by NMFS, the Project includes: a seasonal restriction on pile-driving to avoid the time of year with the highest densities of right whales in the WDA, NMFS 17352; the use of protected species observers (“PSOs”) to establish clearance zones around the pile-driving equipment to ensure these zones are clear of marine mammals prior to the start of pile-driving, NMFS 17353; and the use of Moored Passive Acoustic Monitoring (“PAM”) systems or autonomous PAM platforms to record ambient noise and marine mammal vocalizations in the lease area to supplement visual observations by PSOs by detecting vocalizing whales, NMFS 17198.

during pile driving. There will be no change to the overall distribution of right whales in the action area or throughout their range.” NMFS 17531. Therefore, NMFS/GAR reasonably concluded that, for each of the 20 right whales to be affected, “the short-term (no more than three hours) exposure to pile driving noise experienced by a single individual is not anticipated to have any lingering effects and is not expected to have any effect on future reproductive output.” *Id.*

Plaintiffs incorrectly suggest that NMFS failed to consider the effects on right whales from the pile-driving, including potential entanglement threats with fixed fishing gear located in Area 537. Doc. No. 88-1 at 28-29 (citing BOEM 194534). The 2021 BiOp includes measures to address any risks from the trap/pot sampling that will occur in Area 537 between May and October for six years as a condition of BOEM’s COP approval for purposes of monitoring Project effects on fishery resources. NMFS 17480. Nevertheless, Plaintiffs suggest that the 2021 BiOp should have specifically analyzed the potential for right whale interaction with fixed fishing gear if they leave the WDA as a result of the “soft start” procedures to minimize the species’ exposure to pile-driving noise during construction. Doc. No. 88-1 at 36.

The “soft start” procedures do not push whales into Area 537 as Plaintiffs allege. Doc. No. 88-1 at 29 (citing BOEM 77411, 194539). Area 537 is a vast zone south of Nantucket and Martha’s Vineyard that includes the WDA.¹⁴ Plaintiffs present no reason to conclude there would be any appreciable difference in exposure to entanglement risk because of the pile-driving, given how the whales are already in this fished area.¹⁵

¹⁴ Area 537 is depicted at <https://www.northeastoceandata.org/AzfKsltQ> (September 7, 2022). It includes the Vineyard Wind project lease, other offshore wind leases, and a large expanse of ocean.

¹⁵ Although Plaintiffs suggest that NMFS should have considered the risk that an individual whale may transit through Area 537 and become entangled in fishing gear in response to the soft start protocols, it would be infeasible to predict the behavioral response of whales with this type

Considering the proposed actions' suite of mitigation measures designed to avoid and minimize the potential interactions with right whales, NMFS/GAR reasonably concluded that pile-driving construction noise, including any noise resulting from "soft start" procedures, is not anticipated to result in injury or death to any right whales. *See* NMFS 17531. BOEM's and the NMFS Office of Protected Resources' ("NMFS/OPR") selection of appropriate mitigation measures among various options, and NMFS/GAR's analysis of them, are exactly the type of administrative actions in which it is appropriate for agencies to bring to bear their extensive expertise. *Balt. Gas & Elec. Co.*, 462 U.S. at 103; *Nat'l Citizens Comm.*, 436 U.S. at 813-14. The Court should defer to NMFS/GAR's determination about the effects of the selected mitigation measures including the ramp-up protocol, which is amply supported by the record. *Selkirk Conservation All. v. Forsgren*, 336 F.3d 944, 955-56 (9th Cir. 2003) (FWS properly relied upon mitigation in conservation agreement in arriving at a "no jeopardy" conclusion).

2. *The 2021 BiOp considers the "2020 Annual Report Card" and the 2020 Marine Mammal Stock Assessment.*

NMFS is intimately familiar with the current status of right whales and has conducted rulemaking on multiple fronts to address the threats posed to the species. *See, e.g., Dist. 4 Lodge of the Int'l Ass'n of Machinists and Aerospace Workers Local Lodge 2017 v. Raimondo*, 40 F.4th 36, 41 (1st Cir. 2022). Plaintiffs incorrectly imply that the 2021 BiOp failed to consider the "2020 Annual Report Card" prepared by the North Atlantic Right Whale Consortium, which

of precision. The 2021 BiOp describes potential right whale responses to acoustic stress in terms of swimming away from a sound source in a direct path, i.e., away from the pile-driving location through area with a radius that extends around the pile-driving location at the center. NMFS 17363. Defendants are unaware of any research or model that would enable NMFS to predict what direction an individual right whale may swim, and Plaintiffs do not cite any particular study that NMFS allegedly overlooked.

indicated the right whale calving interval had increased to 7.6 years. Doc. No. 88-1 at 29. To the contrary, this document was among the new information cited by BOEM in its supplemental biological assessment. NMFS 16639.¹⁶

Plaintiffs also lament the 2021 BiOp's alleged failure to analyze the 2020 Marine Mammal Stock Assessment's data and utilize its estimate of the Potential Biological Removal (PBR) threshold for the right whale. Doc. No. 88-1 at 29-30. *See also* NMFS 33684. Because NMFS/OPR was an action agency in the consultations culminating in the 2020 and 2021 BiOps, NMFS/GAR considered the current PBR level of 0.8 as a "gross indicator of the status of the species and other threats" in the Notice of Issuance of the IHA.¹⁷ NMFS 3529. Plaintiffs fail to provide any basis for concluding that specifically referencing PBR or including it in the BiOp's analysis is necessary to satisfy the ESA's "best available scientific information" standard, or even what analytical benefit would accrue from using it.¹⁸

¹⁶ In addition, the 2021 BiOp specifically stated that "Annual average calving interval was 7 in 2019 and 7.6 in 2020 (Pettis et al. 2020, 2021)." NMFS 17232. Pettis *et al* 2021 is the North Atlantic Right Whale Consortium's 2020 Annual Report Card. NMFS 17598, 70578-70602. While the 2021 BiOp might not have included the ratio of mortalities to births in 2020 reported by the Consortium, it provided more comprehensive and, therefore, more useful information on mortalities, births, and population trends over time. *See, e.g.*, NMFS 17236-17237. Plaintiffs have not indicated whether or why one specific year's ratio is better scientific information than the decades of data and analysis actually used in the 2021 BiOp.

¹⁷ Potential Biological Removal is an MMPA term of art. *See* 16 U.S.C. § 1362(20). Stock Assessments are required by the MMPA, 16 U.S.C. § 1386, and must calculate PBR. *Id.* § 1386(a)(6) ("Each draft stock assessment, based on the best scientific information available, shall...(6) estimate the potential biological removal level for the stock, describing the information used to calculate it, including the recovery factor."). PBR is also an MMPA standard reference point for commercial fishery take reduction plans. *See, e.g.*, 16 U.S.C. § 1387(f)(2) (describing the immediate goal of a take reduction plan is to reduce incidental mortality or serious injury of marine mammals "to levels less than the potential biological removal level established for that stock under section 1386").

¹⁸ Furthermore, the 2021 BiOp also explains that, at the time of its completion, Hayes et al 2021—i.e., the 2020 Marine Mammal Stock Assessment—was the most recent MMPA stock assessment available, but it was based on information through January 2018. NMFS 17234. Instead of using

The 2021 BiOp need not have incorporated PBR, given no right whales were anticipated to be removed from the population. NMFS 17530 (“[W]e expect there to be harassment of 20 different whales. We do not anticipate harassment to result from exposure to any other noise source. No harm, injury, or mortality is expected.”); NMFS 17531 (“We do not expect any serious injury or mortality of any right whale to result from the proposed action. We also do not anticipate fitness consequences to any individual North Atlantic right whales. Because we do not anticipate any reduction in fitness, we do not anticipate any future effects on reproductive success.”). Nevertheless, the 2021 BiOp states, “[t]he species faces a high risk of extinction and the population size is small enough for the death of any individuals to have measurable effects in the projections on its population status, trend, and dynamics.” NMFS 17528. In effect, this sentence states, using a layperson’s language, something similar to the 2020 Stock Assessment’s estimate that PBR is 0.8--that any removal would have serious population impacts. In sum, the 2020 BiOp considered the scientific references cited by Plaintiffs.

3. *The 2021 BiOp analyzes the appropriate “Environmental Baseline”.*

Plaintiffs also suggest that the 2021 BiOp should have assessed how right whales’ increased use of waters south of Martha’s Vineyard and Nantucket will be affected by the construction and operation of multiple offshore wind energy projects in the area.¹⁹ Doc. No. 88-1

only information reviewed through the Stock Assessment process, the 2021 BiOp used even more recent scientific studies, such as Pace 2021, consistent with the requirement to use the best available scientific information. NMFS 17234 n.10.

¹⁹ Plaintiffs incorrectly suggest that the waters south of Martha’s Vineyard and Nantucket Islands are vulnerable because they “do not currently enjoy the protections of a critical habitat designation....” Doc. No. 88-1 at 30. While it is true the area south of the Islands is not designated as “critical habitat”--a term of art under the ESA, *see* 16 U.S.C. § 1532(5)--that does not mean that the 2021 BiOp ignored right whale habitat impacts. To the contrary, the 2021 BiOp analyzes effects on right whale habitat, including on prey, oceanographic conditions, noise, clarity/turbidity, temperature, electromagnetic fields, and more. NMFS 17323-17504. “Harm” is

at 30. As explained in the “Integration and Synthesis of Effects” section of the 2021 BiOp (i.e., the jeopardy analysis), “[i]n this section, we add the Effects of the Action (Section 7) to the Environmental Baseline (Section 6) and the Cumulative Effects (Section 8), while also considering effects in the context of climate change, to formulate the agency’s biological opinion as to whether the proposed action is likely to reduce appreciably the likelihood of both the survival and recovery of a ESA-listed species in the wild by reducing its numbers, reproduction, or distribution.” NMFS 17505. The ESA regulations²⁰ provided, in part, that the “Effects of the Action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur.” 50 C.F.R. § 402.02. The 2021 BiOp explained that “the Vineyard Wind project is not the ‘but for’ cause of any other projects....In addition, the potential projects in other lease areas are not, at this time, reasonably certain to occur....” NMFS 17322.

“The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section

type of take that is defined in the NMFS ESA regulations as an act that “may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including, breeding, spawning, rearing, migrating, feeding or sheltering.” 50 C.F.R. § 222.102; NMFS 17559. The 2021 BiOp concluded that “harm” will not occur. NMFS 17530.

²⁰ The 2021 BiOp was prepared under ESA Section 7 regulations as revised by a 2019 final rule, 84 Fed. Reg. 44,976 (Aug. 27, 2019). Definitions provided here refer to those regulations. The 2019 rule has since been vacated. *Ctr. for Biological Diversity v. Haaland*, No. 19-cv-05206, 2022 WL 244455, --F.Supp.3d-- (N.D. Cal. July 5, 2022) (appeal docketed). However, in issuing the 2021 BiOp, NMFS/GAR expressly confirmed that the 2021 BiOp’s analysis and conclusions would not change under the 50 C.F.R. § 402 regulations as they existed prior to the 2019 final rule. NMFS 17688.

7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process,” whereas “Cumulative effects are those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation.” 50 C.F.R. § 402.02. As a Section 7 consultation is completed on a windfarm, “the effects of the action associated with that project would be considered in the Environmental Baseline for the next one in line for consultation.” NMFS 17292. *See also* NMFS 17688-17689. Thus, the 2021 BiOp need not have analyzed future wind energy projects as effects of the action, part of the environmental baseline, or cumulative effects under consultation. The effects of future Federal actions that will undergo ESA Section 7 consultation later, if and when they occur—such as other wind energy projects in the RI/MA WEA—are not properly included in the jeopardy analysis for the Vineyard Wind project. *See* 51 Fed. Reg. 19,926, 19,933 (June 3, 1986), *cited in Miccosukee Tribe of Indians v. United States*, 566 F.3d 1257, 1269 (11th Cir. 2009).

The 2021 BiOp was also informed by information concerning recent changes in seasonal density of right whales in proximity to the WDA. NMFS 16639.²¹ BOEM’s own biological assessment similarly concluded that impacts to right whales do not increase in number or magnitude as a result of this new density information. NMFS 16639. NMFS/GAR then

²¹ Recognizing that this data represented new information that was deemed the best available information on right whale density in the WDA, NMFS/OPR, for the IHA, “requested that Vineyard Wind re-run the exposure modeling for NARWs using this new density data, for all possible construction scenarios, to confirm whether the incorporation of the new density data would result in a change to modeled exposure numbers.” NMFS 17350. Although the resulting modeled number of harassment takes of right whales was lower under all four potential construction scenarios than previously estimated, NMFS/OPR authorized through the IHA the same number of harassment takes (20), as previously analyzed in the 2020 BiOp, to be conservative in assessing potential impacts of pile-driving considering the potential (albeit still very low in the summer months, as indicated in the density estimates) year-round presence of right whales. *Id.*

considered the IHA and new density estimates in the 2021 BiOp. NMFS 17575.

4. *The 2021 BiOp considers the best available information about the effects of wind turbine operational noise on baleen whales, including right whales.*

The 2021 BiOp considers the best available information on the potential effects of operational noise, including information based on monitoring of existing wind farms in Europe, which indicates that noise levels resulting from older generation wind turbine generators (“WTGs”) usually remain indistinguishable from background noise within a short distance from the source. NMFS 17732. NMFS also considered available modeling information to predict underwater operational noise levels associated with the newer 10 megawatt (“MW”) turbines planned for the Vineyard Wind Project. NMFS 17733.²² Taken together, this information supports NMFS’s conclusion that “[o]perational noise is not expected to impact the distribution of right whales and neither is the existence of the turbine foundations.” NMFS 17531. *See also* NMFS 17709-10 ¶¶ 37, 38.

Plaintiffs suggest that the available information based on previous wind farms with smaller turbines does not adequately support NMFS’s conclusions about the development of “industrial-scale wind farms” with larger turbines. Doc. No. 88-1 at 31-32. Contrary to Plaintiffs’ suggestion that development of wind farms must await further studies involving operational

²² While acknowledging the limitations of available modeling information, NMFS cited two studies, Tougaard et al. (2020) and Stober and Thomsen (2021), for the proposition that operational noise is less than shipping noise. NMFS 17333. “[T]his suggests that in areas with consistent vessel traffic, such as the Vineyard Wind lease area, operational noise may not be detectable above ambient noise.” *Id.* NMFS also cited findings from hydroacoustic monitoring of operational noise from the Block Island Wind Farm (“BIWF”), which utilizes direct-drive technology similar to the WTGs planned for Vineyard Wind. *Id.* “Operational noise from the direct-drive WTGs at the BIWF were generally lower than those observed for older generation WTGs, particularly when weighted by the hearing sensitivity of different marine mammal species.” *Id.*

noise generated by the latest turbine designs, the ESA’s requirement to utilize the “best scientific and commercial data available,” 16 U.S.C. § 1536(a)(2), does not require NMFS to conduct independent studies or await new data.²³

Here, Plaintiffs have identified no other “better” information that NMFS failed to consider. Indeed, the record before the Court confirms that BOEM and NMFS considered the specific studies cited by Plaintiffs, *see* Doc. No. 88-1 at 30-32, concerning potential effects of wind turbine operation noise on whales. NMFS 57139 (Stone and Leiter et al. 2017), NMFS 53319 (Quitana-Rizzo 2021), NMFS 57132-36 (Stober et al. 2021). NMFS utilized the best available scientific information concerning potential effects on right whales resulting from operational noise.

B. The 2021 BiOp includes an appropriate description of baseline conditions with respect to the potential occurrence of right whales in the WDA.

The 2021 BiOp’s description of the environmental baseline was appropriate and lawful. As defined in NMFS’s regulations, “[t]he environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process.” 50 C.F.R. § 402.02. With respect

²³ *E.g., Heartwood, Inc. v. U.S. Forest Serv.*, 380 F.3d 428, 436 (8th Cir. 2004) (“The requirement that agencies use the ‘best scientific and commercial data available,’ . . . does not require an agency to conduct new studies when evidence is available upon which a determination can be made. . . . All that is required of the agencies is to seek out and consider all existing scientific evidence relevant to the decision at hand.”) (citations omitted). Rather, the requirement “merely prohibits the Secretary from disregarding available scientific evidence that is in some way better than the evidence [s]he relies on. Even if the available scientific and commercial data were quite inconclusive, [s]he may--indeed must--still rely on it at that stage.” *City of Las Vegas v. Lujan*, 891 F.2d 927, 933 (D.C. Cir. 1989).

to right whales, the 2021 BiOp summarizes information on ESA-listed large whales in the action area, including the most recent information about the seasonal distribution of right whales. NMFS 17293-302. Contrary to Plaintiffs' assertion that the 2021 BiOp does not adequately describe the importance of the WDA to the right whale, *see* Doc. No. 88-1 at 33, NMFS described the best available information concerning the potential occurrence of right whales in the WDA, including the following: a) NMFS acknowledged that the Vineyard Wind lease area "could be a feeding location for whales that stay in the mid-Atlantic and north during the winter–spring months and a stopover site for whales migrating to and from the calving grounds." NMFS 17295; b) the 2021 BiOp also discusses recent studies that have identified a recent increase in the frequency of observations of right whales in the summer and fall. NMFS 172296-97; c) it also discusses the distribution of right whale zooplankton prey in New England waters. NMFS 17294; d) it also includes an analysis of existing vessel traffic in the action area, NMFS 17405-07, and a description of the expected increase above baseline vessel traffic in the area, NMFS 17407-16; e) the 2021 BiOp also includes a summary of information on the presence of large whales, including right whales, in the action area. NMFS 17293-17297; and f) it also includes a description of other federal, state, and private activities in the action area that may affect right whales and other species of concern. NMFS 17312-21.

With respect to each of these topics, Plaintiffs quibble with the finer points of technical conclusions rendered by NMFS experts in the 2021 BiOp, *see* Doc. No. 88-1 at 33-34, but Plaintiffs cannot credibly assert that NMFS *failed* to consider any of these factors in assessing the baseline condition of the right whale or the effects of the proposed action, and they point to no superior evidence that NMFS failed to consider. *See Bays' Legal Fund v. Browner*, 828 F. Supp. 102, 106 n.7 (D. Mass. 1993) ("plaintiffs never produce any evidence that the data on

which [the agency] relied to prepare its biological studies was inferior in any way.”). The court may reverse an agency’s decision under the “arbitrary and capricious” standard only “if the agency has relied on factors which Congress has not intended it to consider, [has] entirely failed to consider an important aspect of the problem, [or has] offered an explanation for [that] decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.” *State Farm*, 463 U.S. at 4. Plaintiffs have offered no basis for overturning NMFS’s BiOp.²⁴

The facts here are distinguishable from *National Wildlife Federation v. NMFS*, 524 F.3d 917, 936 (9th Cir. 2008) (cited by Plaintiffs at Doc. No. 88-1 at 34), in which a biological opinion concluded that proposed Federal Columbia River Power System dam operations would not jeopardize threatened and endangered salmon populations or adversely modify their critical habitat. In that case, although NMFS determined that proposed operational changes would improve environmental conditions in relation to the existing operational regime, the court concluded that NMFS failed to consider whether the proposed action, which involved continued salmon mortality, would “tip the species into jeopardy.” *Id.* at 929. Here, by contrast, no right whale mortality is anticipated to occur at all, and NMFS has fully explained the basis of its “no jeopardy” determination.

²⁴ As noted above, Plaintiffs also criticize NMFS for failing to discuss the right whale’s current “potential biological removal” limit as described in the recent report card. Doc. No. 88-1 at 34 (citing NMFS 33684 (Hayes et al. 2021) and NMFS 63325 (Davies and Brilliant 2019)). Discussion of the PBR is unnecessary here because no lethal take of right whales is anticipated or authorized. Moreover, both of the documents cited by Plaintiffs are part of the agency record and Hayes et al. was actually authored by NMFS staff. Again, Plaintiffs cannot credibly assert that NMFS entirely failed to consider an important aspect of the problem.

C. The 2021 BiOp reasonably concluded that the project is not likely to jeopardize the continued existence of the right whale.

Contrary to Plaintiffs' suggestion, the fact that an agency action may have adverse effects on a species is not tantamount to saying the action is likely to jeopardize the existence of the species. "Jeopardize the continued existence" means "engag[ing] in an action that reasonably would be expected, directly or indirectly, to reduce *appreciably the likelihood of both the survival and recovery* of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." 50 C.F.R. § 402.02 (emphasis added). ESA Section 7(a)(2) does not require agencies to avoid any adverse effects to listed species, but rather only to ensure that their actions are not likely to jeopardize the existence of a listed species or to destroy or modify its designated critical habitat. 16 U.S.C. § 1536(a)(2).

Plaintiffs incorrectly suggest that NMFS's "no jeopardy" determination concerning the Project somehow conflated the requisite findings of survival and recovery, respectively. Again, NMFS determined that Project construction is likely to result in the incidental harassment of individual right whales and recommended numerous measures to minimize and avoid such harassment. NMFS does not anticipate any lethal take of right whales during the life of the Project. To the contrary, NMFS does not anticipate instances of behavioral harassment to result in fitness consequences to individual North Atlantic right whales. NMFS 17530. Survival of the species is not implicated, as there will not be reductions in right whale reproduction, numbers, or distribution. NMFS 17531.

The 2021 BiOp also includes NMFS's express finding that "[t]he proposed action is not likely to affect the recovery potential of North Atlantic right whales." *Id.* Building on its findings that reduction in reproduction, numbers, or distribution are unlikely, NMFS further reasoned that "[t]he proposed action will not result in any condition that impacts the time it will take to reach

these [recovery] goals or the likelihood that these goals will be met.” *Id.* In sum, NMFS’s determination that the proposed action is not likely to jeopardize the continued existence of right whales is supported by the requisite analysis of effects on both survival and recovery.²⁵

Plaintiffs’ arguments concerning specific alleged deficiencies in the 2021 BiOp’s jeopardy analysis fare no better:

1. The 2021 BiOp considers potential effects of pile-driving noise on right whales.

As explained above, the 2021 BiOp imposes numerous terms and conditions to minimize and avoid exposure of right whales to harmful noise during Project construction. Although the 2021 BiOp concludes that harassment of right whales is reasonably certain to occur, permanent injury to right whales in the form of permanent threshold shift is not anticipated or exempted. NMFS 17528-32. Plaintiffs criticize the inclusion of a “soft start” procedure as part of the planned pile-driving operations. Doc. No. 88-1. Plaintiffs’ assertion that the inclusion of a “soft start” procedure as part of the planned pile-driving operations will itself result in an unauthorized “taking” of right whales ignores the fact that the required mitigation measures make it unlikely for right whales to be present in the areas where pile-driving activities will take place (*see* Section III(A)(2)), and is entirely unsupported by the record or applicable case law.

As noted above, the ESA defines “take” as to “harass, harm, pursue, shoot, wound, kill, trap, capture, or collect” 16 U.S.C. § 1532(19). “Harass” is defined pursuant to a NMFS

²⁵ To the extent Plaintiffs suggest that NMFS’s analysis concerning survival and recovery was inadequate based on the reasoning in *National Wildlife Federation v. NMFS*, 524 F.3d at 930, the facts here are distinguishable. Again, no right whale mortality is anticipated or exempted here, and the BiOp contains an analysis of both survival and recovery unlike in *NWF*. NMFS has sufficiently explained the basis of its determination that any temporary behavioral disruptions resulting from the Project are not reasonably expected to reduce appreciably the likelihood of both the survival and recovery of right whales by reducing the reproduction, numbers, or distribution of that species.

policy directive (available at <https://media.fisheries.noaa.gov/dam-migration/02-110-19.pdf> (last visited Sept. 7, 2022)) as to “create the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering.” *Id.* at 2. “Harm” is defined in the NMFS ESA regulations as an act that “may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including, [sic] breeding, spawning, rearing, migrating, feeding or sheltering.” 50 C.F.R. § 222.102. Based on these definitions of “harass” and “harm,” it does not follow that any activities designed to avoid the harassment or harm is itself a prohibited taking simply because it may elicit a behavioral response from a right whale. To the extent that an individual right whale may be exposed to pile-driving noise and harassed as a consequence of BOEM-authorized pile-driving activities (including the soft start procedures), such incidental harassment is accounted for as part of the authorized harassment of 20 right whales pursuant to the IHA, NMFS 17350, and the BiOp’s ITS. NMFS 17561.

Plaintiffs’ arguments concerning the use of Protected Species Observers and Passive Acoustic Monitoring, Doc. No. 88-1 at 37-42, also lack merit. In fact, NMFS refuted many of Plaintiffs’ specific arguments in its response to Plaintiffs’ comments submitted on NMFS’s incidental harassment authorization pursuant to the MMPA. NMFS 3521-23. The Federal Register notice includes a detailed explanation of the required training and experience required of PSOs. NMFS 3547-48. Among numerous other requirements, “[a]ll observers will be trained in marine mammal identification and behaviors and are required to have no other construction-related tasks while conducting monitoring.” NMFS 3547. In response to Plaintiffs’ comment submitted on the IHA, NMFS responded that “[t]he commenters do not provide any

recommendations regarding additional or different mitigation measures, or specifically explain why they believe the measures are unenforceable.” NMFS 3523.²⁶ NMFS adequately accounted for the limitations of individual mitigation measures, and Plaintiffs have provided no evidence that such acknowledged limitations undermine NMFS’s “no jeopardy” conclusion. Plaintiffs fail to demonstrate that it was arbitrary and capricious for the 2021 BiOp to rely on the use of PSOs among a suite of other mitigation measures to minimize and avoid potential exposure of right whales to pile-driving noise. *State Farm*, 463 U.S. at 43.

Plaintiffs also criticize the BiOp for including exceptions to the requirement to “stop all pile driving when right whales are detected” if necessary to safeguard human safety or the integrity of the pile-driving operation. Doc. No. 88-1 at 38. Contrary to Plaintiffs’ insinuation that the determination to stop all pile-driving is subject to the whim of Vineyard Wind, the Federal Register notice approving the IHA explains in detail the applicable procedure for determining when shutdown is not practicable due to human safety or operational concerns. NMFS 3545. In turn, the 2021 BiOp describes detailed conditions on pile-driving activity that BOEM prescribed as conditions of COP approval in accordance with the NMFS-approved IHA. NMFS 17214, 17355.²⁷

²⁶ As to Plaintiffs’ arguments that an observer cannot accurately detect and identify a right whale beyond 1,500 meters or in poor visibility conditions, Doc. No. 88-1 at 37-38, the BiOp includes RPMs 1 and 4 and associated terms and conditions, NMFS 17565-79, to implement the measures prescribed in the final IHA. Term and condition 4 includes specific requirements to account for the possibility of poor visibility conditions in a manner to maximize detection of a whale in the exclusion or monitoring zone. NMFS 17566. RPM 1 and term and condition 3 together require that any large whale that cannot be identified to species be treated as a right whale for purpose of maintenance of the exclusion zone. NMFS 17574.

²⁷ The BiOp describes the specific requirements for evaluating when shutdown is technically feasible, i.e., the BOEM-prescribed conditions for COP approval in accordance with the NMFS-approved IHA. NMFS 17355. Plaintiffs also fail to note that if shutdown is not feasible, the IHA requires that they reduce hammer energy so pile-driving isn’t so noisy. *See id.* There is also a

As to Plaintiffs' criticism of the provision to continue pile-driving operations beyond sunset, Doc. No. 88-1 at 38, this contingency is addressed in RPM 1, term and condition 4, which limits such operations to circumstances where pile-driving must proceed for human safety or installation feasibility reasons. NMFS 17576. The Court should uphold the BiOp's consideration of the shutdown procedures required as part of the action because the agency has made a rational connection between facts and conclusions while exercising its scientific expertise to determine that the measures that are part of the proposed action will avoid Level A harassment of right whales and minimize Level B harassment of right whales, and that the action is not likely to jeopardize right whales. Plaintiffs again fail to demonstrate that it was arbitrary and capricious for the agencies to consider these provisions as part of the suite of other mitigation measures to avoid and minimize potential exposure of right whales to pile-driving noise. *State Farm*, 463 U.S. at 43.

Plaintiffs also miss the mark with their criticisms of passive acoustic monitoring. Doc. No. 88-1 at 38-40. NMFS/OPR reasonably required PAM coverage up to five kilometers from the pile-driving source during the period of June 1 to October 31 because, as discussed above, this time of year corresponds to the period when right whales are less likely to be in the WDA. NMFS/OPR's decision in the IHA to establish a five-kilometer clearance zone was an increase to the one-kilometer clearance zone that the agency initially proposed as sufficient during this time of year. NMFS 3543. As to Plaintiffs' criticism that PAM may not detect all right whales that swim into the pile-driving area, Plaintiffs overlook the fact that PAM is just one component of the suite of mitigation measures that also includes time of year restrictions and the use of

procedure that must be followed before the restart of pile-driving after marine mammal detections. NMFS 17214.

protected species observers. Plaintiffs' objections to the shutdown protocols to be utilized in the event right whales are detected during pile-driving operations are addressed above.²⁸

NMFS/OPR also addressed comments concerning the sufficiency of PAM procedures in its response to comments submitted on the IHA proposed pursuant to the MMPA. NMFS 3522-23. NMFS/OPR determined that "the mitigation measures in the IHA provide the means of effecting the least practicable adverse impact on marine mammal species or stocks and their habitat. . . ." NMFS 3523. Plaintiffs again fail to demonstrate that it was arbitrary and capricious for NMFS/GAR to consider the use of PAM as part of the suite of other mitigation measures established as conditions of COP approval to minimize and avoid potential exposure of right whales to pile-driving noise. *State Farm*, 463 U.S. at 43.

Plaintiffs criticize NMFS for considering studies that involved species other than right whales. Doc. No. 88-1 at 41-42. However, the parameters used for forecasting behaviors are determined and interpreted from marine species studies where available, or reasonably extrapolated from related species. NMFS 17344. "Because analysis of the relevant documents 'requires a high level of technical expertise,' we must defer to 'the informed discretion of the responsible federal agencies.'" *Marsh*, 490 U.S. at 377 (quoting *Kleppe v. Sierra Club*, 427 U.S. 390, 412 (1976)). Here, NMFS's determinations as to which studies are the "best available" for purposes of forecasting right whale behavior is itself a scientific determination deserving deference. *Ctr. for Biological Diversity v. NMFS*, 977 F.Supp.2d 55, 74-75 (D.P.R. 2013).

²⁸ Engaging in further conjecture, Plaintiffs also question NMFS/GAR's findings about potential behavior disruption of right whales that may temporarily leave the WDA during pile-driving operations. Doc. No. 88-1 at 40-42. As discussed in detail above, the record before the Court supports the agency's conclusion, based on the best available scientific information, that "[e]ffects to distribution will be limited to avoiding the area with disturbing levels of noise during pile-driving. There will be no change to the overall distribution of right whales in the action area or throughout their range." NMFS 17531.

2. The 2021 BiOp considers the effects of project-related vessel strikes.

The 2021 BiOp and the IHA together include a detailed accounting of vessel trips that will be required for Project construction, operation and maintenance, and decommissioning. NMFS 17409-16. For example, during Project construction, the 2021 BiOp estimates that a maximum of 46 vessels could be on-site at any given time, although an average of 25 vessels will be involved in construction activities on any given day, with seven vessels transiting to and from ports each day. NMFS 17414. The 2021 BiOp also identifies the distance between likely ports and the WDA, although some points of origin, including ports in Europe that will be used to ship project components, are currently unknown. NMFS 17411-16.²⁹

The IHA explains the basis of NMFS’s decision to exempt crew transport vessels³⁰ from the 10-knot speed restriction when certain conditions are met. Given the 50–60-mile distance from port to the WDA, traveling at 10 knots or less would take approximately 4.5 to 5 hours each way (9–10 hours total). NMFS 3546. It would be unfeasible for workers to spend 10 hours of a

²⁹ Although Plaintiffs suggest that the number of vessel miles is the better metric (rather than the number of trips) for measuring right whale exposure to vessel strike risk, they provide no scientific or technical basis to support that view, let alone to demonstrate that NMFS’s approach is arbitrary or capricious. *See* Doc. No. 88-1 at 42. Again, Plaintiffs have the burden to cite some evidence that Defendants allegedly ignored. *Bays’ Legal Fund*, 828 F. Supp. at 106. Plaintiffs fail to meet this burden. Moreover, the ESA does not require NMFS to impose conditions (e.g., imposing limitations on vessel miles) that Plaintiffs deem to be the most beneficial to the species. The Act requires only that the action that is taken avoid jeopardy. *Sw. Ctr. for Biological Diversity*, 143 F.3d at 523 (ESA does not require agency to select what the Plaintiffs may deem to be the “best” alternative or the one that would most effectively protect the species from jeopardy).

³⁰ Plaintiffs incorrectly suggest that the number of trips made by crew transfer vessels is “not reveal[ed].” Doc. No. 88-1 at 42. During the period of project construction subject to the IHA, there will be two crew transfer vessels making one round trip per day. NMFS 3526. The 2021 BiOp also describes the number of trips to be made by crew transfer vessels during operations and maintenance. NMFS 17415. The number of trips during decommissioning is estimated to be about 90 percent of those occurring during construction. NMFS 17416.

12-hour workday in transit. *Id.* Moreover, the speed restriction is not the sole mitigation measure to avoid vessel strikes. All Project vessels, including crew transport vessels, are subject to other requirements including training for all vessel observers and captains, monitoring for right whales with PSOs and PAM, maintaining a minimum separation distance, and taking action as necessary to avoid violating the relevant separation distances. NMFS 3546-47. Moreover, as described above, pile-driving construction is limited to the time of year when right whales are less likely to be in the WDA.³¹

In sum, Plaintiffs highlight the limitations of the speed restriction, PSOs, and PAM as if each of these mitigation measures were the only measure adopted to avoid vessel strikes. *See* Doc. No. 88-1 at 42-45. Contrary to Plaintiffs' characterizations, each of these measures should be viewed as part of a suite of conditions that have been established to avoid vessel strikes. The 2021 BiOp further analyzed the potential for vessel strikes over the lifetime of the project and reasonably concluded that it is "extremely unlikely that a project vessel will collide with a whale." NMFS 17428.

Based on the facts here, Plaintiffs' citation to *National Wildlife Federation v. NMFS*, 184

³¹ Plaintiffs incorrectly suggest that NMFS/GAR should have accounted for vessel strike of right whales that may occur during Project construction notwithstanding implementation of mitigation measures including "soft start" pile-driving. As NMFS/OPR explained in its response to Plaintiffs' comment on the proposed IHA, "NMFS analyzed the potential for vessel strikes to occur during construction and determined that vessel strike is unlikely to occur (not that there is no collision threat at all, as suggested by [Plaintiffs]), based on a combination of the low probability of a ship strike generally, and the extensive mitigation and monitoring included." NMFS 3522. Therefore, because NMFS/GAR determined that the suite of mitigation measures is adequately protective to avoid vessel strike during construction activities, NMFS/GAR reasonably decided not to exempt take from vessel strike during that part of the proposed action. It would be unnecessary and inappropriate for NMFS/GAR to authorize incidental take of right whales in a situation, as here, where it has determined that such take is unlikely to occur. *Ariz. Cattle Growers Ass'n v. FWS*, 273 F.3d 1229, 1242 (9th Cir. 2001) ("[I]t is arbitrary and capricious to issue an Incidental Take Statement when the [FWS] has no rational basis to conclude that a take will occur incident to the otherwise lawful activity.").

F. Supp. 3d 861 (D. Or. 2016), is inapposite. In that case, NMFS had previously concluded that the continued existence of a listed species was in jeopardy as a consequence of an agency action under consultation. *Id.* at 870. Under those circumstances, the court reasoned that mitigation measures included in a “reasonable and prudent alternative” to avoid jeopardy had to be sufficiently “specific and binding.” *Id.* at 901-02 (citing *Ctr. for Biological Diversity v. Rumsfeld*, 198 F. Supp. 2d 1139, 1152 (D. Ariz. 2002)). Here, by contrast, the proposed vessel operations are subject to binding mitigation measures that have been incorporated into the COP and are unlikely to result in the taking of individual right whales, much less jeopardize the continued existence of the species.

3. *The 2021 BiOp considers the effects of operational noise on right whales.*

Plaintiffs incorrectly assert that the 2021 BiOp fails to adequately assess the potential to jeopardize right whales as a result of operational noise. Doc. No. 88-1 at 45-46. Here, Plaintiffs largely re-hash their arguments concerning the applicability of available research concerning existing wind projects utilizing smaller WTGs than proposed for the Project. As explained above, the 2021 BiOp’s “no jeopardy” determination is informed by the best available scientific information, which indicates that operational noise may not be detectable above ambient noise in the WDA. NMFS 17333. NMFS/GAR reasonably concluded that “[o]perational noise is not expected to impact the distribution of right whales. . . .” NMFS 17531. And, in any event, there can be no dispute that the measures proposed by NMFS are both specific and binding on the applicant because they have been incorporated as conditions of COP approval. BOEM 77152.

4. *The 2021 BiOp considers the potential for increased stress on right whales due to lost foraging opportunities.*

Plaintiffs incorrectly suggest that the 2021 BiOp did not analyze potential effects on prey abundance within the WDA. The BiOp acknowledges that right whales feed almost exclusively

on copepods, a type of zooplankton, NMFS 17452, and that New England waters are important feeding habitats for right whales. NMFS 17294. The 2021 BiOp assessed potential effects on copepods occurring in right whale critical habitat and concluded that the proposed action will not result in effects to the generation of copepods and will not affect any of the physical or oceanographic conditions that serve to aggregate copepods in critical habitat. NMFS 17229. The BiOp assesses the potential effects of cable installation and operation of the transmission line on the copepods. NMFS 17454, 17460. NMFS also considered how the physical presence of the WTG foundations may affect the distribution, abundance, or availability of copepods. NMFS 17475. NMFS also assessed potential effects of proposed trap/pot and bottom trawl survey activity on copepods. NMFS 17483. Plaintiffs cannot show that NMFS failed to consider potential project effects on copepods. *State Farm*, 463 U.S. at 43.

NMFS adequately explained the basis of its determination that mitigation measures to avoid and minimize potential exposures of right whales to harmful sound will not reduce the right whale's foraging opportunities. As discussed above, "[t]here will be no change to the overall distribution of right whales in the action area or throughout their range." NMFS 17531. NMFS cited a "population consequences of disturbance" model in support of its determination that behavioral responses from exposures to noise above the Level B harassment threshold "are not expected to impact individual animals' health or have effects on individual animals' survival or reproduction." NMFS 17362. It follows logically that behavioral responses resulting from exposures to lower sound levels (for example, during "soft start" procedures) will likewise not impact individual animals' health either. Plaintiffs cannot show that NMFS failed to consider potential project effects on right whale foraging behavior.

5. *The 2021 BiOp considers the potential for entanglement of right whales in fishing gear*

The 2021 BiOp also considered the potential for entanglement of right whales in fixed fishing gear as part of its comprehensive assessment of potential effects of the Vineyard Wind project. The Vineyard Wind COP includes requirements for Vineyard Wind to conduct research to monitor Project impacts on the American lobster, Jonah crab, and black sea bass fisheries by placing groups of six lobster and crab trap/pots at each of 30 sampling stations in the WDA. NMFS 16644; NMFS 17198. Indeed, BOEM reinitiated ESA consultation with NMFS, in part, to assess the effects of these fishery monitoring surveys that were not considered in the 2020 BiOp. NMFS 16641. To assess potential effects on right whales, NMFS considered the time of year when surveys will take place, the relatively small number of traps, the risk reduction measures including the high frequency of which gear will be tended, and gear modifications to reduce risk to right whales. NMFS 17481-82. Based on these considerations, NMFS reasonably concluded that “any effect of this increase to the risk of entanglement considered in the Environmental Baseline will be so small that it cannot be meaningfully measured, evaluated, or detected.” NMFS 17482. Accordingly, no incidental take of right whales is anticipated or exempted in relation to the planned fishery monitoring. *See id.*

As discussed above, the COP establishes a suite of management measures to avoid and minimize potential interactions with right whales during all project phases, including project construction. NMFS reasonably concluded that pile-driving construction noise is not anticipated to result in injury or death to any right whales, including any right whales that leave the WDA in response to “soft start” procedures. *See* NMFS 17531. Plaintiffs have not demonstrated that NMFS failed to adequately account for potential entanglement in fishing gear as part of its determination that the Project is not likely to jeopardize right whales.

6. *The 2021 BiOp includes an integration and synthesis of potential effects on right whales.*

Finally, Plaintiffs fail to show that the 2021 BiOp fails to account for what they characterize as the Project’s “synergistic impacts” on right whales. Doc. No. 88-1 at 48-50. In the section titled “Integration and Synthesis of Effects,” the 2021 BiOp considers the effects of the action together with the environmental baseline and cumulative effects to formulate the agency’s biological opinion as to whether the proposed action is likely to reduce appreciably the likelihood of both the survival and recovery of the right whale and other listed species in the wild by reducing its numbers, reproduction, or distribution (i.e., whether the proposed action will jeopardize the right whale). NMFS 17505. NMFS concluded that “the effects of the proposed action are not expected to cause an appreciable reduction in the likelihood of survival and recovery of North Atlantic right whales in the wild.” NMFS 17532.³² In support of its determination that the Vineyard Wind Project is not likely to jeopardize right whales NMFS considered both the impacts resulting from the Project and the measures necessary to avoid and minimize impacts to right whales. *See* NMFS 17528. NMFS’s “no jeopardy” determination is owed particular deference because NMFS is the agency charged by Congress with the authority to administer the ESA. *See Nat’l Wildlife Fed. v. Coleman*, 529 F.2d 359, 375 (5th Cir. 1976).

D. BOEM Reasonably Relied on the 2021 BiOp.

In addition to challenging the merits of NMFS’s decision to issue the 2021 BiOp, *see* Doc. No. 59 (First Amended Complaint), Second and Third Claims for Relief, ¶¶ 71-76, Plaintiffs also challenge BOEM’s decision to rely on the 2021 BiOp to satisfy the ESA’s

³² Plaintiffs’ citation to *National Wildlife Federation v. NMFS*, 184 F.Supp.3d 861, with respect to an alleged obligation for NMFS to analyze the effects of the action in relation to recovery abundance levels, *see* Doc. No. 88-1 at 49, is again misplaced given the facts are distinguishable. *See supra* at p. 32.

substantive requirement to avoid jeopardizing right whales in connection with its decision to approve the Vineyard Wind COP. *Id.* ¶¶ 75-76. BOEM’s July 15, 2021 decision to approve the Vineyard Wind COP is expressly conditioned on the applicant’s approval with all terms and conditions of the 2021 BiOp. BOEM 0077152 (“Activities authorized herein will be subject to any terms and conditions and reasonable and prudent measures resulting from a BOEM-reinitiated consultation for the Project’s BiOp.”). BOEM affirmed that the COP approval letter incorporates the terms and conditions of the 2021 BiOp pursuant to the ESA consultation regulations, 50 C.F.R. § 402.15(a): “Because the activities authorized under BOEM’s COP approval—including the monitoring surveys—are subject to the terms and conditions and reasonable and prudent measures found in the 2021 BiOp, no further action is required in order for Vineyard Wind to proceed with construction and operation of the Project.” BOEM 0077788.

In light of the 2021 BiOp’s determination that the Vineyard Wind Project, including the mitigation measures in the COP, those proposed by BOEM, and those considered in the IHA, is not likely to jeopardize right whales, Plaintiffs must demonstrate that: 1) NMFS’s “no jeopardy” determination is arbitrary and capricious; and 2) BOEM unreasonably relied on this finding in approving the COP. *See Pyramid Lake Paiute Tribe of Indians v. U.S. Dep’t of the Navy*, 898 F.2d 1410, 1415 (9th Cir. 1990) (action agency’s reliance on biological opinion will satisfy obligation under ESA if the challenging party cannot point to “new information” that the consulting agency did not take into account). For the reasons set forth above, the 2021 BiOp is fully supported by the record, and BOEM reasonably relied on this biological opinion.

IV. The FEIS fully complied with NEPA.

BOEM complied with NEPA in evaluating the potential environmental impacts of the Vineyard Wind Project. The requirements of NEPA are procedural in nature, and the Court’s role in reviewing a NEPA analysis is “narrow in scope.” *Geer v. Fed. Highway Admin.*, 975 F. Supp.

47, 58-59 (D. Mass. 1997). The Court should “assure itself that the agency has given good faith consideration to the environmental consequences of its actions and should not pass judgment on the balance struck by the agency among competing concerns.” *Id.* (quoting *Grazing Fields v. Goldschmidt*, 626 F.2d 1068, 1072 (1st Cir. 1980)). The FEIS meets this standard.

A. The EIS appropriately analyzes impacts to air quality and greenhouse gas emissions.

The EIS contains a thorough analysis of the potential impacts of the Vineyard Wind Project on air quality and greenhouse gas (“GHG”) emissions. That analysis is contained in Appendix A of the FEIS, BOEM_0068843-61, and draft analyses were circulated for review in the Draft EIS (“DEIS”), BOEM_0034765-74, and the Supplemental DEIS (“SDEIS”), BOEM_57151-61. Emissions associated with project activities, particularly during the construction phase, will impact air quality, but those impacts are expected to be minor. BOEM_0068848-53. Once the project is operational, it will benefit air quality by reducing emissions from power plants using fossil fuels. BOEM_0068852-53. Similarly, the project will have a beneficial impact on GHG emissions. *Id.* Plaintiffs’ critiques of the analysis in the EIS are without merit.

