

**MEETING, DATE & TIME:**

***NRG Meeting & Tour  
Wednesday, August 8, 2007  
1:00 PM – 3:00 PM***

**LOCATION:**

NRG Office  
100 N. 10<sup>th</sup> Street  
Harrisburg, PA  
Meeting will held in the 3<sup>rd</sup> Floor offices

**Contact:** Rosemary T. McAvoy (The Xcelon Group) 717-920-0527

**PURPOSE OF MEETING:**

Discuss the utilization of biofuels (biodiesel) for CHP projects at Indiana State Univ. of PA and possibly in the City of Harrisburg. Discuss the Alternative Energy Portfolio Standard and applications to thermal related technologies, the role of bio-oil in heating and electrical generation and a 100% renewable Microgrids for the Capitol complex.

**DEP ATTENDEES:**

Kathleen A. McGinty  
Dan Desmond  
Dan Griffiths

**NON-DEP ATTENDEES AT EVENT:**

Rosemary McAvoy, Xcelon Group and Alternative Fuels & Renewable Energy Council (AFREC)  
John O'Brien, NRG Senior Vice President, Regulatory and Government Affairs  
Jan Sockel, General Manager  
Keith Li, P.E., Controller

**AGENDA ITEMS:**


You and the two Dan's will pull up to the security gate between the two main NRG buildings. NRG upper management will meet you at the gate, to get securely parked. You'll go to left to go into the training center (which is actually a corporate room), and NRG will present a schematic of the plant and background info on the energy it generates, plus what to expect to see in the plant. You'll then do a walk-through of the plant, then leave and go back to Corp. offices across the street on the third floor, where there will be refreshments and you will proceed with the following agenda.

1:00 PM Meet at Security Gate/Parking Lot NRG Plant Training Room

Opening Remarks .....Jan Sockel, General Manager

Guided Tour of Cogen and Steam Plant

NRG Conference Room - General Discussion



## NRG's Role in the Governor's Energy Independence Strategy

### Planned Initiatives


- Biofuels project for cogeneration system
- Biogas opportunities
- Thermal production - equivalent credits
- Demand side management - CW storage
- Microgrids

### DEP Observations

### Closing Remarks


### **BACKGROUND & RECOMMENDATIONS:**

I had previously discussed with NRG and Rosemary that biodiesel is not an eligible fuel under the AEPS. The biomass definition in AEPS has two main points: plants grown specifically for the purpose of generating electricity with caveats associated with CRP acreage, soil erosion and other ecosystem impacts (intent focused on warm-season grasses). The second point focuses on the utilization of solid, non-hazardous cellulosic materials. We commented on the draft language to the fact that, in both cases, the language doesn't recognize the ability of utilizing liquids, such as biodiesel or plant oils for electricity generation.



NRG's position is that biodiesel is a renewable fuel to which we do not disagree. My recommendation to Rosemary was to contact either the sponsors or authors of the SB 1030/Act 213 to seek support for an amendment. From an implementation perspective, it is helpful to understand that biodiesel, when burned in a stationary engine, will increase NOx emissions and it's possible that we may not want to see a marked increase in it's use in the already dirty oil-fired peakers. The added cost of using biodiesel could be offset via AEPS credits and therefore negate any disincentive for its use for electricity. We should also be cognizant of the potential impact on the supply and cost for biodiesel in the transportation and heating oil sectors. Another issue is that we have received several inquiries about using virgin and waste vegetable oil in small diesel engine/generators for the purposes of generating electricity. Would we support biodiesel and not the less processed vegetable oils from participating in this market, should such an amendment be approved?

With no certainty on what a climate strategy may look like, the use of biodiesel and vegetable or other bio-oils for electricity could easily be considered as an eligible mechanism for earning carbon offsets.



NRG Energy, Inc. is a wholesale power generation company, primarily engaged in the ownership and operation of power generation facilities and the sale of energy, capacity and related products in the United States and internationally. The Company has a diverse portfolio of electric generation facilities in terms of geography, fuel type and dispatch levels. It seeks to maximize operating income through the efficient procurement and management of fuel supplies and maintenance services, and the sale

of energy, capacity and ancillary services into attractive spot, intermediate and long-term markets. <http://www.snl.com/irweblinkx/corporateprofile.aspx?iid=4057436>

The Xcelon Group is a full service firm that determines objectives, develops a plan and executes the strategy. Help businesses find the most innovative, efficient and economical methods to increase sales and profitability. Xcelon is a business development, marketing and public relations company.

