NRG Energy, Inc.
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July 25, 2008

The Honorable Jeanne M. Fox
President
New Jersey Board of Public Utilities
Office of Policy and Planning
Attention: Draft EMP Comments
Two Gateway Center
Newark, New Jersey 07102

RE: Draft Energy Master Plan Comments

Dear President Fox:

NRG Energy, Inc. (NRG) is an independent power producer and developer of electric power generation facilities nationwide and is headquartered in Princeton, New Jersey. Nationally, NRG owns over 24,000 MW of natural gas, nuclear, coal and oil generation, including over 7,000 MW in the Northeast. Additionally, NRG Thermal, LLC is a leading developer, owner and operator of Combined Heat and Power projects. NRG is committed to investing in new generation technologies that would provide New Jersey with reliable, clean and efficient sources of power.

NRG offers the following three suggestions for improving the EMP:

1. Plasma gasification of Municipal Solid Waste should receive Renewable Energy Credits (RECs) on an equal basis with landfill gas and other environmentally beneficial technologies. Allowing Municipal Solid Waste to qualify for Class 1 RECs is equitable and will aid in the development of this important new generation technology.

2. New Jersey should require its Load Serving Entities to utilize a competitive procurement process to enter into long-term power purchase agreements. An open and transparent competitive process is critical to ensuring that New Jersey is able to procure needed generating capacity at a reasonable price.

3. Combined Heat and Power (CHP) projects are critical to New Jersey meeting its energy goals. The State should: (1) eliminate regulatory barriers to “micro-grids”; (2) provide

Class 1 RECs for Combined Heat and Power projects; and (3) mandate that new commercial and industrial construction in New Jersey consider the use of CHP.

These suggestions would help move New Jersey in the direction of meeting its energy goals in a cost effective and reliable manner. We look forward to working with the State to shape the EMP and move forward with the development of new, innovative generation technologies in New Jersey.

1. **Provide Renewable Energy Credits to Plasma Gasification Projects Using Municipal Solid Waste As A Feedstock.**

The draft EMP has set a goal is to develop a minimum of 900 MW of electric production capacity using biomass resources by 2020 (EMP at 66). New Jersey will be better able to achieve this laudable goal if it classifies Municipal Solid Waste (MSW) as a Class 1 Renewable fuel. Such a change to the existing law would allow power generated through the plasma gasification of MSW to qualify for RECs. The renewable credits generated will help to defray the higher costs of the technology and help to ensure that the state can meet its goal.

Why MSW? New Jersey will not be able to achieve its goal of generating 900 MW of power through biomass without utilizing MSW. A recent study by the Rutgers Economic Advisory Service of the Center for Urban Policy Research (R/ECONTM) determined that New Jersey produces an estimated 8.2 million dry tons of biomass annually and that almost 75% of that biomass is MSW (EMP at 66). Currently, the State incinerates and landfills MSW, or pays to ship it out of state. Since many landfills in New Jersey are either close to capacity or already closed, the State will be forced to choose conventional options, such as incinerating MSW or shipping it to neighboring states, or adopting new technologies, such as plasma gasification. Neither of the conventional options are as economic, efficient or environmentally friendly as gasification. Moreover, neither of the conventional options reduces greenhouse gas emissions. Plasma gasification technology, however, is an efficient and clean alternative to landfilling or incinerating MSW.

Plasma gasification is a current commercial technology that can utilize MSW as a feedstock to generate electricity more efficiently and with a fraction of the emissions of typical incineration technologies. In plasma gasification, MSW is subjected to tremendous heat from plasma torches, which converts the MSW to gas. The gas generated from this process is cleaned and then used in a conventional natural gas power plant. The gasifier and power block can be sized according to the amount of MSW available in a given area. For example, a 20 MW plasma gasification unit would utilize approximately 500 tons of MSW per day.

Plasma gasification is significantly cleaner than landfilling or incineration. For example, CO_2 emissions from a plasma gasification facility are 84% lower than landfill gas generated from a comparable amount of MSW, and 53% lower than MSW incineration. For a 20 MW power plant, the difference in CO_2 emissions is equal to taking over 110,000 cars off the road. Moreover, the sulfur, nitrogen and slag byproducts of plasma gasification can be reused for beneficial purposes, which is not possible with landfilling or incineration. The slag byproduct of gasification is only 5% by volume and can be used as a roofing or road bed material; whereas incineration yields 30% ash by volume, which must still be landfilled. Moreover, gasification actually prevents the creation of more landfill gas by preventing the MSW from being landfilled in the first place. New Jersey would thus realize substantial environmental benefits by making MSW a Class 1 renewable.

The State can significantly improve the economics of plasma gasification by classifying MSW feedstock as a Class 1 Renewable Fuel. Plasma gasification technology is currently more expensive than conventional fossil fuel generation. However, qualifying plasma gasification to receive the additional revenues associated with Class 1 RECs will help to defray the additional cost of this environmentally beneficial technology.

NRG's Thermal division is pursuing a commercial-scale plasma gasification plant in Somerset, Massachusetts. The company has received the necessary air permits to convert its

existing coal plant into a wood biomass/coal plasma gasification project. In that state, RECs played an important role in making the project economically attractive. Further, NRG has been in discussions with several landfill owners in New Jersey about siting an MSW plasma gasification project in the state. We believe there are significant benefits to bringing this technology to New Jersey. The State can help make these types of projects a reality by allowing gasification of MSW to qualify for Class 1 RECs.