1. The EIS does not improperly relegate information to non-NEPA documents.

Plaintiffs first assert that the EIS relegated key information to non-NEPA documents that were not available during the public comment period. They are mistaken. As to the non-NEPA document point, the FEIS contains specific figures regarding the emission of Clean Air Act (“CAA”) criteria pollutants, such as carbon monoxide, sulfur dioxide, particulate matter smaller than 10 microns, particulate matter smaller than 2.5 microns, nitrogen oxide, ozone, and lead. BOEM_0068850-52. The FEIS also puts these figures in context, explaining that the emissions will be highest during the construction and decommissioning phases and be caused mainly by

onshore and offshore vehicle traffic and emissions from construction equipment.

BOEM_0068850. The assertion that BOEM left this analysis out of the FEIS is incorrect.

Plaintiffs also are incorrect that data on criteria pollutants was unavailable to the public during the public comment period. The specific data regarding criteria pollutants were not set forth in the DEIS itself, but instead were contained in the draft COP, which is directly referenced in the DEIS. BOEM_0034767. The Federal Register notice announcing the availability of the DEIS for public review expressly referred to the availability of the draft COP on BOEM's website. BOEM_0034694. The public comment period on the DEIS took place from December 7, 2018, to February 22, 2019. BOEM_0069180. During that timeframe, the March 2018 version of the COP was available on BOEM's website, and it includes a report (the "Epsilon report") containing emissions data regarding criteria pollutants. BOEM_0009792, -9903-85.³³ Vineyard Wind submitted a subsequent version of the COP to BOEM in October 2018, BOEM_0033662, and that was also available on BOEM's website during this time-period and contained the same report. BOEM_0015335-402. Therefore, the public had the opportunity to review and provide comments regarding BOEM's analysis of emissions data in the DEIS. Moreover, emissions data were included in the SDEIS, BOEM_0057153-55, thus providing the public with an additional opportunity to review and comment on the emissions data during the public comment period on the SDEIS, which commenced on June 12, 2020. BOEM_0069181.

To the extent Plaintiffs, nevertheless, would argue that BOEM violated NEPA by not putting all of the information in the Epsilon report in the text of the EIS, Plaintiffs are mistaken. For purposes of NEPA, it was sufficient to analyze the information contained in the Epsilon

³³ In their brief, Plaintiffs cite a December 2017 version of the COP, BOEM_0001361-2346, which was not posted to BOEM's website.

report and refer the reader to the report itself, as long as the report was made publicly available, which it was. *See Trout Unlimited v. Morton*, 509 F.2d 1276, 1284 (1974); *see also* 40 C.F.R. § 1502.21 (2019) (agencies may “incorporate material into an [EIS] by reference,” as long as such material is “reasonably available for inspection by potentially interested persons”); *Jones v. Nat’l Marine Fisheries Serv.*, 741 F.3d 989, 998 (9th Cir. 2013) (upholding an environmental assessment which cited publicly available data); *Town of Norfolk v. U.S. EPA*, 761 F. Supp. 867, 877-79 (D. Mass. 1991) (upholding an EIS that incorporated by reference environmental reports).

Plaintiffs’ reliance on *Kern v. U.S. Bureau of Land Management*, 284 F.3d 1062 (9th Cir. 2002), is misplaced. The issue in *Kern* was whether it was appropriate for the agency to tier to a prior guidance document that had not gone through the NEPA process. *Id.* at 1073; *see also* 40 C.F.R. § 1502.20 (in certain circumstances, an agency may tier to a prior NEPA analysis without the necessity of repeating that prior analysis). The problem in *Kern* was that the agency attempted to tier, not to a NEPA document, but a guidance document that had never gone through a NEPA process. *See* 284 F.3d at 1073. This holding is irrelevant here because the EIS does not tier to a prior non-NEPA document. Instead, the EIS contains an extensive analysis of air quality and refers to a report that was available for public review and comment during the NEPA process.³⁴

2. The FEIS properly analyzes impacts to air quality and GHG emissions.

The FEIS appropriately analyzes the direct and indirect effects of the project on air quality and GHG emissions. As discussed directly above, Plaintiffs are simply incorrect that the

³⁴ *Highway J Citizens Group v. U.S. Department of Transportation*, 656 F. Supp. 2d 868 (E.D. Wis. 2009), likewise provides no support to Plaintiffs’ arguments. The court held that an agency must set forth its analysis in an EIS for public review. *Id.* at 887. BOEM did so here.

FEIS did not disclose data regarding the emission of criteria pollutants, such as carbon monoxide, sulfur dioxide, and particulate matter. The FEIS does so. BOEM_0068850-52. The FEIS also states that emissions from the project are not expected to cause pollution levels to exceed the EPA's National Ambient Air Quality Standards ("NAAQS"). BOEM_0068850; *see also* BOEM_0068843-44 (explaining the NAAQS). Plaintiffs also claim that the FEIS did not analyze the indirect effects on emissions, such as "vehicle emissions from employees associated with the Project." Doc. No. 89 at 45. But the FEIS does account for such emissions. It states, for example, that "[p]rimary emission sources would be increased commercial traffic, air traffic, public vehicular traffic, combustion emissions from construction equipment, and some fugitive emissions." BOEM_0068850; *see also* BOEM_68858-59. Plaintiffs have not identified emissions from any project-related activity that were not considered in the FEIS. Moreover, given that any impacts from emissions are expected to be minor, BOEM_0068849-50, BOEM's analysis and discussion of emissions was reasonable. *See* 40 C.F.R. § 1502.2(b) ("Impacts shall be discussed in proportion to their significance.").

Plaintiffs also overlook the FEIS's discussion of the Project's potential beneficial impacts on air quality. The FEIS explains that constructing an 800-MW wind energy facility is expected to improve air quality due to reduction in emissions from energy generation. BOEM_0068850. BOEM evaluated these potential benefits using the EPA's Avoided Emissions and Generation Tool ("AVERT"), and calculated the annual avoided emissions to be equivalent to "the emissions generated by 213,348 passenger vehicles in a year." *Id.* This would have health benefits as well, potentially resulting in savings of up to \$27,185,112 in health care costs. BOEM_0068851. Thus, the FEIS does analyze the indirect effects on emissions, and contrary to Plaintiffs' narrative, these effects are expected to be beneficial.

Plaintiffs' argument with respect to GHG emissions is likewise off base. The FEIS explains that GHG emissions associated with the project are expected to be minimal and therefore have a negligible impact on climate change. BOEM_0068852. Further, during the operational phase of the project, any emissions would be more than offset by the substantial savings in GHG emissions gained from using wind energy instead of fossil fuel-based energy sources. BOEM_0068852-53. Plaintiffs are incorrect that this analysis does not consider the emissions from existing energy sources in making these calculations. To the contrary, the AVERT model used "information about the historical patterns of power generation throughout the year to evaluate the potential for emissions avoided on an hourly basis throughout the year in a specific region." BOEM_0068850. Based on this model, the EIS calculates that once the project is operational, it would avoid emissions of 1,608,740 tons of carbon dioxide annually. BOEM_0068851. This would result in a minor benefit in terms of reducing GHG emissions. BOEM_0068853. Accordingly, the EIS's analysis of GHG emissions complies with NEPA.

B. The FEIS demonstrates that BOEM took a "hard look" at potential impacts to North Atlantic right whales.

In contending that BOEM failed to adequately analyze impacts to right whales, Plaintiffs reprise the same flawed complaints they raised with respect to the BiOp. Like their challenges to the BiOp, Plaintiffs' criticisms of the FEIS are belied by the FEIS's extensive analysis of effects on marine mammals, including right whales. Indeed, the FEIS dedicates more than 30 pages to potential impacts to marine mammals. The scope and substance of that analysis reflects the immense time and effort that BOEM and NMFS invested in their consultation concerning right whales, and confirms that BOEM took a hard look at the Project's potential impacts.

1. Baseline conditions

Plaintiffs first attempt to import an ESA concept, contending that the FEIS does not

adequately describe baseline conditions of right whales and their habitat. Doc. No. 88-1 at 46. Even assuming Plaintiffs had demonstrated that NEPA requires such analysis (they have not),³⁵ the FEIS does describe baseline conditions of marine mammals that are known to inhabit or migrate through the relevant region, including right whales.

That analysis is set forth in section 3.4.1 of the FEIS, which addresses the impact on marine mammals of the “No Action Alternative”—i.e., the current and reasonably projected conditions of marine mammals in the absence of any effects from the Vineyard Wind project. *See* BOEM_0068571-88. Additional baseline conditions are further discussed in Table 3.4-1. BOEM_0069020-31. Those analyses address the very baseline conditions Plaintiffs claim were omitted.

For instance, the FEIS observes that right whales have suffered elevated rates of mortality since 2017. BOEM_0068573. And, citing several studies, it describes factors that currently “threaten[] the very survival of th[e] species,” including fishery-related entanglements and vessel strikes. BOEM_0068573. Contrary to Plaintiffs’ assertion that BOEM failed to address right whale prey abundance, the FEIS also discusses primary prey sources and abundance for baleen whales generally, and for right whales specifically. BOEM_0068573. Likewise, notwithstanding Plaintiffs’ claim to the contrary, the FEIS discusses the impact of commercial fishing activities on right whales, observing that entanglement is a “leading cause[] of mortality” for right whales, that frequency varies by marine mammal density and fishing intensity, and that “the distribution of fishing effort may change” in response to the presence of offshore wind facilities in the Outer

³⁵ As Plaintiffs’ own cited case explains, in the NEPA context “[a] baseline is not an independent legal requirement, but rather, a practical requirement in environmental analysis often employed to identify the environmental consequences of a proposed agency action.” *Am. Rivers v. FERC*, 201 F.3d 1186, 1195 (9th Cir. 1999).

Continental Shelf. BOEM_0068575-6; *see also* BOEM_0068586 (further discussing potential effects of wind structures on recreational and commercial fishing). Plaintiffs also accuse the FEIS of silence regarding ambient underwater noise. But the FEIS’s “No Action Alternative” analysis dedicates nearly six pages to marine mammal hearing and the effects of noise, including ambient noise from operational wind turbine generators. BOEM_0068577-83; BOEM_0068581 (discussing operational ambient noise).

The remaining supposed deficiencies that Plaintiffs identify fare no better. Plaintiffs offer no support for the argument that BOEM was required to specifically state that right whales have a “potential biological removal” (“PBR”) limit of 0.8, nor explain why it was inadequate for BOEM to instead describe the species’ current conditions by stating that its “very survival” is “threaten[ed].” BOEM_0068573. And Plaintiffs similarly fail to support their argument that NEPA requires BOEM to discuss what Plaintiffs deem “the importance” of one specific area of the Outer Continental Shelf—NMFS Statistical Area 537. Finally, Plaintiffs acknowledge that the FEIS addresses vessel traffic and related risks, but complain that it should also have addressed the density of traffic in the specific transit routes that vessels will use for the Project. None of these alleged deficiencies raise a serious question about whether BOEM took the requisite hard look at impacts to right whales, and Plaintiffs do not even attempt to meet their burden to show otherwise. NEPA does not require an agency to “engage in the most exhaustive environmental analysis theoretically possible[.]” *Nw. Env’tl. Advocates v. Nat’l Marine Fisheries Serv.*, 460 F.3d 1125, 1139 (9th Cir. 2006). And courts should not seize on alleged deficiencies, such as those here, “that are mere ‘flyspecks.’” *New Mexico ex rel. Richardson v. Bureau of Land Mgmt.*, 565 F.3d 683, 704 (10th Cir. 2009).

2. Vessel strikes

Plaintiffs similarly attempt to fly speck the FEIS’s consideration of vessel strikes. They

admit that the FEIS analyzed the risk of vessel strikes, including “the number, type, size, speed trip frequency of vessels needed for the Project,” but contend that the FEIS is inadequate because “it does not calculate the number of vessel *miles* required for the construction, operation, and decommissioning of Project.” Doc. No. 88-1 at 47 (emphasis added). Plaintiffs claim that this is a problem because the number of vessel miles is a “key metric,” but they do not cite a single study or expert opinion relying on vessel miles or identifying it as an important metric. *Id.* The same is true of their claim that the FEIS should have quantified the number of vessel trips that might cross what Plaintiffs identify as “right whale ‘hotspots’”—a proposition for which they again offer no record or other support. *Id.* Similarly, Plaintiffs offer no record support for the premise that the soft start procedures—which are intended to mitigate potential harm from pile-driving activities—will result in harassment (or in Plaintiffs’ words, “hazing”) of right whales, much less for the proposition that the FEIS should have addressed the risk of vessel strikes in Plaintiffs’ theoretical scenario. *Id.*

Contrary to Plaintiffs’ assertions, the record confirms that BOEM took a hard look at the risk of vessel strikes. In fact, the FEIS analyzed those risks at length: it identifies vessel strikes as a significant source of right whale mortality, addresses the current risks of vessel strikes, and analyzes the risks of increased vessel traffic under the various alternatives.³⁶

3. Fishing gear entanglement

Plaintiffs next argue that the FEIS fails to adequately analyze the risks of fishing gear entanglement associated with the Project’s ventless trap surveys, which will be used to monitor

³⁶ See BOEM_0068573 (identifying vessel strikes as factor threatening survival of species); BOEM_0068587-88 (discussing increased vessel traffic under the “No Action Alternative”); BOEM_0068597-98 (discussing risk of increased vessel traffic under Alternative A); BOEM_0068603 (discussing vessel-related risks under the Preferred Alternative).

and assess lobster and crab resources. Doc. No. 88-1 at 47. Plaintiffs are incorrect. The FEIS addresses those concerns and requires that the ventless trap surveys employ mitigation measures “to alleviate concerns relative to North Atlantic right whales (NARWs).” BOEM_0069201. Specifically, the traps must “use weak-link technology to minimize whale entanglement and no sampling will occur between November and early May, when NARWs may be in the area.” *Id.*

Plaintiffs also contend that the FEIS should have addressed the possibility that the project’s soft start protocols, could push whales into heavily-fished waters. But Plaintiffs’ speculation ignores that the entire lease area is within Area 537, and that the numerous mitigation measures make it unlikely that whales would be present in the WDA during pile-driving. Plaintiffs have not provided any ground on which the court could conclude that the FEIS’s discussion of fishing entanglement risks (*see* BOEM_0068575-6; BOEM_0068586) is arbitrary or capricious.

4. Pile-driving noise

Plaintiffs also assert that the FEIS failed to adequately analyze the potential impacts of pile-driving noise on right whales. Doc. No. 88-1 at 47. But Plaintiffs ignore numerous mitigation measures designed to minimize noise impacts to right whales and other marine mammals, including the requirement that no pile-driving activities occur between January 1 and April 30—the season when right whales are most abundant in New England waters. BOEM_0068592. The FEIS also identifies and analyzes numerous other mitigation measures including, noise attenuation and verification requirements, as well as enhanced time-of-year pile-driving shutdown and restart procedures that apply from May 1 to May 14 and November 1 to December 31. Those time-of-year procedures generally require pile-driving activities to stop upon detection of a right whale and to remain shut down until specific conditions are met. BOEM_0069202-06 (describing 12 different mitigation measures related to pile-driving).

Plaintiffs do not meaningfully engage with this suite of avoidance measures, which together are designed to mitigate or avoid harm to right whales from pile-driving.

Further, there is no record support for Plaintiffs' contention that two other mitigation measures—protected species observers and passive acoustic monitoring— will be ineffective. Plaintiffs are free to disagree with the conclusions that BOEM and NMFS reached about the effectiveness of PSOs and PAMs, but that disagreement does not render the agencies' analysis arbitrary or capricious. *Lovgren v. Locke*, 701 F.3d 5, 38 (1st Cir. 2012) (plaintiffs' disagreement with agency conclusion "is not a basis for deeming it invalid"); *Town of Norfolk*, 761 F. Supp. at 891.

5. Foraging habitat

Plaintiffs claim incorrectly that the FEIS did not assess right whale foraging habitat in the WDA. Doc. No. 88-1 at 48. In fact, as described above, the FEIS discusses prey sources and abundance for right whales, and describes seasonal and other factors that affect right whale prey abundance in the shelf waters of New England, including the WDA. BOEM_0068573. It also assessed how the presence of turbine foundations might affect marine mammal prey. BOEM_0068586, BOEM_0068602.

Plaintiffs further assume, without support, that right whales will lose access to important foraging habitat in the WDA for the entirety of the Project's two-year construction, and then criticize the FEIS for not analyzing the impact of that assumed loss of foraging opportunity. As explained above, that assumption is contradicted by NMFS's analysis in the BiOp, which concluded that "[t]here will be no change to the overall distribution of right whales in the action area or throughout their range." NMFS 17531. The same is true of Plaintiffs' unsupported theory that right whales will forage in other areas where they could be exposed to heightened risks of entanglement or vessel strikes. Because the record contradicts Plaintiffs' theories, they have not

established that the analysis in the FEIS was arbitrary or capricious.

6. Operational noise

Plaintiffs are also wrong that the FEIS failed to analyze operational noise impacts. The FEIS assessed the degree to which underwater noise from operational WTGs will be audible to marine mammals. And it concluded that marine mammals will be able to hear continuous noise, but that the sound will be “at or below ambient levels at relatively short distances (164 feet [50 meters]) from the foundations.” BOEM_0068592. The FEIS therefore determined that WTG operational noise would have non-measurable negligible impacts. *Id.* The FEIS includes a similar analysis of other foreseeable future wind projects. BOEM_0068581. It also assessed cumulative effects of operational noise from ongoing and planned actions, including the Project, and concluded that, while the cumulative impacts would span “a greater spatial scale,” the effects, if any, “are expected to be negligible overall” because operational turbine noise is expected to be “similar to ambient levels within a short distance . . . of the WTG bases.” BOEM_0069023. That analysis confirms that BOEM considered and disclosed the possible effects of operational noise.

7. Mitigation measures

Plaintiffs next take issue with some of the FEIS’s mitigation measures, contending that the vessel speed limits, protected species observers and passive acoustic monitoring will be ineffective. Doc. No. 88-1 at 48-49. But NEPA does not require effective mitigation measures; it requires agencies to consider and disclose environmental consequences of a proposed action. *Food & Water Watch Inc. v. U.S. Army Corps of Eng’rs*, 570 F. Supp. 2d 177, 184 (D. Mass. 2008). Regardless, the record supports the FEIS’s discussion of the mitigation measures Plaintiffs highlight (as well as the others discussed in the FEIS). In particular, BOEM considered NMFS/GAR’s BiOp, which concluded based on NMFS’s expertise that the design and implementation of the Project, including these mitigation measures, were sufficient to protect

right whales from unacceptable impacts. *See supra* Section III. D. It was not arbitrary or capricious for the FEIS to credit that expertise, and Plaintiffs offer no basis for concluding otherwise.

8. Cumulative impacts

Finally, Plaintiffs claim that the FEIS failed to address the cumulative impacts of other planned offshore wind projects on right whales. Doc. No. 88-1 at 49. That is incorrect. The FEIS's Appendix A details BOEM's cumulative impacts methodology. BOEM_0068796. As it explains, the FEIS's main body addresses cumulative impacts for each resources for which BOEM determined the Project might impose greater than minor impacts, while Appendix A addresses the resources for which the Project's potential impacts are expected to be minor. *Id.* Accordingly, the cumulative impacts for marine mammals, including right whales, are discussed in the FEIS at Volume I, chapter 3. In particular, in the No Action Alternative, the FEIS analyzes at length the potential effects of future offshore wind activities on marine mammals, including right whales. BOEM_0068576-88. The FEIS then discusses the additional cumulative impacts of each alternative. *See* BOEM_0068589 (explaining that the impacts analysis in the No Action Alternative, which included future wind activities, applies to the impacts analysis); *see also* BOEM_0068602 (comparing effects of the various alternatives considered in the FEIS "when combined with other planned actions"). The cumulative analysis is further described in Table 3.4-1, which summarizes the various relevant activities and their associated impacts on marine mammals in three scenarios: current ongoing activities, future offshore wind-related activities, and Vineyard Wind project-related activities. BOEM_0069020-31. That table also includes a "conclusion" column that synthesizes the cumulative impact analysis for each relevant activity. *Id.* The FEIS therefore confirms that BOEM took a hard look at the cumulative impacts of the Project on right whales.

CONCLUSION

BOEM's and NMFS/GAR's determinations and analyses concerning the Vineyard Wind Project were rational and are fully supported by the respective administrative records. Plaintiffs fail to carry their burden to show that the agencies' actions were arbitrary, capricious, or contrary to law. Therefore, Federal Defendants respectfully request that this Court grant their cross-motion for summary judgment as to all claims asserted in Plaintiffs' Amended Complaint, Doc. No. 59.³⁷ In the alternative, if the Court finds any legal deficiency, the Court should exercise its discretion to remand the agency decisions without vacatur given that any errors would be minor and could be easily mended without altering the ultimate decision, and that the equities and public interest would favor allowing this Project to proceed. *Cent. Maine Power Co. v. FERC*, 252 F.3d 34, 48 (1st Cir. 2001) (citing *Allied-Signal, Inc. v. U.S. Nuclear Regulatory Comm'n*, 988 F.2d 146, 150–51 (D.C. Cir. 1993)). To the extent there is any doubt on this score, Federal Defendants request that the Court provide an opportunity for arguments as to any appropriate remedy.³⁸

³⁷ Plaintiffs' summary judgment brief does not address several claims asserted in their First Amended Complaint, i.e., Doc. No. 59 ¶¶ 68-69, 72-73, and 75-76. Those claims should be deemed waived. *Grenier v. Cyanamid Plastics, Inc.*, 70 F.3d 667, 678 (1st Cir. 1995).

³⁸ A court's decision to remand without vacatur "depends *inter alia* on the severity of the errors, the likelihood that they can be mended without altering the order, and on the balance of equities and public interest considerations." *Central Maine Power Co.*, 252 F.3d at 48 (citing *Int'l Union, United Mine Workers of Am. v. Fed. Mine Safety & Health Admin.*, 920 F.2d 960, 966–67 (D.C.Cir.1990)).

Date: September 8, 2022

Of Counsel:

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Respectfully submitted,

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Counsel for the United States

CERTIFICATE OF SERVICE

Pursuant to Local Rule 5.2, I hereby certify that a true copy of the foregoing FEDERAL DEFENDANTS' MEMORANDUM IN OPPOSITION TO PLAINTIFFS' MOTION FOR SUMMARY JUDGMENT, AND IN SUPPORT OF CROSS-MOTION was served upon the attorney of record for each other party by the CM/ECF electronic filing system on September 8, 2022.

/s/ Mark Arthur Brown
Mark Arthur Brown

From: [Annatoyn, Travis J](#)
To: [Vorkoper, Stephen R](#); [Meléndez-Arreaga, Pedro F](#); [Hawbecker, Karen S](#)
Cc: [Ottman, Noel D](#)
Subject: RE: [EXTERNAL] FW: South Fork Wind Intervention in Kinsella v. BOEM
Date: Thursday, November 3, 2022 3:26:15 PM

(b)(5)

From: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Sent: Thursday, November 3, 2022 3:25 PM
To: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>
Cc: Ottman, Noel D <noel.ottman@sol.doi.gov>
Subject: FW: [EXTERNAL] FW: South Fork Wind Intervention in Kinsella v. BOEM

Travis, Pedro, Karen,

(b)(5)

Stephen Vorkoper | Attorney-advisor
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Telephone (202) 208-3441

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From: Stoner, Amanda (ENRD) <Amanda.Stoner@usdoj.gov>
Sent: Thursday, November 3, 2022 3:18 PM
To: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Ottman, Noel D <noel.ottman@sol.doi.gov>
Subject: [EXTERNAL] FW: South Fork Wind Intervention in Kinsella v. BOEM

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Hi Stephen,

Just checking (b)(5) .

Thanks,

Amanda

From: Stacey.VanBelleghem@lw.com <Stacey.VanBelleghem@lw.com>

Sent: Thursday, November 3, 2022 3:17 PM

To: Stoner, Amanda (ENRD) <Amanda.Stoner@usdoj.gov>

Cc: Janice.Schneider@lw.com

Subject: [EXTERNAL] South Fork Wind Intervention in Kinsella v. BOEM

Amanda,

South Fork Wind intends to move to intervene in Kinsella v. BOEM. We spoke with Mr. Kinsella, who will not oppose. Please let us know the Federal Defendants' position on our motion to intervene.

Best,
Stacey

Stacey L. VanBelleghem

Pronouns: she/her/hers

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From: [Meléndez-Arreaga, Pedro F](#)
To: [Annatoyn, Travis J](#); [Vorkoper, Stephen R](#)
Subject: Re: [EXTERNAL] Intervention in South Fork Kinsella TRO Case
Date: Friday, November 4, 2022 10:48:33 AM
Attachments: [image001.png](#)

The message was conveyed. (b)(5)

[REDACTED]

Pedro Melendez-Arreaga
Lead Attorney-Advisor
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Office of the Solicitor
Department of the Interior

From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Sent: Friday, November 4, 2022 10:28 AM
To: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Subject: RE: [EXTERNAL] Intervention in South Fork Kinsella TRO Case

(b)(5)

[REDACTED]

From: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Friday, November 4, 2022 10:22 AM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Subject: Re: [EXTERNAL] Intervention in South Fork Kinsella TRO Case

Stephen tells me that (b)(5)

[REDACTED]

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Sent: Friday, November 4, 2022 10:14 AM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Subject: Re: [EXTERNAL] Intervention in South Fork Kinsella TRO Case

FYI - talked to Stephen and he is talking to Amanda about (b)(5).

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>

Sent: Friday, November 4, 2022 10:13 AM

To: Charles R. Scott <CHSCO@orsted.com>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>

Subject: RE: [EXTERNAL] Intervention in South Fork Kinsella TRO Case

Hi Charley:

I'll track this down. Thanks.

From: Charles R. Scott <CHSCO@orsted.com>

Sent: Friday, November 4, 2022 9:39 AM

To: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>

Subject: [EXTERNAL] Intervention in South Fork Kinsella TRO Case

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Hi Pedro and Travis,

With apologies for the urgency, I am writing to raise a concern about the pending Kinsella D.D.C. lawsuit challenging BOEM's (and EPA's) approvals for the South Fork project. Since we have discussed your interactions with DOJ on South Fork litigation in the past, I hope you do not mind my raising this concern with you directly.

We (South Fork Wind, LLC) intend to file a motion to intervene—and lodge papers in opposition to the plaintiff's request for a TRO—today. We would like to style the intervention motion as unopposed, and have already secured the plaintiff's response that he will not oppose it. But the DOJ lawyer informed our external counsel (Latham & Watkins, as you know) last night that the Federal defendants will oppose our intervention as of right, albeit take no position on our intervention pursuant to Fed. R. Civ. P. 24(b).

I believe this is a departure from past DOJ practice of taking no position on intervention as of right. It is certainly inconsistent with the position the federal defendants have taken in all of the Federal litigation over offshore wind projects this year and last, in which intervention by the applicant has never been opposed. I am writing to respectfully request that BOEM reconsider this change in approach, for two

reasons.

First, we are poised to begin the horizontal directional drilling activities that the TRO seeks to stop as early as today. (We hope have a more conclusive statement of the start date in the papers we file.) If a TRO is granted because the applicant has not been allowed to present information to the court, we will incur not only substantial costs but also potentially knock-on delays that slow down other aspects of project construction. It is a tight schedule, and it is critical work.

Second, as I think Pedro and I may have discussed, the plaintiff here—and his arguments—are well known to us. Many of those arguments should not be directed at Federal agencies in the first place, but are rather a matter for state courts (where he still has two pending lawsuits). With all due respect to DOJ, given the claims that are beyond its clients' purview, we think we are in a better position to address a number of the plaintiff's arguments, and to reassure the court that they have already been considered and rejected by agencies and courts of competent jurisdiction.

I would be happy to get on a call to discuss with you further. And you should certainly confer with Latham directly, if you prefer. But, to reiterate, I would very respectfully request that BOEM (and EPA) agree to take no position on South Fork Wind, LLC's intervention as of right in this case.

Thank you.

-Charley

Best regards,
Charles R. Scott
Head of Legal
Offshore North America



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From: [Annatoyn, Travis J](#)
To: [Charles R. Scott](#)
Cc: [Meléndez-Arreaga, Pedro F](#)
Subject: RE: [EXTERNAL] Intervention in South Fork Kinsella TRO Case
Date: Friday, November 4, 2022 2:59:32 PM
Attachments: [image001.png](#)

Hi Charley:

I gather this issue is no more, but happy to chat if you hear otherwise. If not, hope you enjoy your weekend.

Travis Annatoyn
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From: Charles R. Scott <CHSCO@orsted.com>
Sent: Friday, November 4, 2022 10:29 AM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Cc: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: RE: [EXTERNAL] Intervention in South Fork Kinsella TRO Case

Thank you very much for the quick response, Travis.

Digging a little bit into recent practice, I see that DOJ has recently opposed intervention by industry groups in cases involving challenges to broad regulatory schemes. So, perhaps there is not yet an understanding at DOJ that this is a very different case, where the applicant seeks to intervene merely to defend discrete permits it has received—putting aside the issue that these claims should not be brought in Federal court, anyway.

-Charley

Best regards,
Charles R. Scott
Head of Legal
Offshore North America

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From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Sent: Friday, November 4, 2022 10:14 AM
To: Charles R. Scott <CHSCO@orsted.com>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: RE: [EXTERNAL] Intervention in South Fork Kinsella TRO Case

Hi Charley:

I'll track this down. Thanks.

From: Charles R. Scott <CHSCO@orsted.com>

Sent: Friday, November 4, 2022 9:39 AM

To: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>

Subject: [EXTERNAL] Intervention in South Fork Kinsella TRO Case

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Hi Pedro and Travis,

With apologies for the urgency, I am writing to raise a concern about the pending Kinsella D.D.C. lawsuit challenging BOEM's (and EPA's) approvals for the South Fork project. Since we have discussed your interactions with DOJ on South Fork litigation in the past, I hope you do not mind my raising this concern with you directly.

We (South Fork Wind, LLC) intend to file a motion to intervene—and lodge papers in opposition to the plaintiff's request for a TRO—today. We would like to style the intervention motion as unopposed, and have already secured the plaintiff's response that he will not oppose it. But the DOJ lawyer informed our external counsel (Latham & Watkins, as you know) last night that the Federal defendants will oppose our intervention as of right, albeit take no position on our intervention pursuant to Fed. R. Civ. P. 24(b).

I believe this is a departure from past DOJ practice of taking no position on intervention as of right. It is certainly inconsistent with the position the federal defendants have taken in all of the Federal litigation over offshore wind projects this year and last, in which intervention by the applicant has never been opposed. I am writing to respectfully request that BOEM reconsider this change in approach, for two reasons.

First, we are poised to begin the horizontal directional drilling activities that the TRO seeks to stop as early as today. (We hope have a more conclusive statement of the start date in the papers we file.) If a TRO is granted because the applicant has not been allowed to present information to the court, we will incur not only substantial costs but also potentially knock-on delays that slow down other aspects of project construction. It is a tight schedule, and it is critical work.

Second, as I think Pedro and I may have discussed, the plaintiff here—and his arguments—are well known to us. Many of those arguments should not be directed at Federal agencies in the first place, but are rather a matter for state courts (where he still has two pending lawsuits). With all due respect to DOJ, given the claims that are beyond its clients' purview, we think we are in a better position to address a number of the plaintiff's arguments, and to reassure the court that they have already been considered and rejected by agencies and courts of competent jurisdiction.

I would be happy to get on a call to discuss with you further. And you should certainly confer with Latham directly, if you prefer. But, to reiterate, I would very respectfully request that BOEM (and EPA) agree to take no position on South Fork Wind, LLC's intervention as of right in this case.

Thank you.

-Charley

Best regards,
Charles R. Scott
Head of Legal
Offshore North America



399 Boylston Street
12th Floor
Boston, MA 02116
(617) 373-0749
chsco@orsted.com

From: [Annatoyn, Travis J](#)
To: [Vorkoper, Stephen R](#)
Cc: [Meléndez-Arreaga, Pedro F](#); [Hawbecker, Karen S](#)
Subject: RE: [EXTERNAL] Vineyard Wind - Air emissions
Date: Friday, November 4, 2022 5:09:15 PM

Hi Stephen:

Thanks for this. You and Luke have a better grasp of the weeds than do I—I think you’ve canvassed almost all of the relevant factual material—so maybe I’ll just offer some high level thoughts, in no particular order:

(b)(5) [Redacted]

Thanks for the very good thinking here. It’s impressive. Looking forward to reading the final product.

From: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Sent: Wednesday, November 2, 2022 11:25 AM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Cc: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>
Subject: FW: [EXTERNAL] Vineyard Wind - Air emissions

Travis,

You might recall (b)(5) [Redacted]

(b)(5)

[Redacted]

[Redacted]

. If you think differently, let me know.

Thanks,
Stephen

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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From: Vorkoper, Stephen R
Sent: Tuesday, November 1, 2022 5:12 PM
To: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Cc: Ellis, Angela (ENRD) <Angela.Ellis@usdoj.gov>
Subject: RE: [EXTERNAL] Vineyard Wind - Air emissions

Luke,

[I drafted the message below, but the attachment size prevented its delivery. What is described below as the third attachment (i.e., the EPA’s Statement of Basis) is too big to send. I’m sending the first two attachments and the fourth one here, and what is described as the third attachment is BOEM_0050091. If you’re confused about what attachment goes with what point, just let me know.]

I’m still thinking about the (b)(5) [Redacted] of the argument, but I wanted to get

back to you on the other (b)(5) [redacted].

(b)(5) [redacted]

- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]

(b)(5) [Redacted text block]

[Redacted section header]

- [Redacted list item 1]
[Redacted list item 2]

[Redacted section header]

- [Redacted list item 1]
[Redacted list item 2]

(b)(5) [Redacted]

- [Redacted]
- [Redacted]

I'm happy to chat about any of these points.

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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From: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>
Sent: Friday, October 28, 2022 5:01 PM
To: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Cc: Ellis, Angela (ENRD) <Angela.Ellis@usdoj.gov>
Subject: RE: [EXTERNAL] Vineyard Wind - Air emissions

Stephen, (b)(5) [Redacted] If so, they may be helpful.

From: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Sent: Wednesday, October 26, 2022 2:19 PM
To: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Cc: Ellis, Angela (ENRD) <Angela.Ellis@usdoj.gov>
Subject: RE: [EXTERNAL] Vineyard Wind - Air emissions

Thanks, Luke. I will try to have more considered thoughts within the next couple of days.

Just off the cuff, a couple of quick reactions:

- (b)(5) [Redacted]
- [Redacted]

(b)(5)

[Redacted text block containing multiple paragraphs and two bullet points, all obscured by black bars.]

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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From: luke.hajek_contact <luke.hajek@usdoj.gov>
Sent: Wednesday, October 26, 2022 11:39 AM
To: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Cc: Ellis, Angela (ENRD) <Angela.Ellis@usdoj.gov>

Subject: [EXTERNAL] Vineyard Wind - Air emissions

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Stephen and Pedro,

(b)(5) [Redacted text block]

[Redacted text block]

[Redacted text block]. So let me know if you have thoughts on this.

(b)(5) [Redacted text block]

[Redacted text block]. In any event, any thoughts you have on this argument would be appreciated.

Thanks,
Luke

Luke Hajek
U.S. Department of Justice
(303) 241-0826

From: [Annatoyn, Travis J](#)
To: [Meléndez-Arreaga, Pedro F](#); [Vorkoper, Stephen R](#)
Subject: FW: [EXTERNAL] Offshore Wind "Consultation": Theater of the Absurd
Date: Tuesday, November 15, 2022 2:23:09 PM
Attachments: [SouthFork_11_14_22_FINALwAttachments.pdf](#)
[ATT00001.htm](#)

This is the first threat of litigation I have received that includes a small screenplay.

Pending your feedback, (b)(5)

[REDACTED]
[REDACTED]
[REDACTED] How does that sound to you?

From: Lefton, Amanda B <Amanda.Lefton@boem.gov>
Sent: Tuesday, November 15, 2022 1:23 PM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Subject: FW: [EXTERNAL] Offshore Wind "Consultation": Theater of the Absurd

Not sure who they sent this too.

From: Marion Werkheiser <marion@culturalheritagepartners.com>
Sent: Tuesday, November 15, 2022 1:16 PM
To: Stokely, Sarah C <Sarah.Stokely@boem.gov>; William J. Cook <will@culturalheritagepartners.com>; Greg Werkheiser <greg@culturalheritagepartners.com>
Subject: [EXTERNAL] Offshore Wind "Consultation": Theater of the Absurd

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Greetings,

We are legal counsel for the historic American communities and leading preservation organizations that submit these comments on the South Fork wind development. We have 75 cumulative years of experience working with the National Historic Preservation Act (NHPA) Section 106 and National Environmental Policy Act (NEPA) review processes. We've worked with hundreds of local governments, community preservation groups, and Tribal Nations, and other consulting parties. We have taught these laws at some of the nation's foremost law schools and universities, and we have delivered countless trainings to project developers, local preservation commissions, Tribal Nations, and state and federal agency officials on how to conduct and participate in meaningful consultation. We have lobbied Congress successfully for increased funding for federal agencies, state historic

preservation officers, and tribal historic preservation officers to conduct effective consultation, and we have provided regulatory comments on dozens of federal regulations, policies, and guidance documents with the goal of improving Section 106 and NEPA. We have also litigated when parties seek to water down or pay lip service to these vital federal laws. **We believe in the Section 106 review process and have dedicated our careers to helping it work as Congress intended: to balance preservation values and development goals. And yet we have NEVER seen a more dysfunctional process than the one BOEM has imposed on historic communities and Tribal Nations for the launch of the offshore wind industry in the United States.**

Please take a moment to read the attached comments and encourage BOEM to remedy their failed consultation before it becomes the flawed template for every offshore wind development on the permitting dashboard— with severe consequences not just for the cultural heritage of the United States but for the very wind energy developments the industry and BOEM think they are advancing.

Best regards,

Marion Werkheiser, Greg Werkheiser, and Will Cook
Attorneys at Law



MEMORANDUM

TO: Sarah Stokely, Bureau of Ocean Energy Management (BOEM)

FROM: Town of New Shoreham (Block Island), Southeast Lighthouse Foundation, City of Newport, Newport Restoration Foundation, Preservation Society of Newport County, and Salve Regina University, by counsel, Cultural Heritage Partners, PLLC: Marion Werkheiser, William Cook, and Greg Werkheiser, Attorneys at Law

CC: The Honorable Deb Haaland, Secretary of the Interior; Amanda Lefton, Director, BOEM; Robert Anderson, Solicitor, Department of the Interior; Jordan Tannenbaum, Chris Daniel, Chris Koeppel, Reid Nelson, and Jamie Loichinger, Advisory Council on Historic Preservation (ACHP); Kathy Schlegel, National Park Service; Christine Harada, Federal Permitting Improvement Steering Council; Jeffrey Emidy, Rhode Island State Historic Preservation Officer; Brona Simon, Massachusetts State Historic Preservation Officer; Daniel McKay, New York State Historic Preservation Officer; Chairman Rodney Butler, Mashantucket Pequot Tribal Nation; Councilman and Tribal Historic Preservation Officer David Weeden, Mashpee Wampanoag Tribe; Chairwoman Cheryl Andrews-Maltais and Tribal Historic Preservation Officer Bettina Washington, Wampanoag Tribe of Gay Head (Aquinnah); John Brown, Narragansett Tribe; Erin Paden, Delaware Nation; Samantha Skenandore, Counsel for the Chappaquiddick Tribe; Lance Gumbs, Tribal Ambassador for the Shinnecock Nation and Vice President of the National Congress of American Indians for the Northeast Region; Kitcki Carroll, Executive Director of the United South and Eastern Tribes; Pam Gasner, Block Island Historical Society; Janice Schneider and Stacey VanBelleghem, Counsel for Ørsted

RE: Inappropriateness of South Fork Historic Preservation Treatment Plans / Repeated Failures in Consultation

DATE: November 14, 2022

INTRODUCTION

Legal Counsel for the historic American communities that submit these comments have 75 cumulative years of experience working with the National Historic Preservation Act (NHPA) Section 106 and National Environmental Policy Act (NEPA) review processes. We've worked with hundreds of local governments, community preservation groups, and Tribal Nations, and other consulting parties. We have taught these laws at some of the nation's foremost law schools and universities, and we have delivered countless trainings to project developers, local

preservation commissions, Tribal Nations, and state and federal agency officials on how to conduct and participate in meaningful consultation. We have lobbied Congress successfully for increased funding for federal agencies, state historic preservation officers, and tribal historic preservation officers to conduct effective consultation, and we have provided regulatory comments on dozens of federal regulations, policies, and guidance documents with the goal of improving Section 106 and NEPA. We have also litigated when parties seek to water down or pay lip service to these vital federal laws. **We believe in the Section 106 review process and have dedicated our careers to helping it work as Congress intended: to balance preservation values and development goals. And yet we have NEVER seen a more dysfunctional process than the one BOEM has imposed on historic communities and Tribal Nations for the launch of the offshore wind industry in the United States.**

At every juncture, BOEM has failed to listen to or consider the concerns of historic communities and Tribal Nations and has repeatedly substituted the judgment of industry consultants who have never even visited the affected communities for the judgment of the actual experts on the historic properties that these industrial-scale wind farm development will adversely affect. Instead of engaging in the give and take that is the hallmark of good faith consultation, BOEM has ignored community concerns and is imposing its will on local governments in an authoritarian manner that is the antithesis of what Congress intended.

We are therefore disappointed, but not surprised, to learn that BOEM sees no value in the Advisory Council on Historic Preservation (ACHP) recommendation that another meeting to discuss our clients' concerns regarding the Historic Preservation Treatment Plans (HPTPs) would be productive. We appreciate that at least BOEM is no longer pretending to care about our clients' concerns and is finally admitting that the agency just doesn't want to hear what impacted communities have to say.

Truly, this permitting review has become a theater of the absurd. As it now seems inevitable that this whole fiasco will be examined closely by courts, the public, the media, and other stakeholders who will just be coming up to speed, we will keep with the theater theme here for just a few pages—to illustrate the sad comedy of our present situation:

The Scene

Imagine...Block Island and Newport operate a historic movie house. This is not just any theater; it is among the world's most famous and popular. It is special because it is one of the only places in the world that shows the feature, "Pristine Atlantic Ocean Viewshed" (the Movie). The stars of the picture are sunrise and sunset, and hundreds of historic buildings and beachheads comprise the theater seats.

Humans have been coming to the theater to watch the Movie for 15,000 years. Tens of millions of people have traveled from around the globe to enjoy the film. Generations of families have built their homes and lived their entire lives in the communities around the theater. The community's robust economy is dominated by the theater. The great majority of the town's workers are employed at jobs related to the production; they collect the tickets, make the popcorn, escort visitors of all ages to their seats, clean the aisles, repair

the cushions and the curtains, and otherwise host a five-star world-performance every day.

The entire nation is proud of the theater, so much so that it has designated the theater as among its most cherished and significant places. Congress has passed laws to ensure that the world may continue to enjoy the Movie for years to come. Federal agencies are charged with looking out for threats to the character of theater, in balance with development. It is true: because of climate change the theater parking lot floods regularly and the HVAC system is working extra hard to keep visitors cool. But the community prides itself on its willingness to be part of solutions that balance future needs with the history and culture that define the Town's character and enhance the human experience.

The Script

Ørsted: Hello. We plan to invite 12 people to stand in front of your movie screen, facing the audience. They will wave their arms. Continuously. Every minute your visitors are watching the Movie. For the next 30 years. Also, they are 3 times taller than the Statue of Liberty. They will wear jackets proudly bearing the name South Fork.

Town: Uh...that sounds like it might be harmful. Our whole economy is based on the Movie, and most of our residents rely on the Movie to support their families. Even as little as a 10% reduction in theater ticket sales will cost our community \$834 million over the next 30 years. Can we talk about this?

Ørsted: No. Without our very tall people waving their arms for decades in this exact theater blocking your visitors' views of the Movie, we will ALL DIE from rising seas. You should be thanking us. We are heroes. You're welcome.

Town: So, sacrificing our community identity and economy is the *only* way to save the earth?

Ørsted: Oh, yes! Well, the only way that also earns the most billions of dollars for the government of Denmark and our Danish company, which is bigger than the entire economy of Rhode Island.

Town: Who are those additional 212 people wearing Ørsted jackets standing by the Entrance sign?

Ørsted: Who? Oh, pay them no mind. You see, they are wearing Orsted jackets bearing the names "Revolution" and "Sunrise," which are totally different words than "South Fork," So, clearly, they are unrelated to this present non-discussion we are having with you – move along.

Town: But we can *see* them waiting right there. Aren't they, too, going to stand at the front of our theater and wave their arms for thirty years? Aren't they taller than the South Fork 12? In fact, aren't they going to completely surround the South Fork 12, and so

shouldn't we talk about how soon there will be hundreds of arm-wavers disrupting the Movie?

Ørsted: No, thank you. Also, moviegoers will *love* our hundreds of 70-story high arm wavers standing in front of the screen blocking the Movie. We definitely are not threatening you with the loss of hundreds of millions in ticket sales, and jobs, and property values, and the loss of your identity as the hosts of the Movie. In fact, even *more* people will come to see the Movie featuring these cool new interruptions – trust us!

Town: BOEM? NPS? Aren't you supposed to be helping Americans achieve balance between development and heritage preservation, not forcing us into a false choice between climate change and heritage preservation?

BOEM/NPS: Uh...what Ørsted says.

Town: ACHP?

ACHP: Ah, well, there will definitely be significant harms, but let's just go ahead and agree to agree that at some point in the future we'll talk about it and almost certainly agree on the appropriate steps to mitigate those harms, whatever they are, you know, down the road.