Xcelon provides services to all businesses and specializes in working with agriculture and energy companies that are developing, manufacturing, distribution, selling or using alternative fuel and renewable energies products, and services.

Xcelon founded the first entrepreneurial council to promote the commercialization of alternative fuels and renewable energies in the Mid Atlantic states, the Alternative Fuels Renewable Energies Council (AFREC).

**The following information was obtained from Rosemary McAvoy via telephone interview regarding the NRG meeting on June 13<sup>th</sup>:**

NRG is a \$66 billion, Fortune 500 Company with facilities in Pittsburgh, Harrisburg and Philadelphia

NRG wishes to partner with DEP and the Rendell Administration to advocate for the Governor's EIS.

NRG wishes to invest 4-5 million of their own capital to transition a thermal (heat and steam) facility into a "green" facility by changing current diesel and oil feedstock to green alternative energy feedstock (bio-oil). This could possibly be the 1<sup>st</sup> bio-oil CHP of this size of its kind.

NRG is positioning themselves to provide all heating services to the Capitol complex via advanced alternative fuels (bio-oil). NRG proposes to at first combine bio-oil with Diesel #2 and #6.

NRG intends to start with 5% biofuel combines with diesel #6 and then to further phase-in bio-oil blends as pricing permits. NRG desires to use PA bio-oil producers to provide feedstock for blending with heating fuel. NRG sees this as an opportunity to reduce the price for producing thermal and possibly electrical energy.

NRG wishes to use the potential of the renewable bio-oil market place as an opportunity to implement a cost containment strategy against rising electricity costs. NRG is concerned with the expiration of rate caps and the anticipated linear rise in the price for heating and cooling.



NRG anticipates their significant purchasing power would be a potential opportunity to the local PA biofuel market such that they would benefit from an increase in demand and at the same time this condition would result in a more stable local biofuel market for them.

NRG seeks a determination that biofuels be considered under the "biomass" definition as is listed under AEPS Tier I. NRG speculates that if biofuels are utilized, such as in NRG plants, to provide thermal loads and CHP loads, that they are in fact then replacing traditional electrical thermal loads with renewable feedstock.

The HGB NRG site is the old PPL site that generates electricity and heat such that they can potentially provide full HVAC services. They could be the first "microgrid for the capital complex"

As a move towards efficiency NRG may build their own bio-plant to utilize waste soybean oil or "2<sup>nd</sup> use soybean oil" and create 100% bio oil. NRG estimates there is enough yellow grease to support such an operation that would supply their needs. NRG does not want to solely rely on 1<sup>st</sup> run soybean oil and wishes to create a second market with 1<sup>st</sup> run and 2<sup>nd</sup> run oil.

**BRIEF AUTHOR:** Joe Sherrick, 772-8944 & Dave Althoff, 717-705-0372

**Chippo, Kerry**

**From:** Lasher, Karl  
**Sent:** Tuesday, June 12, 2007 11:34 AM  
**To:** Chippo, Kerry; Failor, Debra L; Hart, Lydia  
**Subject:** FW: NRG Steam Plant

Can you include this in NRG? Thanks.

**Karl Lasher**  
**Executive Assistant**  
**Office of Energy and Technology Deployment**  
**Pa. Department of Environmental Protection**  
**717-783-0540**

-----Original Message-----

**From:** Sherrick, Joseph  
**Sent:** Tuesday, June 12, 2007 11:27 AM  
**To:** Lasher, Karl  
**Cc:** Desmond, Daniel; Griffiths, Daniel  
**Subject:** FW: NRG Steam Plant

Karl, can you forward this for possible inclusion in the NRG briefing?

-----Original Message-----

**From:** Heagy, Frederick  
**Sent:** Tuesday, June 12, 2007 11:17 AM  
**To:** Sherrick, Joseph  
**Subject:** RE: NRG Steam Plant

Joe,

Per our discussion today, I was on annual leave yesterday. However, it appears you can still use the information for a meeting tomorrow.

**General Facility Information:**

4 Combustion Engineering Boilers  
 2 Cooper Industries Engines

Facility Emissions: 2006 AIMS - SOx = 349.6 Tons, NOx = 109.0 Tons, CO = 17.0 Tons  
 2005 AIMS - SOx = 619.2 Tons, NOx = 166.3 Tons, CO = 23.7 Tons

Note: 2006 emission data reflects overall less demand for the sources than in 2005.