2. <u>An Open and Transparent Competitive Procurement Process for Long-Term Power Purchase Agreements is Critical to Bring New Generation to New Jersey.</u>

The EMP correctly identifies that New Jersey needs to attract substantial amounts of new generation to the State in order to ensure reliability and guarantee consumers long-term competitively priced power. As the EMP notes, demand-side management and increased renewable generation will not be sufficient to meet growing demand.[1] Two changes to New Jersey's existing process for procuring power will help attract new generation to the State:

A. Requiring Load Serving Entities (LSEs) to enter into long-term (i.e., greater than 25 years) power purchase agreements; and

B. Mandating a transparent and competitive process for procuring the necessary long-term contracts.

Competitively bid long-term contracts will guarantee long-term price stability to New Jersey consumers and ensure that adequate generation is built where it is most needed.

Utilizing Requests For Proposals (RFPs) to construct specific generation projects would ensure that New Jersey receives the benefit of new generation at a guaranteed price. New Jersey already requires its LSEs to enter into competitive Basic Generation Service (BGS) type arrangements whereby suppliers enter into state-sanctioned contracts to provide energy at a fixed

price. However, the three year contract period of the existing BGS is simply too short a time period for most suppliers to commit to building new generation in New Jersey. The establishment of a comparable procurement process to acquire power over 25 years or longer would provide generators the certainty they need to bid new generation projects into a State-mandated RFP competition.

Other states are successfully developing generation through competitive procurement processes. Connecticut just concluded its second RFP process in 3 years; while Delaware recently announced a 20 year PPA between Blue Water Wind and Delmarva Power. These processes yielded robust competition from private companies interested in developing generation. The first round of bidding in Connecticut saw 16 companies competing to build 19 projects and over 3000 MW of new capacity in the state. The second round of bidding included 8 companies submitting bids. Based on the interest of private companies to compete for power purchase agreements to build new generation, it is not necessary at this time for New Jersey to consider a power authority or any other large energy bureaucracy. New Jersey already has the ability and infrastructure to proceed with a competitive procurement to develop the generation needs using a BGS-type model.

3. <u>Changes to Existing Regulations Can Spur Development of CHP Projects that are Critical to New Jersey Meeting its Energy Goals.</u>

The EMP correctly identified CHP or "cogeneration" technology as critically important to the State of New Jersey and whether the State meets its carbon and renewable goals. CHP is a commercially available technology that can produce lower-cost power than separate fossil-fueled power plants and boilers, while at the same time significantly lowering greenhouse gas emissions. By strategically placing CHP units where both the power and the heat by-product can be used efficiently, New Jersey can improve the reliability of its power supply, reduce costs, and lower

[1] After achieving a 20% reduction in electricity consumption, generating 10,000 GWh of electricity through CHP, and using renewable resources to produce 22.5% of the remaining demand for electricity, 54,000 GWh of New Jersey's

emissions.

NRG's thermal division, NRG Thermal, LLC, is a leading developer, owner and operator of CHP projects throughout the country. Based on this experience, NRG suggests the following changes to New Jersey's energy policies that will incentivize CHP investment:

A. Regulatory barriers preventing the use "micro-grids" should be eliminated.

The "micro-grid" concept is premised on the idea that a single CHP project should be allowed to serve multiple nearby buildings. Creating a micro-grid decreases the cost for each individual customer and allows CHP technologies to be deployed more effectively. Further, up to a point (well below utility-scale installations), CHP facilities increase in efficiency as the size of the project increases.

Current New Jersey law effectively prohibits the use of micro-grids by deeming any entity providing electricity across a public thoroughfare as a "public utility" subject to pervasive State regulation. There is little justification for classifying an electrical/thermal micro-grid energy facility that can cost-effectively serve multiple adjoining customers as a public utility. NRG recommends that removing this regulatory barrier would go a long way to enhancing the adoption of CHP in New Jersey.

B. Providing RECs for Thermal Energy Generated by Renewable Feedstock Would Incent New CHP Projects.

As the EMP notes, CHP projects provide environmental benefits equal to or exceeding the environmental benefits of other technologies. However, the thermal energy produced by a CHP project using renewable feedstock does not currently qualify for RECs. Thus, while the electrical power produced by such a facility would qualify for RECs, the thermal energy it produces would not. There is little justification for discriminating against thermal output when assigning RECs.

Providing renewable CHP projects Class 1 RECs for their thermal output would help off-set

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demand remains to be met by other generation sources (EMP at 71).

the initial costs of installing the facility, and allow combined electrical/thermal – or even purely thermal – projects to compete with other environmentally beneficial sources of generation. Such a step would aid the State in meeting its environmental goals and increase the number of situations in which CHP development is economically viable.

C. The State Should Mandate that New Commercial, Industrial, Institutional and Government Buildings Consider the use of CHP Technology.

New Jersey should encourage the use of CHP technology by mandating that new construction within the state use CHP whenever it is economically justified. Further, the State should lead the way by identifying government complexes that are candidates for CHP installations. The State has already taken the first step with the proposal currently being designed in Camden. Projects should include multiple structures (rather than individual buildings). For example, a town center that includes a hospital, university, library, police and fire stations, schools, ice rinks, or swimming pools could be combined in one campus for a CHP project.

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NRG applauds Governor Corzine and the Board of Public Utilities for moving forward with this comprehensive document to meet New Jersey's goals of maintaining reliable sources of energy at reasonable costs while continuing to improve the environment. We look forward to working with you on this plan and moving forward with the development of new, innovative generation technologies in New Jersey.

For NRG Energy Inc.,

/s/ *Raymond G. Long*

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