Town: That doesn't sound like the way meaningful consultation is supposed to work.

ACHP: Well, it's not, but the process will get better over time, we are quite sure. Pass the popcorn.

BOEM: OK, guess what? We've checked with Ørsted and their paid consultants, who have never actually been to your Town, and they insist that what you simple townfolk need as balanced mitigation for us risking your Town's character and economy is...a brochure that talks about how your parking lot is flooded. Those generous consultants will even allow Ørsted to pay them to design your brochure.

Town: Are you kidding us? For thirty years of adverse impacts on our primary economy and character, you are telling us we need a brochure? We know mitigation isn't always exactly proportional, but doesn't meaningful consultation require at least some semblance of balance between the harms you are doing and the mitigation you provide?

BOEM: Yes! Here's the balance: we are going to celebrate with Ørsted as they post earnings that are up more than [300% just last quarter](#), and as balance, you get a cool brochure!

Ørsted: Oh, wait, that's not all! We'll even throw in a few bucks to develop an exhibit inside the theater by the popcorn machine about how special the Movie used to be and how your whole character and economy have evolved around it to be the pride of the nation.

Town: We already have a brochure. And we already have such an exhibit. We've had them for years, actually. They are right here, look!

BOEM/ Ørsted: We don't believe you.

Town: Wait, what? OK, then why don't you come visit our community for the first time and see for yourselves how absurdly patronizing, insulting, and inadequate these proposals are? Ørsted, the wind company you purchased actually helped to pay for the very exhibit you forgot exists. Community experts who have lived near and worked at the theater for their entire lives have prepared a list of the *actual* mitigation items that would be helpful to us over the next decades.

BOEM/Ørsted: That's nice. If you don't mind, we'd rather pretend that you have not told us that you already have a brochure and exhibit. Also, even if you show us ten more times, we are just going to keep insisting we cannot see them, OK? Also, we are never going to explain to you how we determined that a brochure and exhibit you already have are appropriate mitigation for thirty years of adverse impacts on one of America's most treasured historic places and viewsheds. It's just so obvious we needn't bother.

Town: We get you are under political pressure, but this seems to be setting a very bad precedent, which you will just point to every time you want to put more waving people in our theater, and in the theaters in our sister historic communities, and in the traditional places of Tribal Nations. ACHP said to just trust that this process would get better and lead to real results, whenever we try to talk to you you put your fingers in your ears and exclaim "We can't hear you while we are saving the world!"

BOEM/Ørsted: You will accept the brochure. And, also, an exhibit next to the popcorn machine: the one about how awesome you once were.

ACHP: Sorry, we just woke up—catching a nap back row seats. What's going on? Did we miss anything?

End Scene

###

INAPPROPRIATE MITIGATION: DETAILED, AGAIN

Ms. Stokely’s email dated November 4, 2022 continues the pattern of gaslighting the South Fork consulting parties by insisting they have failed to do their part in providing information that demonstrates the inappropriateness of the mitigation being forced on them by BOEM and Ørsted.

Before we provide these details, yet again, consider the following table containing a non-exhaustive list of more than two dozen times in which the South Fork consulting parties have explicitly advised BOEM and Ørsted that the mitigation they are forcing on the parties fails in one or more of 7 ways:

1. lacks explanation of any methodology by which the proposed mitigation was determined to be appropriate to resolve adverse effects;
2. is duplicative of work already completed by the consulting parties;
3. is irrelevant to the anticipated harms;
4. is so vastly unbalanced when weighed against the anticipated harms as to be clear evidence of the meaningless of the consultation to date;
5. is not feasible in light of BOEM’s failure to even speak to the property-owners on whom they are foisting projects to seek their input and consent as required by law;
6. is otherwise unwanted by the community; and
7. is inconsistent with the communities’ real and relevant mitigation needs, which needs have been conveyed in great detail and yet have been met with silence.

| | | |
|-----------|---|---|
| 2.8.2021 | Submitted formal comments regarding South Fork Cumulative Historic Resources Visual Effects Analysis (CHRVEA) | Noted CHRVEA’s failure to include numerous adversely affected historic properties and the absence of explanation of methodology. |
| 2.9.2021 | BOEM Public Meeting on South Fork Wind | Attended to ensure same points made. |
| 2.11.2021 | Public Hearing on South Fork Wind on Draft Environmental Impact Statement (DEIS) | Attended to ensure same points made. |
| 2.16.2021 | BOEM Public Meeting on South Fork Wind | Attended to ensure same points made. |
| 2.22.2021 | Submitted comments regarding South Fork DEIS | Identified importance of the community identifying its own mitigation needs and the appropriateness of a genuine community benefit agreement and offshore wind mitigation funds to allow flexibility in offsetting South Fork’s adverse effects over the lifetime of the project, |

| | | |
|-----------|--|--|
| | | instead of forcing the communities into projects up front when the harms are not fully revealed. |
| 3.11.2021 | Section 106 Consulting Party Meeting | Requested additional and more accurate visual simulations so that consulting parties and public could understand adverse effects, and requested an update on (the lack of) efforts to consider impacts of National Historic Landmarks as required by the Section 110(f) process. |
| 3.31.2021 | Submitted Comments on Updated Technical Reports | Again, pointed out the inadequacy of historic property identification (numerous adversely affected properties still absent) and unmet need to set forth a logical approach to avoid, minimize, and mitigate adverse effects. |
| 6.1.2021 | Submitted Comments to BOEM on Finding of Adverse Effect | Noted inadequacy of BOEM's Finding of Adverse Effect and premature Memorandum of Agreement (MOA) templates because of BOEM's failure to consider all adversely affected historic properties; suggested again that BOEM consider community-defined mitigation funds as the appropriate way to resolve adverse effects instead of duplicative and unneeded projects proposed by consultants who have never been to the affected communities (which ideas read like a continued-employment-plan for the consultants). |
| 6.29.2021 | Section 106 Consulting Party Meeting | Attended to ensure same points made. |
| 8.31.2021 | Section 106 Consulting Party Meeting | Attended to ensure same points made. |
| 9.20.2021 | Submitted Objection to Final Environmental Impact Statement (FEIS) | Noted continued inadequacy of visualizations, which preclude meaningful consultation and the utter absence of a meaningful cumulative effects analysis. |
| 9.20.2021 | Submitted Section 106 Comments regarding Finding of Effect and Draft MOA | Requested mitigation fund to meaningfully offset adverse effects to historic properties. |
| 9.22.2021 | South Fork NHL Consultation | Attended to ensure same points made. |
| 11.8.2021 | Submitted comments regarding South Fork MOA | Again, pointed out meaningless nature of Ørsted - proposed mitigation and lack of nexus between proposed mitigation and adverse effects; likewise requested mitigation fund as an appropriate mechanism to offset |

| | | |
|------------|--|---|
| | | adverse effects to historic properties, including rationale for doing so, in contrast to absence of rationale for scheme proposed by BOEM. |
| 1.7.2022 | Submitted comments regarding South Fork MOA | Provided detailed redlines, including BOEM’s failure to include the City of Newport as an impacted party, as well as irrelevant, duplicative, and inadequate proposed mitigation proposals, which BOEM submitted without input from consulting parties. (BOEM simply ignored the parties’ redlines—never responded.) |
| 11.16.2021 | Written appeal to the ACHP, copying consulting parties, asking the agency to decline to sign the illegal MOA | <p>Asked the ACHP to hold BOEM accountable and decline to sign off on the MOA because:</p> <ul style="list-style-type: none"> • BOEM has not adequately identified or assessed adverse effects on historic properties, and yet is jumping to mitigation; • BOEM has not complied with Section 110(f)’s requirement to use all possible planning to minimize harm to NHLs; • BOEM has failed to adequately consider cumulative effects on historic resources, especially with respect to Newport, which BOEM has unfairly excluded; • BOEM is allowing Ørsted to illegally segment its three projects (South Fork, Revolution, and Sunrise), giving South Fork a pass because of its relatively small size (12 turbines), even though Ørsted plans to wrap an additional 200+ turbines around South Fork in its next two projects; • BOEM’s proposed mitigation is ridiculously inadequate for the projected 25+ years of impacts the projects will have on cultural resources; • BOEM’s (really, Ørsted’s) proposed mitigation does not reflect community input; in fact, the consulting parties have expressed that they do not need or want what they are being told they will get; • BOEM took 48 hours to consider our clients’ lengthy feedback on the latest draft and is now giving parties eight calendar days to sign; indeed, • BOEM’s staff have openly admitted “[they] don’t have the time to comply with Section 106 and 110(f).” <p>ACHP’s reply, in effect, “Yeah, this is concerning but it will get better later.” [It hasn’t, of course, it’s gotten worse].</p> |
| 1.25.2022 | South Fork Wind 1 st HPTP Consultation Meeting | Pointed out inadequacy of BOEM/Ørsted proposed mitigation and improper use of unresolved HPTPs; noted failure of BOEM and developer to visit Block Island historic properties and their continued refusal to |

| | | |
|-----------|---|---|
| | | communicate directly with Block Island parties concerning inadequacy of proposed mitigation. |
| 2.24.2022 | Submitted comments regarding Southeast Lighthouse HPTP | Pointed out inadequacy of existing mitigation and improper use of unresolved HPTPs; noted failure of BOEM and developer to visit Block Island historic properties and their continued refusal to communicate directly with Block Island parties concerning inadequacy of proposed mitigation. |
| 3.18.2022 | South Fork Wind 2 nd HPTP Consultation Meeting | Explained, again and with even greater detail, the communities' request for appropriate mitigation fund designed to offset adverse effects of South Fork Wind to historic properties, as well as inadequacy of proposed mitigation that is either meaningless, not requested, already completed, or not needed. Neither BOEM nor South Fork provided a response. The parties again repeatedly asked BOEM and South Fork for any justification for why the mitigation measures they propose are appropriate for the level of adverse effects; both BOEM and South Fork declined to answer. |
| 5.17.2022 | Submitted comments regarding Southeast Lighthouse Final HPTP Comments | Pointed out South Fork's lack of communication and unwillingness to discuss alternatives with SELF, as well as refusal to consult on Town's proposed mitigation fund proposal, as well as inadequacy of proposed mitigation that is either meaningless, not requested, already completed, or not needed. |
| 5.24.2022 | Submitted comments regarding Town of New Shoreham Final HPTPs | Pointed out South Fork's lack of communication and unwillingness to discuss alternatives with the Town, as well as refusal to consult on Town's proposed mitigation fund proposal, as well as inadequacy of proposed mitigation that is either meaningless, not requested, already completed, or not needed. |
| 6.10.2022 | BOEM Meeting to Discuss Disagreements with HPTPs | Pointed out South Fork's lack of communication, as well as refusal to consult directly on Town of New Shoreham's and Southeast Lighthouse Foundation's mitigation fund proposals, as well as inadequacy of proposed mitigation measures that are either meaningless, not requested, already completed, or not needed. |
| 7.11.2022 | South Fork HPTPs Disagreement Discussion with ACHP | Pointed out to ACHP inappropriate use of unresolved HPTPs to conclude the Section 106 process, as well as BOEM's refusal to consider mitigation fund proposals designed to offset adverse effects to historic properties, as well as inadequacy of proposed mitigation measures that are either meaningless, not requested, already completed, or not needed. |
| 7.18.2022 | Request to BOEM for Supplemental | Pointed out how BOEM has failed to consider new information for Revolution Wind and Sunrise Wind for |

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| | Environmental Impact Statement (SEIS) | purposes of South Fork’s EIS, even though such information is needed for South Fork’s cumulative effects analysis. |
| 8.3.2022 | Met with Amanda Lefton, Director, BOEM, and BOEM’s Senior Leadership | Pointed out pattern of repeated failures of BOEM with NEPA and Section 106 process, including failure to consider cumulative effects, and refusal to consider appropriate mitigation including mitigation funds designed to offset adverse effects to historic properties – and instead insisting on irrelevant, unneeded, duplicative, and wholly inadequate projects. |

Here we explain, again, why the random assortment of Ørsted-consultant contrived mitigation proposals have no value to the affected communities.

Southeast Lighthouse

Section 4.1: Coastal resilience plan. BOEM and Ørsted insist that SELF needs a coastal resilience plan, repeatedly ignoring that SELF already has a plan, having thoroughly identified current and foreseeable hazards and extensively documented and photographed existing deteriorating conditions. As the attached photographs make clear, the Lighthouse sits on a fragile, eroding bluff. SELF plainly already understands the need to move the Lighthouse (again) and the need to secure substantial funding to do so. Indeed, SELF has worked for many years in concert with preservationists across Rhode Island and the region to review scientific data regarding coastal erosion (see, for example, the Keeping History Above Water symposia). SELF has obtained estimates for the cost of the move of the Lighthouse (\$7 million) and provided this estimate to BOEM in our memo of March 14, 2022. SELF does not need to hire consultants to duplicate the work SELF leadership and staff have already and continue to perform. What would be meaningful is funding to actually support the next move of the Lighthouse, as SELF has made clear. *See attached photographs of cliff erosion.*

Sec. 4.2: NHL Interpretation and Education: Exhibits on cliff erosion. BOEM and Ørsted absurdly and repeatedly insist that SELF would find great value in an exhibit on cliff erosion. SELF already has such an exhibit, obvious to anyone who actually visited the Lighthouse. SELF opened a public museum of Block Island’s maritime history, housed in newly restored lighthouse keepers’ quarters, in the summer of 2021. This museum already includes exhibits on cliff erosion and the 1993 move of the Lighthouse. The guided tour of the Lighthouse, too, focuses in depth on the threat of cliff erosion. In addition, the museum includes exhibits on the offshore wind industry, previously funded by Deepwater Wind (purchased by Ørsted) as part of the Block Island Wind Farm mitigation settlement. SELF does *not* need even more exhibits on cliff erosion, which in any event is self-evident to anyone visiting the Southeast Lighthouse. *See attached photographs of exhibits.*

Section 4.3: Cyclical maintenance plan. BOEM and Ørsted patronizingly insist that SELF needs cyclical maintenance plan. It already has one. SELF is a responsible steward of a National Historic Landmark that fulfills its fiduciary duties to the organization’s mission, the preservation of the Lighthouse. As SELF’s publicly available website states, “Since its relocation, the building’s exterior has undergone extensive restoration efforts to replace the roof, repoint brickwork, restore

windows and all cast iron elements of the light tower. Throughout those years of restoration, the Southeast Lighthouse received thousands of visitors who were able to enter the Light Tower, with optional tours to climb the stairs and view the first-order Fresnel lens. Current restoration efforts are focused on the building's interior to create exhibition spaces. A final phase of restoration will adapt a portion of interior space as a residential rental unit to provide income to support future maintenance needs." As a responsible steward of the Lighthouse, SELF has already completed the scope of work BOEM proposes at Section 4.3.2. in the HPTP. SELF has: documented existing conditions, including photographs and plans/drawings; reviewed existing building documentation, including existing plans, specifications, as-built documentation, and archival documents; identified the rehabilitation and/or restoration needs of the NHL; identified regular maintenance needs and the development of applicable plans and specifications. In addition, the Lighthouse has developed regular maintenance and repair schedules and associated costs. The on-site steward of the Lighthouse inspects it continuously. To suggest that SELF does not have this information and needs a wind farm developer to provide it is insulting to a sophisticated and proven steward of this important property, and *prima facie* evidence that no one at BOEM is listening.

Old Harbor Historic District

Sec. 4.1: National Register of Historic Places Nomination Form Amendment. BOEM and Orsted propose to amend the current listing of the Old Harbor Historic District in the National Register of Historic Places. No one asked for this. BOEM and Ørsted have not presented any evidence that amending the district nomination will lead to tangible benefits for the community, such as increased access to historic tax credits. The only tangible benefits will be to the consultants producing useless work. Further, this measure is not feasible because, last we heard, BOEM has still never notified or consulted the owners of the historic properties in the Old Harbor Historic District in the development of the Memorandum of Agreement or the HPTPs. Federal law requires consent of more than 50% of historic property owners for a historic district boundary alteration. 36 CFR 60-14. South Fork has not obtained this consent; indeed, it hasn't even notified the owners that it intends to amend the district's listing.

Sec. 4.2: Coastal Hazard and Resiliency Plan. BOEM and Ørsted say that the Town of New Shoreham needs a coastal hazard and resiliency plan. The Town already has a plan – what they need is the money to implement it. The Town of New Shoreham already determined in its 2016 Comprehensive Plan that “increase[ed] resiliency of the island to climate change and sea level rise impacts by implementing appropriate adaptation measures” is needed. Indeed, the Town has already identified the specific measures that will help to protect Block Island. We provided this information to South Fork Wind on March 14, 2002, including estimates for the cost for shoreline restoration. The time for “planning” has passed, and the community has identified the need for implementation. This duplicative mitigation measure is not wanted or needed.

Spring House Hotel & Spring House Cottage

Sec. 4.1: Develop an Interpretative Report. BOEM and Ørsted propose as mitigation to document the influence of seasonal tourism on Block Island's economy, built environment, and culture. This information is already known and well-documented, including in existing National Register nominations as well as information documented in determinations of eligibility for Block Island

Wind Farm. Both the Rhode Island SHPO and Ørsted already possess this information. ***NOTE: It is deeply troubling that BOEM and Ørsted are proposing such a study as mitigation, when this documentation should have been completed as part of the FEIS. This HPTP is prima facie evidence that BOEM never considered this information as it was required to do under NEPA.***

Sec. 4.2: Develop a Website, Social Media Presence, and Interpretive Exhibits. BOEM and Ørsted hilariously propose to produce public educational materials promoting understanding of the resort industry on Block Island. Block Island already enjoys numerous brochures, public education materials, websites and social media accounts documenting its historic and vitally important resort industry and related heritage tourism, see, e.g.,

<https://www.blockislandinfo.com/>

- <https://springhouseblockisland.com/>
- <https://www.newshorehamri.gov/>
- <https://www.blockislandhistorical.org/block-island-timeline/>
https://www.tripadvisor.com/Hotels-g54061-zff8-Block_Island_Washington_County_Rhode_Island-Hotels.html
- <https://www.lifeisoutside.com/us/block-island-resorts/>
<https://newengland.com/today/travel/rhode-island/block-island/favorite-block-island-hotels-inns/>

See also:

- virtual exhibits at <https://vimeo.com/488564569>
- oral history exhibits at <https://www.blockislandhistorical.org/oral-history/>
- and Facebook groups on aspects of Block Island's resort industry at <https://www.facebook.com/blockislandtourism> (65,000 followers)
<https://www.facebook.com/groups/blockisland> (27,500 followers)
<https://www.facebook.com/groups/431925893825253/> (4,000 followers)
<https://www.facebook.com/groups/137553829753376> (2,700 followers).

This mitigation measure is not needed because such materials already exist and is not feasible because BOEM never notified the property owners or consulted with them as Section 106 requires because the property owners have a demonstrated interest in the undertaking and will have responsibilities under the Memorandum of Agreement and the HPTP.

Spring Street Historic District

Sec. 4.1: National Register of Historic Places Nomination Form. BOEM insists it is meaningful to prepare a nomination for the Spring Street Historic District and the contributing Captain Mark L. Potter House. But the district was already determined eligible for listing in the National Register during the Block Island Wind Farm permitting review. Information about this district is on file with the Rhode Island SHPO and Ørsted. This mitigation measure is also not feasible because BOEM never notified the owners of the properties in the Spring Street Historic District of the opportunity to consult and never consulted with them about the Section 106 process. The property owners must be consulted because they have demonstrated interest in the undertaking and will

have responsibilities under the MOA and the HPTP. BOEM needs the consent of more than 50% of the property owners in the proposed district to list the district on the National Register.

Vaill Cottage

Sec. 4.1 National Register of Historic Places Nomination Form. BOEM insists it is somehow meaningful to prepare a nomination for Vaill Cottage for the National Register. Vaill Cottage was previously determined eligible for listing on the National Register during the permitting process for the Block Island Wind Farm. Information about this district is on file with the Rhode Island SHPO and Ørsted. This mitigation measure is not feasible because BOEM never notified the owners of the Vaill Cottage of the opportunity to consult and never consulted with them about the Section 106 process. The property owners must be consulted because they have demonstrated interest in the undertaking and will have responsibilities under the MOA and the HPTP. Even if BOEM proceeds with the work of preparing a nomination, it may be worthless because BOEM has not received the consent of the owners as required by the NHPA for listing in the National Register. BOEM has no idea if the owners would support such a listing, and their support is crucial to the feasibility of the entire endeavor.

BROADER CONTEXT

In these comments we describe once again for the record why BOEM, the ACHP, and NPS have been derelict in their duties to protect our nation's historic properties and have failed to follow both the spirit and the letter of Section 106 and NEPA. We hope these comments will not only help the federal agencies understand where they have gone wrong, but also put other stakeholders in communities across the country where BOEM will soon be permitting projects on notice that they must be prepared for federal agencies to fail to protect their resources in the name of rubber-stamping offshore wind projects for political expediency. We also hope these comments will put the developers themselves on notice, including shareholders such as the Danish government, and all creditors and investors in Ørsted, that the US permitting process has shown itself not sufficient to protect the human rights of communities to their cultural heritage. We urge these investors, creditors, and shareholders to rethink their support of these projects that will have severe impacts to communities' international human rights to their cultural heritage.

If BOEM proceeds to accept the HPTPs as written, it will be approving mitigation that is not the product of meaningful consultation. Specifically, BOEM has been made aware on multiple occasions that its proposed mitigation plans are not wanted by the community, are duplicative of already completed work, and in many cases are not feasible. BOEM's decisions make a mockery of the Section 106 consultation process, and they have destroyed BOEM's credibility with local governments, Tribal Nations, preservation advocacy organizations, and historic property owners affected by South Fork and other proposed wind developments adjacent to and cumulative to South Fork. BOEM—and the offshore wind industry-- needs cooperation from these consulting parties to reach the Biden Administration's ambitious offshore wind goals. In the spirit of assisting the agency in repairing relationships with our clients and helping the agency to learn how to avoid offending other communities and Tribal Nations who are up next in the permitting process, we have provide herein another explanation for why BOEM's HPTPs propose mitigation measures that are not wanted by the community, duplicative of already completed work, and in many cases

are not feasible. We hope that this time you will seriously take our comments into account and direct South Fork to propose “replacement mitigation” as described in the draft HPTPs (*see, e.g.*, Section 4.4 of the HPTP for the Southeast Lighthouse.)

BOEM has failed to conduct a meaningful consultation process by hiding information from the public.

BOEM has refused to share its Historic Resources Visual Effects analysis with the public, deciding in January 2021 to insist that the document be kept confidential and only allowed to circulate among representatives of consulting parties. Restricting public access to the document means denying the public a full understanding of how terribly South Fork will pollute Block Island’s viewshed. BOEM is leaving citizens in the dark about how these industrial wind developments will adversely affect them. BOEM inappropriately invoked Section 304 of the NHPA to classify its effects analysis. Section 304 protects certain sensitive information about historic properties from disclosure to the public when such disclosure could result in a significant invasion of privacy, damage to the historic property, or impede the use of a traditional religious site by practitioners. 54 U.S.C. § 307103; 10 C.F.R. § 800.11(c).

Here, BOEM has violated Section 304 by applying it in a blanket fashion to hide information from the public that does not meet these criteria. Because it is so important to share information about the impacts of a potential development on a community, Section 304 calls for a federal agency to consult with NPS and the ACHP before applying Section 304. Yet responses to our Freedom of Information Act Requests have revealed no evidence that BOEM complied with these procedural requirements in deciding to classify documents associated with South Fork Wind, its adverse effects, and how BOEM intends to resolve them.

For these reasons, we request that BOEM immediately make all technical reports public and reopen reviews pursuant to NEPA as well as Section 106 and Section 110(f) of the NHPA. Congress passed these statutes to help ensure that the public could understand the effects of government undertakings. Section 304 of the NHPA allows sensitive information to be redacted, but it does not allow blanket and indiscriminate non-disclosure. Despite our requests, BOEM has not provided any legitimate justification for keeping the reports confidential.

As counsel, we have reviewed the documents BOEM documents is hiding from the public. Contrary to BOEM’s assertions, they do not contain trade secrets or privileged confidential commercial or financial information. Nor do they appear to include culturally sensitive information, which if included, could be redacted. Therefore, it is not appropriate for BOEM to keep the public from reviewing the Historic Resources Visual Effects Analysis, *inter alia*, by erroneously exempting them from disclosure. To correct this error, which has interfered with our ability to share BOEM’s documents with local government constituents and our clients’ memberships, BOEM must comply with Section 304, reissue the documents, and restart the review process for all the documents that BOEM inappropriately classified.

BOEM is imposing mitigation proposals on the community that are not needed, are not wanted, and are not feasible while summarily dismissing the community’s proposed mitigation measures.

At every juncture, BOEM has failed to listen to or consider our clients' concerns and has substituted its judgment for the experts on the historic properties on Block Island. Instead of engaging in good faith consultation, which is defined as "the process of seeking, discussing, and considering the views of other participants, and, where feasible, seeking agreement with them regarding matters arising in the Section 106 process,"¹ BOEM has ignored our clients' comments and is imposing its will on the community in an authoritarian manner that is the opposite of what Congress intended. Instead of engaging productively with the community, BOEM has relied on mitigation proposals advanced by consultants who have never even visited Block Island or seen its resources up close.

BOEM, which still cannot even be bothered to use the correct name for the Southeast Lighthouse despite being corrected on multiple previous occasions, has substituted its judgment for that of the Southeast Lighthouse Foundation (SELF), which owns and manages this National Historic Landmark. Community members formed SELF in 1986 to steward the Southeast Lighthouse, and Dr. Gerry Abbott, the current President of SELF, was also a member of SELF's founding board. Dr. Abbott and his colleagues have more than thirty-six years of experience stewarding the Lighthouse, including successfully fundraising for and executing a complex project to move the Lighthouse back from Mohegan Bluff in 1993 to protect the Lighthouse from erosion. The 10-year campaign to move the Lighthouse required three Acts of Congress, \$2,000,000, and the cooperation of local, State and National agencies.² A twenty-eight-minute video entitled *Beacon on the Bluff* chronicles the history of the Lighthouse, the historic erosion of the cliffs, the determined commitment of the community to responsibly steward the Lighthouse, and the remarkable technological achievement of the 1993 move. This video is available to the general public on the Lighthouse's website.³

BOEM's HPTP orders SELF to hire consultants to prepare new exhibits on cliff erosion, to hire consultants to develop a plan for coastal resilience, and to hire consultants to develop cyclical maintenance plan. Indeed, the HPTP says that if SELF refuses to hire these consultants to complete these projects, BOEM will insist on hiring them itself. Yet SELF has told BOEM repeatedly that it does not want or need any of these products (see above).

Similarly, the Town of New Shoreham does not want or need the mitigation proposed by BOEM, and indeed most of that mitigation is not feasible because BOEM failed to consult with property owners as the law requires. If BOEM continues down the road of imposing projects on unwitting property owners, it will have to re-open the Memorandum of Agreement to consultation and amendment.

Rather than the projects BOEM in its own judgment intends to impose on SELF and the Town of New Shoreham, **SELF and the Town of New Shoreham have suggested projects during the consultation process that would actually have value for the preservation of historic properties in the long term, such as those in our March 14, 2022 comments:**

¹ 36 CFR Section § 800.16 (f).

² See <https://southeastlighthouse.org/history/>, last accessed November 13, 2022.

³ See <https://southeastlighthouse.org/history/>, last accessed November 13, 2022.

- Funding for shoreline restoration, to counter the effects of coastal erosion;
- Funding for a sustained and sophisticated marketing campaign to counter reduced visitation caused by Ørsted's polluting of the historic viewshed;
- Funding to establish affordable housing for workers to ensure that preservation workers can continue to afford to live on Block Island when traditional sources of funding from tourism and property taxes are undermined by Ørsted's decade's long occupation of the historic viewshed;
- Funding to establish a historic preservation grant program for Block Island's historic property owners, including SELF, to address immediate and future needs over the next 30 years;
- Funding to endow SELF's operating costs for the next 30 years, considering expected harm to the lighthouse's tourism revenues; and
- Funding to relocate the lighthouse to protect it from shoreline erosion.

SELF and the Town of New Shoreham have also proposed as early as February 22, 2021 that BOEM establish a **historic preservation mitigation fund** to support the types of projects described above and also provide the community with flexibility to adjust mitigation projects to respond to project impacts in real time. Such a mitigation fund would have specific criteria for projects that are eligible for funding, and grant proposals would describe how the proposed project mitigates the impacts of the wind development. In other contexts, such mitigation funds have had advisory boards that include consulting parties, representatives of the developer, and representatives from the agency.⁴

While mitigation funds are frequently used in cases where adverse visual effects cannot be minimized, BOEM has failed to substantively engage with this proposal, even after the ACHP stated that it supports the concept of mitigation funds that are tied to resolving the adverse effects of projects on historic properties. Instead, BOEM pays lip service to this suggestion by perverting the concept of a mitigation fund and suggesting in the HPTPs that one account could be established to hold the funds allocated by BOEM for the specific projects enumerated in the MOA. This "mitigation fund" in name only would have no flexibility to respond to community needs and would just be used to reimburse community members for doing the things that BOEM orders them to do in the HPTPs. In essence, BOEM is calling an escrow account a "mitigation fund" in an attempt to look like it listened to consulting parties' suggestions—but the outcome clearly demonstrates that no listening was actually taking place. To date, we have received no justification or response from BOEM as to why it has rejected our clients' suggestion that a truly community-led mitigation fund would be appropriate in this case, other than that the Vineyard Wind mitigation fund that we used as an example was not negotiated within the Section 106 process.

We remind BOEM that other mitigation funds have been negotiated through the Section 106 process and approved by agencies and the ACHP alike. An example we have already shared with BOEM and highlight here again for its similarities to the scale of adverse visual effects of South Fork, is the Surry Skiffes Creek Wheelton project in Virginia, where Dominion proposed to build a new transmission line across the James River and to visually adversely affect a significant

⁴ See document provided by ACHP to Counsel entitled, "Examples of Mitigation/Preservation Funds in Section 106 Agreements."

cultural landscape and one National Historic Landmark. Block Island is also undeniably a significant cultural landscape that will experience adverse visual effects, and the Southeast Lighthouse is a National Historic Landmark that will experience adverse visual effects.

In the Dominion MOA,⁵ Dominion established a \$27,000,000 mitigation fund to be held by the Conservation Fund for the resolution of adverse effects; a \$25,000,000 mitigation fund to be managed by the Virginia Department of Conservation and Recreation for the resolution of adverse effects; a \$4,205,000 fund to be managed by the Virginia Department of Game and Inland Fisheries for the resolution of adverse effects; a \$15,595,000 fund to be managed by the Virginia Environmental Endowment for resolution of adverse effects; and a \$12,500,000 fund to be managed by the Virginia Land Conservation Foundation for the resolution of adverse effects. These funds were to be obligated within 10 years of the execution of the MOA, although “Any mitigation compensation funds that are not obligated or committed to a project within twelve years after the effective date of this MOA shall be transferred to a legally separate mitigation compensation fund administered by the VLCHF for expenditure on projects, programs, and activities at historic properties and associated historic landscapes within or related to the indirect APE that were adversely affected by this Project.” Projects to be funded by these compensatory mitigation funds include heritage tourism studies, marketing campaigns for heritage tourism, “to develop a marketing and visitation program (Program) to promote and enhance the impacted heritage tourism sites and visitor experience within the indirect APE” “Dominion’s funding responsibilities shall be limited to the average annual budget for the preceding two years for marketing programs implemented by the management entities of publicly accessible sites within the Indirect APE.”

The MOA also called for Dominion “to identify specific landscape and viewshed enhancement, shoreline protection, and other projects that enhance the affected setting and feeling of Carter’s Grove.” Carter’s Grove is the NHL affected by that project. In case Dominion could not get permission from the Carter’s Grove owner for any of these activities, the MOA outlines alternative measures that should be undertaken. Indeed, Dominion was not allowed to proceed with construction until the owners had been consulted and had agreed to particular projects.⁶ The Block Island HPTPs do not provide any alternative should property owners refuse to consent to the projects and allows construction to move full steam ahead regardless of their participation. The Block Island HPTPs are set up to fail, and BOEM knows it.

In addition to the funding described above, Dominion provided \$1,500,000 to the Chickahominy Indian Tribe to make improvements to its tribal center, to preserve historic artifacts, and to fund travel to visit archives at the Ashmolean Museum in England. The MOA left it to the

⁵https://www.nao.usace.army.mil/Portals/31/docs/regulatory/Skiffes/MOAs/FINAL_MOA_4.24.2017.pdf?ver=2017-05-01-155150-290 (Last accessed November 13, 2022.)

⁶ MOA Section III, A, 3. “Dominion may not proceed with “Construction Above the James River” until the Corps has approved the final Project Narrative for projects to be carried out at Carters Grove. To facilitate this approval, Dominion shall consider all comments and submit to the Signatories of this MOA a final Project Narrative describing projects to be carried out at Carters Grove. This final Project Narrative shall include confirmation that the Dominion and/or all appropriate parties have all access and permissions necessary to complete all identified mitigation work. This final Project Narrative will be considered “approved” once the SHPO has confirmed that the projects as proposed will enhance the affected setting and feeling of Carter’s Grove and the Corps has provided written approval.”

Chickahominy Tribe how to allocate the funding among these initiatives. The MOA also required Dominion to provide \$4,500,000 to the Pamunkey Tribe to support expansion of the Pamunkey Cultural Center, to establish a tribal historic preservation office, and to expand and operate the Pamunkey's fish hatchery. The MOA left it to the Pamunkey Tribe to determine how to allocate funding among these initiatives. In addition, the MOA required Dominion to acquire an ancestral site of the Pamunkey, donate it to the tribe, and provide \$500,000 for its ongoing maintenance and \$400,000 for construction of an access road to the property. Similarly, the Block Island HPTPs should give flexibility to the property owners to determine what is appropriate for their sites.

In the Dominion example, the cost of constructing the transmission line was \$430 million and the towers were expected to be up for 50 years. The mitigation demanded by the Corps totaled more than \$90 million. This mitigation was found appropriate for seventeen, 295-ft tall towers erected in the viewshed of historic properties and a National Historic Landmark. We remind BOEM that South Fork is 12 turbines at 894ft, to soon be followed by 212 more turbines at 960 ft. height, in the viewshed of historic properties and a National Historic Landmark. The cost of constructing the South Fork wind farm is estimated to be \$640 million and South Fork is expected to be permitted for 30 years. Compared to the Dominion example, the \$450,000 in funding on offer in the HPTPs for Block Island is laughable and insulting.

Even if BOEM disregarded our clients' proposed compensatory mitigation fund as an appropriate approach to mitigation, our clients have proposed alternate options with which the agency declined to engage. Our clients proposed specific mitigation measures that would better offset the impacts of the South Fork Wind Farm in consulting party meetings and in writing on March 14, 2022, but BOEM has completely ignored them. Neither BOEM nor Ørsted has ever explained their views on these proposals or why they have refused to engage with SELF regarding them, and neither the agency nor Ørsted met with SELF or the Town of New Shoreham to discuss how proposed mitigation could align with the consulting parties' requests. Rather than listen to the experts who actually steward the Lighthouse or Town officials who understand the needs of Block Island's historic properties, BOEM decided unilaterally to substitute its judgment to decide that actually it's in the public's interest for the Lighthouse to be forced to receive a new exhibit, a coastal resilience plan (with no funding to implement it), and a cyclical maintenance plan (with no funding to implement it.) To add insult to injury, the HPTP compels SELF to hire the consultants, work with them, make sure they meet standards, and yet BOEM provides zero funding to SELF for its staff time to accomplish these tasks that will take its staff time away from real efforts to preserve the Lighthouse. If SELF refuses to do this work for free, the HPTP makes it clear that BOEM will do it for them.

Our clients find it deeply disturbing that BOEM has also refused to provide any justification or reasoning as to why the agency considers its proposed mitigation to be reasonable. Our clients have asked for any justification BOEM can provide for choosing the projects and the funding amounts included in the HPTP, only to be summarily ignored. (This question was repeatedly asked on the March 18, 2022 consultation call and in written comments on May 17, 2022.) In the entire administrative proceeding for this permitting review, the only statements BOEM has made about its reasoning for deciding on certain mitigation is that, "Mitigation should replace the lost value from the diminishment of the historic property's integrity with project outcomes that are in the public interest." Yet BOEM has not explained its methodology for

determining the lost value from the diminishment of the integrity of the historic properties on Block Island, including the NHL, and has not shown why any of the projects proposed by our clients would be contrary to the public interest.

The mitigation proposed in the MOA as “baseline mitigation” was approved over the Town of New Shoreham’s and SELF’s adamant objections. Nonetheless, the MOA says that the mitigation in the HPTPs should be “at least” at the level of effort described in the “baseline mitigation.” BOEM can still remedy their failure to mitigate the adverse effects of South Fork.

The lost value from the diminishment of the historic property’s integrity will be evident in the economic harm experienced by Block Island. Block Island’s heritage tourists value the Island’s historic properties’ integrity to the tune of \$278 million per year, the annual value of the Island’s heritage tourism economy. The majority of Block Island’s full-time residents work in heritage tourism. If the diminution of the character of the historic viewshed caused by South Fork results in even as little as a 10% diminution of value, the impact on Block Island’s economy over the next 30 years would top \$834 million (not adjusted for inflation). BOEM offering Block Island projects valued at \$450,000 total for the next 30 years seems ridiculous by comparison. **It’s a shame that the federal agencies tasked with the responsibility of valuing and protecting our nation’s historic resources do not value those resources as much as everyday Americans do.**

As important as the risks of monetary loss, residents and tourists can lose their sense of a deep connection to the natural beauty of a viewshed. Heritage tourists place a premium on maintenance of a community’s historic integrity or “brand.” This premium stems from the experiential and emotional connections that residents and tourists have with the viewshed. This connection is tied to the lived experience of residents and expectations of tourists. Therefore, when a viewshed is altered and interrupts tourists’ expectations, tourists go elsewhere. As noted in Clean Energy States Alliance, *A Visual Impact Assessment Process for Wind Energy Projects* (May 2012), the significance of impacts should be determined through an understanding of how a development project is seen within important viewsheds and considering viewer expectations at specific viewing locations. For certain uses, there may be public expectations of a primitive or natural setting or for a cultural landscape. Placing a value on harm requires understanding how these expectations will be diminished. Tourists may be repelled by the altered landscape. Indeed, introducing massive offshore wind turbines conflicting with Block Island’s pristine ocean views may cause tourists to experience “technological landscape guilt.” Broeckel, *supra*. “Moreover, wind turbines may be perceived as being historically inappropriate, which contradicts the desire for consistency between the natural (original) and artificial environment.” *Id.* In fact, today’s tourists are likely to associate rural landscapes with historical periods. The technological, modern, and planned appearance of wind turbines may therefore strongly conflict with tourists’ expectations of historic rural surroundings.” *Id.* CESA also reported that the type of landscape where wind turbines are installed matters as well. Surveyed individuals were particularly sensitive to the placement of wind turbines in “landscapes of high aesthetic quality,” which of course Block Island has in spades. Some studies suggest that 20% of survey respondents would expect a discount on rental housing with an offshore wind development and 54% indicated that they would not rent a home with a view of an offshore wind development at all. Sanja Lutzerer et al., *North Carolina State University, The Amenity Costs of Offshore Wind Farms: Evidence from a Choice Experiment* (2016). Other studies show a

range of 6% to 26% of tourists will avoid places with wind turbines for future vacations, Broeckel, *supra*.

Recent European studies bolster these conclusions. For example, Anna Dora Saeborsdottir et al., *Wealth of Wind and Visitors: Tourist Industry Attitudes towards Wind Energy Development in Iceland, Land* (2021) reveals survey impressions of how wind farms transform the landscape from natural to anthropogenic. Key takeaways include: • Wind turbines affect how the landscape is perceived and experienced. • Landscape and nature are not only a resource for renewable energy production; they are also the main attraction for tourists. • As wind turbines affect how the landscape is perceived and experienced, it is foreseeable that the construction of wind farms will create conflicts between the energy sector and tourism industry. • Impacts are perceived as mostly negative since wind farms decrease the quality of the natural landscape. Taken together, research shows that risk to the local tourism economy is significant, and that wind development creates an increase in the uncertainty of future economic activity, which can be reasonably expected to materialize into negative net impacts to the local economy.

BOEM has also failed to take seriously the federal government’s obligations to preserve and protect National Historic Landmarks.

NHPA Section 110(f) requires that the agency official, to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm to any National Historic Landmark that may be directly and adversely affected by an undertaking. In the Memorandum of Agreement for South Fork (to which SELF strenuously objects), BOEM states, “BOEM has determined that: all feasible alternatives, including all feasible WTG layouts, would result in adverse visual effects to the Block Island Southeast Lighthouse NHL; the magnitude of the visual effects on the NHL is minor given the small number of WTGs, their distance from the NHL, and the presence of existing WTGs visible from the NHL; and this undertaking contributes to the public interest in using the OCS to develop clean energy sources.”

The problem with this analysis is that it shows on its face that BOEM has failed to consider the cumulative impacts of existing and reasonably foreseeable undertakings on the Southeast Lighthouse NHL. South Fork’s 12 turbines will join five turbines at the Block Island Wind Farm and 212 turbines from Revolution and Sunrise. Mitigation must address cumulative effects of 229 wind turbines diminishing the historic integrity of the Lighthouse. Rather than a reason for approving such an undertaking and providing *de minimis* mitigation, BOEM’s reasoning in the MOA that is carried through to the HPTP is evidence of its legal error in understanding its responsibilities under federal law.

SELF acknowledges that BOEM lacks experience mitigating direct adverse visual effects of the industrialization of the ocean on NHLs. It is disappointing that BOEM has failed to work with consulting parties to fashion mitigation proposals that are actually needed and wanted by the community and that will serve to meaningfully offset the adverse effects. BOEM has shown a failure of imagination and a failure of collaboration. There is still an opportunity for BOEM to correct this approach and to work with the community and consulting parties to fashion meaningful mitigation. We encourage BOEM to direct South Fork to propose “replacement mitigation” as described in the draft HPTPs (see, e.g., Section 4.4 of the HPTP for the Southeast Lighthouse.)

Failure to get the Section 106 process right on South Fork will hamper all future permitting efforts, as BOEM keeps using the wrong template over and over again. Our clients would prefer not to engage in decades of litigation against BOEM—we would much prefer rather to enter into the good faith consultations that Congress intended when they established the Section 106 process in the first place.

BOEM has failed to consider adverse effects to Newport at all.

We reiterate that our clients the City of Newport, Newport Restoration Foundation, Preservation Society of Newport County, and Salve Regina University object to BOEM's refusal to consider mitigation proposals for the National Historic Landmarks and other historic properties listed in the National Register of Historic Places within Newport County, Rhode Island in the APE for South Fork. BOEM's refusal to include Newport County properties is arbitrary, capricious, and contrary to law. BOEM must provide for mitigation for resources in Newport. BOEM's continued failure to do so violates Section 106 and Section 110(f) the National Historic Preservation Act.

###





Aerial Photograph of Southeast Light
by Judith Watts, June 1985

In this 1985 photograph, the distance from the base of the lighthouse tower to the closest point of the eroding bluff edge is 80 feet. By the time the structure was moved to safety in 1993, that distance had shrunk to 55 feet.

HOW BLOCK ISLAND'S SOUTHEAST LIGHT

WAS MOVED BACK FROM THE BLUFFS

by Tanya Contos

During the summer of 1993, the daunting task was undertaken to move Block Island's Southeast Light back from the eroding bluff on which it had stood for 120 years, 180 feet above the Atlantic Ocean. On the site, in a trailer that served as a public information center, Tanya Contos watched the progress of the move and wrote the following reports. They appeared in The Block Island Times that summer and following winter.

July 7, 1993

When Lisa Nolan, Administrative Director of the Southeast Lighthouse Foundation, quietly told me the other day that "they've cracked the building," I was horrified. Had everyone's worst nightmare come true? After all these years of planning and fund-raising, was the focus of that monumental effort about to collapse like a pile of Legos? Lisa smiled sympathetically and stopped me in mid-panic. "No, it's not what you think. It means that the building's weight has been transferred to the beams. Everything's fine."

The Southeast Light is now "sitting on steel," as the engineers put it. Enough pressure has been applied to the hydraulic jacks under that steel, a grid of massive beams beneath the building, so that the lighthouse is completely free of the foundation which has supported its 2,000 tons for almost 120 years.

While a lot of fingers will remain crossed for weeks to come, the project heads all say the same thing: "I'm not worried."

Given the enormity of this undertaking, things have gone remarkably smoothly. The new foundation, 245 feet inland, has been poured without incident. The only serious problem, the unwelcome discovery that the tower's foundation was not, as believed, cut granite blocks but loose boulders, has been dealt with through additional stabilization measures. Although that wrinkle delayed progress by a couple of weeks, the work is now pretty much on schedule, with the actual move set to begin about August 9th.

If anyone had told me last year that I would be spending most of this summer in a trailer on a construction site, surrounded by noise, dust and bugs, I would have called them daft. The fact is, though, this is no ordinary construction site, and the trailer, which serves as a mini-museum/information center/gift shop, gives me and the others who work here a window on history in the making.

The view through this window changes constantly. Men and vehicles are in perpetual motion behind a haze of dust. Enormous things materialize suddenly every time I look outside: a mountain of dirt here, a pyramid of wood over there, a beam jutting out of a tower like a gargantuan ruler out of a giant's pocket. Sounds change too; the deafening drill of jackhammers gives way to a lunch time silence, broken only by a radio playing country music. Once I could make out Kathy Mattea singing, "There's a lighthouse in the harbor..." as if on cue.