**Specific Information:**

**Boiler Information:** (NA = Not Applicable)

Boiler ID No.:	No. 12	No. 13	No. 14	No. 15
Rated Heat Input (MMBTU/Hr):	105.0	214.0	214.0	214.0
Fuel Type 1:	#6 Oil	#6 Oil	#6 Oil	#6 Oil

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Fuel Type 2:	NA	Nat Gas	Nat Gas	Nat Gas
2006 Tons SOx:	53.0	113.7	106.3	76.4
2006 Tons NOx	6.6	35.1	39.8	11.9
2006 Tons CO:	0.9	2.5	4.1	1.3

**Engines Information:**

Engine ID No.:	No. 1	No.2
Rated Heat Input (MMBTU/Hr.):	58.5	58.5
Fuel Type 1:	Nat Gas	Nat Gas
Fuel Type 2 (Ignition only):	#2 Oil	#2 Oil
2006 Tons SOx:	0.0	0.2
2006 Tons NOx:	10.8	4.8
2006 Tons CO:	4.2	4.1

-----Original Message-----

**From:** Sherrick, Joseph  
**Sent:** Monday, June 11, 2007 8:29 AM  
**To:** Heagy, Frederick  
**Cc:** Davis, William C. (DEP)  
**Subject:** NRG Steam Plant

Hi Fred,

I have a briefing due for the Secretary for a meeting and tour of the NRG's Harrisburg steam plant. Can you give the details on the number and size of the boilers, fuels used and the turbine? If you have 2006 emissions data for SO<sub>2</sub>, NO<sub>x</sub> and CO<sub>2</sub> and include it that would be appreciated. I need this for noon. If you can't get it by then, don't sweat it. I just thought it would be good background for her.

Thanks,  
 Joe

6/12/2007

## Hart, Lydia

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**Subject:** Tour & Mtg w/ NRG Energy [DESMOND]  
**Location:** 100 North Tenth St  
**Start:** Wed 6/13/2007 1:00 PM  
**End:** Wed 6/13/2007 2:30 PM  
**Show Time As:** Out of Office  
**Recurrence:** (none)  
**Meeting Status:** Meeting organizer  
**Required Attendees:** McGinty, Kathleen; Desmond, Daniel; Griffiths, Daniel



6-13 NRG Meeting  
& Tour.doc

NRG is located at 100 North Tenth Street. Second street past The Patriot News, turn left on 10th. Second block is the NRG Building. 3rd Floor - Corporate offices.

Rosemary T. McAvoy  
3920 Market Street, Camp Hill, PA 17011  
717-920-0527  
[www.xcelongroup.com](http://www.xcelongroup.com)

Please schedule. You should include Dan D and Dan G. An hour will work. Let's talk about the dates before you send them to you. Thanks!

-----Original Message-----

From: McGinty, Kathleen  
Sent: Thursday, May 24, 2007 7:58 PM  
To: 'rtm@xcelongroup.com'; Failor, Debra L  
Subject: Re: Request for meeting to discuss microgrid project & AEPS

Love to do it. We will be in touch. Deb--pls assist! Thx. K

-----Original Message-----


From: Rosemary T. McAvoy <[rtm@xcelongroup.com](mailto:rtm@xcelongroup.com)>  
To: 'McGinty, Kathleen' <[kmcginty@state.pa.us](mailto:kmcginty@state.pa.us)>  
Sent: Thu May 24 17:16:01 2007  
Subject: Request for meeting to discuss microgrid project & AEPS

I am working with NRG Energy, [www.nrgenergy.com](http://www.nrgenergy.com) <<http://www.nrgenergy.com/>> to develop an alternative energy strategy for business development in Pennsylvania. We are requesting a meeting with you to discuss:

Agenda:



Incentives for the use of biofuels in co-generation systems



The significant role of biofuels as it pertains to the Alternative Energy Portfolio Standard

The significant role of thermal/steam in generation of green electricity

The nation's first pilot project to use biofuels in co-generation - a proposed project for Indiana University of Pennsylvania

A proposed microgrid project using biofuels and co-generation for the city of Harrisburg


Founders of the Alternative Fuels Renewable Energies Council

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8-8 NRG Meeting &  
Tour.doc

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