Air and sea change from minute to minute. On the day before July Fourth, fog rolled in so thickly that the building disappeared altogether except for its chimneys, prompting a young boy to whisper to his father, "It looks like the house in *Psycho*." During the heat wave that followed a few days later, the air was so hot that it seemed to vibrate and the sea turned the sickly bluish white of skim milk. Tempers began to fray on both sides of the fence that separates visitors from workmen, and questions about the project were outnumbered by questions about the nearest lemonade stand. But much of the time the project and everyone on it have been blessed by warm, dry days when the brilliant cobalt water and mounds of excavated oddities give this site the atmosphere of a Mediterranean archaeological dig.

A budding psychologist could do worse than to spend a day in this trailer. In a typical six-hour day, we see the entire spectrum of human personality. The true innocents ask, "Have you already moved it?" The naive ask, "Are you going to pick it up with a crane or a helicopter?" The wise guys say, "Big deal. They move houses all the time." The few cynics snort, "Yeah, you're gonna move that thing and I'm the Easter Bunny." One memorable individual introduced himself as an inventor and proceeded to mumble in monotone about conspiracies fomented by the Japanese and the U.S. Patent Office, one of which seemed to have some bearing on lighthouses.

Happily, however, most of visitors are a pleasure to meet and talk to. Some teach me more than they learn from me. One of the last Coast Guardsmen to live in the Southeast Light reminisced with great feeling about his days here. The son of another described his family's living quarters in fascinating detail.

One young woman introduced herself as the daughter of the keeper of the Ocracoke Light in North Carolina. She and her companion were on a busman's holiday tour of New England lighthouses and what they don't know about Fresnel lenses isn't worth knowing. A film maker talked about contemporary use of Fresnel lenses for movie lighting. Even the most unpleasant encounter, when a pompous couple who smirked their way through the exhibit and then loudly denounced the government's folly in "wasting its money on this," resulted in a burst of indignation and compensatory donations from those listening. As one of them said, "A country that loses its history loses its soul."

Children, whose own histories are short, understand this instinctively. Two little visitors from Massachusetts told me shyly that they had run a lemonade stand to raise money for the Southeast Light. A very small girl gravely explained to her parents that "the wind blew out the light and the men have to turn it on again." Two-year-old Will, an Island child, likes to stand at the fence with his mother, enraptured by the cavalcade of trucks before him. After his first visit, he went home and used his Duplo blocks to build a lighthouse.

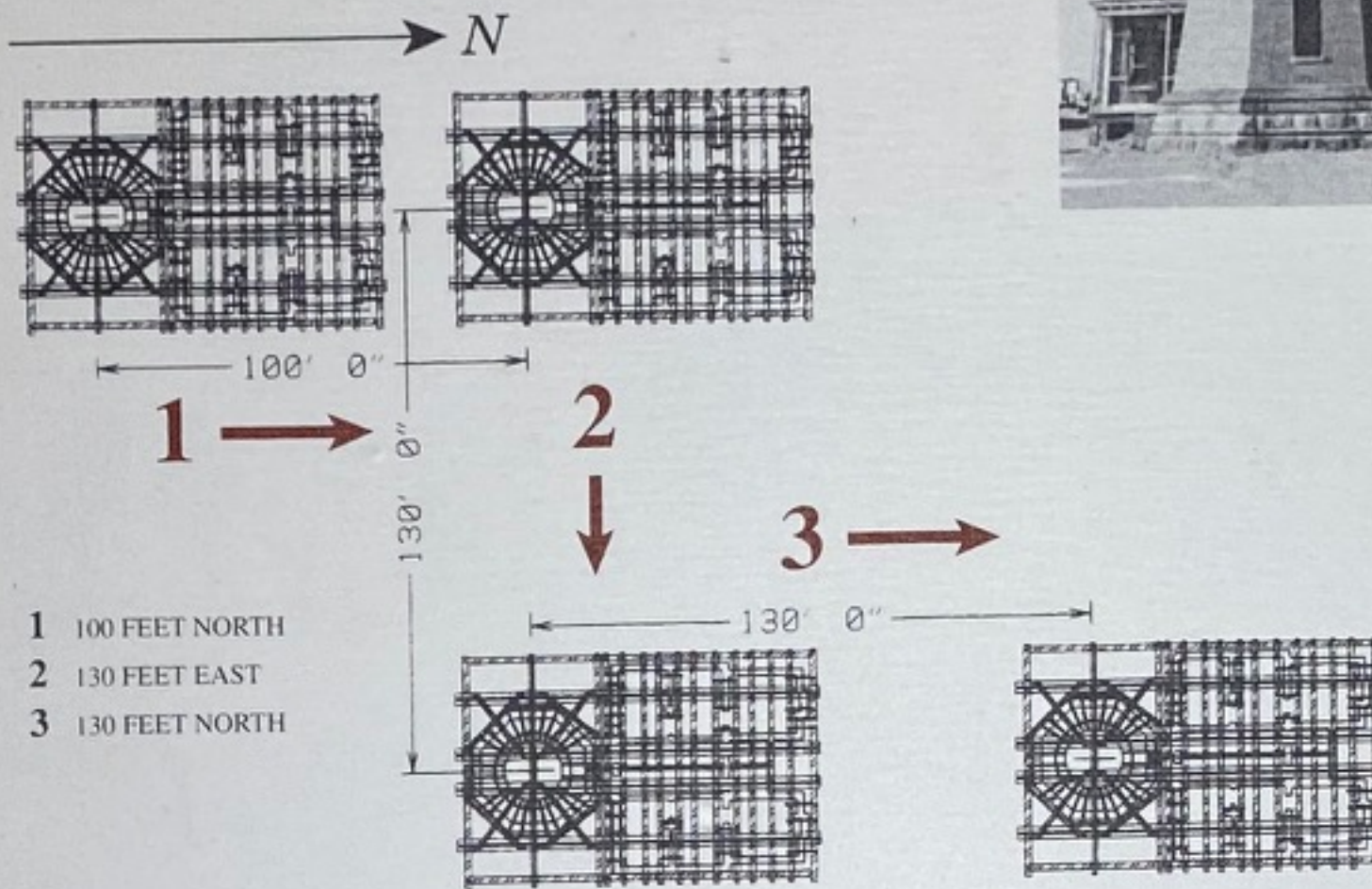
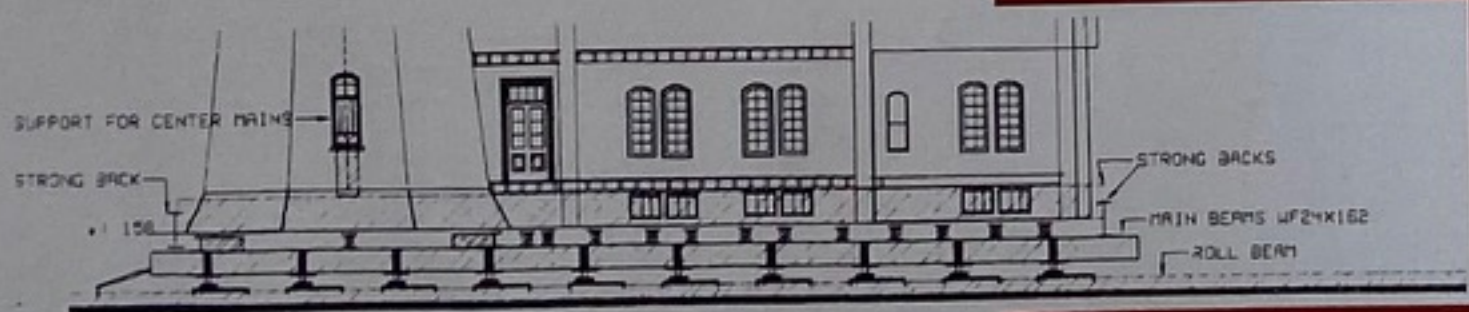
If he keeps at it, he may wind up following in the footsteps of the men who are making the move happen. Merl Copeland, site superintendent for International Chimney, the company with overall responsibility for the project, has the unflappable demeanor and dry humor of a man who's seen everything and still likes going to work in the morning. Except for his daughter's wedding, he hasn't left the Island since April and probably won't until November.

Jerry Matyiko of Expert House Movers is responsible for the move itself, a job that would keep most of us awake at night, but he too combines commitment to the task at hand with an easygoing sense of humor that dispenses tensions. Used to seeing Jerry from a distance in hard hat and sunglasses, I didn't recognize the affable guy who came into the trailer last Sunday and asked a bunch of technical questions about the move until he burst out laughing and took me out of my misery.

As supervising engineer for the U.S. Army Corps of Engineers, Bob Rose (no relation to the local Island family of that name) has his hands full on the other side of the fence, yet regularly appears in the trailer to answer questions from staff and visitors with infinite patience. Well, not quite infinite. At the end of one long day which had included interviews with the *Providence Journal* and NBC, Bob was accosted by a pair of tourists who asked, "How you gonna pull that thing?" Feeling "answered out," Bob pointed to the Don Bousquet T-shirt we sell which shows the two tourists pulling the Southeast Light on a child's wagon. "See that?" he said. "That's how."



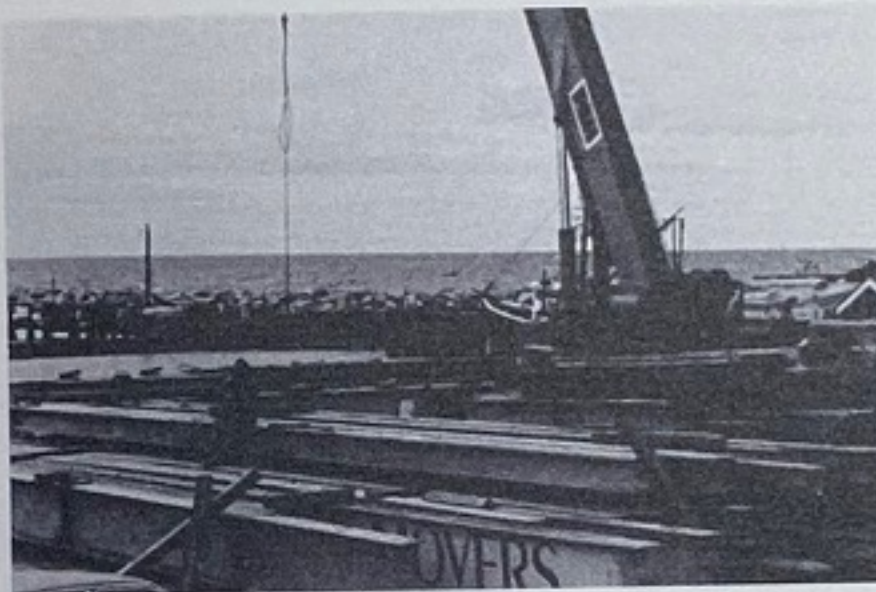
On the first day of the actual move this is what the spectators in the observation tent saw, the building inching forward. Expert House Movers spent most of the summer preparing the light for its very special journey. The actual move was accomplished in about five days, with time out for repositioning the steel tracks for each leg.



- 1 100 FEET NORTH
- 2 130 FEET EAST
- 3 130 FEET NORTH



A computer generated graphic from the office of Pete Friesen, the engineer who designed the move, shows the building in plan with the main supporting beams on which it was jacked up. The four positions illustrate the three legs of the maneuver — one might call it a dance step: back, side, back — by which the Southeast Light was moved to its new location. To have made the move directly on the diagonal would have required a yet more complicated support system.



Steel beams, essential elements of the movers' craft, are unloaded from a barge at Old Harbor. To lift and move the 2,000-ton lighthouse, a crew of up to 25 men labored through the summer easing the 400 tons of steel and 38 60-ton lifting jacks into place beneath the structure. For the new foundation, 245 cubic yards of concrete were poured. The reinforcing rods alone weighed 38 tons, and 80,000 bricks were needed to support the building after the steel was removed.

August 14, 1993

There is a new sea view on Block Island these days, one that has never been seen before and will not be seen again in our lifetime, if ever. It's the view under the Southeast Light. That's right, under. For a couple of weeks, hydraulic pressure has been slowly lifting the building. Now that it is up a full 28 inches, ready to roll, anyone standing in front of it is presented with the extraordinary sight of the Atlantic Ocean framed by steel beams beneath the structure.

With no real precedent to shape perception of this scene, those of us watching daily tend to make quirky analogies. For me, two images keep recurring. One is of a painting by the Surrealist Magritte, which shows a huge castle suspended in mid-air above the sea. The other is of grainy old newsreel footage showing the Queen Mary a few days before her launching. Just as the great ship appeared majestic but awkward when separated from her natural element of water, so does the lighthouse when separated from the land. Its movement on the rails is like a mirror image of a ship sliding down the ways, not toward the sea but away from it.

By the time you read this, the move will have started. Its official commencement is scheduled for Friday the 13th, something almost as hard to believe as the project itself. Blame it on the Army Corps of Engineers or on one of our Senators, whose schedule conflict with the original press day of August 17th necessitated a change. No one is entirely clear about the reasoning behind this choice, only that we're committed to it. Visitors greet the news with gasps, while Islanders shrug and chuckle, black humor being a by-product of local life. One wag suggested letting Lisa Nolan's two black cats saunter across the site in full view of network cameras, for extra excitement.

Official date aside, the push jacks are actually going into action a day or two before. A workman said, "We're not superstitious, but we're not crazy either. When we're ready to roll, we'll roll and make sure everything's working right before the whole world shows up on Friday." Pete Friesen, the engineer who designed the move as consultant to Expert House Movers, remains confident and goodnatured. He knows that each step of preparation has been planned and executed properly. For example, when a beam used to stabilize the tower was off by a sixteenth of an inch, he made it clear to the workmen that good enough isn't good enough. They moved it. Being that meticulous allows him to say, "Given enough time and money, we could move this building to the front lawn of the White House."

Now that D-Day is almost here, people are coming to the site in greater and greater numbers. So far, we have had visitors from Canada, Mexico, England, Scotland, Ireland, France, Italy, Germany, Switzerland, the Netherlands, Australia, Japan, China and India. A family from Holland remarked that the lighthouse's unique hybrid of the Gothic and Italianate styles made it look very Dutch to them. A Swiss woman countered another visitor's concern about the building's age by saying that several 350-year-old houses in her village had been moved successfully. "Of course, they were not so big."

Seeing the Southeast Light for the first time in its present state makes visitors grope for comparisons. One fellow exclaimed, "That's the dangdest mobile home I've ever seen." The prize for originality goes to a woman who said, "This is a lot like a root canal. It's scary and painful, but once you've exposed the thing, you've got to keep going."

The work site is so tight that visitors are confined to a viewing area on one side only, which often produces confusion about what's happening. Because they can't see the edge of the rapidly eroding bluff from where they stand, many visitors ask, "Why are they moving it?" — a question answered immediately by an aerial photo inside the exhibit trailer. Now that grading is complete for the first leg of the zig-zag move, creating a clearly defined trench 136 feet long, people assume that the final destination is right there, especially since the new foundation is not visible from their vantage point. Another assumption is that this move is being orchestrated by computer. In reality, the technology for moving buildings on rails with hydraulic jacks was in use half a century ago and hasn't changed dramatically. The console in the command truck from which the jacks are controlled looks more like something out of Flash Gordon than NASA.

Our most welcome visitor to date is a person whose view of the site is more limited than most people's. Walking to the trailer on one of the hottest mornings of this summer, I saw someone ahead being pushed in a wheelchair. It was Fred Benson, who at the age of 98 has shared more common history with the Southeast Light than anyone else and remembers it all. He had been reluctant to come, unsure if his chair would make it safely up the path, and could not come inside the trailer, but he sat serenely at the fence and watched the work in progress. At first, he didn't say much. Then questions from me and from a gathering group of visitors got him talking about shipwrecks in these waters, about the Light and the long-vanished field behind it where boys used to play football. When he was ready to go, his friend asked, "So, Fred, are you glad you came?" "Yes," he answered. "Oh yes."







Block Island Wind Farm is America's first offshore wind farm. The 30 MW, 5-turbine project began commercial operations in December 2016 and generates enough energy to power 17,000 homes. The island—previously powered by 5 diesel generators burning over 1 million gallons of fuel every year—is now powered entirely by offshore wind. The project connects Block Island to the mainland grid for the first time.

The wind farm provides reliable, renewable energy and reduces the island's electricity rates while diversifying Rhode Island's power supply. Block Island has inspired a brand-new industry in Rhode Island, putting people to work building and maintaining renewable energy projects that will power the region's future. More than 300 local workers were involved in building the Block Island Wind Farm.

Facts: Capacity: 30 MW (megawatts) / Location: 3 miles southeast of Block Island / Operational in December 2016 / The Block Island Wind Farm will lower carbon dioxide emissions by 40,000 tons each year and 800,00 tons over 20 years—the equivalent of removing 150,000 cars from the road.

From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Sent: Tuesday, November 15, 2022 3:02 PM
To: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: RE: [EXTERNAL] Offshore Wind "Consultation": Theater of the Absurd

Whoops: I see that our emails crossed and that this letter was the subject of your correspondence from earlier in the day. (b)(5)

Thanks for flagging long before I did!

From: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Sent: Tuesday, November 15, 2022 2:30 PM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: RE: [EXTERNAL] Offshore Wind "Consultation": Theater of the Absurd

(b)(5)

Stephen Vorkoper | Attorney-advisor
Office of the Solicitor | Division of Mineral Resources
U.S. Department of the Interior
Telephone (202) 208-3441

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From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Sent: Tuesday, November 15, 2022 2:23 PM
To: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Subject: FW: [EXTERNAL] Offshore Wind "Consultation": Theater of the Absurd

This is the first threat of litigation I have received that includes a small screenplay.

Pending your feedback, (b)(5)

. How does that sound to you?

From: Lefton, Amanda B <Amanda.Lefton@boem.gov>

Sent: Tuesday, November 15, 2022 1:23 PM

To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>

Subject: FW: [EXTERNAL] Offshore Wind "Consultation": Theater of the Absurd

Not sure who they sent this too.

From: Marion Werkheiser <marion@culturalheritagepartners.com>

Sent: Tuesday, November 15, 2022 1:16 PM

To: Stokely, Sarah C <Sarah.Stokely@boem.gov>; William J. Cook

<will@culturalheritagepartners.com>; Greg Werkheiser <greg@culturalheritagepartners.com>

Subject: [EXTERNAL] Offshore Wind "Consultation": Theater of the Absurd

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Greetings,

We are legal counsel for the historic American communities and leading preservation organizations that submit these comments on the South Fork wind development. We have 75 cumulative years of experience working with the National Historic Preservation Act (NHPA) Section 106 and National Environmental Policy Act (NEPA) review processes. We've worked with hundreds of local governments, community preservation groups, and Tribal Nations, and other consulting parties. We have taught these laws at some of the nation's foremost law schools and universities, and we have delivered countless trainings to project developers, local preservation commissions, Tribal Nations, and state and federal agency officials on how to conduct and participate in meaningful consultation. We have lobbied Congress successfully for increased funding for federal agencies, state historic preservation officers, and tribal historic preservation officers to conduct effective consultation, and we have provided regulatory comments on dozens of federal regulations, policies, and guidance documents with the goal of improving Section 106 and NEPA. We have also litigated when parties seek to water down or pay lip service to these vital federal laws. **We believe in the Section 106 review process and have dedicated our careers to helping it work as Congress intended: to balance preservation values and development goals. And yet we have NEVER seen a more dysfunctional process than the one BOEM has imposed on historic communities and Tribal Nations for the launch of the offshore wind industry in the United States.**

Please take a moment to read the attached comments and encourage BOEM to remedy their failed consultation before it becomes the flawed template for every offshore wind development on the permitting dashboard— with severe consequences not just for the cultural heritage of the United States but for the very wind energy developments the industry and BOEM think they are advancing.

Best regards,

Marion Werkheiser, Greg Werkheiser, and Will Cook
Attorneys at Law

From: [Annatoyn, Travis J](#)
To: [Lefton, Amanda B](#)
Subject: RE: [EXTERNAL] Offshore Wind "Consultation": Theater of the Absurd
Date: Friday, November 18, 2022 1:28:51 PM

Yes to 1:30. (b)(5)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

From: Lefton, Amanda B <Amanda.Lefton@boem.gov>
Sent: Friday, November 18, 2022 1:20 PM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Subject: RE: [EXTERNAL] Offshore Wind "Consultation": Theater of the Absurd

Where did we land on this after you talked to bob? Also, I clearly scheduled over our three, would you like to talk at one thirty?

A

From: Lefton, Amanda B
Sent: Tuesday, November 15, 2022 1:23 PM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Subject: FW: [EXTERNAL] Offshore Wind "Consultation": Theater of the Absurd

Not sure who they sent this too.

From: Marion Werkheiser <marion@culturalheritagepartners.com>
Sent: Tuesday, November 15, 2022 1:16 PM
To: Stokely, Sarah C <Sarah.Stokely@boem.gov>; William J. Cook <will@culturalheritagepartners.com>; Greg Werkheiser <greg@culturalheritagepartners.com>
Subject: [EXTERNAL] Offshore Wind "Consultation": Theater of the Absurd

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Best regards,

Marion Werkheiser, Greg Werkheiser, and Will Cook
Attorneys at Law

From: [Annatoyn, Travis J](#)
To: [Sebastian, Robert L](#); [Vorkoper, Stephen R](#)
Cc: [Meléndez-Arreaga, Pedro F](#); [Hawbecker, Karen S](#)
Subject: RE: [EXTERNAL] RE: Vineyard Wind - RODA and Seafreeze Briefing Schedule
Date: Monday, November 28, 2022 9:50:36 AM

Likewise—thanks Stephen.

From: Sebastian, Robert L <robert.sebastian@sol.doi.gov>
Sent: Monday, November 28, 2022 9:26 AM
To: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Cc: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Subject: Re: [EXTERNAL] RE: Vineyard Wind - RODA and Seafreeze Briefing Schedule

Thanks, Stephen.

Robert L. Sebastian

Attorney-Advisor

Office of the Solicitor | Division of Mineral Resources

U.S. Department of the Interior

Phone: (202) 513-0821

robert.sebastian@sol.doi.gov

From: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Sent: Monday, November 28, 2022 9:14 AM
To: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Cc: Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Sebastian, Robert L <robert.sebastian@sol.doi.gov>
Subject: FW: [EXTERNAL] RE: Vineyard Wind - RODA and Seafreeze Briefing Schedule

Hi Karen and Travis,

Just a heads up—see DOJ’s internal schedule for the Seafreeze and RODA briefs, below. We will have from next Tuesday until next Friday to review the draft briefs in both cases.

Thanks,
Stephen

[Stephen Vorkoper](#) | Attorney-advisor

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From: Ellis, Angela (ENRD) <Angela.Ellis@usdoj.gov>

Sent: Monday, November 28, 2022 7:01 AM

To: Bossie, Susan (Amanda) <Susan.Bossie@sol.doi.gov>; Chester, Jason R CIV USARMY CEHQ (USA) <(b)(6)>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Dickson, Arlynnell A <arlynnell.dickson@sol.doi.gov>; emma.htun <emma.htun@noaa.gov>; Harris, Matthew J CIV USARMY CENAE (USA) <(b)(6)>; Julie Williams - NOAA Federal <julie.williams@noaa.gov>; Sarver, Kathryn M <kathryn.sarver@sol.doi.gov>; Lea Tyhach - NOAA Federal <lea.tyhach@noaa.gov>; Spinelli, Lindsey A <lindsey.spinelli@sol.doi.gov>; Mcswiggin, John T Jr CIV USARMY CENAE (USA) <(b)(6)>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Pumyea, William G CIV USARMY CEHQ (USA) <(b)(6)>; Scott Farley - NOAA Federal <Scott.Farley@noaa.gov>; Sebastian, Robert L <robert.sebastian@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>

Cc: luke.hajek_contact <luke.hajek@usdoj.gov>; Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>; Rosen, Perry (ENRD) <Perry.Rosen@usdoj.gov>

Subject: [EXTERNAL] RE: Vineyard Wind - RODA and Seafreeze Briefing Schedule

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Hi all,

I hope everyone had a wonderful holiday. I am recirculating the proposed drafting and review schedule for Seafreeze and RODA, which now also includes the dates on which we have requested initial responses to the plaintiffs' statements of fact. Please let us know if you would like to discuss.

(b)(5)

Best,
Angela

From: Ellis, Angela (ENRD)
Sent: Tuesday, November 22, 2022 2:29 PM
To: Amanda Bossie (Susan.Bossie@sol.doi.gov) <Susan.Bossie@sol.doi.gov>; Chester, Jason R CIV USARMY CEHQ (USA) <(b)(6)>; DENNIS.DAUGHERTY@sol.doi.gov; Dickson, Arlynnell A <arlynnell.dickson@sol.doi.gov>; Emma Htun - NOAA Federal <emma.htun@noaa.gov>; Harris, Matthew J CIV USARMY CENAE (USA) <(b)(6)>; Julie Williams - NOAA Federal <julie.williams@noaa.gov>; Kathryn Sarver (kathryn.sarver@sol.doi.gov) <kathryn.sarver@sol.doi.gov>; Lea Tyhach - NOAA Federal <lea.tyhach@noaa.gov>; Lindsey Spinelli (lindsey.spinelli@sol.doi.gov) <lindsey.spinelli@sol.doi.gov>; Mcswiggin, John T Jr CIV USARMY CENAE (USA) <(b)(6)>; Meléndez-arreaga, Pedro <pedro.melendez-arrea@sol.doi.gov>; Pumyea, William G CIV USARMY CEHQ (USA) <(b)(6)>; Scott Farley - NOAA Federal <Scott.Farley@noaa.gov>; Sebastian, Robert L (robert.sebastian@sol.doi.gov) <robert.sebastian@sol.doi.gov>; Vorkoper, Stephen R (stephen.vorkoper@sol.doi.gov) <stephen.vorkoper@sol.doi.gov>
Cc: Hajek, Luke (ENRD) <Luke.Hajek@usdoj.gov>; Brown, Mark (ENRD) <Mark.Brown@usdoj.gov>; Rosen, Perry (ENRD) <Perry.Rosen@usdoj.gov>
Subject: Vineyard Wind - RODA and Seafreeze Briefing Schedule

All,

Below is a proposed schedule for review of the RODA and Seafreeze summary judgment briefs. With the Thanksgiving holiday and the need for multiple layers of review within DOJ, we are working on a fairly tight timeline, but we are hopeful that this this schedule will afford sufficient time for review and revisions. Please let us know if you have any questions or would like to discuss, and thanks in advance for your hard work and valuable comments.

(b)(5)

Angela

From: [Hawbecker, Karen S](#)
To: [Annatoyn, Travis J](#)
Cc: [Meléndez-Arreaga, Pedro F](#)
Subject: Fw: Potential Community Member Compensation for the NY Bight PEIS
Date: Monday, November 28, 2022 6:39:29 PM
Attachments: [SQL Memo capacity building compensation mechanisms to advance ej.docx](#)

Travis, We received this memo from BOEM (b)(5)

--Karen

Karen Hawbecker
Associate Solicitor
Division of Mineral Resources
Office of the Solicitor
U.S. Department of the Interior
1849 C Street N.W. MS 5359
Washington, D.C. 20240

Office: (202) 208-4146 (this number is currently forwarded to my cell phone)
karen.hawbecker@sol.doi.gov

From: Bravo, Jessica J <jessica.bravo@boem.gov>
Sent: Tuesday, November 1, 2022 11:42 AM
To: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Cc: Mansfield, Laura C <Laura.Mansfield@boem.gov>; Parkison, Sara B <Sara.Parkison@boem.gov>; Brown, William Y <William.Brown@boem.gov>; Bosyk, Jennifer R <Jennifer.Bosyk@boem.gov>; Jordan, Brian <Brian.Jordan@boem.gov>
Subject: RE: Potential Community Member Compensation for the NY Bight PEIS

Hello Karen and Pedro,

I am Acting for Bill Brown this week. He instructed me to share the attached memo (b)(5). Please let us know if you need anything else for DGL to be able to provide advice on the matter.

All the best,
Jessica

--

Chief of Staff
Office of Environmental Programs

Department of the Interior
Bureau of Ocean Energy Management
1849 C Street, NW
Room 5242, MS 5238
Washington, DC 20240
Jessica.Bravo@boem.gov
202-208-2281 (o)
571-491-5333 (c)

From: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>
Sent: Wednesday, August 3, 2022 2:21 PM
To: Parkison, Sara B <Sara.Parkison@boem.gov>
Cc: Mansfield, Laura C <Laura.Mansfield@boem.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: Re: Potential Community Member Compensation for the NY Bight PEIS

Hi Sara, (b)(5) [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]. I'm looping Pedro in here, (b)(6) [REDACTED]
[REDACTED] He can assist you in coordinating with DGL once you've outlined your objectives and options. Thank you. --Karen

Karen Hawbecker
Associate Solicitor
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Office of the Solicitor
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Office: (202) 208-4146 (this number is currently forwarded to my cell phone)
karen.hawbecker@sol.doi.gov

From: Parkison, Sara B <Sara.Parkison@boem.gov>
Sent: Wednesday, August 3, 2022 1:14 PM
To: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>
Cc: Mansfield, Laura C <Laura.Mansfield@boem.gov>
Subject: RE: Potential Community Member Compensation for the NY Bight PEIS

Hi Karen – moving it off the mass email chain to save folks some emails in their inbox.

Happy to provide a briefing paper on the options we have outlined. But, I wonder if we could touch base in the next couple of days to clarify a couple of things. (b)(5)

Are you available for a half hour during any of the following times (ET):

Monday (8/8) 10-11am, 2:30pm, or 4-5pm

Tuesday (8/9) 11-1pm, or 4-5pm

Wednesday (8/10) 11-12pm

If none of these work, let me know and I'll offer some more options.

Thanks!

Sara

From: Brown, William Y <William.Brown@boem.gov>

Sent: Tuesday, August 2, 2022 2:11 PM

To: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Parkison, Sara B <Sara.Parkison@boem.gov>

Cc: Mansfield, Laura C <Laura.Mansfield@boem.gov>; Bravo, Jessica J <jessica.bravo@boem.gov>; Knodel, Marissa S <Marissa.Knodel@boem.gov>; Renick, Hillary E <hillary.renick@boem.gov>; Smith, Briana T <Briana.Smith@boem.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>

Subject: RE: Potential Community Member Compensation for the NY Bight PEIS

Thank you Karen. We can do that.

From: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>

Sent: Tuesday, August 2, 2022 2:09 PM

To: Parkison, Sara B <Sara.Parkison@boem.gov>; Brown, William Y <William.Brown@boem.gov>

Cc: Mansfield, Laura C <Laura.Mansfield@boem.gov>; Bravo, Jessica J <jessica.bravo@boem.gov>; Knodel, Marissa S <Marissa.Knodel@boem.gov>; Renick, Hillary E <hillary.renick@boem.gov>; Smith, Briana T <Briana.Smith@boem.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>

Subject: Re: Potential Community Member Compensation for the NY Bight PEIS

(b)(5)

. Thank you. --Karen

Karen Hawbecker
Associate Solicitor
Division of Mineral Resources

Office of the Solicitor
U.S. Department of the Interior
1849 C Street N.W. MS 5359
Washington, D.C. 20240

Office: (202) 208-4146 (this number is currently forwarded to my cell phone)
karen.hawbecker@sol.doi.gov

From: Parkison, Sara B <Sara.Parkison@boem.gov>
Sent: Tuesday, August 2, 2022 1:01 PM
To: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Brown, William Y <William.Brown@boem.gov>
Cc: Mansfield, Laura C <Laura.Mansfield@boem.gov>; Bravo, Jessica J <jessica.bravo@boem.gov>; Knodel, Marissa S <Marissa.Knodel@boem.gov>; Renick, Hillary E <hillary.renick@boem.gov>; Smith, Briana T <Briana.Smith@boem.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: RE: Potential Community Member Compensation for the NY Bight PEIS

Hi Karen – (b)(5) [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Sara

From: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>
Sent: Tuesday, August 2, 2022 12:46 PM
To: Parkison, Sara B <Sara.Parkison@boem.gov>; Brown, William Y <William.Brown@boem.gov>
Cc: Mansfield, Laura C <Laura.Mansfield@boem.gov>; Bravo, Jessica J <jessica.bravo@boem.gov>; Knodel, Marissa S <Marissa.Knodel@boem.gov>; Renick, Hillary E <hillary.renick@boem.gov>; Smith, Briana T <Briana.Smith@boem.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: Re: Potential Community Member Compensation for the NY Bight PEIS

Thanks, Sara. (b)(5) [REDACTED] --
Karen

Karen Hawbecker
Associate Solicitor
Division of Mineral Resources
Office of the Solicitor
U.S. Department of the Interior
1849 C Street N.W. MS 5359
Washington, D.C. 20240

Office: (202) 208-4146 (this number is currently forwarded to my cell phone)
karen.hawbecker@sol.doi.gov

From: Parkison, Sara B <Sara.Parkison@boem.gov>
Sent: Tuesday, August 2, 2022 12:09 PM
To: Brown, William Y <William.Brown@boem.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>
Cc: Mansfield, Laura C <Laura.Mansfield@boem.gov>; Bravo, Jessica J <jessica.bravo@boem.gov>; Knodel, Marissa S <Marissa.Knodel@boem.gov>; Renick, Hillary E <hillary.renick@boem.gov>; Smith, Briana T <Briana.Smith@boem.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: RE: Potential Community Member Compensation for the NY Bight PEIS

Hi Karen,

Thanks for the question. (b)(5) [Redacted]
[Redacted]
[Redacted]
[Redacted]
[Redacted]

[Redacted]
[Redacted]
[Redacted]
[Redacted]
[Redacted]
[Redacted]

Hope that helps to clarify things. Happy to hop on a call to discuss further. Thanks,

Sara

From: Brown, William Y <William.Brown@boem.gov>
Sent: Monday, August 1, 2022 6:40 PM
To: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>
Cc: Parkison, Sara B <Sara.Parkison@boem.gov>; Mansfield, Laura C <Laura.Mansfield@boem.gov>; Bravo, Jessica J <jessica.bravo@boem.gov>; Knodel, Marissa S <Marissa.Knodel@boem.gov>; Renick, Hillary E <hillary.renick@boem.gov>; Smith, Briana T <Briana.Smith@boem.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: Re: Potential Community Member Compensation for the NY Bight PEIS

Looking to Sarah to answer Karen's question.

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From: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>
Sent: Monday, August 1, 2022 6:24:28 PM
To: Brown, William Y <William.Brown@boem.gov>
Cc: Parkison, Sara B <Sara.Parkison@boem.gov>; Mansfield, Laura C <Laura.Mansfield@boem.gov>; Bravo, Jessica J <jessica.bravo@boem.gov>; Knodel, Marissa S <Marissa.Knodel@boem.gov>; Renick, Hillary E <hillary.renick@boem.gov>; Smith, Briana T <Briana.Smith@boem.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: Re: Potential Community Member Compensation for the NY Bight PEIS

Hi Bill, I'm looping in Pedro, who is our team lead on renewables. Can you tell us more about what you have in mind and give us an example of how this would play out? Thanks. --Karen

Karen Hawbecker
Associate Solicitor
Division of Mineral Resources
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Washington, D.C. 20240

Office: (202) 208-4146 (this number is currently forwarded to my cell phone)
karen.hawbecker@sol.doi.gov

From: Brown, William Y <William.Brown@boem.gov>
Sent: Monday, August 1, 2022 5:26 PM
To: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>
Cc: Parkison, Sara B <Sara.Parkison@boem.gov>; Mansfield, Laura C <Laura.Mansfield@boem.gov>; Bravo, Jessica J <jessica.bravo@boem.gov>; Knodel, Marissa S <Marissa.Knodel@boem.gov>; Renick, Hillary E <hillary.renick@boem.gov>; Smith, Briana T <Briana.Smith@boem.gov>
Subject: Potential Community Member Compensation for the NY Bight PEIS

Karen - (b)(5)

[REDACTED]
[REDACTED]
[REDACTED] We would much appreciate advice from SOL. Can you let me know whom BOEM staff should work with in SOL on this matter? Sara Parkison is the POC for BOEM.

Thank you!

Bill



United States Department of the Interior

BUREAU OF OCEAN ENERGY MANAGEMENT
WASHINGTON, DC 20240-0001

Information Memorandum

To: Karen Hawbecker and Pedro Meléndez-Arreaga
Division of Mineral Resources
Office of the Solicitor

Through: William Y. Brown
BOEM Chief Environmental Officer

From: Laura Mansfield and Sara Parkison
Division of Environmental Assessment
Office of Environmental Programs
Bureau of Ocean Energy Management

Subject: (b)(5) [Redacted]

Summary (one paragraph synopsis): (b)(5) [Redacted]

Background: (b)(5) [Redacted]

[Redacted]

(b)(5)

[Redacted text block]

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(b)(5)

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[Redacted]

[Redacted]

[Redacted]

[Redacted]

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[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

Contact: Laura Mansfield and Sara Parkison

From: [Bosyk, Jennifer R](#)
To: [Knodel, Marissa S](#); [Cruickshank, Walter](#); [Annatoyn, Travis J](#); [Lefton, Amanda B](#)
Cc: [Brown, William Y](#); [Meléndez-Arreaga, Pedro F](#); [Lewandowski, Jill K](#); [Jordan, Brian](#); [Davidson, Megan](#); [Elliton, Courtney E](#); [Farmer, Isis U](#); [Stromberg, Jessica A](#)
Subject: Re: Review Request - Updated analytic approach for the NYB PEIS
Date: Tuesday, November 29, 2022 10:23:13 AM

Of course, Marissa. Thank you.

Jennifer R. Bosyk

Chief, Branch of Environmental Coordination
Division of Environmental Assessment | Office of Environmental Programs
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pronouns: she/her

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Sterling, VA 20166
www.boem.gov

From: Knodel, Marissa S <Marissa.Knodel@boem.gov>
Sent: Tuesday, November 29, 2022 10:21:46 AM
To: Cruickshank, Walter <Walter.Cruickshank@boem.gov>; Bosyk, Jennifer R <Jennifer.Bosyk@boem.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Lefton, Amanda B <Amanda.Lefton@boem.gov>
Cc: Brown, William Y <William.Brown@boem.gov>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Lewandowski, Jill K <Jill.Lewandowski@boem.gov>; Jordan, Brian <Brian.Jordan@boem.gov>; Davidson, Megan <Megan.Davidson@boem.gov>; Elliton, Courtney E <courtney.elliton@boem.gov>; Farmer, Isis U <Isis.Farmer@boem.gov>; Stromberg, Jessica A. <Jessica.Stromberg@boem.gov>
Subject: Re: Review Request - Updated analytic approach for the NYB PEIS

Thanks very much, Jen and team. I have similar confusion about the (b)(5) and no additional comments at this time. I would like to join the brief call to review the structure, when scheduled.

Peace,

Marissa Knodel
Senior Advisor, Bureau of Ocean Energy Management
202.538.2415
Marissa.Knodel@boem.gov

From: Cruickshank, Walter <Walter.Cruickshank@boem.gov>
Sent: Tuesday, November 29, 2022 8:23 AM
To: Bosyk, Jennifer R <Jennifer.Bosyk@boem.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Lefton, Amanda B <Amanda.Lefton@boem.gov>

Cc: Knodel, Marissa S <Marissa.Knodel@boem.gov>; Brown, William Y <William.Brown@boem.gov>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Lewandowski, Jill K <Jill.Lewandowski@boem.gov>; Jordan, Brian <Brian.Jordan@boem.gov>; Davidson, Megan <Megan.Davidson@boem.gov>; Elliton, Courtney E <courtney.elliton@boem.gov>; Farmer, Isis U <Isis.Farmer@boem.gov>; Stromberg, Jessica A. <Jessica.Stromberg@boem.gov>
Subject: Re: Review Request - Updated analytic approach for the NYB PEIS

Sounds good.

Thanks,
Walter

From: Bosyk, Jennifer R <Jennifer.Bosyk@boem.gov>
Sent: Tuesday, November 29, 2022 8:22 AM
To: Cruickshank, Walter <Walter.Cruickshank@boem.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Lefton, Amanda B <Amanda.Lefton@boem.gov>
Cc: Knodel, Marissa S <Marissa.Knodel@boem.gov>; Brown, William Y <William.Brown@boem.gov>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Lewandowski, Jill K <Jill.Lewandowski@boem.gov>; Jordan, Brian <Brian.Jordan@boem.gov>; Davidson, Megan <Megan.Davidson@boem.gov>; Elliton, Courtney E <courtney.elliton@boem.gov>; Farmer, Isis U <Isis.Farmer@boem.gov>; Stromberg, Jessica A. <Jessica.Stromberg@boem.gov>
Subject: Re: Review Request - Updated analytic approach for the NYB PEIS

Walter,
Thank you very much for your review of the document and for your questions. You make good points (b)(5).
However, I think it would be good for us to talk through it to ensure we are on the same page, particularly around the No Action. If you do not object, I will give a few more days for others who may have questions and then set up a brief teams call to discuss.
Thanks,
Jen

Jennifer R. Bosyk

Chief, Branch of Environmental Coordination
Division of Environmental Assessment | Office of Environmental Programs
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pronouns: she/her

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From: Cruickshank, Walter <Walter.Cruickshank@boem.gov>
Sent: Monday, November 28, 2022 4:49:37 PM
To: Bosyk, Jennifer R <Jennifer.Bosyk@boem.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Lefton, Amanda B <Amanda.Lefton@boem.gov>

Cc: Knodel, Marissa S <Marissa.Knodel@boem.gov>; Brown, William Y <William.Brown@boem.gov>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Lewandowski, Jill K <Jill.Lewandowski@boem.gov>; Jordan, Brian <Brian.Jordan@boem.gov>; Davidson, Megan <Megan.Davidson@boem.gov>; Elliton, Courtney E <courtney.elliton@boem.gov>; Farmer, Isis U <Isis.Farmer@boem.gov>

Subject: Re: Review Request - Updated analytic approach for the NYB PEIS

Hi Jen,

Thanks for putting this together.

I'm hoping you can help me to better understand the structure (b)(5)

[Redacted]

- [Redacted]
- [Redacted]

I expect I'm misunderstanding the structure, and would appreciate someone providing me more of an explanation. Happy to do so on a Teams call as probably a more efficient way to enlighten me, but can wait to see if anyone else wants to take you up on an offer for a briefing.

Thanks,
Walter

From: Bosyk, Jennifer R <Jennifer.Bosyk@boem.gov>
Sent: Wednesday, November 23, 2022 9:49 AM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Lefton, Amanda B <Amanda.Lefton@boem.gov>
Cc: Cruickshank, Walter <Walter.Cruickshank@boem.gov>; Knodel, Marissa S

<Marissa.Knodel@boem.gov>; Brown, William Y <William.Brown@boem.gov>; Meléndez-Arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Lewandowski, Jill K <Jill.Lewandowski@boem.gov>; Jordan, Brian <Brian.Jordan@boem.gov>; Davidson, Megan <Megan.Davidson@boem.gov>; Elliton, Courtney E <courtney.elliton@boem.gov>; Farmer, Isis U <Isis.Farmer@boem.gov>

Subject: Review Request - Updated analytic approach for the NYB PEIS

Amanda and Travis,

The BOEM OEP team has been working closely with DMR's Offshore Renewable Energy Team to refine the analytic approach for the programmatic EIS for the New York Bight. The scoping period for the PEIS closed earlier this year and our team has considered the needs of the cooperating agencies, including NMFS, to ensure that the alternatives as well as the structure and approach of the document meet our collective needs in order to streamline and focus analysis at the COP NEPA stage. We plan to share this approach and the alternatives with the cooperating agencies next month.

See below for the link to the document that briefly summarizes the analytic approach to the PEIS, including the most recent version of the alternatives for analysis. The BOEM OEP team would greatly appreciate your review and buy-in on this approach. I would be happy to schedule a briefing to provide more information and answer questions if necessary.

 [Analytic Approach November2022.docx](#)

Thank you on behalf of the NYB PEIS team,
Jen

JENNIFER R. BOSYK

Chief, Branch of Environmental Coordination
Division of Environmental Assessment | Office of Environmental Programs
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pronouns: she/her

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Sterling, VA 20166
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From: [Meléndez-arreaga, Pedro F](#)
To: [Annatoyn, Travis J](#); [Daugherty, Dennis](#); [Hawbecker, Karen S](#); [Vorkoper, Stephen R](#)
Cc: [Sebastian, Robert L](#); [Sarver, Kathryn M](#)
Subject: Fw: South Fork MOA Executed
Date: Tuesday, November 23, 2021 10:41:27 PM
Attachments: [SFWF MOA 2021-11-11 FINAL Executed.pdf](#)

All,

The MOA was executed today. Congrats to Stephen, he did a great job!

The ASLM is expected to sign the ROD tomorrow, once BOEM takes care of some last-minute proposed edits/comments from NOAA. I had a call with BOEM on these last-minute proposed edits/comments. BOEM felt that only one comment warranted my attention. I advised BOEM to make the edit so that our language matches that in the IHA, and they agreed to do so.

BOEM is aware that I'm out the rest of the week, but that they can call me at my mobile phone if they need to reach me. I also informed BOEM that Bob is acting for me tomorrow. Knock on wood, but I don't expect any drama tomorrow.

On Friday Kathryn Sarver will be acting for me. If you need to reach me, please call (b)(6)

I hope you have a great Thanksgiving!

Best,

PFM

Pedro Melendez-Arreaga
Lead Attorney-Advisor
Offshore Renewable Energy Team
Division of Mineral Resources
Office of the Solicitor
Department of the Interior

From: Stokely, Sarah C <Sarah.Stokely@boem.gov>
Sent: Tuesday, November 23, 2021 6:00 PM
To: Lefton, Amanda B <Amanda.Lefton@boem.gov>; Cruickshank, Walter <Walter.Cruickshank@boem.gov>; Boatman, Mary C <Mary.Boatman@boem.gov>; Morin, Michelle <Michelle.Morin@boem.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Cc: Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Subject: South Fork MOA Executed

Hi Amanda, Walter, Pedro, Mary, and Michelle,

Here is the executed MOA!

The ACHP will be sending a formal email with a cover letter to BOEM and the consulting parties this evening. I will send an email to the consulting parties, as well, notifying them the MOA is executed.

Thank you for all your help with this Section 106 review and executing this agreement!

Have a Happy Thanksgiving!

Sarah

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**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,
THE RHODE ISLAND STATE HISTORIC PRESERVATION OFFICER,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE SOUTH FORK WIND FARM
AND SOUTH FORK EXPORT CABLE PROJECT**

WHEREAS, the Bureau of Ocean Energy Management (BOEM) plans to authorize construction and operation of the South Fork Wind Farm and South Fork Export Cable Project (Project) pursuant to Section 8(p)(1)(C) of the Outer Continental Shelf (OCS) Lands Act (43 U.S.C. 1337(p)(1)(C)), as amended by the Energy Policy Act of 2005 (Public Law No. 109-58) and in accordance with Renewable Energy Regulations at 30 Code of Federal Regulations (CFR) Part 585; and

WHEREAS, BOEM has determined that the Project constitutes an undertaking subject to Section 106 of the National Historic Preservation Act (NHPA), as amended (54 USC 306108), and its implementing regulations (36 CFR 800); and

WHEREAS, BOEM plans to approve with conditions the Construction and Operations Plan (COP) submitted by South Fork Wind, LLC (SFW); and

WHEREAS, the construction, operation, maintenance, and eventual decommissioning of the Project, planned for up to 15 offshore Wind Turbine Generators (WTGs), an offshore and an onshore substation, offshore and onshore export cables, and an onshore operations and maintenance (O&M) facility, will adversely affect historic properties as defined under 36 CFR 800.16(l); and

WHEREAS BOEM has prepared an Environmental Impact Statement (EIS) for the Project pursuant to the National Environmental Policy Act (42 USC 4321 et seq.) (NEPA) and has coordinated the NEPA process with its Section 106 consultation; and

WHEREAS the Project is within a commercial lease area that has been subject to previous NHPA Section 106 review by BOEM regarding the issuance of the commercial lease and approval of site assessment activities. The commercial lease area is also subject to two prior Programmatic Agreements (PAs), regarding the leasing and site assessment activities offshore Massachusetts and Rhode Island (*Programmatic Agreement Among The U.S. Department of the Interior, Bureau of Ocean Energy Management; The State Historic Preservation Officers of Massachusetts and Rhode Island; The Mashpee Wampanoag Tribe; The Narragansett Indian Tribe; The Wampanoag Tribe of Gay Head (Aquinnah); and The Advisory Council on Historic Preservation; Regarding the “Smart from the Start” Atlantic Wind Energy Initiative: Leasing and Site Assessment Activities offshore Massachusetts and Rhode Island;* and regarding review of OCS renewable energy activities offshore New Jersey and New York (*Programmatic Agreement Among The U.S. Department of the Interior, Bureau of Ocean Energy Management, The State Historic Preservation Officers of New Jersey and New York, The Shinnecock Indian Nation, and The Advisory Council on Historic Preservation Regarding Review of Outer Continental Shelf Renewable Energy Activities Offshore New Jersey and New York Under Section 106 of the National Historic Preservation Act*); and

WHEREAS, consistent with 36 CFR 800.16(d) and BOEM’s *Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585* (May 27, 2020), BOEM has defined the area of potential effects (APE) for the undertaking as the depth and breadth of the seabed potentially impacted by any bottom-disturbing activities, constituting the marine archaeological resources portion of the APE (marine APE); the depth and breadth of terrestrial areas potentially impacted by any ground disturbing activities, constituting the terrestrial archaeological resources portion of the APE

(terrestrial APE); the viewshed from which offshore or onshore renewable energy structures would be visible, constituting the viewshed portion of the APE (viewshed APE); and any temporary or permanent construction or staging areas that may fall into any of the aforementioned offshore or onshore portions of the APE (see Attachment 1 overview map); and

WHEREAS, BOEM has identified 113 aboveground historic properties in the offshore Project components' portion of the viewshed APE and four historic properties in the onshore Project components' portion of the viewshed APE; four shipwrecks and eight ancient submerged landforms and features (ASLFs) in the marine APE; and no historic properties in the terrestrial APE; and

WHEREAS, within the range of Project alternatives analyzed in the EIS, BOEM determined that 10 aboveground historic properties would be subject to adverse visual effects from WTGs, five ASLFs would be adversely affected due to physical disturbance from export cable construction, and no historic properties in the terrestrial APE would be adversely affected with implementation of the undertaking; and

WHEREAS, BOEM has determined that the avoidance measures identified in this MOA will avoid adverse effects to 103 aboveground historic properties in the offshore Project components' portion of the viewshed APE and four historic properties in the onshore Project components' portion of the viewshed APE, and to four shipwrecks and three ASLFs in the marine APE; and

WHEREAS, BOEM has determined all of the ASLFs identified in the marine APE are eligible for the National Register of Historic Places (NRHP) under Criteria A and D and has determined, under each of the Project alternatives analyzed in the EIS, that the undertaking will adversely affect the following five ASLFs: SFEC-CF-3, SFEC-CF-5, SFEC-CF-7, SFEC-CF-9, SFEC-CF-13; and

WHEREAS, under each of the Project alternatives analyzed in the EIS, the undertaking would have an adverse effect on these 10 aboveground historic properties: Block Island Southeast Lighthouse National Historic Landmark (NHL), Old Harbor Historic District, Spring House Hotel, Spring House Hotel Cottage, Spring Street Historic District, Capt. Mark L. Potter House, Vaill Cottage, Gay Head Light (MHC #GAY.900), Gay Head – Aquinnah Shops (MHC #GAY.B), Vineyard Sound and Moshup's Bridge Traditional Cultural Property (TCP); and

WHEREAS, BOEM has consulted with the Massachusetts State Historic Preservation Officer (SHPO), the Rhode Island SHPO, and the New York SHPO pursuant to the Section 106 regulations, including consideration of the potential effects to the NHLs as required under NHPA Section 110(f) (54 USC 306107) and 36 CFR 800.10; and

WHEREAS, throughout this document the term 'Tribe,' has the same meaning as 'Indian Tribe,' as defined at 36 CFR 800.16(m); and

WHEREAS, BOEM has consulted with the following federally recognized Tribes who may attach religious and cultural significance to historic properties in the APE: the Mashantucket Pequot Tribal Nation, Mohegan Tribe of Indians of Connecticut, Narragansett Indian Tribe, Mashpee Wampanoag Tribe, Shinnecock Indian Nation, Delaware Tribe of Indians, Delaware Nation, and Wampanoag Tribe of Gay Head (Aquinnah); and

WHEREAS, the Mashantucket Pequot Tribal Nation, Mashpee Wampanoag Tribe, and Wampanoag Tribe of Gay Head (Aquinnah) have requested to be invited signatories and BOEM has invited them to be invited signatories to this MOA pursuant to 36 CFR 800.6; and

WHEREAS, BOEM invited the Narragansett Indian Tribe to sign the MOA as an invited signatory due to the Tribe's participation in other related on-going agreements with BOEM in the geography of the APE and its earlier participation in this consultation; and

WHEREAS, in accordance with 36 CFR 800.3, BOEM invited other federal agencies, state and local governments, and additional consulting parties with a demonstrated interest in the undertaking to participate in this consultation, the list of those accepting participation and declining to participate by either written response or no response to direct invitations are listed in Attachment 2; and

WHEREAS, BOEM has consulted with SFW in its capacity as applicant seeking federal approval of the COP, and, because SFW has responsibilities under the MOA, BOEM has invited the applicant to be an invited signatory to this MOA; and

WHEREAS, construction of the Project requires a Department of the Army permit from the United States Army Corps of Engineers (USACE) for activities which result in the discharge of dredged or fill material into jurisdictional wetlands and/or other waters of the United States pursuant to Section 404 of the Clean Water Act, and activities occurring in or affecting navigable waters of the United States pursuant to Section 10 of the Rivers and Harbors Act; and

WHEREAS, BOEM invited USACE to consult since USACE will be issuing permits for this Project under Section 404 of the Clean Water Act (33 USC 1344) and Section 10 of the Rivers and Harbors Act (33 USC 403); and

WHEREAS, the USACE designated BOEM as the Lead Federal Agency pursuant to 36 CFR 800.2(a)(2) to act on its behalf for purposes of compliance with Section 106 for this Project (in a letter dated November 6, 2018), and USACE has accepted the invitation to sign this MOA as a concurring party; and

WHEREAS, BOEM has notified the Secretary of the Interior (SOI), through the National Park Service (NPS) as the SOI's delegate, of consultation involving NHLs and has invited the NPS to participate in the consultation for this Project, the NPS has chosen to participate in the consultation pursuant to 36 CFR 800.10(c), and BOEM has invited the NPS to sign this MOA as a concurring party; and

WHEREAS, in accordance with 36 CFR 800.6(a)(1), BOEM has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination with specified documentation, including requesting that the ACHP consult on the resolution of adverse effects to the NHL pursuant to 36 CFR 800.10(b), and the ACHP has chosen to participate in the consultation pursuant to 36 CFR 800.6(a)(1)(iii); and

WHEREAS, BOEM has consulted with the signatories, invited signatories, and consulting parties participating in the development of this MOA regarding the definition of the undertaking, the delineation of the APEs, the identification and evaluation of historic properties, the assessment of potential effects to the historic properties, and on measures to avoid minimize, and mitigate adverse effects to historic properties; and

WHEREAS, BOEM has planned and is taking action to avoid adverse effects to six NHLs in the viewshed APE—The Breakers, Marble House, Bellevue Avenue Historic District, Ocean Drive Historic District, Battle of Rhode Island Historic District, and Montauk Point Lighthouse—as explained in BOEM's 2021 *Finding of Adverse Effect for the South Fork Wind Farm and South Fork Export Cable Construction and Operations Plan* (hereafter, the Finding of Effect, and dated August 2021), such measures to include WTG size and spacing considerations as well as the established distance of the Project from these NHLs; and

WHEREAS, BOEM has, to the maximum extent possible, undertaken planning and actions to minimize harm to the one NHL (Block Island Southeast Lighthouse) that may be directly and adversely affected by the undertaking, including consultation on and execution of this MOA; and

WHEREAS, BOEM has determined that: all feasible alternatives, including all feasible WTG layouts, would result in adverse visual effects to the Block Island Southeast Lighthouse NHL; the magnitude of the visual effects on the NHL is minor given the small number of WTGs, their distance from the NHL, and the presence of existing WTGs visible from the NHL; and this undertaking contributes to the public interest in using the OCS to develop clean energy sources; and

WHEREAS, BOEM has planned actions to minimize adverse effects and harm to Block Island Southeast Lighthouse NHL, including: planned distance of the SFW Lease Area from the NHL, uniform WTG design, speed, height, and rotor diameter to reduce visual contrast, uniform spacing of WTGs to decrease visual clutter, reduced number of constructed WTGs from 15 to 12, and lighting and marking requirements to minimize visibility; and BOEM has planned actions through the development of this MOA to mitigate adverse effects to Block Island Southeast Lighthouse NHL after application of minimization actions; and

WHEREAS, pursuant to 36 CFR 800.6, certain consulting parties have been invited to sign this MOA as invited signatories and the consulting parties as listed in Attachment 2 are invited to sign this MOA as concurring parties, however the refusal of any consulting party to sign this MOA or otherwise concur does not invalidate or affect the effective date of this MOA, and consulting parties who choose not to sign this MOA will continue to receive information if requested and have an opportunity to participate in consultation as specified in this MOA; and

WHEREAS, the signatories agree, consistent with 36 CFR 800.6(b)(2), that adverse effects will be resolved in the manner set forth in this MOA; and

WHEREAS, BOEM sought and considered the views of the public regarding Section 106 for this Project through the NEPA process by holding public scoping meetings when initiating the NEPA and NHPA Section 106 review and in public meetings related to the Draft EIS; and

WHEREAS, BOEM made the first Draft MOA available to the public for review and comment from August 23, 2021, to September 27, 2021, and made an updated version of the Draft MOA available to the public from October 22, 2021, to November 9, 2021, using BOEM's Project website, and BOEM did not receive any comments from the public; and

NOW, THEREFORE, BOEM and the Massachusetts SHPO, the Rhode Island SHPO, the New York SHPO, and the ACHP agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

STIPULATIONS

BOEM, with the assistance of SFW, shall ensure that the following measures are carried out as conditions of its approval of the undertaking:

I. MEASURES TO AVOID ADVERSE EFFECTS TO IDENTIFIED HISTORIC PROPERTIES

A. Marine APE

1. BOEM will include the following avoidance measures for adverse effects within the marine APE as conditions of approval of the SFW COP:
 - i. SFW will avoid shipwrecks and potentially significant debris fields previously identified during marine archaeological resource assessments for the Project by a distance of no less than 50 meters from the known extent of the resource for placement of Project structures and when conducting seafloor-disturbing activities.

- ii. SFW will use the micrositing of Project installation and seafloor-disturbing activities to avoid three ASLFs (as determined in BOEM’s Finding of Effect) and to avoid, if possible, or minimize disturbance of the other five ASLFs previously identified during marine archaeological surveys of the Project, to the extent practicable (as determined in the Finding of Adverse Effect).

B. Viewshed APE

1. BOEM will include the following avoidance measures for adverse effects within the viewshed APE as conditions of approval of the SFW COP:
 - i. To maintain avoidance of adverse effects to historic properties in the viewshed APE where BOEM determined no adverse effects or where no effects would occur, BOEM will require SFW to ensure Project structures are within the design envelope, sizes, scale, locations, lighting prescriptions, and distances that were used by BOEM to inform the definition of the APE for the Project and for determining effects in the Finding of Effect (see the *Construction & Operations Plan: South Fork Wind Farm*, May 7, 2021). Within that design envelope, SFW will use WTGs of 6 to 12 megawatts in size, not exceeding 840 feet in height above mean sea level to blade tip, and set on a monopole foundation not exceeding 11 meters in pile diameter. SFW has committed to siting WTGs in a grid with approximately 1.15 mile by 1.15 mile (1 nautical mile [NM]) spacing that aligns with other proposed adjacent offshore wind projects in the Rhode Island-Massachusetts Wind Energy Area. Micro-siting of foundations will occur in the lease area within a 500-foot radius around locations identified in the indicative layout scenario, while maintaining the 0.6-nm-wide transit lanes as recommended by the U.S. Coast Guard. As it relates to six NHLs in the viewshed APE—The Breakers, Marble House, Bellevue Avenue Historic District, Ocean Drive Historic District, Battle of Rhode Island Historic District, and Montauk Point Lighthouse—the above measures, as well as the established distance of the Project from these NHLs would avoid adverse effects to these NHLs.

II. MEASURES TO MINIMIZE ADVERSE EFFECTS TO IDENTIFIED HISTORIC PROPERTIES

A. Marine APE

1. BOEM will include the following minimization measures for adverse effects within the marine APE as conditions of approval of the SFW COP:
 - i. SFW will install cabling at a target depth of 4 to 6 feet, and no more than 15 feet, to minimize and potentially avoid impacts to any deeply buried archaeological deposits at ASLFs.
 - ii. SFW will use a mechanical cutter, mechanical plow, and/or jet plow to install cable to reduce the amount of seabed impact relative to the amount that would result from mechanical dredging, which would assist in limiting the construction footprint and work areas at any adversely affected ASLFs in the South Fork Export Cable (SFEC) construction corridor where seabed conditions allow. As-built drawings that SFW will provide to BOEM will identify where target burial depth is not achieved using mechanical cutter, mechanical plow, and/or jet plow. Once accepted by BOEM, SFW will include this documentation in the subsequent annual report provided under the Monitoring and Reporting Stipulation (Stipulation X) including the reasons why these methods could not be achieved.

B. Viewshed APE

1. BOEM has undertaken planning and actions to minimize adverse effects and harm to Block Island Southeast Lighthouse NHL, including the minimization measures specified below and described in BOEM's Finding of Effect. These minimization measures will also minimize adverse effects to the other aboveground historic properties in the view shed APE. BOEM will include these minimization measures for adverse effects within the viewshed APE as conditions of approval of the SFW COP:
 - i. SFW will use uniform WTG design, speed, height, and rotor diameter to reduce visual contrast and decrease visual clutter.
 - ii. SFW will install no more than 12 WTGs.
 - iii. SFW will color the WTGs an off white/gray color (no lighter than RAL 9010 Pure White and no darker than RAL 7035 Light Gray), prior to commercial operation to reduce visual contrast during daytime hours.
 - iv. SFW will use uniform spacing of 1 NM (1.15 mile) to decrease visual clutter, consistent with spacing across the Rhode Island-Massachusetts Wind Energy Areas, aligning WTGs to allow for safe transit corridors.
 - v. SFW will use an aircraft detection lighting system (ADLS) to limit the time in which WTG lights are on and visible from adversely affected properties. Lighting used will be consistent with BOEM's *Guidelines for Lighting and Marking of Structures Supporting Renewable Energy Development* (April 28, 2021) to reduce light intrusion. SFW will provide the technical specifications of the ADLS to signatories, invited signatories, and consulting parties before installation of WTGs and BOEM will include these specifications as an attachment to this MOA.

III. MEASURES TO MITIGATE ADVERSE EFFECTS TO IDENTIFIED HISTORIC PROPERTIES

- A. BOEM, with the assistance of SFW, will develop and implement Historic Properties Treatment Plans (HPTPs) pursuant to Stipulation IV below in consultation with the signatories, invited signatories, and property owners and consulting parties who have a demonstrated interest in a specific historic property. HPTPs will provide the details and specifications for actions, consisting of or at least equivalent to those substantive baseline mitigation measures BOEM has identified in Stipulation III.B and III.C below to resolve the adverse effects to each historic property. (Throughout this MOA the term "substantive baseline" refers to these mitigation measures.) The range of mitigation measures and conditions specified at III.B and III.C for potential inclusion in the HPTPs were developed by individuals who meet the qualifications specified in the SOI's Qualifications Standards for Archeology, History, Architectural History, and/or Architecture (36 CFR 61, Appendix A) and are appropriate to fully address the nature, scope, size, and magnitude of adverse effects including cumulative effects caused by the Project, NRHP-qualifying characteristics of each historic property that would be affected, and the heightened significance and concerns of the NHL. These mitigation measures also include actions to respond to some reasonably foreseeable hazards unrelated to the Project that pose risks to the long-term preservation of affected historic properties, such as climate change. The HPTPs will be developed and implemented following the process described in Stipulation IV to ensure such measures provide adequate details on specific measures and are carried out fully, and effectively.

B. Marine APE

1. BOEM will require, with the assistance of SFW, the development and implementation of an HPTP that includes the following mitigation measures to resolve adverse effects within the marine APE:
 - i. Mitigation measures for the ASLFs (SFEC-CF-3, SFEC-CF-5, SFEC-CF-7, SFEC-CF-9, and SFEC-CF-13). Additional investigations within the SFEC construction corridor will be performed by SFW at the ASLFs adversely affected by SFEC construction. These investigations will be conducted by an SFW-assembled team, qualified in marine archaeology and that meet SOI Professional Qualifications Standards in archaeology (Stipulation VII). SFW will work with BOEM, the New York SHPO as appropriate to the property location, invited signatories, and consulting parties who have a demonstrated interest in the property to develop a HPTP (pursuant to Stipulation IV). SFW will be responsible for funding the mitigation measures specified in the HPTP (see Attachment 3 for proposed funding amounts). The potential mitigation measures listed below were presented during previous Section 106 consultation meetings for this Project and serve as part of the Substantive Baseline of specific mitigation measures that is sufficient to resolve the adverse effects to the ASLFs. The HPTP will provide the details and specifications for actions, consisting of or at least equivalent to these mitigation measures. BOEM, in consultation with the signatories, invited signatories, and consulting parties who have a demonstrated interest in the ASLFs, will ensure that any deviations in the HPTP from the measures listed below will remain comparable to the Substantive Baseline established in this list. The ASLFs' mitigation measures and supporting actions to resolve adverse effects will be developed from the following:
 - a. Prior to commencing seafloor disturbing construction activities for the SFEC at the affected ASLF, SFW will conduct geotechnical investigations by collecting vibracore samples of the Project-affected ASLFs to obtain physical samples of preserved terrestrial soils and associated sediments sufficient for detailed analyses and interpretations of ancient environmental conditions and changes to the ancient terrestrial landscape prior to, or during, submergence of the landscape. To avoid unnecessary disturbance of the ASLFs, vibracores will be placed within areas of anticipated Project-related seabed disturbance where feasible. Any sampling of ASLFs elements located outside areas of anticipated construction activities will be minimized and only considered where necessary to meet research objectives developed through consultation on the HPTP.
 - b. Apply suitable archaeological techniques for identifying and recovering cultural materials, such as small stone debris associated with the ancient manufacture of stone tools, potential food remains, or other direct or indirect evidence of ancient indigenous use of the ASLFs, as may be present within vibracore samples.
 - c. BOEM and SFW will provide opportunity for consulting Tribes to refine the geotechnical survey focus and scope within the SFEC construction corridor to formally include TCPs, if any, consistent with 36 CFR 800.4(b)(2). This purposeful effort will be jointly led by Tribes and the marine archaeologists team to facilitate the sharing of marine data with all parties, conditioned on the consulting Tribe's consent to share that information.
 - d. Collaborate with the consulting Tribes on the selection of sampling locations within the SFEC construction corridor to enhance collection and interpretations of data of interest to archaeological and traditional cultural practitioners and knowledge keepers.

- e. Collaborate with the consulting Tribes on laboratory analyses to enhance opportunities to address research questions of interest to archaeologists and indigenous knowledge keepers.
- f. Provide geographic information systems (GIS) data sharing via an open source, accessible software platform among consulting Tribes to enhance aggregation of ASLFs information from research conducted on the northeastern United States OCS.
- g. Prepare interpretive reports or presentations for inter- or intra-tribal use to share new knowledge obtained from the SFW investigations and appreciation of indigenous traditions regarding the OCS.
- h. With the consent of the consulting Tribes, publish and/or present the results of the investigations for professional archaeological audiences to enhance future identification and preservation opportunities related to ASLFs resources on the OCS.
- i. SFW funding towards the environmental and archaeological analyses of ASLFs samples, consistent with options listed above, will be inclusive of appropriate compensation for participation by tribal representatives and researchers of consulting Tribes.

C. Viewshed APE

1. BOEM will resolve the adverse effects, to the Block Island Southeast Lighthouse NHL and the other historic properties (Old Harbor Historic District, Spring House Hotel, Spring House Hotel Cottage, Spring Street Historic District, Capt. Mark L. Potter House, Vaill Cottage, Gay Head Light, Gay Head – Aquinnah Shops, Vineyard Sound and Moshup’s Bridge TCP) that may be adversely affected due to visual effects from the Project, through the development and implementation of one or multiple HPTPs. BOEM and SFW will ensure the following requirements, relevant to each specific historic property at III.C.1.i-vi, are included in that property’s HPTP(s) regardless of the specific mitigation measures to be implemented. The mitigation measures to resolve adverse effects for the 10 adversely affected historic properties follow at III.C.2.
 - i. Block Island Southeast Lighthouse NHL. After application of the measures in Stipulation II to minimize adverse effects to Block Island Southeast Lighthouse NHL, BOEM requires further mitigation of adverse effects to the NHL, at least equivalent to the Substantive Baseline of mitigation measures included in Stipulation III.C.2 below that reflect the heightened, national importance of the property and are appropriate in scope, scale, and nature to the adverse effect, pursuant to SOI Standards and Guidelines for Federal Agency Historic Preservation Programs Pursuant to the National Historic Preservation Act; 63 FR 20495-2058. The mitigation of adverse effects to the Block Island Southeast Lighthouse NHL will be memorialized in a HPTP. The conditions of the historic preservation easement held by the Rhode Island Historical Preservation and Heritage Commission (RIHPHC) will be met for mitigation applied at the Block Island Southeast Lighthouse NHL. Any on-site mitigation work will additionally follow Town of New Shoreham’s Building, Zoning, Land Use and Planning requirements as appropriate for local permitting, in addition to applying select mitigation as specified in Stipulation III.C.2.
 - ii. Old Harbor Historic District, Spring House Hotel within the district, and the connected Spring House Hotel Cottage. Any on-site mitigation work at these properties within the Town of New Shoreham’s Historic District Overlay for zoning will follow the town’s Historic District Commission Guidelines and its Building, Zoning, Land Use and Planning

- requirements, as appropriate for local permitting, in addition to applying select mitigation as specified in Stipulation III.C.2. Any mitigation work within the Old Harbor Historic District on historic properties that are subject to historic preservation easements, such as those held by the RIHPHC, will meet the conditions in the historic preservation easement.
- iii. Vaill Cottage. Any on-site mitigation work at historic properties beyond the Town of New Shoreham's Historic District Overlay for zoning will pursue design and construction approaches fitting to the island's traditional style in accordance with the town's most current Comprehensive Plan at the time this MOA is executed and will follow the town's Building, Zoning, Land Use and Planning requirements, as appropriate for local permitting, in addition to applying select mitigation as specified in Stipulation III.C.2.
 - iv. Gay Head Light. For any select mitigation performed directly on Gay Head Light, the HPTP will be consistent with the Preservation Restriction at Massachusetts General Law Chapter 184, Section 31-33. To meet the Preservation Restriction, SFW will submit proposed scopes of work, draft text, design specifications, and any other associated materials to the Gay Head Lighthouse Advisory Board and the Massachusetts SHPO for review and comment as they are developed, and no less than 30 days prior to commencement of the work. Massachusetts SHPO will review and approve the HPTP under the terms of Preservation Restriction.
 - v. Gay Head – Aquinnah Shops. Any physical repairs or other alterations of buildings, features, or landscape elements will be consistent with the Decision of the Martha's Vineyard Commission Designating Gay Head Cliffs as District of Critical Planning Concern (May 4, 1989) and on-site mitigation work within this historic district will follow the Town of Aquinnah's Zoning By-laws, as appropriate for local permitting, in addition to applying select mitigation as specified in Stipulation III.C.2.
 - vi. Vineyard Sound and Moshup's Bridge TCP. SFW will develop the HPTP on this historic property in collaboration with Tribal Historic Preservation Officer(s) from the Wampanoag Tribe of Gay Head (Aquinnah) and Mashpee Wampanoag Tribe, in addition to Massachusetts SHPO, in recognition of the fact that the Tribes are the cultural bearers of their oral history.
2. Mitigation measures for the 10 adversely affected historic properties identified in the viewshed APE.
 - i. To resolve adverse effects to these properties, SFW will work with BOEM, the Rhode Island or Massachusetts SHPO as appropriate to the property location, invited signatories, and property owners and consulting parties who have a demonstrated interest in each affected property to develop a HPTP. The mitigation measures listed below serve as part of the Substantive Baseline. The Substantive Baseline provides the specific mitigation, sufficient to resolve adverse effects for each historic property. These mitigation measures may be refined through the HPTP consultation process in Stipulation IV. The mitigation measures were presented during previous Section 106 consultation meetings for this Project. SFW will be responsible for funding the mitigation measures specified in the HPTP. See Attachment 3 for proposed budgets for each mitigation effort, reflecting good faith estimates, based on the experience of qualified consultants with similar activities and comparable historic properties. The signatories, invited signatories, and property owners and consulting parties who have a demonstrated interest in each affected historic property may develop an HPTP for a single property or--if SFW, a majority of the parties, and the relevant SHPO agree (and that agreement is confirmed by BOEM)--a group of properties. The mitigation measures are designed to replace the lost value from the diminishment of

the historic property's integrity by the Project with outcomes that are in the public interest. The HPTP will provide the details and specifications for the actions, consisting of or at least equivalent to the mitigation measures in subsections a through l below. BOEM, in consultation with the signatories, invited signatories, and property owners and consulting parties who have a demonstrated interest in each affected historic property, will ensure that any deviations from the measures listed below for each historic property, as reflected in the HPTP, will remain comparable to the Substantive Baseline established in this list. The viewshed mitigation measures and supporting actions to resolve adverse effects will be developed from the following:

- a. Block Island Southeast Lighthouse Interpretation and Education. The HPTP will direct the design and development of interpretive exhibits and/or public education materials to present the history of shoreline change from the period of lighthouse construction to the present, the mechanisms of bluff retreat, and how the integrity of the Block Island Southeast Lighthouse's historic setting atop the bluffs contributes to the significance of the NHL with the goal of enhancing public awareness and appreciation of the Block Island Southeast Lighthouse NHL's historic setting and location atop Mohegan Bluff and the hazards posed by sea level rise and coastal erosion.
- b. Resilience planning for Block Island Southeast Lighthouse NHL. The HPTP will address research on feasible means of addressing current or foreseeable hazards to Block Island Southeast Lighthouse presented by coastal bluff erosion or other environmental conditions connected to the lighthouse location on an exposed, eroding coastal bluff.
- c. Establish cyclical maintenance plans for the Block Island Southeast Lighthouse NHL. The HPTP will address the creation or enhancement of a cyclical maintenance plan for the Block Island Southeast Lighthouse to assist in the long-term historic property preservation and to maintain it in good repair and sound structural condition. Such a cyclical maintenance plan may include: an inventory and description of character-defining architectural features consistent with NPS' *Preservation Brief 17: Architectural Character – Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving their Character*; photo-documentation of existing conditions; a schedule of inspection activities to identify and prioritize repairs; and cost estimates for common, reoccurring maintenance activities to assist in financial planning.
- d. Preserve Gay Head Light through restoration work. The Gay Head Light Advisory Board has identified repairs to masonry as a crucial preservation need, to address deterioration from years of exposure to the seacoast environment. This work could consist of the repointing of all open and recessed joints on the exterior and interior brick; repairing a cracked lintel over a doorway; and the filling of open masonry joints on the interior and exterior of the brownstone course. The HPTP will include a schedule for the development and submittal of draft scopes of works, project plans, and design specifications for rehabilitation to the Massachusetts Historical Commission, as well as the Gay Head Light Advisory Board and the Town of Aquinnah.
- e. Restoration and maintenance work at Gay Head – Aquinnah Shops. The HPTP(s), at a minimum, will include a maintenance and repair plan for buildings and associated landscape features that can extend to funding specific measures. Consideration will be given to retention of historic materials, architectural features and character, and historic uses, such as by Wampanoag vendors and tenants at Gay Head – Aquinnah Shops.
- f. Coastal hazard planning and implementation of measures to mitigate the risks of sea

level rise, coastal storms, and associated shoreline erosion that may threaten the historic properties adversely affected by the Project. Reasonably foreseeable coastal hazards will affect the inner harbor section of the Old Harbor District at New Shoreham, which is integral to the historical development of the district and its maritime setting. This HPTP, at a minimum, will include a coastal hazard plan that can extend to funding specific mitigation measures. To aid in mitigating such coastal hazards, the HPTP will review state coastal resource management regulations, town ordinances, and other permitting or regulatory requirements for any engineering efforts funded under this measure. SFW will consult with qualified civil engineers, coastal geologists, and other relevant specialists, as appropriate, to identify reasonable and feasible mitigation planning and implementation measures that enhance the long-term historic preservation of adversely affected historic properties and associated shoreline features that support them.

- g. Develop NRHP nomination forms for adversely affected historic properties that are not yet listed on the NRHP or updated nomination forms for those that are listed. The HPTP will include specific measures required for developing and completing NRHP nomination forms including timeframes allowable for participating parties to review and comment on the draft(s) of the nomination forms. For unlisted properties, this may encompass the Spring Street Historic District, Mark L. Potter House, and Vaill Cottage, where the recommendations for NRHP nomination would consider the historic development of summer homes on Block Island; the specific historical association of the subject properties with the scenic maritime and bluff setting; and the social and economic history of summer residents on Block Island and their contribution to the unique culture of the island's communities and the island's social vitality. For listed historic properties, this could provide better detail on the important elements of the property that contribute to its NRHP eligibility that may not have been well specified in original nominations and could address changes in the property since the original nomination.
- h. Enhance public awareness, appreciation, and understanding of the historic resort industry and community at New Shoreham and exemplifying Block Island's historic hospitality and recreation properties with the development of exhibits and/or other public educational materials on the Old Harbor Historic District, Spring House Hotel, Spring Street Hotel Cottage, Spring Street Historic District, Capt. Mark L. Potter House, and/or Vaill Cottage. Options for display and/or dissemination of the interpretive exhibit within the affected properties or other publicly accessible spaces will be evaluated within the HPTP(s).
- i. Develop regional, expandable interpretive approaches using story maps and/or other multimedia formats that can be layered, linked, and built upon to connect historic preservation themes and information across properties. The HPTP develop story maps and/or other multimedia formats that will explain and illustrate the themes, topics, and time periods for interpretation, and would be expandable to future projects.
- j. HPTP development for Vineyard Sound and Moshup's Bridge TCP will proceed specifically in consultation with the Wampanoag Tribe of Gay Head (Aquinnah) and Mashpee Wampanoag Tribe. The HPTP will include specific measures for enhancement of traditional knowledge sharing, as appropriate, within and among Native American tribes with traditions and traditional practices associated with the Moshup and Squanat/Squannit and their role in traditions regarding the formation and character of the Vineyard Sound and Moshup's Bridge TCP, including Noman's Island,

Elizabeth Islands, Gay Head Cliffs, and Vineyard Sound, and other contributing elements of the TCP, and the significance of the traditional cultural property to the sustained cultural identities of the consulting Tribes who attach religious and cultural significance to the TCP. To the extent found appropriate based on consultations with the affected Tribes, the HPTP would consider the following elements:

- 1) Support for inter-tribal participation in an oral history gathering, providing commissions for stories, artwork, or other creative works presenting the rich varied traditions of Moshup, Squanat/Squannit, and other related tribal histories. This support may include travel and accommodations for indigenous artists and story tellers to participate in an oral history gathering to enhance appreciation of, and respect for, cultural traditions and practices associated with the TCP.
 - 2) Support for scholarly work by indigenous knowledge-holders examining the variations in Moshup and/or Squanat/Squannit traditions within and among Native American tribes in the northeastern United States and how such traditions sustain diverse and complex cultural identities.
 - 3) Support for scholarly work by indigenous knowledge-holders examining the Wampanoag Tribe of Gay Head (Aquinnah) and Mashpee Wampanoag Tribe traditions regarding less accessible portions of the TCP, such as Noman's Island and the submerged portions of the ancient traditional landscapes within the historic property.
- k. In consultation with the Wampanoag Tribe of Gay Head (Aquinnah) and Mashpee Wampanoag Tribe, SFW will prepare a Massachusetts Historic Commission Inventory Form (Form A-Area) and/or archaeological site forms (MHC Form Ds) for contributing resources within the TCP, inclusive of Gay Head Light and Gay Head – Aquinnah Shops. SFW will submit the draft Form(s) to the Massachusetts Historical Commission, Wampanoag Tribe of Gay Head (Aquinnah), and Mashpee Wampanoag Tribe for review and comment. SFW will respond to questions or comments on the draft Form(s) and submit a final updated Inventory Form for inclusion in the commission's inventory. SFW will provide copies of the final Form(s) to Wampanoag Tribe of Gay Head (Aquinnah) and Mashpee Wampanoag Tribe. If a consulting Tribe objects to the documentation or disclosure of information pertaining to specific contributing historic properties within the TCP, the consulting Tribe will notify BOEM in writing of such objection. BOEM will consult with the objecting Tribe(s) and the MA SHPO to resolve the objection. BOEM will advise SFW in writing of the agency's decision regarding the content of the associated Form(s). Upon receipt of BOEM's notification, SFW will finalize the Form(s) for submittal to the Massachusetts Historical Commission.
1. SFW will prepare a Massachusetts Historic Commission Inventory Form (Form A-Area) for contributing resources within the Gay Head Aquinnah Shops historic district. SFW will submit the draft Form to the Massachusetts Historical Commission and Town of Aquinnah, and SFW will respond to questions or comments on the draft Form and submit a final updated Inventory Form for inclusion in the Commission's inventory. SFW will provide copies of the final Form to the Town of Aquinnah.
3. SFW will reach out to historic property owners and invite them to participate in HPTP treatment plan development and implementation of mitigation outlined in Stipulation III.C.2 above, at Gay Head – Aquinnah Shops and affected historic properties in New Shoreham, as well as consulting with the Towns of Aquinnah and New Shoreham, to the extent they choose to participate, and the respective Massachusetts and Rhode Island SHPOs. Funding amounts

for the above outlined mitigation measures, taking into account the good faith cost estimates provided in Attachment 3, and negotiated by SFW and the signatories, invited signatories, property owners and consulting parties who have a demonstrated interest in a specific adversely affected private property in these towns may be pooled into a mitigation fund, if preferred by SFW and the majority of interested consulting parties and property owners involved and agreed to by the relevant SHPOs. Funds will be allocated in accordance with the HPTP(s) to implement the mitigation measures, at least equivalent to the Substantive Baseline established in Stipulation III.C.2 for individual historic properties affected in Aquinnah Shops or for the Spring House Hotel, Spring House Hotel Cottage, Capt. Mark L. Potter, or Vaill Cottage mitigation at New Shoreham. If the parties elect to proceed with a pooled mitigation fund, the fund will be managed in a way to ensure that the mitigation measures identified in the HPTP for each property or group of properties are sufficiently implemented.

IV. HISTORIC PROPERTIES TREATMENT PLAN DEVELOPMENT

- A. For implementation of the mitigation measures identified pursuant to Stipulation III above, BOEM and SFW, in consultation with signatories, invited signatories, and property owners and consulting parties, who have a demonstrated interest in each affected historic property will develop and implement HPTPs through the process described below. BOEM and SFW may work with participating signatories, invited signatories, and consulting parties to develop an HPTP for an individual historic property or treat multiple historic properties in one HPTP.
- B. All HPTPs will be prepared in consultation with the signatories, invited signatories, and property owners and consulting parties who have a demonstrated interest in each affected historic property and choose to participate in the consultation, and will be consistent with the applicable SOI's Standards and state guidelines.
 1. HPTP Development, Review, and Acceptance:
 - i. All HPTPs required under this MOA will be drafted on or before April 1, 2022, and finalized by August 15, 2022, unless otherwise agreed by SFW and BOEM, in consultation with the relevant signatories, invited signatories, and property owners and consulting parties who have a demonstrated interest in the affected historic property, in accordance with the following process.
 - ii. SFW will create a single document that will serve as a HPTP template by January 15, 2022, for all the HPTPs that SFW will develop. BOEM will review this template and provide any feedback to SFW within 15 calendar days. Once BOEM accepts the final HPTP template, SFW will provide the signatories, invited signatories and consulting parties with the template. Pursuant to Stipulation IV.B.iii, signatories, invited signatories and consulting parties will have the opportunity to propose modifications as needed during preparation of the relevant HPTP.
 - iii. In parallel to that process, SFW will identify and invite the signatories, invited signatories, and property owners and consulting parties who have a demonstrated interest in each affected historic property to consult on the HPTP for that property, including with respect to the HPTP's content and specific treatment or mitigation measures for that property or group of properties.
 - iv. SFW will coordinate on this HPTP development for each property or property group with those signatories, invited signatories, and consulting parties who have accepted the invitation within 30 calendar days of invitation (collectively referred to "Participating

Parties”) and may add others who join later as the development process proceeds; however, SFW will not be required to restart or revisit anything developed with other signatories, invited signatories, or consulting parties prior to any late-joining party being added.

- a. SFW will provide a draft HPTP for a 30 calendar day review and comment period to all Participating Parties relevant to each affected historic property.
 - b. Coordination on HPTP development must provide all Participating Parties reasonable opportunity to provide meaningful input on the resolution of adverse effects to and form(s) of implementing mitigation for the property or group of properties, provided that the mitigation measures shall be at least equivalent to the Substantive Baseline provided in Stipulation III and provided the party provides its response in a timely manner within the process schedule set forth below.
 - c. Coordination may include meetings, conference calls, HPTP draft reviews and document exchanges, or similar means of communication of information.
 - d. BOEM will be invited to participate in these coordination activities, should it choose, and the BOEM NHPA Section 106 Lead for the undertaking is to be provided with copies of related communications, such as emails, letters, and distributed documents.
- v. SFW will take comments received during the 30 calendar day comment period from Participating Parties into account and relevant to the affected historic property, revise the HPTP if agreed and as appropriate, and provide the finalized HPTP for review and comment to the Participating Parties for a 30 calendar day review period. SFW will consider comments received during this review and comment period. If no response is received after 30 calendar days, SFW will proceed with finalizing the HPTP. SFW will then provide the final HPTP for BOEM review and acceptance. BOEM may require revision or modification of a HPTP prior to BOEM’s acceptance of the final HPTP.
 - vi. If any Participating Party disagrees with a specific HPTP, SFW will notify BOEM within 7 calendar days. BOEM will consult further with the disagreeing party or parties and within 15 calendar days to make the final decision on the matters of disagreement or conclude that these matters need to be resolved using the Dispute Resolution Process (Stipulation XI) in this MOA.
 - vii. BOEM will review the HPTP to confirm it meets the stipulations of this MOA and is at least equivalent to the Substantive Baseline established in Stipulations III and IV. BOEM remains responsible for making all federal decisions and approving actions in compliance with Section 106. BOEM will review the HPTP to ensure, at minimum, it includes the content required as specified in the HPTP Content section of this stipulation (Stipulation IV.B.2). BOEM must accept the final HPTP before SFW may commence any of the actions included in the HPTP.
 - viii. No construction activity is to proceed that would disturb the seafloor at the ASLFs (SFEC-CF-3, SFEC-CF-5, SFEC-CF-7, SFEC-CF-9, and SFEC-CF-13) until:
 - a. the appropriate HPTP is accepted by BOEM for these features;
 - b. after any specified fieldwork component of preconstruction investigations at these features is completed by SFW; and
 - c. SFW has received written confirmation from BOEM that preconstruction sampling of the affected ASLF features was completed, consistent with the requirements of the

HPTP addressing ASLFs.

- ix. All HPTPs are to be implemented within 1 year of their finalization, unless a different timeframe is set for a given HPTP in consultation with the relevant signatories, invited signatories, and property owners and consulting parties who have a demonstrated interest in the affected historic property and such timeframe is confirmed by BOEM.
- x. BOEM's acceptance of the HPTPs required under this MOA is not necessary for SFW to proceed with construction and development activities that create seabed disturbance at locations where there are no known ASLFs present.

2. HPTP Content:

- i. SFW will ensure all HPTPs include an abstract or executive summary of topics, actions, and implementation timelines it covers; a project overview and overview map(s); and a list or table of historic properties, including state, land ownership, and official state site number or name.
- ii. The HPTP will detail the mitigation actions to be accomplished at each property or groups of properties, appropriate to address the nature of the adverse effect, consistent with the baseline mitigation measures and supporting actions listed in Section III.B and III.C.
- iii. Although BOEM must accept all final HPTPs prior to the beginning of construction adversely affecting historic properties, as specified under Stipulation IV.B.1.i., the HPTPs will then identify which treatments or mitigation measures must be implemented prior to the commencement of construction activities at an affected historic property (e.g., investigations at ASLFs) or could be implemented during or after construction in relation to an historic property or group of properties (e.g., historical research, interpretive materials, public education materials, etc.).
- iv. The draft and final HPTPs will explicitly reference and include itemized budgets that reflect fundable scopes of work agreed to in consultation. The HPTPs will describe the methodologies and processes for mitigation fund accounting and distribution for each historic property that are applicable with federal, tribal, and state financial practices.
- v. The HPTP will specify methods, standards, documentation and reporting procedures and requirements, and intended outcomes for treatment of each property.

V. PROJECT MODIFICATIONS

- A. If SFW proposes any modifications to the Project that expands the Project beyond the Project Design Envelope included in the COP and/or occurs outside the defined APE or the proposed modifications change the final determinations and findings for this Project, SFW shall notify and provide BOEM with information concerning the proposed modifications. BOEM will determine if these modifications require alteration of the conclusions reached in the Finding of Effect and, thus, will require additional consultation with the signatories, invited signatories and consulting parties. If BOEM determines additional consultation is required, SFW will provide the signatories, invited signatories and consulting parties with the information concerning the proposed changes, and they will have 30 calendar days from receipt of this information to comment on the proposed changes. BOEM shall take into account any comments from signatories, invited signatories, and consulting parties prior to approving any proposed changes. Using the procedure below, BOEM will, as necessary, consult with the signatories, invited signatories, and consulting parties to identify and evaluate historic properties in any newly

affected areas, assess the effects of the modification, and resolve any adverse effects.

1. If the Project is modified and BOEM identifies no additional historic properties or determines that no historic properties are adversely affected due to the modification, SFW will notify all the signatories, invited signatories, and consulting parties about this proposed change and BOEM's determination, and allow the signatories, invited signatories, and consulting parties 30 calendar days to review and comment. This MOA will not need to be amended if no additional historic properties are identified and/or adversely affected.
2. If BOEM determines new adverse effects to historic properties will occur due to a Project modification, SFW will notify and consult with the relevant signatories, invited signatories, and consulting parties regarding BOEM's finding and the resolution of the adverse effect and develop a new HPTP following the consultation process set forth in Stipulation IV. They will have 30 calendar days to review and comment on the adverse effect finding and the proposed resolution of adverse effects, including a draft HPTP. BOEM, with the assistance of SFW, will conduct additional consultation meetings, if necessary, during drafting and finalization of the HPTP. The MOA will not need to be amended after the HPTP is finalized.
3. If any of the signatories, invited signatories, or consulting parties object to determinations, findings, or resolutions made pursuant to these measures (Stipulation V.A.1 and 2), BOEM will resolve any such objections pursuant to the dispute resolution process set forth in Stipulation XI.

VI. SUBMISSION OF DOCUMENTS

A. Massachusetts SHPO

1. All submittals to the Massachusetts SHPO will be in paper format and delivered by U.S. Mail, delivery service, or by hand.
2. Plans and specifications submitted to the Massachusetts SHPO, if required for any HPTP, must measure no larger than 11- x 17-inch paper format (unless another format is confirmed in consultation); therefore, all documents produced that will be submitted to Massachusetts SHPO under this MOA, must meet this format.

B. New York SHPO, Rhode Island SHPO, ACHP, NPS, Tribes, and Consulting Parties

1. All submittals to the New York SHPO, Rhode Island SHPO, ACHP, NPS, Tribes, and consulting parties will be submitted electronically unless a specific request is made for the submittal be provided in paper format.

VII. PROFESSIONAL QUALIFICATIONS

- A. Secretary's Standards for Archaeology and Historic Preservation. SFW will ensure that all work carried out pursuant to this MOA will meet the SOI *Standards for Archaeology and Historic Preservation*, 48 FR 44716 (September 29, 1983), taking into account the suggested approaches to new construction in the SOI's Standards for Rehabilitation.
- B. SOI Professional Qualifications Standards. SFW will ensure that all work carried out pursuant to this MOA is performed by or under the direction supervision of historic preservation professionals who meet the SOI's Professional Qualifications Standards (48 FR 44738-44739). A "qualified professional" is a person who meets the relevant standards outlined in such SOI's Standards. BOEM, or its designee, will ensure that consultants retained for services pursuant to the MOA meet these standards.

- C. Investigations of ASLFs. SFW will ensure that the additional investigations of ASLFs will be conducted and reports and other materials produced by one or more qualified marine archaeologists and geological specialists who meet the SOI's Professional Qualifications Standards and has experience both in conducting High Resolution Geophysical (HRG) surveys and processing and interpreting the resulting data for archaeological potential, as well as collecting, subsampling, and analyzing cores.
- D. Tribal Consultation Experience. SFW will ensure that all work carried out pursuant to this MOA that requires consultation with Tribes is performed by professionals who have demonstrated professional experience consulting with federally recognized Tribes.

VIII. DURATION

This MOA will expire at (1) the decommissioning of the Project in the lease area, as defined in South Fork Wind's lease with BOEM (Lease Number OCS-A 0517) or (2) 33-years from the date of COP approval, whichever occurs first. Prior to such time, BOEM may consult with the other signatories and invited signatories to reconsider the terms of the MOA and amend it in accordance with Amendment Stipulation (Stipulation XII).

IX. POST-REVIEW DISCOVERIES

- A. Implementation of Post-Review Discovery Plan. If properties are discovered that may be historically significant or unanticipated effects on historic properties found, BOEM shall implement the post-review discovery plan.
 1. The signatories acknowledge and agree that it is possible that additional historic properties may be discovered during implementation of the undertaking, despite the completion of a good faith effort to identify historic properties throughout the APE.
 2. The signatories further acknowledge and agree that potential archaeological resources and ASLFs addressed previously under Stipulation III will not be treated as post-review discoveries.
 3. The post-review discovery plan will be completed subsequent to execution of the MOA in consultation with the signatories, invited signatories and consulting parties; however, it must be finalized by SFW and approved by BOEM in consultation with signatories to this MOA prior to Project construction beginning. SFW will send the draft post-review discovery plan to the signatories, invited signatories, and consulting parties and they will have 30 calendar days to review and comment on the post-review discovery plan. SFW will take comments received during the 30 calendar day comment period into account and revise the post-review discovery plan if agreed and as appropriate. SFW will then provide the final post-review discovery plan for BOEM review and acceptance. BOEM may require revision or modification prior to BOEM's acceptance of the final post-review discovery plan. SFW will provide final copies of the post-review discovery plan to the signatories, invited signatories, and consulting parties.
- A. All Post-Review Discoveries. In the event of a post-review discovery of a property or unanticipated effects to a historic property prior to or during construction, operation, maintenance, or decommissioning of the Project, SFW will do the following actions which will be consistent with the post-review discovery plan:
 1. Immediately halt all ground- or seafloor-disturbing activities within the area of discovery;
 2. Notify BOEM in writing via report within 72 hours of the discovery;

3. Keep the location of the discovery confidential and take no action that may adversely affect the discovered property until BOEM or its designee has made an evaluation and instructs SFW on how to proceed; and
4. Conduct any additional investigations as directed by BOEM or its designee to determine if the resource is eligible for listing in the NRHP (30 CFR 585.802(b)). BOEM will direct SFW to complete additional investigations, as appropriate, if:
 - i. the site has been impacted by SFW Project activities; or
 - ii. impacts to the site from SFW Project activities cannot be avoided.
5. If investigations indicate that the resource is eligible for the NRHP, BOEM, with the assistance of SFW, will work with the other relevant signatories, invited signatories, and consulting parties to this MOA who have a demonstrated interest in the affected historic property on protection of the property and on the further avoidance, minimization or mitigation of adverse effects.
6. If there is any evidence that the discovery is from an indigenous society or appears to be a preserved burial site, SFW will contact the Tribes within at most 72 hours of the discovery with details of what is known about the discovery, and consult with the Tribes pursuant to the post review discovery plan.
7. If BOEM incurs costs in addressing the discovery, under Section 110(g) of the NHPA, BOEM may charge SFW reasonable costs for carrying out historic preservation responsibilities, pursuant to its delegated authority under the OCS Lands Act (30 CFR 585.802 (c-d)).

X. MONITORING AND REPORTING

At the beginning of each calendar year, following the execution of this MOA until it expires or is terminated, SFW shall have prepared and BOEM shall provide all signatories, invited signatories, and consulting parties to this MOA a summary report detailing work undertaken pursuant to the MOA. Such report shall include a description of how the stipulations relating to avoidance and minimization measures (Stipulations I and II) were implemented including, when applicable, a description of efforts to microsite facilities to avoid ASLFs; any scheduling changes proposed, any problems encountered; and any disputes and objections received in BOEM's efforts to carry out the terms of this MOA. SFW can satisfy its reporting requirement under this stipulation by providing the relevant portions of the annual compliance certification required under 30 CFR 585.633.

XI. DISPUTE RESOLUTION

- A. Should any signatory, invited signatory, or consulting party to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, BOEM shall consult with such party to resolve the objection. If BOEM determines that such objection cannot be resolved, BOEM will:
 1. Forward all documentation relevant to the dispute, including the BOEM's proposed resolution, to the ACHP. The ACHP shall provide BOEM with its advice on the resolution of the objection within 30 calendar days of receiving adequate documentation. Prior to reaching a final decision on the dispute, BOEM shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories, invited signatories, and/or consulting parties, and provide them with a copy of this written response. BOEM will make a final decision and proceed accordingly.

2. If the ACHP does not provide its advice regarding the dispute within the 30 calendar-day time period, BOEM may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, BOEM shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories, invited signatories, or consulting parties to the MOA, and provide them and the ACHP with a copy of such written response.
- B. BOEM's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.
 - C. At any time during the implementation of the measures stipulated in this MOA, should a member of the public object in writing to the signatories regarding the manner in which the measures stipulated in this MOA are being implemented, that signatory will notify BOEM. BOEM shall review the objection and may notify the other signatories as appropriate, and respond to the objector.

XII. AMENDMENTS

- A. This MOA may be amended when such an amendment is agreed to in writing by the signatories and invited signatories. The amendment will be effective on the date a copy signed by all of the signatories and invited signatories is filed with the ACHP.
- B. Revisions to any attachment may be proposed by any signatory or invited signatory by submitting a draft of the proposed revisions to all signatories and invited signatories with a notification to the consulting parties. The signatories and invited signatories will consult for no more than 30 calendar days (or another time period agreed upon by all signatories and invited signatories) to consider the proposed revisions to the attachment. If the signatories and invited signatories unanimously agree to revise the attachment, BOEM will provide a copy of the revised attachment to the other signatories, invited signatories, and consulting parties. Revisions to any attachment to this MOA will not require an amendment to the MOA.
- C. BOEM, SFW, or a Participating Party may propose revisions to a HPTP by submitting a draft of the proposed revisions to BOEM and the Participating Parties for that HPTP. Such revisions must reflect mitigation measures that are at least equivalent to the Substantive Baseline established in Stipulation III. The Participating Parties will consult for no more than 30 calendar days on the revision. If agreement cannot be reached on the revision to the HPTP, SFW will notify BOEM within 7 calendar days. BOEM will consult further with the disagreeing Participating Parties and within 15 calendar days will make the final decision on the matters of disagreement or determine that these matters need to be resolved using the Dispute Resolution Process (Stipulation XI) in this MOA. If BOEM does not take action within 15 calendar days, the matters of disagreement will proceed to the Dispute Resolution Process in this MOA. Revisions to the HPTPs will not require an amendment to this MOA.

XIII. TERMINATION

If any signatory or invited signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other signatories, invited signatories, and consulting parties to attempt to develop an amendment per Stipulation XII. If within 30 calendar days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory or invited signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and prior to work continuing on the undertaking, BOEM must either (a) execute an MOA pursuant to 36 CFR 800.6 or (b) request, take into account, and respond to the

comments of the ACHP under 36 CFR 800.7. BOEM shall notify the signatories and invited signatories as to the course of action it will pursue.

XIV. COORDINATION WITH OTHER FEDERAL AGENCIES

- A. In the event that another federal agency not initially a party to or subject to this MOA receives an application for funding/license/permit for the undertaking as described in this MOA, that agency may fulfill its Section 106 responsibilities by stating in writing it concurs with the terms of this MOA and notifying the signatories and invited signatories that it intends to do so. Such federal agency may become a signatory, invited signatory, or a concurring party (collectively referred to as signing party) to the MOA as a means of complying with its responsibilities under Section 106 and based on its level of involvement in the undertaking. To become a signing party to the MOA, the agency official must provide written notice to the signatories and invited signatories that the agency agrees to the terms of the MOA, specifying the extent of the agency's intent to participate in the MOA. The participation of the agency is subject to approval by the signatories and invited signatories who must respond to the written notice within 30 calendar days or the approval will be considered implicit. Any necessary amendments to the MOA as a result will be considered in accordance with the Amendment Stipulation (Stipulation XII).
- B. Should the signatories and invited signatories approve the federal agency's request to be a signing party to this MOA, an amendment under Stipulation XII will not be necessary if the federal agency's participation does not change the undertaking in a manner that would require any modifications to the stipulations set forth in this MOA. BOEM will document these conditions and involvement of the federal agency in a written notification to the signatories, invited signatories, and consulting parties, and include a copy of the federal agency's executed signature page, which will codify the addition of the federal agency as a signing party in lieu of an amendment.

XV. ANTI-DEFICIENCY ACT

Pursuant to 31 USC 1341(a)(1), nothing in this MOA will be construed as binding the United States to expend in any one fiscal year any sum in excess of appropriations made by Congress for this purpose, or to involve the United States in any contract or obligation for the further expenditure of money in excess of such appropriations.

Execution of this MOA by BOEM, the Massachusetts SHPO, the Rhode Island SHPO, the New York SHPO, SFW, and the ACHP, and implementation of its terms evidence that BOEM has taken into account the effects of this undertaking on historic properties and afforded the ACHP an opportunity to comment.

[SIGNATURES COMMENCE ON FOLLOWING PAGE]

**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,
THE RHODE ISLAND STATE HISTORIC PRESERVATION OFFICER,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE SOUTH FORK WIND FARM
AND SOUTH FORK EXPORT CABLE PROJECT**

Signatory:

Bureau of Ocean Energy Management (BOEM)

WALTER
CRUICKSHANK

Digitally signed by WALTER
CRUICKSHANK
Date: 2021.11.11 11:33:05 -05'00'

Date 11/11/21

Walter D. Cruickshank, Deputy Director

**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,
THE RHODE ISLAND STATE HISTORIC PRESERVATION OFFICER,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE SOUTH FORK WIND FARM
AND SOUTH FORK EXPORT CABLE PROJECT**

Signatory:

Massachusetts State Historic Preservation Officer



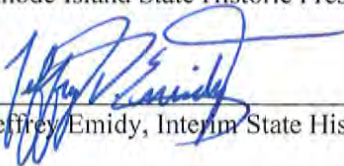
Brona Simon, State Historic Preservation Officer

Date November 23, 2021

**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,
THE RHODE ISLAND STATE HISTORIC PRESERVATION OFFICER,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE SOUTH FORK WIND FARM
AND SOUTH FORK EXPORT CABLE PROJECT**

Signatory:

Rhode Island State Historic Preservation Officer



Jeffrey Emidy, Interim State Historic Preservation Officer

Date 23 NOVEMBER 2021

**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,
THE RHODE ISLAND STATE HISTORIC PRESERVATION OFFICER,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE SOUTH FORK WIND FARM
AND SOUTH FORK EXPORT CABLE PROJECT**

Signatory:

New York State Historic Preservation Officer



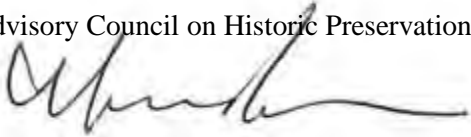
R. Daniel Mackay, Deputy State Historic Preservation Officer

Date 11/10/21

**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,
THE RHODE ISLAND STATE HISTORIC PRESERVATION OFFICER,
THE New York STATE HISTORIC PRESERVATION OFFICER,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE SOUTH FORK WIND FARM
AND SOUTH FORK EXPORT CABLE PROJECT**

Signatory:

Advisory Council on Historic Preservation



Reid J. Nelson, Acting Executive Director

Date 11/23/2021

**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,
THE RHODE ISLAND STATE HISTORIC PRESERVATION OFFICER,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE SOUTH FORK WIND FARM
AND SOUTH FORK EXPORT CABLE PROJECT**

Invited Signatory:

South Fork Wind, LLC



Robert Matria, Authorized Person

Date Nov 19, 2021

**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,
THE RHODE ISLAND STATE HISTORIC PRESERVATION OFFICER,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE SOUTH FORK WIND FARM
AND SOUTH FORK EXPORT CABLE PROJECT**

Invited Signatory:

Mashantucket Pequot Tribal Nation

Rodney A. Butler, Chairman

Date _____

**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,
THE RHODE ISLAND STATE HISTORIC PRESERVATION OFFICER,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE SOUTH FORK WIND FARM
AND SOUTH FORK EXPORT CABLE PROJECT**

Invited Signatory:

Wampanoag Tribe of Gay Head (Aquinnah)

Cheryl Andrews-Maltais, Chairwoman

Date _____

**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,
THE RHODE ISLAND STATE HISTORIC PRESERVATION OFFICER,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE SOUTH FORK WIND FARM
AND SOUTH FORK EXPORT CABLE PROJECT**

Invited Signatory:

Mashpee Wampanoag Tribe

Brian Weeden, Chairman

Date _____

**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,
THE RHODE ISLAND STATE HISTORIC PRESERVATION OFFICER,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE SOUTH FORK WIND FARM
AND SOUTH FORK EXPORT CABLE PROJECT**

Invited Signatory:

Narragansett Indian Tribe

John Brown, Tribal Historic Preservation Officer

Date _____

**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,
THE RHODE ISLAND STATE HISTORIC PRESERVATION OFFICER,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE SOUTH FORK WIND FARM
AND SOUTH FORK EXPORT CABLE PROJECT**

Concurring Party:

New York District, U.S. Army Corps of Engineers


Stephan A. Ryba, Chief, Regulatory Branch

Date _____

**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,
THE RHODE ISLAND STATE HISTORIC PRESERVATION OFFICER,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE SOUTH FORK WIND FARM
AND SOUTH FORK EXPORT CABLE PROJECT**

Concurring Party:

U.S. Department of Interior, National Park Service

Signature

Date _____

Name and Title

**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,
THE RHODE ISLAND STATE HISTORIC PRESERVATION OFFICER,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE SOUTH FORK WIND FARM
AND SOUTH FORK EXPORT CABLE PROJECT**

Concurring Party:

Rhode Island Department of Environmental Management

Signature

Date_____

Name and Title

**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,
THE RHODE ISLAND STATE HISTORIC PRESERVATION OFFICER,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE SOUTH FORK WIND FARM
AND SOUTH FORK EXPORT CABLE PROJECT**

Concurring Party:

Town of New Shoreham, RI

Signature

Date_____

Name and Title

**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,
THE RHODE ISLAND STATE HISTORIC PRESERVATION OFFICER,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE SOUTH FORK WIND FARM
AND SOUTH FORK EXPORT CABLE PROJECT**

Concurring Party:

City of Newport, RI

Signature

Date_____

Name and Title

**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,
THE RHODE ISLAND STATE HISTORIC PRESERVATION OFFICER,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE SOUTH FORK WIND FARM
AND SOUTH FORK EXPORT CABLE PROJECT**

Concurring Party:

Gay Head Lighthouse Advisory Committee

Signature

Date_____

Name and Title

**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,
THE RHODE ISLAND STATE HISTORIC PRESERVATION OFFICER,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE SOUTH FORK WIND FARM
AND SOUTH FORK EXPORT CABLE PROJECT**

Concurring Party:

Southeast Lighthouse Foundation

Signature

Date_____

Name and Title

**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,
THE RHODE ISLAND STATE HISTORIC PRESERVATION OFFICER,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE SOUTH FORK WIND FARM
AND SOUTH FORK EXPORT CABLE PROJECT**

Concurring Party:

Newport Restoration Foundation

Signature

Date_____

Name and Title

**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,
THE RHODE ISLAND STATE HISTORIC PRESERVATION OFFICER,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE SOUTH FORK WIND FARM
AND SOUTH FORK EXPORT CABLE PROJECT**

Concurring Party:

The Preservation Society of Newport County

Signature

Date_____

Name and Title

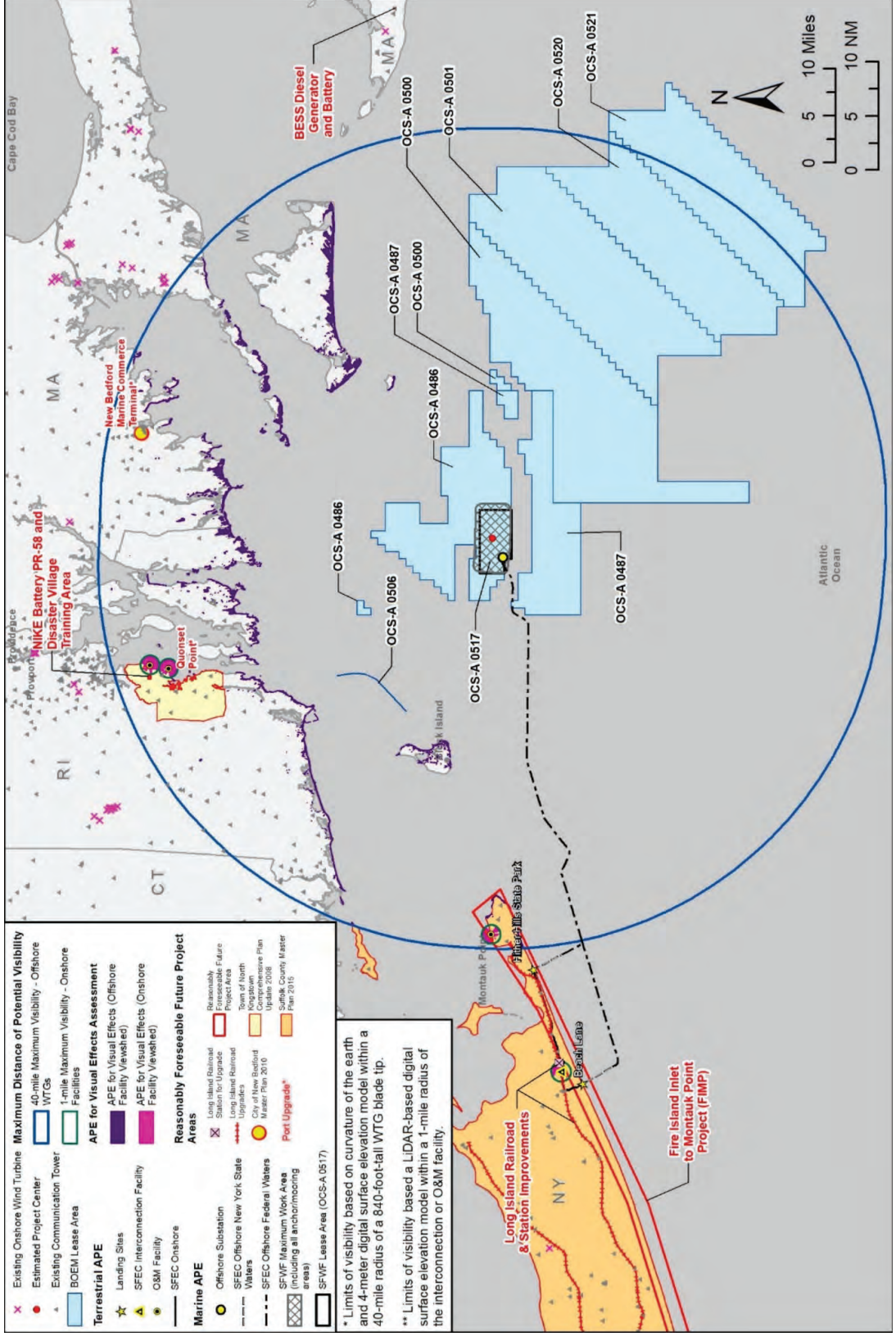
**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,
THE RHODE ISLAND STATE HISTORIC PRESERVATION OFFICER,
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE SOUTH FORK WIND FARM
AND SOUTH FORK EXPORT CABLE PROJECT**

LIST OF ATTACHMENTS TO THE MOA

ATTACHMENT 1 – APE MAPS

ATTACHMENT 2 – LISTS OF INVITED AND PARTICIPATING CONSULTING PARTIES

ATTACHMENT 3 – MITIGATION FUNDING AMOUNTS PROPOSED BY SIGNATORIES,
INVITED SIGNATORIES, AND CONSULTING PARTIES



Attachment 1. Project Overview map including the marine, terrestrial, and viewshed APE locations and description of reasonably foreseeable future project areas used in cumulative effects analyses.

ATTACHMENT 2 – LIST OF CONSULTING PARTIES

Table 1. Parties Invited to Participate in NHPA Section 106 Consultation

| Participants in the Section 106 Process | Invited Consulting Parties |
|--|---|
| SHPOs and state agencies | Rhode Island Historical Preservation and Heritage Commission |
| | New York State Division for Historic Preservation |
| | Massachusetts Historical Commission |
| | Massachusetts Board of Underwater Archaeological Resources |
| | Massachusetts Commission on Indian Affairs |
| | Rhode Island Department of Environmental Management |
| Federal agencies | Advisory Council on Historic Preservation |
| | National Park Service |
| | U.S. Army Corps of Engineers, New England District and New York District |
| Federally recognized Tribes | Wampanoag Tribe of Gay Head (Aquinnah) |
| | Mohegan Tribe of Indians of Connecticut |
| | Narragansett Indian Tribe |
| | Mashantucket Pequot Tribal Nation |
| | Mashpee Wampanoag Tribe |
| | Shinnecock Indian Nation |
| | Delaware Tribe of Indians |
| | Delaware Nation |
| Non-federally recognized Tribes | Chappaquiddick Tribe of the Wampanoag Nation |
| | Unkechaug Nation |
| Local governments | Town of West Tisbury, MA |
| | Town of East Hampton and East Hampton Town Trustees, NY |
| | Town of Chilmark, MA |
| | Town of Little Compton, RI |
| | Town of Narragansett, RI |
| | Town of New Shoreham, RI |
| | City of Newport, RI |
| | Town of Aquinnah, MA |
| | Town of Charlestown, RI |
| | Town of Edgartown, MA |
| | Town of Gosnold, MA |
| | Town of Westerly, MA |
| | Town of South Kingstown, RI |
| | Town of Jamestown, RI |
| | Town of Middletown, RI |
| | Cape Cod Commission, MA |
| Nongovernment organizations or groups | Gay Head Lighthouse Advisory Committee |
| | Southeast Lighthouse Foundation |
| | Block Island Historical Society |
| | Martha's Vineyard Commission |
| | Alliance to Protect Nantucket Sound |
| | Montauk Historical Society |
| | Preservation Massachusetts |
| | Preservation Rhode Island |
| | Salve Regina University |
| | SFW (Ørsted) (the applicant for federal approval) |

Table 2. Consulting Parties Participating in Section 106 Consultation

| Participants in the Section 106 Process | Participating Consulting Parties |
|--|--|
| SHPOs and State Agencies | Rhode Island Historical Preservation and Heritage Commission |
| | New York State Division for Historic Preservation |
| | Massachusetts Historical Commission |
| | Massachusetts Board of Underwater Archaeological Resources |
| | Rhode Island Department of Environmental Management |
| Federal Agencies | Advisory Council on Historic Preservation |
| | National Park Service |
| | U.S. Army Corps of Engineers, New England District and New York District |
| Federally Recognized Tribes | Wampanoag Tribe of Gay Head (Aquinnah) |
| | Mohegan Tribe of Indians of Connecticut |
| | Narragansett Indian Tribe |
| | Mashantucket Pequot Tribal Nation |
| | Mashpee Wampanoag Tribe |
| | Shinnecock Indian Nation |
| | Delaware Tribe of Indians |
| | Delaware Nation |
| Non-Federally Recognized Tribes | Chappaquiddick Tribe of Wampanoag Nation |
| | Unkechaug Nation |
| Local Governments | Town of Aquinnah, MA (through Gay Head Lighthouse Advisory Committee) |
| | Town of West Tisbury, MA |
| | Town of East Hampton and East Hampton Town Trustees, NY |
| | Town of Chilmark, MA |
| | Town of Little Compton, RI |
| | Town of Narragansett, RI |
| | Town of New Shoreham, RI |
| | City of Newport, RI |
| Nongovernment Organizations or Groups | Gay Head Lighthouse Advisory Committee |
| | Southeast Lighthouse Foundation |
| | Block Island Historical Society |
| | Newport Restoration Foundation |
| | The Preservation Society of Newport County |
| | SFW (Ørsted) (the applicant for federal approval) |

Table 3. Parties Invited to Consult under Section 106 and that Did Not Participate in Consultation

| Participants in the Section 106 Process | Participating Consulting Parties |
|--|---|
| Local Governments | Town of Charlestown, RI |
| | Town of Edgartown, MA |
| | Town of Gosnold, MA |
| | Town of Westerly, MA |
| | Town of South Kingstown, RI |
| | Town of Jamestown, RI |
| | Town of Middletown, RI |
| | Cape Cod Commission, MA |
| Nongovernment Organizations or Groups | Martha's Vineyard Commission |
| | Alliance to Protect Nantucket Sound |
| | Montauk Historical Society |
| | Preservation Massachusetts |
| | Preservation Rhode Island |
| Salve Regina University | |

ATTACHMENT 3 – MITIGATION FUNDING AMOUNTS PROPOSED BY SIGNATORIES, INVITED SIGNATORIES, AND CONSULTING PARTIES

The mitigation measures proposed in Stipulation III have been developed by individuals who meet the qualifications specified in the SOI's Qualifications Standards for Archeology, History, Architectural History, and/or Architecture (36 CFR 61). The proposed mitigation measures consider the nature, scope, and magnitude of adverse effects caused by the Project, the qualifying characteristics of each historic property that would be affected, and reasonably foreseeable hazards unrelated to the Project that pose risks to the long-term preservation of each affected historic property, such as climate change.

The following funding amounts were considered by signatories, invited signatories, and consulting parties for historic properties mitigation measures based on budgets proposed by SFW for each mitigation effort. These budgets are good faith estimates, based on the experience of these qualified consultants with similar activities and comparable historic properties. The proposed level of funding is appropriate to accomplish the identified preservation goals and result in meaningful benefits to the affected properties, resolving adverse effects. These budgets and costs would be subject to consultation for the specific HPTP(s), as noted in Stipulations IV.B, and would not be final until the HPTPs are accepted by BOEM. Even after the HPTPs are finalized, the consulting parties may seek to revise the HPTP(s) including the associated budget without amending the MOA (Stipulation XII.C).

- \$400,000 proposed by SFW for mitigation of adverse effects at the five ASLFs.
- \$200,000 proposed by SFW for mitigation of adverse effects at the Vineyard Sound and Moshup's Bridge TCP.
- \$200,000 proposed by SFW for mitigation of adverse effects at the Southeast Lighthouse NHL.
- \$175,000 requested by the Gay Head Light Advisory Board and SFW agreed to pay this amount for mitigation of adverse effects at the Gay Head Light
- \$ 60,000 proposed by SFW for mitigation of adverse effects at Gay Head – Aquinnah Shops.
- \$ 50,000 proposed by SFW for mitigation of adverse effects at Spring House Hotel and Spring House Hotel Cottage together.
- \$150,000 proposed by SFW for mitigation of adverse effects at the Old Harbor District.
- \$ 50,000 proposed by SFW for mitigation of adverse effects at Capt. Mark L. Potter House and Vaill Cottage together.

When final amounts are confirmed, SFW has offered to deposit such funding in an escrow account for commitment to implementing the mitigation measures under this MOA.

From: [Cruickshank, Walter](#)
To: [Lefton, Amanda B](#); [Stokely, Sarah C](#); [Morin, Michelle](#); [Vorkoper, Stephen R](#); [Annatoyn, Travis J](#)
Subject: Re: [EXTERNAL] Fwd: (External)South Fork Wind / Do Not Sign Off on BOEM's Illegal Actions
Date: Wednesday, November 24, 2021 10:26:16 AM

It's the same law firm.

From: Lefton, Amanda B <Amanda.Lefton@boem.gov>
Sent: Wednesday, November 24, 2021 10:23 AM
To: Stokely, Sarah C <Sarah.Stokely@boem.gov>; Morin, Michelle <Michelle.Morin@boem.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Cruickshank, Walter <Walter.Cruickshank@boem.gov>
Subject: Fwd: [EXTERNAL] Fwd: (External)South Fork Wind / Do Not Sign Off on BOEM's Illegal Actions

Hey team

Is this the same individual that we discussed?

Begin forwarded message:

From: Christine Harada <christine.harada@fpisc.gov>
Date: November 24, 2021 at 10:19:47 AM EST
To: "Lefton, Amanda B" <Amanda.Lefton@boem.gov>, "Morin, Michelle" <Michelle.Morin@boem.gov>, "Stokely, Sarah C" <Sarah.Stokely@boem.gov>, "Cruickshank, Walter" <Walter.Cruickshank@boem.gov>, "Krevor, Brian" <Brian.Krevor@boem.gov>
Cc: Tabitha Elkington <tabitha.elkington@fpisc.gov>, Jennifer Mallard <jennifer.mallard@fpisc.gov>, John Cossa <john.cossa@fpisc.gov>
Subject: [EXTERNAL] Fwd: (External)South Fork Wind / Do Not Sign Off on BOEM's Illegal Actions

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Dear team

FYSA - just received

Christine

----- Forwarded message -----

From: **Reid Nelson** <rmelson@achp.gov>
Date: Wed, Nov 24, 2021 at 7:02 AM
Subject: RE: (External)South Fork Wind / Do Not Sign Off on BOEM's Illegal Actions
To: Marion F. Werkheiser <marion@culturalheritagepartners.com>, Chris Daniel <cdaniel@achp.gov>, Christopher Koeppel <ckoeppel@achp.gov>, Jaime Loichinger <jloichinger@achp.gov>
Cc: Bettina Washington <bettina@wampanoagtribe.net>, David Weeden <David.Weeden@mwtribe-nsn.gov>, (b)(6) <(b)(6)@aol.com>, (b)(6) <(b)(6)@aol.com>, Kitcki Carroll <kcarroll@usetinc.org>, Samantha Skenandore <Samantha.Skenandore@quarles.com>, Christine Harada <christine.harada@fpisc.gov>, epaden@delawarenation-nsn.gov <epaden@delawarenation-nsn.gov>, lanceg@optonline.net <lanceg@optonline.net>, jcumings@mptn-nsn.gov <jcumings@mptn-nsn.gov>, Jeff D. Emidy <jeffrey.emidy@preservation.ri.gov>, Brona Simon <brona.simon@state.ma.us>, Daniel Mackay <daniel.mackay@parks.ny.gov>, kathy_schlegel@nps.gov <kathy_schlegel@nps.gov>, preynolds@cityofnewport.com <preynolds@cityofnewport.com>, hjohnson@cityofnewport.com <hjohnson@cityofnewport.com>, jnicholson@cityofnewport.com <jnicholson@cityofnewport.com>, mthompson@newportrestoration.org <mthompson@newportrestoration.org>, alyssa@newportrestoration.org <alyssa@newportrestoration.org>, mrcrawford@new-shoreham.com <mrcrawford@new-shoreham.com>, tcexe@newportmansions.org <tcexe@newportmansions.org>, tdickinson@newportmansions.org <tdickinson@newportmansions.org>, (b)(6) <(b)(6)@gmail.com>, (b)(6) <(b)(6)@gmail.com>, Gerald F. Abbott <(b)(6)@gmail.com>, (b)(6) <(b)(6)@comcast.net>, (b)(6) <(b)(6)@comcast.net>, Valerie Talmage <vtalmage@preserveri.org>, jwakeford@ncai.org <jwakeford@ncai.org>, david.s.robinson@mass.gov <david.s.robinson@mass.gov>, john.peters@mass.gov <john.peters@mass.gov>, Greg Werkheiser <greg@culturalheritagepartners.com>, William J. Cook <will@culturalheritagepartners.com>, Jessica Krauss <jessica@culturalheritagepartners.com>, Christopher Koeppel <ckoeppel@achp.gov>, Chris Daniel <cdaniel@achp.gov>

Marion,

Thanks for sharing your concerns with us. While your comments point to a number of issues that we, too, raised during consultation, we determined that declining to sign or terminating the consultation was not appropriate. Based on staff's review of the documentation provided by BOEM and their recent responses to comments, it is our opinion that BOEM, through this MOA, has taken into account the effects of this undertaking on historic properties. As such, we elected to sign and execute the MOA.

We do not take lightly the concerns raised by you or your clients. BOEM's consultation faced challenges stemming from the nature and complexity of the undertaking and its effects on historic properties, as well as the challenge of addressing the broad public interest in the undertaking's effects on historic properties. Further, given the scope and

scale of offshore wind energy, these consultations rely on the utilization of various identification and assessment techniques and often employ new and emerging technology, resulting in an overwhelming amount of technical information being provided to consulting parties. Analyzing this information presents a substantial task in its own right and the ACHP believes there will be additional opportunities to improve how this information is presented and consulted on as part of future BOEM undertakings, including more emphasis on site-by-site narratives for historic properties in the area of potential effects. We hope that these analyses will help address consulting parties questions and concerns regarding BOEM's assessment of effects in the future. Further, we acknowledge that the scope and scale of proposed offshore wind development along the east coast, from consecutive undertakings, will increase and require BOEM and its applicants to dedicate additional time and resources to assessing and resolving those effects. We are already advising BOEM of such needs and how they might meet them, outside and beyond the context of this consultation.

We remain committed to advising BOEM as it navigates the Section 106 process for future offshore wind projects and as a signatory to this MOA, we are also committed to seeing the terms of the agreement implemented successfully.

If you have any questions or are interested in further clarification, please contact Mr. Christopher Daniel, Program Analyst, at 202-517-0223 or via e-mail at cdaniel@achp.gov.

Reid Nelson

From: Marion Werkheiser [mailto:marion@culturalheritagepartners.com]

Sent: Tuesday, November 16, 2021 1:32 PM

To: Reid Nelson <rnelson@achp.gov>; Chris Daniel <cdaniel@achp.gov>; Christopher Koepfel <ckoepfel@achp.gov>; Jaime Loichinger <jloichinger@achp.gov>

Cc: Bettina Washington <bettina@wampanoagtribe.net>; David Weeden <David.Weeden@mwtribe-nsn.gov>; (b)(6) <[REDACTED]@aol.com>; Kitcki Carroll <kcarroll@usetinc.org>; Samantha Skenandore <Samantha.Skenandore@quarles.com>; Christine Harada <christine.harada@fpisc.gov>; epaden@delawarenation-nsn.gov;

lanceg@optonline.net; [jcummings@mptn-nsn.gov](mailto:jcumings@mptn-nsn.gov); Jeff D. Emidy <jeffrey.emidy@preservation.ri.gov>; Brona Simon <brona.simon@state.ma.us>; Daniel Mackay <daniel.mackay@parks.ny.gov>; kathy_schlegel@nps.gov;

preynolds@cityofnewport.com; hjohnson@cityofnewport.com; jnicholson@cityofnewport.com; mthompson@newportrestoration.org; alyssa@newportrestoration.org; mccrawford@new-shoreham.com; tcixe@newportmansions.org; tdickinson@newportmansions.org; (b)(6) <[REDACTED]@gmail.com>; Gerald F. Abbott <(b)(6) <[REDACTED]@gmail.com>>;

(b)(6) <[REDACTED]@comcast.net>; Valerie Talmage <vtalmage@preserveri.org>; jwakeford@ncai.org; david.s.robinson@mass.gov; john.peters@mass.gov; Greg Werkheiser <greg@culturalheritagepartners.com>; William J. Cook

will@culturalheritagepartners.com; Jessica Krauss

jessica@culturalheritagepartners.com

Subject: (External)South Fork Wind / Do Not Sign Off on BOEM's Illegal Actions

Dear Reid, Chris D., Chris K., and Jaime,

I write respectfully to request that the ACHP refuse to sign the proposed Memorandum of Agreement for the South Fork Wind project. BOEM is running roughshod over American Indian tribes and some of our nation's most historic communities. Signing this MOA in its current proposed state will create a regrettable precedent for all future offshore wind projects. It will substantially reduce the ACHP's ability to balance protections of historic assets with new energy development.

In the South Fork consultation, my firm represents multiple parties on Block Island and Newport, RI. We have local government and/or federally recognized tribal clients in every forthcoming offshore wind project on the federal permitting dashboard. These communities and Tribal Nations need the ACHP to stand up and demand that BOEM follow the law on these projects.

On South Fork we object to the proposed MOA for the following reasons:

- BOEM has not adequately identified or assessed adverse effects on historic properties, and yet is jumping to mitigation;
- BOEM has not complied with Section 110(f)'s requirement to use all possible planning to minimize harm to NHLs;
- BOEM has failed to adequately consider cumulative effects on historic resources, especially with respect to Newport, which BOEM has unfairly excluded;
- BOEM is allowing Orsted to illegally segment its three projects (South Fork, Revolution, and Sunrise), giving South Fork a pass because of its relatively small size (12 turbines), even though Orsted plans to wrap an additional 200 turbines around South Fork in its next two projects;
- BOEM's proposed mitigation is ridiculously inadequate for the projected 25+ years of impacts the projects will have on cultural resources;
- BOEM's (really, Orsted's) proposed mitigation does not reflect community input; in fact, the consulting parties have expressed that they do not need or want what they are being told they will get;
- BOEM took 48 hours to consider our clients' lengthy feedback on the latest draft and is now giving parties eight calendar days to sign; indeed,
- BOEM's staff have openly admitted "[they] don't have the time to comply with Section 106 and 110(f)."

BOEM has utterly failed to resolve adverse effects by imposing a "springing MOA" that relies on illusory promises of undefined "Historic Preservation Treatment Plans" that will have to be negotiated in the future—a tool more appropriate to a nationwide programmatic agreement, not a 12-turbine development. Why the ACHP would even consider taking on the role of mediating inevitable disputes over the unresolved HPTs, when it's BOEM's job to resolve adverse effects now, is beyond me.

If a springing MOA is permitted in this project, it will become the default for all future offshore wind projects.

BOEM is rushing this process because of arbitrary deadlines on the federal permitting dashboard. BOEM is de facto terminating consultation because it does not want to spend the time to finish the Section 106 process and to determine through consultation how to resolve adverse effects. ACHP must call them on it and force them to officially terminate consultation, if an extension of the deadline cannot be reached that would allow for meaningful consultation.

In the first two offshore wind projects in the US, our firm's clients (Block Island and Nantucket) were denied meaningful consultation and mitigation through the federal agency process, forcing them to negotiate directly with the project proponents to resolve their concerns and establish mitigation funds in private agreements such as the Nantucket Good Neighbor Agreement, which we provided to your office. We strongly believe that agency-backed regional mitigation funds would resolve adverse visual effects from these proposed projects in a predictable way and provide an efficient solution to permitting offshore wind. BOEM is forgoing a huge opportunity to create a new model for an emerging industry and a positive success story for Section 106—and instead asking the ACHP to be party to its circumvention of the law that ACHP exists to sustain.

BOEM's failure to ensure a fair Section 106 process—and the ACHP's failure to hold BOEM to account-- will continue to leave our clients with no options other than to file suit to enforce federal law in this and every subsequent consultation for which this improper MOA and shoddy process become the model.

I welcome the opportunity to speak with you about this matter as soon as possible.

Regards,
Marion

Marion F. Werkheiser
She/her
Attorney at Law
Cultural Heritage Partners, PLLC
Direct/Text: 703.489.6059
www.culturalheritagepartners.com
Assistant: Sarah Curtis, sarah@culturalheritagepartners.com, 617.233.8956

This email is confidential and may be privileged. If you are not the intended recipient, please notify us immediately by replying to this message or sending an email to marion@culturalheritagepartners.com, and destroy all copies of this message and any attachments. Thank you.

From: [Daniel-Davis, Laura E](#)
To: [Lefton, Amanda B](#)
Cc: [Williams, Ericka A](#); [Farmer, Isis U](#); [Macdonald, Cara Lee](#); [Sanchez, Alexandra L](#); [Scott, Janea A](#); [Boatman, Mary C](#); [Hooker, Brian](#); [Carrier, Brandi M](#); [Stokely, Sarah C](#); [Morin, Michelle](#); [Annatoyn, Travis J](#); [Cruikshank, Walter](#); [Bennett, James F](#); [Meléndez-arreaga, Pedro F](#); [Vorkoper, Stephen R](#)
Subject: Re: Final South Fork Wind ROD for ASLM signature
Date: Wednesday, November 24, 2021 11:07:47 AM
Attachments: [COMPILED Record of Decision South Fork OCS-A 0517 11-24-2021 signed.pdf](#)

Here you go!

Thanks so much team BOEM for your diligence and great work! What an exciting milestone.

Happy Thanksgiving to all-
Laura

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Laura

Attached for your signature is the Record of Decision for the South Fork Wind project (PDF).

The Office of Renewable Energy Programs at BOEM and SOL worked tirelessly to advance this project through the review process and did an exceptional job. This is a critical milestone for South Fork Wind, which (should you formally approve this ROD) will be the second large scale offshore wind project in the OCS. This is an incredible achievement made possible by many teams, but especially those on this email. Their commitment and hard work made this possible. Congratulations everyone, something to be thankful for this holiday season.

Once you have signed the document, please send it back. At that point, I will alert DOI Comms that we will announce this at noon.

Amanda

From: Williams, Ericka A <Ericka.Williams@boem.gov>
Sent: Wednesday, November 24, 2021 10:49 AM
To: Lefton, Amanda B
Cc: Cruickshank, Walter; Farmer, Isis U
Subject: Final South Fork Wind ROD for ASLM signature

Attached is the ROD with NMFS signature for LDD signature. Also attached for convenience is the final word document.

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To: Williams, Ericka A <Ericka.Williams@boem.gov>; Boatman, Mary C <Mary.Boatman@boem.gov>
Cc: Farmer, Isis U <Isis.Farmer@boem.gov>
Subject: RE: [EXTERNAL] Re: South Fork Wind ROD documents

Ericka,

Please see attached. Page 21 of the PDF will need your preparation before sending it on to Laura.

Thank you,

Brandi Carrier

Renewable Energy Program Specialist
US Department of the Interior, Bureau of Ocean Energy Management
Office of Renewable Energy Programs, Projects and Coordination Branch

45600 Woodland Road (VAM-OREP) | Sterling, VA 20166
Phone: 571.393.4358

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To: Williams, Ericka A <Ericka.Williams@boem.gov>

Subject: FW: [EXTERNAL] Re: South Fork Wind ROD documents

Isis Farmer

Chief of Staff

U.S. Department of the Interior

Bureau of Ocean Energy Management - Director's Office

Phone: 571-393-4362

isis.farmer@boem.gov

From: Candace Nachman - NOAA Federal <candace.nachman@noaa.gov>

Sent: Wednesday, November 24, 2021 10:11 AM

To: Boatman, Mary C <Mary.Boatman@boem.gov>

Cc: katherine.renshaw@noaa.gov; Morin, Michelle <Michelle.Morin@boem.gov>; Farmer, Isis U <Isis.Farmer@boem.gov>

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Mary,

Attached is the NMFS signature page with Kim's signature on it.

Please let me know if you need anything else from us.

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Thanks,

Candace

On Wed, Nov 24, 2021 at 9:29 AM Boatman, Mary C <Mary.Boatman@boem.gov> wrote:

PERFECT!!! Thank you!

Mary Boatman, Ph.D.

Science Coordinator

Office of Renewable Energy Programs

Bureau of Ocean Energy Management

45600 Woodland Road

Mail Stop VAM-OREP

Sterling VA 20166

Tel: 703-787-1662

Email: mary.boatman@boem.gov

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Thanks Mary. I just prepped the email to send to Kim so I will insert these files and get it sent to her within the next 10 minutes. I will have her sign the single page and send only that page back to you.

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Good Morning Candace -

Please find attached:

1. ROD in MS word
2. Appendix A in MS word
3. Appendix A with responses to your comments from yesterday
4. PDF of the signature page only

We respectfully request that Kimberly sign the PDF of the signature page only. This will enable us to insert the page into the complete ROD document with our signature. If we have a signed, multiple page document, then we cannot insert it.

Please reach out if you have any questions.

Mary

Mary Boatman, Ph.D.
Science Coordinator
Office of Renewable Energy Programs
Bureau of Ocean Energy Management
45600 Woodland Road
Mail Stop VAM-OREP
Sterling VA 20166

Tel: 703-787-1662

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Subject: Re: [EXTERNAL] Re: South Fork Wind ROD documents

Hi Mary,

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[REDACTED] (b)(5)

Once you've updated the documents and have the signatures you need regarding the MOA, please send over the updated Word files, and I will send to Kim for her signature.

Thanks,
Candace

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Thanks Mary. I will standby.

Candace

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Hi Candace -

[REDACTED] (b)(5)

[REDACTED]

Mary

Mary Boatman, Ph.D.
Science Coordinator

Office of Renewable Energy Programs
Bureau of Ocean Energy Management
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Sterling VA 20166

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Good morning Mary,

Thank you for sending over all of these documents. A couple of questions for you:

- (b)(5) [REDACTED]
- [REDACTED]

I will do a final review of the documents now and then send to my attorneys so they can prepare their required certification memo before our OPR Director signs the ROD.

Thanks,
Candace

On Tue, Nov 23, 2021 at 7:52 AM Boatman, Mary C <Mary.Boatman@boem.gov> wrote:

Good Morning Candace -

Here are the documents. This includes:

1. PDF of the final ROD including all appendices
2. Word version of ROD
3. Word version of Appendix A
4. ROD with your comments addressed in comment bubbles
5. Appendix A with your comments addressed in comment bubbles, as appropriate

Please be aware of the following:

1. The DATE on the front cover is not included, we will update before posting
2. The date for MOA signature will be updated once that is signed
3. All editorial changes you provided were made, if something was missed, please let me know

Please reach out with any questions, I will let you know as soon as the MOA is signed.

Mary

Mary Boatman, Ph.D.
Science Coordinator
Office of Renewable Energy Programs
Bureau of Ocean Energy Management
45600 Woodland Road
Mail Stop VAM-OREP
Sterling VA 20166

Tel: 703-787-1662

Email: mary.boatman@boem.gov

--

Candace Nachman
Senior Policy Advisor and HQ Arctic Liaison, Office of Policy
NOAA Fisheries | U.S. Department of Commerce

Office: (301) 427-8031

Cell: (301) 233-5157--primary number during COVID pandemic

Web: <https://www.fisheries.noaa.gov/>

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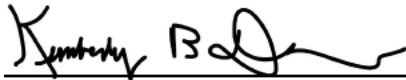
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5.2.4 Mitigation, Monitoring and Reporting Considered by NMFS (40 C.F.R. § 1505.2(c))

NMFS has a statutory and regulatory process to prescribe the permissible methods of take and other means of effecting the least practicable adverse impact on the species or stocks of marine mammals and their habitat, paying particular attention to rookeries, mating grounds, and other areas of similar significance. All incidental take authorizations also include requirements pertaining to monitoring and reporting. Mitigation, monitoring, and reporting requirements related to marine mammals were preliminarily identified in the proposed IHA (86 FR 8490). Those measures may be modified in the final IHA in consideration of public comments, additional analysis, and based on the outcome of the formal ESA Section 7 consultation. When it issues its IHA to the applicant, NMFS will include the necessary mitigation to effect the least practicable adverse impact on marine mammals as well as, monitoring and reporting requirements to be implemented by South Fork Wind. Appendix A includes a listing of mitigation, monitoring and reporting measures that have been considered by BOEM in formulating its NEPA analysis. Many of these measures align with those to be included in the IHA; however, the final IHA may contain additional, more protective measures.



Kimberly Damon-Randall
Director
NMFS Office of Protected Resource

11/24/2021

Date

From: [Annatoyn, Travis J](#)
To: [Bennett, James F](#); [Daniel-Davis, Laura E](#); [Lefton, Amanda B](#)
Cc: [Williams, Ericka A](#); [Farmer, Isis U](#); [Macdonald, Cara Lee](#); [Sanchez, Alexandra L](#); [Scott, Janea A](#); [Boatman, Mary C](#); [Hooker, Brian](#); [Carrier, Brandi M](#); [Stokely, Sarah C](#); [Morin, Michelle](#); [Cruickshank, Walter](#); [Meléndez-arreaga, Pedro F](#); [Vorkoper, Stephen R](#)
Subject: RE: Final South Fork Wind ROD for ASLM signature
Date: Wednesday, November 24, 2021 5:19:38 PM

Very grateful for the massive amounts of effort and thought from the BOEM and SOL teams. This is an impressive milestone and, I think, worthy of some Thanksgiving table talk tomorrow. I hope everyone enjoys the holiday!

From: Bennett, James F <James.Bennett@boem.gov>
Sent: Wednesday, November 24, 2021 11:47 AM
To: Daniel-Davis, Laura E <laura_daniel-davis@ios.doi.gov>; Lefton, Amanda B <Amanda.Lefton@boem.gov>
Cc: Williams, Ericka A <Ericka.Williams@boem.gov>; Farmer, Isis U <Isis.Farmer@boem.gov>; Macdonald, Cara Lee <cara_macdonald@ios.doi.gov>; Sanchez, Alexandra L <alexandra_sanchez@ios.doi.gov>; Scott, Janea A <janea_scott@ios.doi.gov>; Boatman, Mary C <Mary.Boatman@boem.gov>; Hooker, Brian <Brian.Hooker@boem.gov>; Carrier, Brandi M <Brandi.Carrier@boem.gov>; Stokely, Sarah C <Sarah.Stokely@boem.gov>; Morin, Michelle <Michelle.Morin@boem.gov>; Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Cruickshank, Walter <Walter.Cruickshank@boem.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>; Vorkoper, Stephen R <stephen.vorkoper@sol.doi.gov>
Subject: Re: Final South Fork Wind ROD for ASLM signature

GREAT! Thanks!

James F. Bennett

Chief, Office of Renewable Energy Programs

Bureau of Ocean Energy Management

United States Department of the Interior

45600 Woodland Road VAM-OREP

Sterling, Virginia 20166

Office: 703-787-1660 Cell: 571-230-9280

e-mail: jfbennett@boem.gov

From: Daniel-Davis, Laura E <laura_daniel-davis@ios.doi.gov>
Sent: Wednesday, November 24, 2021 11:07 AM

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Happy Thanksgiving to all-
Laura

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Subject: RE: [EXTERNAL] Re: South Fork Wind ROD documents

Ericka,

Please see attached. Page 21 of the PDF will need your preparation before sending it on to Laura.

Thank you,

Brandi Carrier

Renewable Energy Program Specialist
US Department of the Interior, Bureau of Ocean Energy Management
Office of Renewable Energy Programs, Projects and Coordination Branch

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Phone: 571.393.4358

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Isis Farmer

Chief of Staff

U.S. Department of the Interior
Bureau of Ocean Energy Management - Director's Office

Phone: 571-393-4362

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Science Coordinator

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[REDACTED] (b)(5)

[REDACTED]

Mary

Mary Boatman, Ph.D.
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Bureau of Ocean Energy Management
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4. ROD with your comments addressed in comment bubbles
5. Appendix A with your comments addressed in comment bubbles, as appropriate

Please be aware of the following:

1. The DATE on the front cover is not included, we will update before posting

2. The date for MOA signature will be updated once that is signed
3. All editorial changes you provided were made, if something was missed, please let me know

Please reach out with any questions, I will let you know as soon as the MOA is signed.

Mary

Mary Boatman, Ph.D.
Science Coordinator
Office of Renewable Energy Programs
Bureau of Ocean Energy Management
45600 Woodland Road
Mail Stop VAM-OREP
Sterling VA 20166

Tel: 703-787-1662

Email: mary.boatman@boem.gov

--

Candace Nachman
Senior Policy Advisor and HQ Arctic Liaison, Office of Policy
NOAA Fisheries | U.S. Department of Commerce

Office: (301) 427-8031

Cell: (301) 233-5157--primary number during COVID pandemic

Web: <https://www.fisheries.noaa.gov/>

[Redacted signature]

--

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NOAA Fisheries | U.S. Department of Commerce

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Web: <https://www.fisheries.noaa.gov/>



From: [Hawbecker, Karen S](#)
To: [Monroe, Lori R](#); [Annatoyn, Travis J](#); [Daugherty, Dennis](#)
Cc: [Meléndez-arreaga, Pedro F](#)
Subject: Re: Draft NY Bight Decision Memo
Date: Friday, November 26, 2021 11:23:39 AM
Attachments: [2021.11.24 4101_OCSLA Decision Memo FINAL DRAFT FROM SOL - 11-19-21 ksh.docx](#)

Travis, I reviewed the draft of the decision memo that is in DTS and added my suggested edits and comments. I've attached that version here for your reference.

(b)(5)
[Redacted]
[Redacted]
[Redacted] --Karen

Karen Hawbecker
Associate Solicitor
Division of Mineral Resources
Office of the Solicitor
U.S. Department of the Interior
1849 C Street N.W. MS 5359
Washington, D.C. 20240

Office: (202) 208-4146 (this number is currently forwarded to my cell phone)
karen.hawbecker@sol.doi.gov

From: Monroe, Lori R <lori.monroe@sol.doi.gov>
Sent: Friday, November 26, 2021 11:07 AM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>; Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>
Cc: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: Re: Draft NY Bight Decision Memo

(b)(5)
[Redacted]
[Redacted]
[Redacted]
[Redacted]

Lori R. F. Monroe
Attorney-Advisor
Division of Mineral Resources
Office of the Solicitor
U.S. Department of the Interior
1849 C Street, N.W.
Washington, D.C. 20240

Phone: (202) 208-3668
Fax: (202) 208-1505
lori.monroe@sol.doi.gov

From: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Sent: Friday, November 26, 2021 10:41 AM
To: Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>
Cc: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Monroe, Lori R <lori.monroe@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: RE: Draft NY Bight Decision Memo

You may have just seen the email from Amanda, but we're going to kick it back to BOEM with some additional direction.

From: Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>
Sent: Friday, November 26, 2021 10:24 AM
To: Annatoyn, Travis J <travis.annatoyn@sol.doi.gov>
Cc: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Monroe, Lori R <lori.monroe@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: Fw: Draft NY Bight Decision Memo

I think the call is yours.

Dennis Daugherty
Assistant Solicitor, Branch of Ocean Energy
Division of Mineral Resources

(202) 208-5038

From: Monroe, Lori R <lori.monroe@sol.doi.gov>
Sent: Friday, November 26, 2021 9:35 AM
To: Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: Re: Draft NY Bight Decision Memo

Hi All,

I see that Dennis and Karen made changes to the above memo as late as yesterday, 11/25, but what is the relationship of these changes to Travis' email of Tuesday, 11/23, where he says the memo is not good enough and that he "welcome[s] thoughts as to how we should proceed from here, e.g., whether we should ask BOEM to start over, take their product and attempt a complete rewrite ourselves, etc. We may need another call."

(b)(5)

Maybe we can talk next week and figure out where we go from here.

Thank you.

--Lori

Lori R. F. Monroe
Attorney-Advisor
Division of Mineral Resources
Office of the Solicitor
U.S. Department of the Interior
1849 C Street, N.W.
Washington, D.C. 20240
Phone: (202) 208-3668
Fax: (202) 208-1505
lori.monroe@sol.doi.gov

From: Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>
Sent: Thursday, November 25, 2021 9:49 AM
To: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Monroe, Lori R <lori.monroe@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: Re: Draft NY Bight Decision Memo

I have a sentence to the (b)(5) for the reasons mentioned in my email last night.

Dennis Daugherty
Assistant Solicitor, Branch of Ocean Energy
Division of Mineral Resources

(202) 208-5038

From: Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>
Sent: Wednesday, November 24, 2021 10:54 PM
To: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>; Monroe, Lori R <lori.monroe@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: Re: Draft NY Bight Decision Memo

I liked most of your changes. I found a capitalized Early now in the middle of a sentence; hopefully my correction is now in Sharepoint. If not I've attached a redline document.

(b)(5)



Dennis Daugherty
Assistant Solicitor, Branch of Ocean Energy
Division of Mineral Resources

(202) 208-5038

From: Hawbecker, Karen S <KAREN.HAWBECKER@sol.doi.gov>
Sent: Wednesday, November 24, 2021 9:30 PM
To: Daugherty, Dennis <Dennis.Daugherty@sol.doi.gov>; Monroe, Lori R <lori.monroe@sol.doi.gov>; Meléndez-arreaga, Pedro F <pedro.melendez-arrea@sol.doi.gov>
Subject: Draft NY Bight Decision Memo

I've reviewed the NY Bight Decision memo and made suggested edits. Please take a look and let me know if you see any problems. I've gone through the governors' letters and tribal letters and this document so far. I've uploaded my edits for each document in DTS. I plan to review the lease package and FSN tomorrow (or Friday). Thanks. --Karen

Karen Hawbecker

Associate Solicitor
Division of Mineral Resources
Office of the Solicitor
U.S. Department of the Interior
1849 C Street N.W. MS 5359
Washington, D.C. 20240

Office: (202) 208-4146 (this number is currently forwarded to my cell phone)
karen.hawbecker@sol.doi.gov

Memorandum

Commented [HKS1]:(b)(5)

To: Director

From: James F. Bennett
Chief, Office of Renewable Energy Programs

Subject: Documentation of OCSLA connections to Unique and Innovative Provisions of the New York Bight Final Sale Notice ATLW-8

(b)(5) [Redacted]

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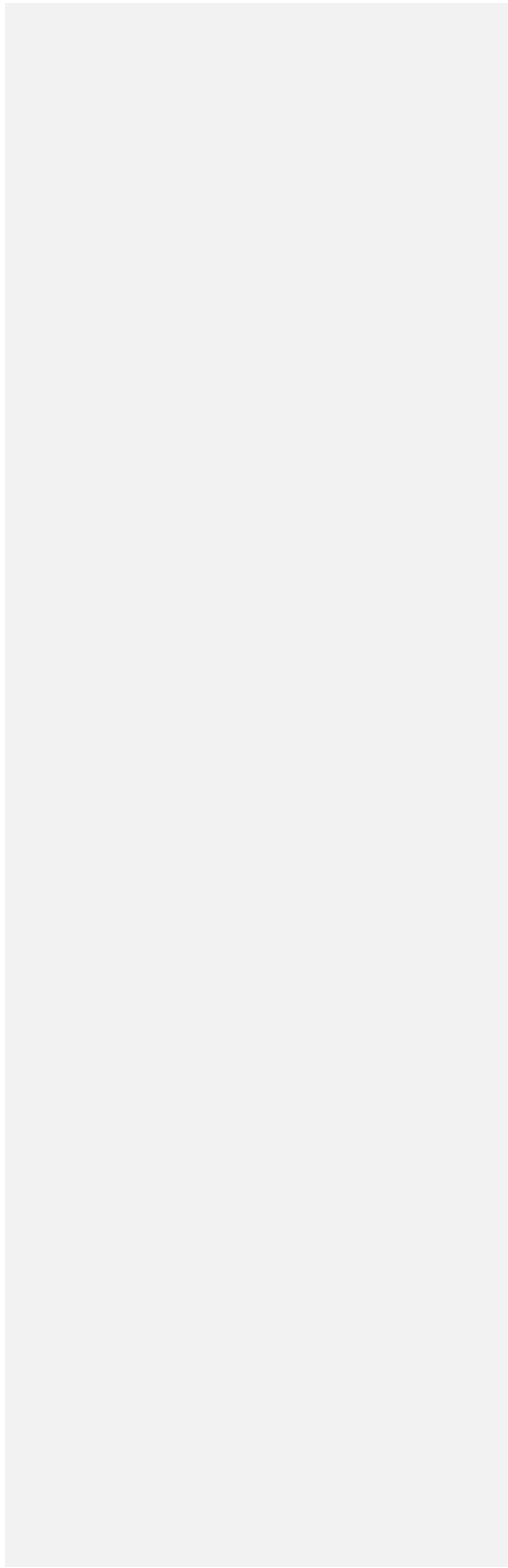
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- Commented [MLR10R9]: (b)(5) [Redacted]

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- Commented [MLR19R16]:(b)(5) [Redacted]
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Commented [MLR29]: (b)(5)

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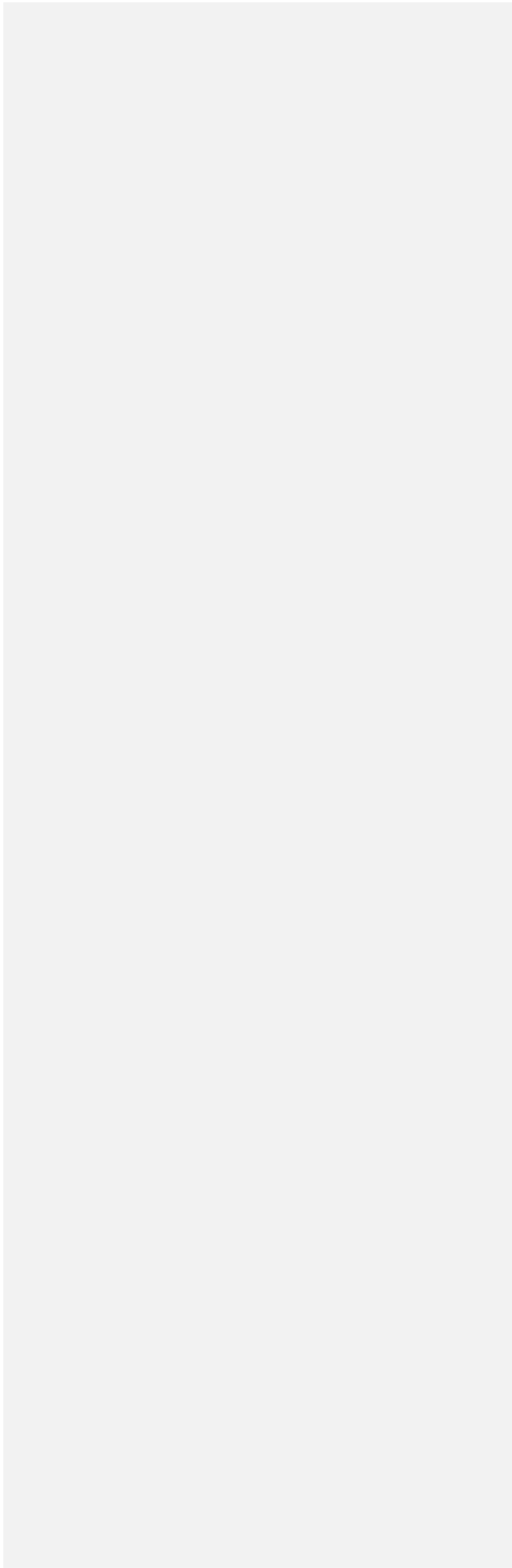
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[Redacted comment]

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From: [Lefton, Amanda B](#)
To: [Annatoyn, Travis J](#); [Meléndez-arreaga, Pedro F](#); [Daugherty, Dennis](#); [Bennett, James F](#); [Cruickshank, Walter](#); [Moore, Annette J](#); [MacDuffee, David T](#); [Morin, Michelle](#)
Subject: Fwd: [EXTERNAL] Fw: ACK Rats -- New 60-day NOI
Date: Saturday, November 27, 2021 12:25:03 PM
Attachments: [ACK RATs 60 Day Notice of Intent to Sue re 2021 BiOp for Vineyard Wind 1 Project \(11-26-21\).pdf](#)

Team

Sharing for awareness. SOL, I would appreciate your thoughts on this once you have had a chance to review

Best
A

Begin forwarded message:

From: David Hubbard <DHubbard@gdandb.com>
Date: November 26, 2021 at 9:45:53 PM EST
To: "Lefton, Amanda B" <Amanda.Lefton@boem.gov>
Subject: [EXTERNAL] Fw: ACK Rats -- New 60-day NOI

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Dear Director Lefton:

Please see the attached 60-day Notice of Intent to Sue regarding the October 16, 2021 Biological Opinion for the Vineyard Wind 1 project.

Sincerely,

David Hubbard

David Hubbard

760.431.9501 x. 117
www.gdandb.com

G | D | B Gatzke Dillon & Ballance LLP
L A W Y E R S

NOTICE: This communication and any attached document(s) are privileged and confidential. In addition, any disclosure of this transmission does not compromise or waive the attorney-client privilege or the work product doctrine. If you have received this communication in error, please delete it and contact me at dhubbard@gdandb.com.

November 27, 2021

By E-Mail

Gina M. Raimondo, Secretary of Commerce
U.S. Department of Commerce
1401 Constitution Ave NW
Washington, DC 20230
secyramondo@doc.gov

Benjamin Friedman, NOAA Administrator
National Oceanic and Atmospheric Administration
1401 Constitution Avenue NW, Room 5128
Washington, DC 20230
benjamin.friedman@noaa.gov

Amanda Lefton, Director
Bureau of Ocean Energy Management
1849 C Street, NW
Washington, D.C. 20240
Amanda.Lefton@boem.gov

The United States Environmental Protection Agency
Michael S. Regan, Administrator
Office of the Administrator
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Mail Code 1101A
Regan.Michael@epa.gov

The United States Army Corps of Engineers
Lieutenant General, Scott A. Spellmon
Commanding General of the United States Army Corps of Engineers
441 G Street, NW
Washington, DC 20314-1000

(b)(6)

The United States Coast Guard
Commandant of the Coast Guard
Admiral Karl L. Schultz
U.S. Coast Guard Stop 7318
2703 Martin Luther King Jr. Avenue, SE
Washington, DC 20593-7318

(b)(6)

Gina M. Raimondo, Secretary
U.S. Department of Commerce
November 26, 2021
Page 2

Deb Haaland
Secretary of the Interior
1849 C Street, NW
Washington, DC 20240
secyhaaland@doi.gov
feedback@ios.doi.gov

Re: 60-Day Notice of Intent to Sue: Violations of Endangered Species Act Section 7 – Legally Deficient Biological Opinion for Vineyard Wind Offshore Energy Project and Related Incidental Take Authorization and Incidental Harassment Authorization

To whom it may concern:

This firm represents Nantucket Residents Against Turbines (“ACK Rats”), whose members live and/or own property on Nantucket Island, Massachusetts. The members of ACK Rats will be adversely affected by the proposed Vineyard Wind 1 offshore wind energy project (the “Vineyard Wind Project”) recently approved by the Bureau of Ocean Energy Management (“BOEM”). The Vineyard Wind Project will consist of up to 100 wind turbines located on a federal leasehold of 166,866 acres (Lease Area OCS-A 0501), located approximately 14 miles south of Nantucket Island and Martha’s Vineyard.

On September 11, 2020, the National Marine Fisheries Service (“NOAA Fisheries”) issued a Biological Opinion (BiOp) for the Vineyard Wind Project, granting Vineyard Wind authority to “take” a variety of federally-listed species that reside in or use the Project Area, as that term is defined in the BiOp.¹ On May 24, 2021, ACK Rats submitted to BOEM and NOAA Fisheries a 60-day Notice of Intent to sue letter, identifying defects in the September 2020 BiOp. Unbeknownst to ACK Rats, on May 5, 2021, BOEM requested that NOAA Fisheries reinstate Section 7 consultation on the Vineyard Wind Project, with a view toward issuing a revised/new BiOp. Re-consultation took place between May 2021 and October 2021; and on October 18, 2021 NOAA Fisheries issued a new BiOp that supersedes the one issued on September 11, 2020. This 60-day notice letter is directed at the new BiOp. However, to the extent the new BiOp incorporates any aspect of the old BiOp issued on September 11, 2020, ACK Rats’ NOI letter dated May 24, 2021 still applies and is incorporated by this reference.

The October 18, 2021 BiOp (henceforward, the “2021 BiOp”) provides take authority to BOEM and, by extension, Vineyard Wind, for a host of listed species affected by the Vineyard Wind Project. Among these is the North Atlantic right whale (“right whale” or “NARW”), one of the

¹ BOEM is the lead agency for the Vineyard Wind project and NOAA Fisheries prepared the BiOp. The other federal agencies to which this NOI is addressed – U.S. EPA, U.S. Army Corps of Engineers, and the U.S. Coast Guard – will rely on, or have relied on, the 2021 BiOp for purposes of issuing permits for the Vineyard Wind project.

Gina M. Raimondo, Secretary
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Page 3

most imperiled animals in the world. Despite the right whale’s declining population and rapid slide toward extinction, the BiOp inexplicably determined that the Vineyard Wind project – which is located in one of the last right whale foraging and nursery strongholds on the Atlantic coast and which will involve thousands of miles of vessel trips through right whale habitat – will not jeopardize the species. As explained below, this determination is not supported by the evidence and thus is arbitrary and capricious, resulting in a violation of the Endangered Species Act (ESA). The 2021 BiOp’s findings regarding Project-related impacts on other federally-listed species, including the Atlantic sturgeon, three other whale species, and four sea turtle taxa, also lack evidentiary support and thus are arbitrary and capricious.

On behalf of ACK Rats, we have reviewed the 2021 BiOp closely and determined that it fails to meet the legal requirements set forth in the ESA, as interpreted and applied by the federal courts of the United States. Therefore, pursuant to ESA section 11(g)(2)(A)(i), ACK Rats hereby provides the following 60-Day Notice of Intent to Sue NOAA Fisheries and BOEM 60-days over the BiOp. (16 U.S.C. § 1540(g)(2)(A)(i).) If NOAA Fisheries and BOEM do not correct the defects discussed below within the 60-day notice period, ACK Rats will file an action in federal district court and request an order declaring the BiOp invalid.

Procedural Objection to the Vineyard Wind Biological Opinion

BOEM issued the Record of Decision (ROD) for the Vineyard Wind Project and Final EIS on May 11, 2021, and then approved Vineyard Wind’s Construction and Operation Plan (COP) on July 15, 2021. Both approvals predated the 2021 BiOp and were based instead on the old BiOp issued on September 11, 2020 – a BiOp that has been superseded and thus is no longer valid.² It would thus appear that the ROD and COP must be vacated immediately and then readopted based on the 2021 BiOp. We suggest, however, that BOEM not readopt the ROD or reapprove the COP until NOAA Fisheries corrects the deficiencies described in this letter.

Legal Requirements for Biological Opinions

Under ESA section 7(a)(2), “[e]ach federal agency *shall . . . insure* that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the adverse modification of [critical] habitat of such species.” 16 U.S.C. § 1536(a)(2) (emphasis added); see also *Water Keeper Alliance v. U.S. Dep’t of Def.*, 271 F.3d 21,25 (1st Cir. 2001). To satisfy its duty to protect against jeopardy or adverse modification, agencies must give the benefit of the doubt to the species in question – here,

² In fact, the September 2020 BiOp became a legal nullity when Vineyard Wind formally withdrew its entire project application in December 2020. As such, the September 2020 BiOp could not have provided support for the Final EIS, the ROD, or the COP.

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Page 4

the right whale and other species discussed in the BiOp – and to place the burden of risk and uncertainty on the proposed action. *See Sierra Club v. Marsh*, 816 F.2d 1376, 1386 (9th Cir. 1987).

The ESA’s substantive protections are implemented, in part, through consultation between the acting agency (here, BOEM) and the agency with jurisdiction over the conservation and recovery of the listed species in question (here, NOAA Fisheries). 16 U.S.C. § 1536. When there is evidence that a proposed action may adversely affect a listed species, the wildlife agency (NOAA Fisheries) must prepare a biological opinion that evaluates the impacts of the proposed action on listed species and their critical habitat. If NOAA Fisheries finds that the proposed action is likely to jeopardize a listed species or adversely modify critical habitat, NOAA Fisheries must propose reasonable and prudent alternatives, if available, that will mitigate the proposed action so as to avoid jeopardy and/or adverse modification of critical habitat. 16 U.S.C. § 1536(b); *Idaho Dep’t of Fish & Game v. Nat’l Marine Fisheries Service*, 56 F.3d 1071 (9th Cir. 1995).

In addition, ESA section 7(a)(1) mandates that federal agencies “utilize their authorities in furtherance of the purposes of this chapter by carrying out programs for the conservation or endangered species and threatened species listed” under the Act. 16 U.S.C. § 1536(a)(1). Like the duty to avoid jeopardy, the duty to advance and assist the conservation of listed species is discharged, in part, through the acting agency’s consultation with NOAA Fisheries. *Id.* A program of “conservation” is one that brings the species to the point of recovery and delisting. 16 U.S.C. § 1532(3).

Finally, when preparing a biological opinion, NOAA Fisheries must use “the best scientific and commercial data available.” 16 U.S.C. § 1536(a)(2); 50 CFR Part 402.14(g)(8). Further, the scientific data must support the ultimate conclusions drawn in the biological opinion regarding jeopardy and adverse modification. In other words, a biological opinion is arbitrary and capricious if it fails to “consider the relevant factors and articulate a rational connection between the facts found and the choice made.” *Center for Biological Diversity v. U.S. Bureau of Land Management*, 698 F.3d 1101, 1121 (9th Cir. 2012), citing *Natural Res. Def. Council v. U.S. Dep’t of the Interior*, 113 F.3d 1121, 1124 (9th Cir. 1997).

Substantive Defects in the Biological Opinion

The 2021 BiOp is legally deficient for the reasons set forth below:

1. The BiOp is unclear as to the number and size of the wind turbine generators (WTGs). It is critical that this information be stable and reliable, because when the number of WTGs goes down, the size of the WTGs goes up. And the larger the WTG, the more pile driving

Gina M. Raimondo, Secretary
U.S. Department of Commerce
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Page 5

it requires. The BiOp must analyze and explain whether the switch from fewer but larger WTGs will alter, one way or the other, the amount and intensity of pile driving in the Project Area.

2. The BiOp never provides the number of estimated vessel miles traveled, which is the only meaningful metric when determining vessel strike risks on North Atlantic right whales and other marine animals, such as the federally-listed Atlantic sturgeon and the four federally-listed sea turtles identified in the BiOp.³ It is not enough to disclose the number of vessel trips; it is the *length* of those trips that determines whether and to what extent the vessels pose a risk to federally-listed whales, fish, and turtles.
3. The BiOp cites no evidence for the claim that each monopile will require only 3 hours of pile driving. This is a critical omission, given that the BiOp’s “no jeopardy” finding and take authorization determinations rely on Vineyard Wind’s assertion that no more than 3 hours of pile driving will occur with respect to each monopile.
4. The BiOp indicates that some of the monopiles may be installed via vibratory driving as opposed to impact driving. Yet, the BiOp does not analyze the effects of this pile driving method on right whales or the other federally-listed species known to reside in or use the Project Area.
5. The BiOp does not clearly or adequately disclose how many vessel trips and vessel miles will be required to lay the cables that (1) connect the WTGs together and (2) connect the Project’s wind array to onshore transfer facilities. As a result, the BiOp underreports and/or under-analyzes the impacts of vessel strikes on right whales and other federally-listed species.
6. The BiOp admits that procurement for offshore installation activities will require vessel trips from a variety of mainland ports. However, the BiOp also admits that the ports of origin are currently unknown. This makes it impossible to calculate the number of vessel miles that will be traveled to and from the project site for purposes of WTG installation. Without this information, it is likewise impossible to determine the vessel strike risk to right whales and other federally-listed species.
7. The vessel miles traveled issue is especially important in scenarios where procurement ships will be traveling from ports in Canada (e.g., Sheets Port, St. John, and Halifax), as

³ The four federally-listed sea turtles are (1) the loggerhead sea turtle, (2) the leatherback sea turtle, (3) the green sea turtle, and (4) the Kemp’s Ridley sea turtle.

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Page 6

these ports are more than 400 miles from the WGA installation site. Moreover, ships from these ports will travel through seas known to be used by the right whale and other federally-listed species. In failing to account for the vessel miles traveled by ships transiting between the project installation site and Canadian ports, the BiOp underreports the vessel strike risks to right whales, Atlantic sturgeon, and federally-listed sea turtles.

8. The BiOp's "No Jeopardy" determination as to project impacts on right whales is based on the successful implementation of various "detect and avoid" measures. These measures, however, are so diluted by exceptions, qualifications, and loopholes as to be functionally meaningless. Thus, they cannot be used to support any "take" or "no jeopardy" determination. In issuing a BiOp that does not protect right whales from jeopardy, NOAA Fisheries has violated Section 7 of the ESA. 16 U.S.C. § 1536(a)(2).
9. The BiOp is inconsistent and unclear as to when project-related vessels must travel at speeds less than 10 knots. The BiOp refers to so many overlapping exceptions and qualifications to the 10-knot speed limit that one has no idea what rule will be enforced under any given circumstance. Strict compliance and enforcement of the 10-knot vessel speed limit is imperative to reducing vessel strikes on right whales, Atlantic sturgeon, and federally-listed sea turtles. Reduced vessels speeds would also minimize harm to these species (including mortality) if vessel strikes occur.
10. The BiOp indicates that Vineyard Wind will engage in "soft start" pile driving consisting of three single hammer strikes at 40 percent hammer energy, followed by at least a one-minute delay before full energy hammer strikes begin. Although the BiOp does not discuss the purpose of the "soft start" procedure, it is clearly being proposed as a means of "warning" whales and other federally-listed species and encouraging them to leave the action area. Consequently, the "soft start" functions as a form of active, purposeful harassment/hazing that is not incidental to the action in question (i.e., construction and operation of offshore wind farms.) Such purposeful harassment/hazing is a "take" not authorized under the ESA.
11. The BiOp's "take" determinations and "no jeopardy" finding vis-à-vis right whales are based, in part, on the implementation of "seasonal" protections for the species. The BiOp acknowledges, however, that right whales are present in the project action area year-round. Thus, the proposed seasonal protections will not adequately safeguard the resident/non-migratory population of whales. For this reason, the BiOp fails to provide an adequate take analysis and further fails to protect right whales from jeopardy.

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12. The BiOp’s “take” and “no jeopardy” determinations rely heavily on the ability of vessel-based Protected Species Observers (PSOs) to visually scan the ocean surface and detect right whales at distances sufficient to allow the vessel to alter course and avoid a collision. The BiOp also relies on PSOs to locate whales that might enter the project impact area during pile driving. There is no evidence, however, that PSOs are effective at detecting right whales under these conditions or for these purposes. First, the BiOp only requires two PSOs to be on watch at any given time. Second, the Project Area, as defined in the BiOp, is huge and cannot be surveilled by two PSOs at a time. Third, PSOs cannot see whales more than a few feet below the surface, and many whale strikes happen below the draft-depth of vessels. Fourth, the PSOs will not be able to effectively detect whales on the surface unless the seas are almost completely calm, a situation that rarely occurs in the Project Area. Moderate to high seas – with corresponding swells – will obscure whales during the brief moments when they surface to breathe or feed. Moreover, Nantucket and the seas around it are among the foggiest areas in the entire country, especially during June and July, two of the months when project-related pile driving is scheduled to occur. The fog rolls in quickly, often too fast for the kind of adjustments Vineyard Wind would have to make to avoid collisions with whales. Fifth, unlike some marine mammals, right whales have no dorsal fin, which makes them even harder to detect visually on the water’s surface. For these reasons, the BiOp’s reliance on the PSO “detect and avoid” measures proposed by Vineyard Wind is misplaced and will result in excessive take of right whales. Such take will also result in jeopardy to the species. Reliance on PSOs to protect other federally-listed species in the Project Area is likewise misplaced.
13. The mitigation measures described in the BiOp provide a “feasibility” exception to pile during limitations, under which Vineyard Wind can continue pile driving even in the presence of right whales or other listed species if halting the pile driving work is not feasible. This exception makes the pile driving protections and limitations meaningless, as it gives Vineyard Wind complete discretion as to when and under what circumstances they can be disregarded. In other words, the BiOp is deficient because it does not define “feasibility” or describe the criteria that must be met before Vineyard Wind can claim that a given pile during limitation is “not feasible.”
14. The mitigation measures described in the BiOp provide a “practicability” exception to pile during limitations, under which Vineyard Wind can continue pile driving even in the presence of right whales or other listed species if halting the pile driving work is not practicable. This exception makes the pile driving protections and limitations meaningless, as it gives Vineyard Wind complete discretion as to when and under what circumstances they can be disregarded. In other words, the BiOp is deficient because it does not define

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the term “practicable” or describe the criteria that must be met before Vineyard Wind can claim that a given pile during limitation is “not practicable.”

15. Vessel speed limits are subject to a host of exceptions, qualifications, and loopholes, thereby reducing their ability to protect right whales and other listed species from unauthorized take and jeopardy.
16. The seasonal restriction on pile driving (Jan 1- April 30) does not protect year-round resident whales.
17. The BiOp fails to provide an adequate, complete, and legally compliant analysis of project impacts on the survival and recovery of the right whale. This is an especially glaring omission, given the precarious state of right whale populations in New England. Recent reports – i.e., post-COVID – indicate the right whale is having something of a “baby boom”, as 18 calves have been spotted during the last calving season. This likely is the result of COVID-related reductions in large vessels in the area. The BiOp must examine whether this nascent recovery will be impeded or stopped altogether by the Project and the renewal of intense human activity in or near right whale calving areas.
18. The BiOp relies on the 2005 Recovery Plan for the right whale, but that plan is now 15 years old and does not account for recent data showing sharp declines in right whale population numbers.
19. The BiOp fails to acknowledge that the PSOs will not be able to see effectively at night. There is no prohibition on vessels transiting at night; nor does the BiOp prohibit pile driving at night, provided it begins in the daylight hours.
20. The BiOp does not require that PSOs be independent of Vineyard Wind. Without such independence, the PSOs will be subject to “corporate capture” and thus less likely to call for a shutdown of vessel traffic or pile driving when right whales and other listed species may be preset in the Project Area.
21. The BiOp is unclear whether all transit vessels will be assigned PSOs. The PSO requirement seems to apply only to pile driving activities. Transit vessels are allowed to rely on crew members, all of whom will be incentivized to keep boats running, even if whales are detected. This protocol, to the extent it can be called one, provides little assurance that right whales and other federally-listed species will be adequately protected.

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22. To protect right whales and other federally-listed species, the BiOp applies a 10-knot speed limit to vessels 65 feet or greater in length. However, Vineyard Wind can circumvent this speed limit by using ships that are 64 feet in length or less. The BiOp fails to assess this contingency or provide mitigation measures or conditions that would address it.
23. The BiOp does not adequately address the project's construction and operational impacts on right whale navigation and communication.
24. The BiOp does not consistently address or analyze impacts on right whales for the entire "Project area" as defined.
25. The BiOp does not clearly or adequately analyze whether the WTGs, when operational, will emit noise or vibrations capable of affecting whales and other federally-listed species.
26. The BiOp fails to adequately assess project-related impacts on right whales in light of recent evidence showing that the species has shifted its feeding grounds to areas in and near the WDA and other portions of the Project Area.
27. The BiOp's no jeopardy determination is based on unsubstantiated and/or outdated whale carcass recovery percentages. As a result, the BiOp underestimates the number of right whales the Project will take and correspondingly fails to make a proper jeopardy finding.
28. The BiOp's no jeopardy determination fails to account for recent sharp declines in right whale populations. It also fails to account for the extremely low abundance number for the species, which is now less than 350 individuals. Given the low number of right whales and the consistent loss of calf-bearing females, the BiOp should analyze and explain how project-related take of any individual could be absorbed without jeopardizing the species as a whole. The BiOp, however, provides no such analysis or explanation and is therefore deficient as a matter of law.
29. The data discussed in the BiOp demonstrates that the right whale is in serious peril and headed toward extinction; yet the BiOp concludes that the Project will not hasten this trend nor impede the species' recovery. This conclusion is not supported by the evidence. To the contrary, most of the recent right whale sightings have occurred south of Nantucket Island, precisely where the Vineyard Wind Project is to be installed. This suggests a high likelihood of project-to-whale conflict and interaction, resulting in potential harm to the species.

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30. The BiOp admits that human-derived threats to the right whale are worsening but does not factor this trend into the jeopardy analysis.
31. The BiOp admits that “North Atlantic right whales’ resilience to perturbations is expected to be very low” but does not address this fact in its jeopardy analysis.
32. The BiOp recognizes that shipping, along with commercial fishing, accounts for most right whale injuries and deaths, but inexplicably concludes that project-related vessels will be able to avoid all contact with the species.
33. The BiOp acknowledges that right whales spend most of their time (72%) within 33 feet of the water’s surface, making them “particularly vulnerable to ship strike . . .” Yet, the BiOp’s “take” and “no jeopardy” determinations ignore this finding and, in the absence of any evidence or analysis, conclude that no right whales will sustain vessel strikes. This is the quintessence of an arbitrary and capricious determination by a federal agency.
34. The BiOp indicates that right whale “hot spots” are within the Project Area (namely, the offshore export cable corridor or “OECC”). Again, this suggests a high probability of interaction between project-related activities and right whales, leading to adverse impacts, including take and potential jeopardy. Yet the BiOp ignores these facts.
35. The BiOp provides clear evidence of recent mortal vessel strikes on right whales. But then the BiOp disregards this evidence when making determinations as to take and jeopardy. This is arbitrary and capricious.
36. The BiOp fails to assess vessel strike risk to right whales and other federally-listed species in the context of the already-crowded shipping lanes in or near the Project Area. In addition, the BiOp assumes that right whales and other federally-listed species will move out of Project Area as an “avoidance response” to pile drilling noise; however, if this is true, these animals, in their efforts to swim away from the pile driving noise, will likely enter areas of high vessel traffic, increasing the risk of ship strikes. This impact is not analyzed in the BiOp.
37. According to the BiOp, Vineyard Wind has given itself the option of using wind turbines of various sizes, including turbines larger than those originally studied in the EIS. The BiOp must correct this omission by analyzing operational underwater noise generated by the largest turbines contemplated for the Project. To our knowledge, such an analysis has not yet been conducted.

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38. The BiOp improperly accepts Vineyard Wind’s position that the project will result in no Level A harassment of right whales. That position is based on the unproven and unsubstantiated efficiency of Vineyard Wind’s proposed “detect & avoid” measures – the very same measures that include a host of exceptions, qualifications, and loopholes.
39. BiOp improperly and without evidence assumes that PSOs will be able to adequately surveil a right whale clearance zone that is 10 kilometers in size, as is proposed from 5/1 to 5/14 and 11/1 to 12/31.
40. The BiOp, without technical or scientific support, assumes that right whales and other listed species disrupted by pile driving will return to their original locations once the 3-hour pile driving session ends.
41. The BiOp improperly limits its evaluation of vessel strikes to the WDA and OECC. It should include the entire Project Area, which consists of the WDA, the OECC, and the vessel transit corridors.
42. The BiOp admits that it can only predict increases in vessel traffic for the WDA and OECC – not the entire Project Area. The BiOp says that “this is the only portion of the action area that we have an estimate of baseline trips.” This leaves out the areas where vessels will be transiting between mainland ports and the WDA. Many of these areas are used by right whales.
43. The BiOp does not clearly indicate whether the proposed “minimization measures” are mandatory and enforceable. The BiOp also relies on measures that Vineyard Wind has volunteered to implement. Such measures, however, are unenforceable by NOAA Fisheries and thus should not influence the analyses set forth in the BiOp.
44. The BiOp lists the Dynamic Management Areas (DMAs) established for right whales between 2014 and 2020. The list shows that the vast majority of these DMAs are located South of Nantucket, in or near the Project Area. This demonstrates that the Project Area is a major right whale population area, thus increasing the likelihood of project-related conflicts with the whales. The BiOp did not take these data into account when making determinations as to right whale “take” and “jeopardy”.
45. The BiOp acknowledges that vessel strikes can occur when whales are below the water’s surface and cannot be visually detected. Nevertheless, the BiOp’s take and jeopardy determinations ignore this fact.

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46. The BiOp admits that carcass recovery is a poor means for determining the number of whale deaths. Yet the BiOp uses this metric, despite its unreliability, to conclude that no right whales will be killed by vessel strikes.
47. The BiOp's "reasonable and prudent measures" (RPMs) do not appear to include steps to protect right whales from vessel strikes. Rather, the RPMs appear focused exclusively on pile driving noise impacts.
48. The BiOp's environmental baseline does not account for the other proposed offshore wind projects currently proposed on federal leaseholds adjacent to or in the vicinity of the Vineyard Wind leasehold (Lease Area OCS-A 0501). BOEM and NOAA Fisheries are aware of these nearby projects, as they were the subject of the Supplement to the Environmental Impact Statement (SEIS) that BOEM recently adopted via a Record of Decision on May 11, 2021. These planned offshore wind projects, when combined with Vineyard Wind, will occupy approximately 1,400,000 acres or more than 2060 square miles, which is roughly the size of the state of Delaware. By not including these other offshore wind projects in the environmental baseline, the BiOp grossly underreports the potential impacts on right whales and other listed species from vessel strikes and other human activities connected to the installation and operation of the proposed wind arrays. These facts suggest that NOAA Fisheries should prepare a programmatic BiOp that examines all offshore wind projects in the Rhode Island/Massachusetts ("RI/MA") WEA for impacts on federally-listed species.
49. The Incidental Harassment Authorization (IHA) that NOAA Fisheries issued to Vineyard Wind covers the period from May 1, 2023 through April 30, 2024. (BiOp, 11.) However, the BiOp says that pile driving might begin as soon as June 1, 2021. (BiOp, 11) This suggests that VW may conduct pile driving activities for a full eleven months prior to the effective date of the IHA, whose sole purpose is to ensure that pile driving impacts on marine mammals are minimized. This is a huge and unlawful disconnect.
50. The COP does not restrict the number or location of the VW WTGs. (BiOp, 13.) This is a significant regulatory omission that renders it impossible to fully assess the project's impacts on listed species.
51. According to the BiOp, "BOEM has updated measures to increase the minimum visibility requirements during pile driving, prohibit pile-driving in December unless certain conditions are met, and require additional information in order for crew transfer for vessels to exceed 10 knots in Dynamic Management Areas." (BiOp, 13.) These "updated measures", however, have not been incorporated into the BiOp and thus are unenforceable

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under the ESA. Thus, they cannot be used in the BiOp's analysis of project impacts on listed species.

52. The BiOp states that "Concurrent driving (i.e., the driving of more than one pile at the same time) would be occur and is not analyzed in this opinion." (BiOp, 14.) Is this a condition of the COP, the IHA, or the BiOp itself? It does not appear to be the last, which means it likely is not enforceable under the ESA.
53. The entire BiOp relies uncritically on information from Vineyard Wind on a wide range of critical issues, such as whether and how long the project will engage in vibratory pile driving, and how long each pile driving episode – regardless of method – will take.
54. According to the BiOp, 46 vessels may be on site at any given time, but that VW expects that number to be 25 vessels. (BiOp, 17.) The BiOp does not explain this discrepancy. What data is the BiOp relying on? Does the B.O.'s impact analysis assume 43 vessels or 25 vessels?
55. The BiOp states that the number of vessels "involved in the Project Area at one time is highly dependent on the Project's final schedule, the final design of the Project's components, and the logistics solution used to achieve compliance with the Jones Act." In light of these uncertainties, the BiOp should assume the maximum number of vessels – i.e., 43.
56. The BiOp recognizes that compliance with the Jones Act may alter (i.e., increase) the number of vessels needed for the project and likely will increase the number of vessel miles as well. (See BiOp, 18.) Yet the BiOp does not evaluate this contingency, or the impacts associated with it.
57. The BiOp states that some project components will be shipped from Europe to ports on the Atlantic coast of North America, where they will be "marshalled" and then transported to the project site. These "marshalling" ports, however, could be located in Massachusetts, Rhode Island, or Canada. (BiOp, 18.) Given that these ports are at various distances from the project site, the vessel miles traveled will likewise vary substantially depending on which port is used. The BiOp does not compare the vessel miles from MA to the site and the vessel miles from Canada to the site. As a result, the BiOp presents an incomplete and inaccurate picture of the actual vessel-related impacts of the project.
58. The BiOp mentions nothing about use of Passive Acoustic Monitoring (PAM) outside the immediate construction area of the WGTs. This implies that no PAM will be used along

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the vessel transit routes between mainland ports and the Project site. As a result, transiting vessels will be relying solely on PSOs to detect whales and avoid collisions. There is insufficient evidence that PSOs will be capable of detecting right whales in the dark, in high seas, or below the water's surface. Therefore, vessels transiting to and from the project construction site will expose whales to greater risk of collision and injury that reported in the BiOp.

59. The BiOp indicates that the IHA is effective for one year and “authorizes harassment due to exposure to pile driving noise as the only type of take expected to result from activities during construction of the Project.” (BiOp, 24.) Thus, the IHA is very limited in its scope – both in terms of duration and in terms of the take impact activity covered under the permit. Any take not related to pile driving noise – including vessel strikes – is not covered under IHA. (See BiOp, 24.)
60. According to the BiOp, “There are a number of measures designed to avoid, minimize, or monitor effects of the action we consider part of the proposed action. BOEM has incorporated into the conditions of COP approval the measures that Vineyard Wind is proposing to take, the requirements of the IHA issued by NMFS, and the requirements of the Reasonable and Prudent Measures and Terms and Conditions of the Incidental Take Statement included with our 2020 Biological Opinion.” (BiOp, 27.). These various protective measures, however, have not been incorporated as Terms and Conditions of this BiOp, which is the only BiOp currently in existence and the only BiOp that can be enforced. Moreover, only this BiOp – not the COP and not the IHA – can authorize take and mitigate take under the ESA. In other words, unless the mitigation measures are formally included as conditions in this BiOp, they likely cannot be enforced under the ESA.
61. The BiOp states that Vineyard Wind entered into an agreement with the National Wildlife Federation that includes commitments to minimize effects on NARW. (BiOp, 27.) That agreement, however, is between private parties and not enforceable by NOAA Fisheries on any other federal agency. Thus, it should not be considered in the BiOp's analysis; nor should the BiOp imply that the Agreement or its terms have been incorporated into the Incidental Take Statement set forth in the BiOp.
62. The COP allows vessels to travel from November 1 to May 14 at speeds in excess of 10 knots, provided at least one PSO (also referred to as a “Visual Observer”) is on board. The BiOp does not provide a scientifically valid reason for abandoning this requirement from May 15 to October 31 given that NARW use and reside in the project area throughout these months. And, as noted above, simple visual observation methods such as those proposed

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here are simply incapable of detecting whales in bad weather, choppy seas, or under the water's surface.

63. The COP conditions also rely heavily on the PSO's ability to confirm that all NARWs have been cleared from the transit route and WDA for 2 consecutive days. (BiOp, 29.) The BiOp, however, does not explain how this will be accomplished given that the transit routes in some cases will be 455 miles one-way. Further, there is no way that PAM stations can be set up along the entire transit route – at least there is nothing in the COP or BiOp indicating that this is a requirement or will otherwise take place. In short, there is no evidence showing that the measures proposed for protecting NARWs from vessel strikes will be effective.
64. The BiOp does not explain how use of real-time PAM will detect whales at a sufficient distance from vessels to enable the vessel captains to take evasive action and prevent a collision.
65. The BiOp indicates that crew transit vessels – of whatever length – may travel at speeds above 10 knots, provided a PSO is on board and real time PAM is being used. This measure provides inadequate protection/mitigation against vessel strikes. First, crew transit vessels represent a majority of the vessels to be used during project construction, which means that the speed limit does not even apply to most of the boats that might collide with a whale. Second, as pointed out above, neither PSOs nor PAM is likely to provide adequate protection against vessel strikes on whales, especially since there is no indication that PAM can take place during the entire length of the transit route. Third, even if the crew transit vessels are less than 65 feet – and nothing in the BiOp says they will be – the danger they pose to whales will remain significant because vessel speed – not size – is what determines whether and how seriously a whale is struck by a passing boat.
66. The map on p. 47 (Figure 2) [Vessel Routes from Canadian Ports] shows vessels passing along the eastern edge of designated NARW critical habitat in the Bay of Fundy. This suggests that ships transiting through this location may in fact cross into NARW critical habitat and adversely modify it. For this reason, the BiOp should have addressed this contingency. It failed to do so. (See BiOp, 53.)
67. The BiOp admits that NARW feeding grounds have shifted “with fewer animals being seen in the Great South Channel and the Bay of Fundy and more animals being observed in Cape Cod Bay, the Gulf of Saint Lawrence, and mid-Atlantic, and South of Nantucket. (BiOp, 56.) This shows that the NARW and the Project are on a collision course. This

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problem will only be exacerbated by the other 7 wind projects slated for construction adjacent to Vineyard Wind. The BiOp, however, does not analyze this cumulative impact.

68. The BiOp includes a great deal of data showing that the NARW is in sharp decline, with a total population that will soon fall below 300 individuals (see BiOp, 57), yet the BiOp fails to interrelate these data and the anticipated impacts of the VW project. That is, the BiOp fails to adequately assess the project's impacts, such as vessel strikes and noise and potential reductions in prey species, in the context of the NARW's current struggles to maintain population viability and avoid extinction.
69. The BiOp states that "[u]pdated photo-identification data support that the annual mortality rate changed significantly, and the new information reports a faster rate of decline than previously estimated." (BiOp, 58.) Yet, the BiOp never examines whether the project – singly or cumulatively – will exacerbate this situation and accelerate the mortality rate. Nor does the BiOp assess whether the project will impede recovery of the species, given the challenges to recovery that already exist. Put differently, the BiOp does not assess qualitatively and critically whether the existing state of the NARW population and the dynamics that define it will worsen with implementation of the VW project. Instead, the BiOp is fixated on numeric data – e.g., the mathematically-derived estimate for the number of whales that will sustain Level B hearing impacts – rather than using the quantitative data to effectively evaluate the project's actual impacts on the species.
70. The BiOp indicates that female adult mortality is the main factor influencing the NARW's poor population growth rate. (BiOp, 58.) The BiOp does not, however, explain why the adult female mortality rate is so high or whether project-related activities are among the types of anthropogenic impacts that affect adult female mortality.
71. On page 59, the BiOp acknowledges that NARWs vocalize at low source levels, "which may put North Atlantic right whales at greater risk of communication masking compared to other species." But then, in the next sentence, the BiOp tries to back away from this conclusion: "However, recent evidence suggests that gunshot calls with their higher source levels may be less susceptible to masking compared to other baleen whale sounds." The BiOp should clarify that gunshot calls are made only by young males, primarily during mating season. The other types of calls – screams, blows, upcalls, warbles and down calls – are used by males and females, adults and juveniles for a larger range of communication needs. Thus, the BiOp should not imply that, because gunshot calls are less susceptible to masking, the project will not obstruct/obscure NARW vocalizations or otherwise impede NARW communication. The evidence indicates the opposite conclusion.

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72. The BiOp acknowledges the NARW remain the Gulf of Maine and South of Nantucket year-round. (See e.g., BiOp, 59.). Yet, the impact analysis and mitigation measures continue to assume that the NARWs in these areas are migratory and will exit the project area for half the year. This renders the BiOp analytically deficient.
73. Unlike toothed whales, baleen whales such as the NARW do not use echolocation to locate prey or to navigate. Instead, the NARW relies much more on its ability to see under water. Not only do NARW mothers maintain visual contact with their calves, NARWs generally use vision to identify heavy concentrations of zoo plankton for foraging. The BiOp, however, never analyzes whether the project’s construction activities or daily operations will create turbidity sufficient to degrade the NARWs visual acuity.
74. The BiOp admits that vessel sounds “may limit communication space as much as 67 percent compared to historically lower sound conditions.” (BiOp, 60.) The BiOp, however, does not explain what such a reduction in “communication space” means in terms of NARW behavior, life history stages, and reproductive success. Nor does the BiOp address whether the vessel noise from project activities will make this situation worse and further shrink the NARW’s communication space.
75. The BiOp recognizes that vessel strikes and fishing gear entanglement are now the biggest threats to NARW. The BiOp also states that “the total annual North Atlantic right whale mortality exceeds or equals the number of detected serious injuries and mortalities.” (BiOp, 60.) According to the BiOp, “these anthropogenic threats appear to be worsening.” (BiOp, 60.) Again, however, the BiOp fails to use these data as context for evaluating the project’s impacts, and more specifically, its potential to add to the anthropogenic threats that currently plague the NARW.
76. The BiOp states: “Given the above information, North Atlantic right whales’ resilience to future perturbations is expected to be very low. (Hayes et al. 2018a.)” Despite this statement, the BiOp later concludes that major construction projects in NARW habitat – such as the refuge area south of Nantucket – will pose no jeopardy risk to the NARW. This conclusion is unsound and unsupported.
77. The BiOp states that the total female NARW population will drop to 123 by 2029, and that prey densities are also on the decline, further hastening the NARW’s slide toward extinction. These facts would suggest that any project-related impact on NARW could be devastating, given the extremely low population numbers and the current mortality trends. Yet the BiOp downplays this threat.

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78. At p. 65, the BiOp indicates that the International Maritime Organization, to address vessel strikes in Canadian waters, amended the Traffic Separation Scheme in the Bay of Fundy to remote vessels around high use areas. The BiOp should assess whether a similar re-routing effort would reduce project-related vessel strike risk. If it would reduce such risk, then the BiOp should require it as a reasonable and prudent measure.
79. The Canadian government recently extended its seasonal speed restriction to vessels greater than 13 m in length. (BiOp, 65.) The BiOp should impose the same restriction on the VW project and all subsequent offshore wind projects that involve vessel trips through NARW habitat.
80. The BiOp briefly summarizes the recovery goals for the NARW but does not evaluate whether the Vineyard Wind project – individually or cumulatively – will impede achievement of these goals.
81. According to the BiOp, the Kemp’s ridley sea turtle is experiencing declines in nests and in total population. As with the data on NARW population trends, the BiOp does not place the project’s impacts within the context of the turtle’s current population dynamics, leaving the reader without a meaningful assessment of whether the project will, in fact, impede recovery of this species.
82. The BiOp acknowledges that the NARW’s obligate prey species are copepods, but it does not really address whether the project will affect the density, amount, or location of copepods or whether changes to any of those key indicators will adversely affect NARW foraging.
83. The BiOp does not examine whether NARW, in their efforts to avoid the offshore wind complex south of Nantucket, will forego areas where the whales currently forage for copepods. (See BiOp, 116.)
84. According to the BiOp, NARWs spend 72 percent of their time in the upper 33 feet (10 meters) of water. (BiOp, 118.) This, in part, explains why they are so susceptible to vessel strikes. (BiOp, 118.) Again, however, the BiOp makes no effort to correlate this information with the project’s anticipated impacts related to vessel movements.
85. The BiOp acknowledges that due to warming deep waters in the Gulf of Main, the distribution of right whales has changed. (BiOp, 118.) The BiOp further explains that these changes in water temperature have altered when and where late stage corepods concentrate in great numbers. This, in turn, is affecting right whale feeding behaviors.

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This information is critical for understanding the current and evolving condition of the NARW population in New England, but the BiOp does little to assess how these dynamics of right whale feeding behavior and movement patterns intersect with human activities associated with the Vineyard Wind project.

86. The BiOp discloses that NARW depend on the high lipid content of calanoid copepods “and would not likely survive year-round only on the ingestion of small, less nutritious copepods in the area. (BiOp, 119.) Despite this information, the BiOp does not investigate whether and to what extent the MA/RI WEA, including the VW leasehold, currently supports calanoid copepods. If such copepods are currently found in abundance within the WEA, the BiOp should (but doesn’t) assess whether the project during construction and operation will cause NARW to avoid the area and forego an excellent and perhaps necessary feeding ground.
87. The BiOp even suggests that the shift in calanoid copepod populations is precisely what has brought more NARW into southern New England and, more particularly, into the waters south of Nantucket where the VW project lease is located. Given these facts, it is reasonable to conclude that the project site and the entire RI/MA WEA now support a greater concentration of calanoid copepods than they did previously, making them an important foraging region for the NARW. If this is true, then the project – singly and cumulatively – has the potential to cut whales off from the very food resource they need to survive. Yet the BiOp does not examine this potential impact. These data correspond with results from recent aerial surveys of the RI/MA WEAs, which show that NARW occurrence in these areas has increased markedly since 2017. (BiOp, 119.)
88. Quintana-Rizzo, et al. (2021) concluded that “the mixture of movement patterns within the population and the geographical location of the study area suggests that the area could be a feeding location for whales that stay in the mid-Atlantic and north during the winter-spring months and a stopover site for whales migrating to and from calving grounds.” (BiOp, 119.). According to the BiOp, this finding indicates that the Project site and RI/MA WEA generally function as a NARW feeding “hotspot” that whales rely on year-round. This conclusion undercuts many of the analytical assumptions in the BiOp and casts doubt on the “seasonal” protections incorporated into or imposed upon the project. In short, the recent data show that there is no “season” when NARW are not using the RI/MA WEA. (See BiOp, 120 [discussing Kraus et al. (2016)]. “These data suggest an increasing likelihood of species presence from September through June.” (BiOp, 120.) Yet, most of the project’s mitigation measures for reducing impacts to NARW apply only from November 1 to May 15.

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89. The BiOp attempts to downplay evidence of mating in the RI/MA WEA, even though numerous recent studies show that NARW surface active groups (SAGs) have been observed in the area. It is well-established that one of the major functions of SAGs – if not the primary function – is mating. Rather than assume that the occurrence of SAGs in the WEA likely means some level of courtship and mating is going on, the BiOp side-steps this issue and lets it drop. This is incautious and unacceptable. If the project site and the WEA as a whole support both foraging and mating by NARW, the importance of these locations to NARW survival and recovery increases substantially. Correspondingly, the project’s potential to interfere or impede critical whale behaviors – of which foraging and mating are two – likewise increases substantially.
90. On page 121, the BiOp makes the following admission: “In summary, we anticipate individual right whales to occur year round in the action area in both coastal, shallower waters as well as offshore, deeper waters. We expect these individuals to be moving throughout the action area when copepod patches of sufficient density are present, and calving during the winter months in southern waters of the action area.” This statement, by itself, demonstrates that the Project’s “seasonal” avoidance measures will be insufficient to adequately protect the NARW as a species – a species with only 300 individuals and a declining population of adult females.
91. The BiOp discusses the Ship Strike Reduction rule, which requires ships equal to or greater than 65 ft in length to slow to 10 knots in seasonal management areas (SMAs). This rule, however, provides incomplete and inadequate protection against vessel strikes in the action area. First, it applies only to relatively large ships – i.e., those that are 65-feet long or greater – when the BiOp admits that vessel speed, not vessel size, is what determines whether a vessel strike will occur and whether the injury sustained by the whale in question will be life threatening. Also, the Rule applies only when vessels are traveling through SMAs, which are limited in size and disappear once the defined “season” comes to a close. As the scientific data cited in the BiOp make clear, NARW use the action area year-round and are not confined to particular locations within the RI/MA WEA. Therefore, the protective reach of the Ship Strike Reduction rule, by its very terms, does not adequately cover the project’s potential vessel strike risks to NARWs using the waters south of Nantucket.
92. On p. 144, the BiOp states that in 2021, “NMFS Supplemented the DMA (Dynamic Management Area) program with a new slow zone program which identifies areas recommended for 10 knot speed reductions based on acoustic detection of right whales.” This Slow Zone program, however, is voluntary. (BiOp, 141), and the data show that

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compliance with voluntary rules and programs, while variable, tends to be quite low. Thus, it is unlikely that NMFS New Slow Zone program will result in tangible protective benefits of the NARW.

93. On page 141, the BiOp explains that the environmental baseline for the Vineyard Wind project would include “all proposed federal actions” but only if they had “already undergone section 7 consultation.” Because the seven other offshore wind projects proposed for the waters south of Nantucket (i.e., adjacent to or near Vineyard Wind 1) have not yet been subjected to Section 7 review, they are not included in the baseline. And because the seven other wind projects require federal action, the potential impacts of these projects fall outside the federal regulations’ definition of “cumulative effects.” This is a huge hole in the overall take/jeopardy analysis and can only be filled with a programmatic BiOp that covers all of the offshore wind projects proposed for the RI/MA WEA. By issuing individual BiOps on a project-by-project basis, NOAA Fisheries will fail to capture the combined effects of the multiple offshore wind projects slated for the RI/MA WEA, including effects on NARW.
94. The BiOp seems not to understand the difference between presenting data and conducting an analysis. While the BiOp does plenty of the former, it rarely engages in the latter. As a result, the BiOp does not engage in a dialogue with data to ascertain how various facts interact and influence each other.
95. The BiOp acknowledges that “there are a number of lease areas geographically close to OCS-A 0501 where the proposed project will be built and three lease areas are adjacent to OCS-A 0501.” (BiOp, 145.) This confirms that a programmatic BiOp should be prepared for all of the offshore wind projects in this WEA.
96. The BiOp fails to assess the Project’s total noise/sound impacts, where project-related noise sources are combined to reflect simultaneous implementation activities. For example, the BiOp does not combine vessel noise with pile driving noise, even though vessel use will likely be occurring during pile driving activities. This is an analytical defect.
97. The BiOp does not indicate whether ongoing U.S. Navy operations are included in the Environmental Baseline for purposes of analyzing the project’s impacts on whales and other listed species. Failure to include such naval operations would be legal error.
98. At times, the BiOp suggests that all of the project’s impacts on NARW and other marine mammals are covered under the Incidental Harassment Authorization (IHA) that NMFS issued pursuant to the Marine Mammal Protection Act. The IHA, however, only covers

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impacts from pile driving; it does not cover impacts and potential take related to activities other than pile driving, such as vessel strikes, that may occur outside the pile driving impact area. (See BiOp, 165.) The BiOp should be clear on this point and then assess whether effects not covered under the IHA may jeopardize or result in take of listed species.

99. On pages 179-180, the BiOp states ‘PSOs are expected to reasonably be able to detect large whales at distances of approximately 1.5 km from their station...’ For this proposition, the BiOp cites Roberts, et al. 2016. We have reviewed the Roberts study and it does not appear to support the BiOp’s statement. Moreover, even if a PSO, standing on a raised platform, could detect a large whale 1.5 km away, that does not mean that the PSO is capable of detecting whales below the water’s surface or hidden from view by large swells of rough seas.
100. On page 181, the BiOp indicates that, based on right whale density estimates, the project will expose only one right whale to noise above the Level A harassment threshold. Yet it is unclear whether the IHA authorizes Level A harassment of any right whales. Nor is it clear whether the BiOp fills that gap and authorizes take on NARW due to Level A noise impacts.
101. The IHA and BiOp constantly refer to the use of Passive Acoustic Monitoring (PAM) of whale calls as a means of supplementing the PSO effort to detect NARWs that might enter the pile driving impact area. However, the BiOp does not describe how the RAM will be conducted; nor does it assess whether PAM can be used in this particular application, especially where vessel noise and pile driving noise may mask the vocalizations of the whales.
102. The BiOp acknowledges that approximately 20 NARW will be taken by virtue of Level B noise impacts. Yet the BiOp never analyzes the extent to which this level of take will affect the current population dynamics of the NARW. That is, the BiOp does not explain why the take of 20 NARW through Level B noise harassment will not jeopardize the ability of the 300 remaining right whales to remain viable as a population. Nor does it explain why such take would not impede recovery of the species. Such explanations are critical given that the NARW appears headed toward extinction, absent radical reductions in anthropogenic threats.
103. On page 184, the BiOp states that the project will use a “soft start” approach to pile-driving, which is intended to gently alert marine mammals of the heavier, noisier work to come later and to encourage those mammals to avoid the project action area: “[G]iven sufficient notice through use of soft start, marine mammals are expected to move away

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from a sound source that is annoying prior to exposure resulting in a serious injury and avoid sound sources at levels that would cause hearing loss.” (BiOp, 184.) There are serious flaws in this analysis and the assumptions that underlie it. There is no indication that this “soft start” pile-driving approach will actually trigger an avoidance reaction in marine mammals, especially where, as here, the underwater sound environment is already noisy. It is just as likely that the soft start will have no effect on NARW behavior at all, given that NARW do not typically respond to noise events or noise sources the way some other whale species do. The more probable outcome is that NARW will not be “moved” by the soft start and won’t actually leave the action area until the pile-driving noise reaches painful/harmful levels. In fact, if the action area holds dense pockets of calanoid copepods, the NARWs will likely remain in the action area to feed, even if it means putting up with potentially damaging noise levels. And even if the soft start does not cause NARW and other marine mammals to leave the action area, such forced avoidance of a major foraging area may itself constitute take; yet the BiOp does not assess this potential impact.

104. The BiOp states that whales will not sustain permanent damage from the project’s pile-driving activities. This statement that the whale will be exposed to pile driving noise for only a short period of time. (See, e.g., BiOp, 185.) The reality, however, is that the Project’s pile-driving activities will likely go on for weeks – long enough for the whales to consider the noise source permanent. This likely will encourage more long-term behavioral changes in the whales. This fact is exacerbated by the very real possibility that the adjacent wind farms will begin pile driving prior to or soon after VW completes its pile driving activities, thus lengthening the overall time that NARWs and other marine mammals are exposed to pile driving noise impacts and must engage in avoidance behaviors which, in term, may result in loss of foraging opportunities.

105. The BiOp also assumes that the project will engage in pile-driving for a maximum of 3 hours per day. According to the BiOp, pile driving of such short duration will not be overly disruptive to NARWs. (See, BiOp, 185.) There is no evidence to support this conclusion. First, we are not aware of any requirement or condition that restricts Vineyard Wind to a maximum of 3 hours of pile driving per day. So, the exposure period could be much greater. Second, the whales will have no idea that the pile driving noise that is warding them off foraging grounds in the action area will come to an end in 3 hours. Rather, the whales will hear the pile driving noise, wait for a short period to see if it will stop and then, when it doesn’t, they will move in search of another location to feed, not to return. There is no evidence to suggest that the whales will just “wait it out” on the periphery of the action area and then re-enter the action area once the 3-hour pile driving episode has concluded. To expect that to happen is ludicrous.

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106. The BiOp cites a number of studies that use population consequences of disturbance (PCoD) models and states: “Nearly all PCoD studies and experts agree that the infrequent exposures of a single day or less are unlikely to impact individual fitness, let alone lead to population level effects.” As noted above, however, the project’s pile driving noise will not cease after a single day, but will go on for many days on end, for at least 3 hours each day. It is unclear whether the studies cited in the BiOp addressed this kind of situation. In addition, the BiOp seems to assume that impacts that degrade individual fitness will not, by themselves, “lead to population level effects.” This may be true in some contexts, with some species. But when the affected species is the NARW, whose entire population stands of approximately 300, any loss of individual fitness may, in fact, have significance consequences for the population as a whole. This BiOp, however, does not discuss this possibility.
107. The BiOp assumes that a NARW, once discouraged by pile driving noise from foraging in the action area, will soon find ample foraging opportunities at another nearby location. This assumption, however, is not supported by analysis or evidence.
108. The BiOp makes a similar unsupported conclusion regarding the project’s potential to trigger “stress responses” in right whales. Despite documented evidence that right whales show increase stress hormones in response to chronic noise, the BiOp nevertheless concludes that the pile-driving and vessel noise associated with the project’s construction will not increase NARW stress. This conclusion is unsupported.
109. On page 193, the BiOp acknowledges that vessel noise “has the potential to disturb marine mammals and elicit an alerting, avoidance, or other behavior. The BiOp also states that vessel noise can mask whale vocalizations, thus interfering with the animal’s “ability to find prey, find mates, socialize, avoid predators, or navigate.” Despite these facts, the BiOp then states that “[b]ased on the best available information, ESA-listed marine mammals are either not likely to respond to vessel noise or are not likely to measurably respond in ways that would significantly disrupt normal behavior patterns that include, but are not limited to, breeding, feeding or sheltering.” (BiOp, 193.) These two statements are incongruous, making the BiOp internally inconsistent and confusing. Further, the BiOp does not cite or reveal the technical sources that constitute the so-called “best information” on which the BiOp’s conclusion is based.
110. The BiOp’s entire discussion of existing vessel traffic in the action area is highly suspect because it relies on automatic identification system (AIS) tracking of ships to determine the number of vessels in a given area over a given period of time. As the BiOp acknowledges, most vessels less than 65 ft in length do not have or use AIS, which means

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they would not be included in the “existing” vessel traffic baseline. (See BiOp, 229.) The BiOp even admits “vessel traffic is significantly more than described.” Yet, the BiOp does not opt for a different method of determining existing vessel traffic.

111. The BiOp states that project-related “vessels traveling from Europe are large slow-moving construction/installation or cargo vessels that travel at slow speeds of approximately 10-18 knots.” (BiOp, 234.) In the context of vessel strikes – and vessel strike avoidance – 10 to 18 knots is not slow. Any vessel, especially a large one, that travels in excess of 10 knots poses a significant risk of vessel strikes on NARW.
112. On page 237, the BiOp indicates that, on average, 25 vessels will be involved in construction activities on any given day, 7 of which will be transiting to and from ports while the others remain at the action area. The vessel strike risk assessment, however, should have been based on the maximum number of expected vessels per day, not the average. Vessel strikes are, in part, a function of vessel traffic and congestion within a defined space, so if on a given day when 40 or 45 vessels are in the action area (as opposed to the daily average of 25), the risk of vessel strike on that day would be substantially higher than the “average” day assumed in the BiOp.
113. On page 241, the BiOp explains that the NARW, unlike most baleen whales “seem generally unresponsive to vessel sound, making them more susceptible to vessel collisions.” In light of this, the BiOp should apply a different, more sensitive metric for determining whether project-related vessel trips will create a “take” level risk for NARW. Also, the fact that NARW do not respond to vessel noise with avoidance behavior suggest that the species may not react as expected to soft start pile-driving noise either. In other words, in NARW generally do not respond to noise cues with avoidance behaviors, then the project’s pile-driving mitigation program – which is based on the assumption that whales will leave the action area once soft start pile driving begins – is flawed and will not achieve the hoped-for result.
114. The BiOp suggests that compliance with the 10-knot vessel speed limit has generally been good – over 80%. However, the data underlying this conclusion come from AIS records, and we know that only ships 65 feet or longer employ AIS; smaller vessels do not. Thus, there is no way to tell whether the non-AIS vessels are complying with the 10-knot speed limit. (See BiOp, 242.)
115. The BiOp, on page 243, offers two insights that bring into question many of the document’s analytical assumptions and many of the project’s mitigation/protection measures. First, the BiOp states that large whales do not have to be at the water’s surface

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to be struck, because studies show that a whale swimming at a depth one to two times the vessel draft is subject to “pronounced propeller suction-effect.” (BiOp, 243.) This “suction effect may draft the whale closer to the propeller, increasing the probability of propeller strikes.” This suggests that whales well below the water’s surface – i.e., well below where they can be detected visually by PSOs – are still vulnerable to vessel strikes. For this reason, the entire PSO approach to detecting and avoiding whales is likely to be ineffective.

Second, the BiOp states that, according to a recent study, vessel speed, not vessel size, determines the severity of a vessel strike. Thus, all vessel types, even the smaller crew transport ships that will be used for the project, have the potential to cause significant injury to a right whale if those vessels are traveling in excess of 10 knots. The project’s mitigation measures, however, assume that small vessels pose a negligible risk of collision. Thus, those measures do not require such vessels to adhere to the 10-knot speed limit that applies to larger vessels (>65 feet). Clearly, then, there is a disconnect between the mitigation measure, on one hand, and the risk/impact that the measure is supposed to address, on the other.

116. The BiOp should explain whether and how the Jones Act might affect the number of vessels needed for the project and, more importantly, the number of miles these vessels will travel. Without this information, it is possible that compliance with the Jones Act may increase substantially project-related vessel activity, thereby, increasing the risk of vessel strikes.
117. The BiOp claims that its vessel strike calculations likely overestimate the risk because “most vessels once in the WDA will be stationary or moving extremely slow.” Even if the BiOp’s assumptions regarding vessel speeds in the WDA were true – and there is no supporting data provided on this question – the real threat comes from vessels traveling to and from the WDA, because such transiting vessels will likely be moving at speeds greater than 10 knots.
118. The BiOp explains that whales at a depth greater than vessel draft can still be pulled by hydrodynamic force into a collision with the ship in question. (BiOp, 248.) This fact undermines much of the project’s whale protection strategy. Yet, later on the same page, the BiOp states, “We expect that a PSO will be able to detect whales at least 1 km away from the vessel in good daylight conditions, which provides ample opportunity for notification to the captain and for the captain to make changes in course.” Again, these two statements from the BiOp cannot be reconciled. On one hand, the BiOp indicates that whales swimming well below the surface can be struck by vessels. On the other, the BiOp states that PSOs, who can only detect whales on the surface of the water

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(and only under “good daylight conditions,” whatever those are), will be able to warn the ship captains in plenty of time to take evasive action and avoid striking the whale. The BiOp has nothing at all to say about whales that may be under the surface (i.e., undetectable by a PSO) but still in danger of being struck by a vessel. Such whales will be left unprotected by the mitigation protocols incorporated into the Project.

119. The BiOp suggest that the shortcomings of the PSO measures will be rectified by use of PAM. Again, however, the BiOp does not explain how PAM will be used in the WDA, to say nothing of how it will be implemented outside the WDA where ships will be traveling back and forth between the project site and the mainland supply ports. Moreover, studies show that NARW often go long stretches without vocalizing at all, which means that PAM would be useless in trying to detect such whales.
120. The exceptions to the 10-knot vessel speed limit largely render the speed limit ineffectual. For example, the 10-knot maximum does not apply in Nantucket Sound, which is where many NARW are to be found. In addition, the 10-knot speed limit does not apply to crew transit vessels, which is the most common and numerous vessel type used for the Project. The speed limit also does not apply to vessel activity between May 15 and October 31, even though data show that NARW increasingly stay in the waters off New England, including the project action area, all year round. For these reasons, the 10-knot speed limit does not protect whales to the extent assumed in the BiOp, rendering the BiOp inadequate as a matter of law.
121. The BiOp does not analyze the Vineyard Wind project’s potential to cause take of federally-listed bird species, resulting in a major omission.

Conclusion

As discussed herein, NOAA Fisheries and BOEM cannot rely on the BiOp issued on October 18, 2021, for purposes of authorizing Vineyard Wind to take of federally-listed species incidental to the Vineyard Wind Project. Further, the BiOp’s deficiencies render it incapable of supporting a “no jeopardy” finding as to project-related threats and impacts to the right whale.

In summary, the BiOp is substantively deficient and does not meet the minimum legal requirements of the ESA. By adopting the BiOp and authorizing Vineyard Wind to take and jeopardize the survival of federally-listed species, including the right whale, NOAA Fisheries has acted arbitrarily and capriciously in violation of federal law. Note also that BOEM may not “abrogate its responsibility to ensure that its actions will not jeopardize right whales merely by relying on a biological opinion.” *Strahan v. Roughead*, 910 F.Supp. 358, 381 (D.Mass. 2012). This

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is especially true when the biological opinion is flawed. *Id. See also Wild Fish Conservancy v. Salazar*, 628 F.3d 513, 532 (9th Cir. 2010).

If NOAA Fisheries does not correct the deficiencies described herein within the 60-day notice period provided by statute, ACK Rats will file suit in federal court and request an order invalidating the BiOp. Thank you for your attention to this matter.

Sincerely,



David P. Hubbard
Gatzke Dillon & Ballance, LLP
Counsel for ACK Rats

Cc: ACK Rats Board of Directors
Vallorie Oliver

From: [Vorkoper, Stephen R](#)
To: [Annatoyn, Travis J](#); [Hawbecker, Karen S](#); [Daugherty, Dennis](#)
Cc: [Meléndez-arreaga, Pedro F](#); [Sebastian, Robert L](#)
Subject: FW: [EXTERNAL] VINEYARD WINDS-draft scheduling reports
Date: Monday, November 29, 2021 4:20:31 PM
Attachments: [WILDLIFE-#360148-v1-VINEYARD WIND ALLCO-draft_sched_report_112921.DOCX](#)
[WILDLIFE-#360147-v1-VINEYARD WIND ACK-draft_sched_report_112921.DOCX](#)

Here are very revised draft scheduling reports on which DOJ would like any feedback by COB tomorrow.

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Subject: [EXTERNAL] VINEYARD WINDS-draft scheduling reports

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Please review and provide any comments before COB Tuesday 11/30/21. Thanks, Mark

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UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

ALLCO RENEWABLE ENERGY LTD., ALLCO
FINANCE LTD., and THOMAS M. MELONE

Plaintiffs,

v.

DEBRA HAALAND, MARTHA WILLIAMS, U.S.
DEPARTMENT OF THE INTERIOR, U.S.
BUREAU OF OCEAN ENERGY MANAGEMENT,
JOHN ATILANO, GARY FRAZER, U.S. ARMY
CORPS OF ENGINEERS, U.S. FISH AND
WILDLIFE SERVICE, and NOAA FISHERIES
DIRECTORATE

Defendants.

Civil Action No. 1:21-cv-11171-IT

Hon. Indira Talwani

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Respectfully submitted,

DATED: December 10, 2021

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CERTIFICATE OF SERVICE

Pursuant to Local Rule 5.2, I hereby certify that a true copy of the above document was served upon the attorney of record for each other party by the CM/ECF electronic filing system on December 10, 2021.

/s/ Mark Arthur Brown
MARK ARTHUR BROWN

**UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS**

ACK RESIDENTS AGAINST TURBINES, *et al.*

Plaintiffs,

v.

U.S. BUREAU OF OCEAN ENERGY
MANAGEMENT, *et al.*

Defendants.

Civil Action No. 1:21-cv-11390-IT

Hon. Indira Talwani

Joint Case Management Plan

In response to the Court’s order of November 5, 2021, ECF No. 32, the Parties, by and through their undersigned counsel, hereby submit a Joint Case Management Plan and make the following statements in support:

1. The Parties agree that this case is a civil action for declaratory judgment and injunctive relief against Defendants pursuant to the Administrative Procedure Act (APA), 5 U.S.C. §§ 701 to 706, the National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4331, *et seq.*, the Outer Continental Shelf Lands Act (OCSLA), 43 U.S.C. §1337(p), and the Endangered Species Act (ESA), 16 U.S.C. §§ 1531, *et seq.*, and related regulations for each. Judicial review for each statute adheres to the APA’s scope and standard of review.

2. The Parties agree that Plaintiffs’ claims, which are based on APA review, should be resolved through motions for summary judgment following submission of and based on the administrative record.

3. The Parties do not agree to have the case heard by a Magistrate.

4. The Parties agree that this case is not suitable for an alternative dispute resolution program such as arbitration, mediation, or judicial settlement conference.

5. The Parties agree that this case can be resolved without discovery under Federal Rule of Civil Procedure 26 or a trial.

6. The Parties state that pending before the Court is a Motion to Intervene filed by Vineyard Wind 1 LLC, ECF Nos. 11-14.

7. The parties have been advised by Counsel for the proposed intervenor that Project construction is ongoing. Under the current construction schedule, installation of the first segment of the export cable is expected to begin on or around June 1, 2022. All subsequent construction is sequenced from that point to comply with the numerous time of year restrictions that have been included as conditions of project approval.

8. The Parties outline the following proposed case management schedule, but reserve the right to seek later amendments, either jointly or unilaterally.

WHEREFORE, the Parties respectfully request that this Court issue an order addressing the following case management items:

A. Amended Complaint. Plaintiffs will file any amended complaint on or before February 11, 2022. Federal Defendants will file an answer or other response to any amended complaint 30 days after such amended complaint is filed pursuant to the Order entered October 27, 2021, ECF No. 24. Federal Defendants will file an answer or other response to the original Complaint by March 11, 2022, in the event no amended complaint is filed by February 11, 2022.

B. Administrative Record. Federal Defendants will produce to the parties and lodge with the Court the certified administrative record by April 12, 2022, or 30 days after an answer or other response to Plaintiffs' amended complaint is filed, whichever is later. The Parties will confer over any disputes regarding the scope of the administrative record and file any motions

regarding the certified administrative record, including motions to supplement, within thirty (30) days of producing the certified administrative record.

C. Summary Judgment Briefing Schedule.¹

June 10, 2022 – Plaintiffs file motion for summary judgment;

July 22, 2022 – Federal Defendants file summary judgment cross-motion/response;

July 29, 2022 – Defendant-Intervenors file summary judgment cross-motion/response;

August 26, 2022 – Plaintiffs file summary judgment response/reply; and

September 23, 2022 – Federal Defendants and Defendant-Intervenors file their respective summary judgment replies.

D. Hearing. The Parties respectfully request that any hearing be set as soon as possible after the conclusion of the briefing.

E. Page Limits. Due to the number and complexity of issues presented in this case, and in order to reduce duplicative filings, the Parties agree that Plaintiffs will file single, consolidated briefs, and that Federal Defendants and Defendant-Intervenors will file separate briefs with the following expansion of the page limits set forth in Local Rule 7.1(b)(4) for the briefing set forth above:

Plaintiffs’ consolidated motion for summary judgment – 60 pages

Federal Defendants’ and Defendant-Intervenors’ cross-motions/responses – 60 pages each

Plaintiffs’ response/reply – 80 pages total

Federal Defendants’ and Defendant-Intervenors’ replies – 40 pages each

¹ The proposed schedule includes due dates for Intervenors, to be applied in the event their Motion to Intervene is granted.

F. Remedies Briefing (if necessary). Should the Court find any violation of law, the Parties agree to address the appropriate remedy in a separate round of briefing following the decision on summary judgment.

Respectfully submitted,

Date: December 10, 2021

TODD KIM
Assistant Attorney General
U.S. Department of Justice
Environment & Natural Resources Division
/s/ Draft

MARK ARTHUR BROWN
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Counsel for Plaintiffs

CERTIFICATE OF SERVICE

Pursuant to Local Rule 5.2, I hereby certify that a true copy of the above document was served upon the attorney of record for each other party by the CM/ECF electronic filing system on December 10, 2021.

/s/ Mark Arthur Brown
MARK ARTHUR BROWN

From: [Lefton, Amanda B](#)
To: [Meléndez-arreaga, Pedro F](#); [Annatoyn, Travis J](#); [Daugherty, Dennis](#); [Hawbecker, Karen S](#)
Cc: [Cruickshank, Walter](#); [Bennett, James F](#)
Subject: FW: [EXTERNAL] Supplement to 60-Day Notice of Intent to Sue
Date: Monday, November 29, 2021 5:44:10 PM
Attachments: [ACK RATs Supplement to 60-Day Notice of Intent to Sue Over 2021 BiOp for Vineyard Wind Project \(11-29-21\) \(002\).pdf](#)

Please see the attached

Thank you

A

From: Lisa Murphy <LMurphy@gdandb.com>
Sent: Monday, November 29, 2021 5:41 PM
To: 'secyrimondo@doc.gov' <secyrimondo@doc.gov>; 'benjamin.friedman@noaa.gov' <benjamin.friedman@noaa.gov>; Lefton, Amanda B <Amanda.Lefton@boem.gov>; 'Regan.Michael@epa.gov' <Regan.Michael@epa.gov>; '(b)(6) [REDACTED]', <(b)(6) [REDACTED]>; '(b)(6) [REDACTED]', <(b)(6) [REDACTED]>; 'secyhaaland@doi.gov' <secyhaaland@doi.gov>; OS, feedback <Feedbackold@ios.doi.gov>
Cc: David Hubbard <DHubbard@gdandb.com>
Subject: [EXTERNAL] Supplement to 60-Day Notice of Intent to Sue

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Dear Ms. Raimondo, Mr. Friedman, Ms. Lefton, Mr. Regan, Lieutenant General Spellmon, Admiral Schultz and Ms. Haaland:

Please find attached a “supplement” to 60-Day Notice of Intent to Sue, submitted by ACK Residents Against Turbines (“ACK Rats”) on November 26, 2021. Like the original Notice of Intent to Sue, the “supplement” addresses deficiencies in the Biological Opinion, dated October 16, 2021, issued for the Vineyard Wind 1 Project. Please contact me if you have any questions.

Sincerely,

David Hubbard
Counsel for ACK Residents Against Turbines

760.431.9501 x. 117
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G | D | B Gatzke Dillon & Ballance LLP
L A W Y E R S

NOTICE: This communication and any attached document(s) are privileged and confidential. In addition, any disclosure of this transmission does not compromise or waive the attorney-client privilege or the work product doctrine. If you have received this communication in error, please delete it and contact me at dhubbard@gdandb.com.

November 29, 2021

By E-Mail

Gina M. Raimondo, Secretary of Commerce
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The United States Environmental Protection Agency
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Lieutenant General, Scott A. Spellmon
Commanding General of the United States Army Corps of Engineers
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(b)(6)

The United States Coast Guard
Commandant of the Coast Guard
Admiral Karl L. Schultz
U.S. Coast Guard Stop 7318
2703 Martin Luther King Jr. Avenue, SE
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Gina M. Raimondo, Secretary
U.S. Department of Commerce
November 26, 2021
Page 2

Deb Haaland
Secretary of the Interior
1849 C Street, NW
Washington, DC 20240
secyhaaland@doi.gov
feedback@ios.doi.gov

Re: Supplement to 60-Day Notice of Intent to Sue: Violations of Endangered Species Act Section 7 – Legally Deficient Biological Opinion for Vineyard Wind Offshore Energy Project and Related Incidental Take Authorization and Incidental Harassment Authorization

To whom it may concern:

We hereby submit the following “supplement” to the 60-Day Notice of Intent to Sue that ACK Residents Against Turbines (“ACK Rats”) submitted to the addressee agencies on November 26, 2021, challenging the Biological Opinion (“BiOp”) for the Vineyard Wind 1 project, issued on October 16, 2021.

After reviewing the BiOp more closely, we noticed that the “Environmental Baseline” discussion fails to identify, describe, and quantify existing/ongoing “take” authorizations that NOAA Fisheries has issued to private, state, and federal entities for activities that affect listed species, including North Atlantic right whale, sei whale, fin whale, sperm whale, Atlantic sturgeon, green sea turtle, Kemp’s Ridley sea turtle, loggerhead sea turtle, and leatherback sea turtle. Any take of these species authorized under this BiOp (i.e., take associated with the Vineyard Wind 1 project) must be assessed in relation to, and in combination with, take authorizations already granted for existing activities. Failure to do so is legal error.

We understand that this supplement to ACK Rats’ original NOI will “reset” the 60-day clock for purposes of bringing a citizens suit over the alleged inadequacies of the BiOp. Please feel free to contact the undersigned if you have any questions.

Sincerely,



David P. Hubbard
Gatzke Dillon & Ballance, LLP
Counsel for ACK Rats