



December 8, 2015

Via Electronic Mail

Lisa Vest, Hearing Officer  
Department of Natural Resources and Environmental Control  
89 Kings Highway  
Dover, DE 19901

*Re: Comments of the Mid-Atlantic Renewable Energy Coalition on 102 Implementation of Renewable Energy Portfolio Standards Cost Cap Provisions (Proposed Rules to Implement 26 Del. C. §354(i) & (j))*

Dear Hearing Officer Vest:

The Mid-Atlantic Renewable Energy Coalition ("MAREC") submits these comments on the proposed regulations to implement a Renewable Portfolio ("RPS") cost cap as directed in 26 Del. C. §354(i) and (j). We appreciate this opportunity to comment in this important matter.

MAREC is a nonprofit corporation that was formed to help advance the opportunities for renewable energy development primarily in the region where the Regional Transmission Organization, PJM Interconnection, LLC ("PJM"), operates. MAREC's footprint includes Delaware, Pennsylvania, Maryland, New Jersey, Ohio, Virginia, West Virginia, North Carolina, and the District of Columbia. MAREC's membership consists of wind developers, wind turbine manufacturers, service companies, nonprofit organizations and a transmission company dedicated to the growth of renewable energy technologies to boost economic development in the region, improve our environment, and diversify our electric generation portfolio, thereby enhancing energy security. The primary areas of focus of MAREC are to work with state regulators to develop rules and supportive policies for renewable energy; provide education and expertise on the environmental sustainability of wind energy; and offer technical expertise and advice on integrating variable wind energy resources into the electric grid.

## I. Background

As a result of the enactment of Senate Substitute No. 1 for Senate Bill No. 119 on July 28, 2010, Delaware's renewable portfolio standard ("RPS") was amended to increase and extend the compliance requirements of the RPS; provide incentives for renewable energy projects that employed Delaware workers and utilized locally manufactured products; and include a provision that could have the State Energy Coordinator, now called the "Director" of the Division of Energy and Climate ("Division") of the Department of Natural Resources and Environmental Control ("DNREC") in consultation with the Public Service Commission ("PSC" or "Commission") freeze the RPS solar compliance requirements if a 1% cost threshold is exceeded or freeze the non-solar RPS compliance requirements if a 3% cost threshold is met.

The Division published draft rules on December 1, 2013. A hearing was held January 8, 2014. Subsequently, the Division sought additional legal review of some issues involved. After receiving guidance on the outstanding issues from the Office of the Attorney General, the Division published revised proposed regulations on December 1, 2014, and provided for an additional comment period on the revised regulations. Further amendments to the regulation were published Nov. 1, 2015 with an additional comment period. These comments will focus on the proposed changes to the regulation and emphasize particular benefits of renewable energy, particularly the price suppression effect.

## II. Discussion

We have reviewed the revised proposed regulation and believe to a large extent that it is consistent with the statutory authority provided in the enacting legislation. MAREC believes the cost cap should be applied without impeding the intent of the original RPS legislation, which mandates the procurement of a minimum level of renewable resources in the State's electricity supply portfolio for the purpose of achieving a number of important goals, such as: increased electric supply diversity, reduced price volatility, new economic development opportunities, and improved air and health quality, among other stated benefits. MAREC supports the proposed revision of the regulation. In particular, we approve of the removal of the costs associated with the Bloom fuel cells from the calculation of the cost of compliance. We also want to reiterate our view that the discretion provided to the Director in Section 5.0 of the draft rules is appropriate and entirely consistent with the discretionary language of 26 Del. C. §354(j) and the intent of the RPS laws. Finally, we wish to provide support for the price suppression effects of renewable energy that can be used in determining whether or not to implement a freeze.

### ***Bloom Energy***

Removing the costs associated with Bloom Energy projects from the cost cap calculation was the correct change. The Bloom fuel cell projects are the result of a process fueled by natural gas energy, and do not qualify as a renewable technology under the definition of an "Eligible energy resource" under 26 Del. C. §352(6)(e). Further, these costs were implemented under special legislation with different qualities being judged than are included in RPS considerations, and fall under their own cost cap regulation. Moreover, there is currently no mechanism under the law that would cause the costs emanating from the Bloom fuel cell deployment in Delaware to be frozen in the event that the RPS requirements are

determined to exceed the 3 % threshold in a particular compliance year. 26 Del. C. §354(j) could not be used to limit Bloom related costs to Delmarva ratepayers. This could lead to the illogical result of freezing the RPS requirements while at the same time allowing the cost of the Bloom fuel cells to continue to accrue; a non-renewable energy technology likely being the primary driver of the increase in costs related to RPS compliance and pushing out renewable technologies. MAREC therefore believes that there is no place for the Bloom fuel cell costs to be included in the cost cap calculation.

### ***Total Retail Cost of Electricity and Renewable Energy Cost of Compliance***

It is appropriate to include the costs of supply, transmission, distribution, and delivery of electricity into the Total Retail Cost of Electricity calculation, as these are the costs that are incurred with respect to the supply of electricity to the end-user retail customers. The Renewable Energy Cost of Compliance should be the REC costs for eligible energy resources plus alternative compliance payments in a compliance year under 26 Del. C. §352(6)(e), and only the calculable costs in a compliance year related to renewable energy rebates from the Green Energy Fund. It would be inappropriate to include the cost of transmission and distribution costs to the cost of compliance, as the demand would be irrespective of the source of energy, so transmission, distribution, and delivery are not additional costs associated with renewable energy. Only the incremental cost above the Total Retail Cost of Electricity to meet the RPS compliance requirements in a given year should be utilized for purposes of the calculation.

### ***Regulatory Discretion***

It is entirely appropriate for the Director of the Division of Energy & Climate to have discretion in determining whether or not to institute a freeze on the RPS program. This allows the Director to consider components other than the price, including the use of various market factors such as the overall energy market conditions, the avoided cost benefit from the RPS, the externality benefits of changes in the energy market, and the economic impacts of the deployment of renewable energy in Delaware. The original legislation states:

The State Energy Coordinator in consultation with the Commission **may** freeze the minimum cumulative eligible energy resources requirement for regulated utilities if the Delaware Energy Office determines that the total cost of complying with this requirement during a compliance year exceeds 3% of the total retail cost of electricity for retail electricity suppliers during the same compliance year.<sup>1</sup> (Emphasis added).

The fact that the General Assembly used the word “may” as opposed to the word “shall” in the above excerpt from the cost cap legislation makes it clear that there was the intention to provide the Director discretion on deciding whether the cost cap should be imposed upon the initial reaching of the 3% threshold. If the threshold was to be met and no discretion had been provided then there would be simply no need for the consultation with the Commission. The freeze would just be imposed after a calculation of the formula for imposing the freeze was performed indicating the threshold was reached. The language of the statute is just plainly inconsistent with such an interpretation.

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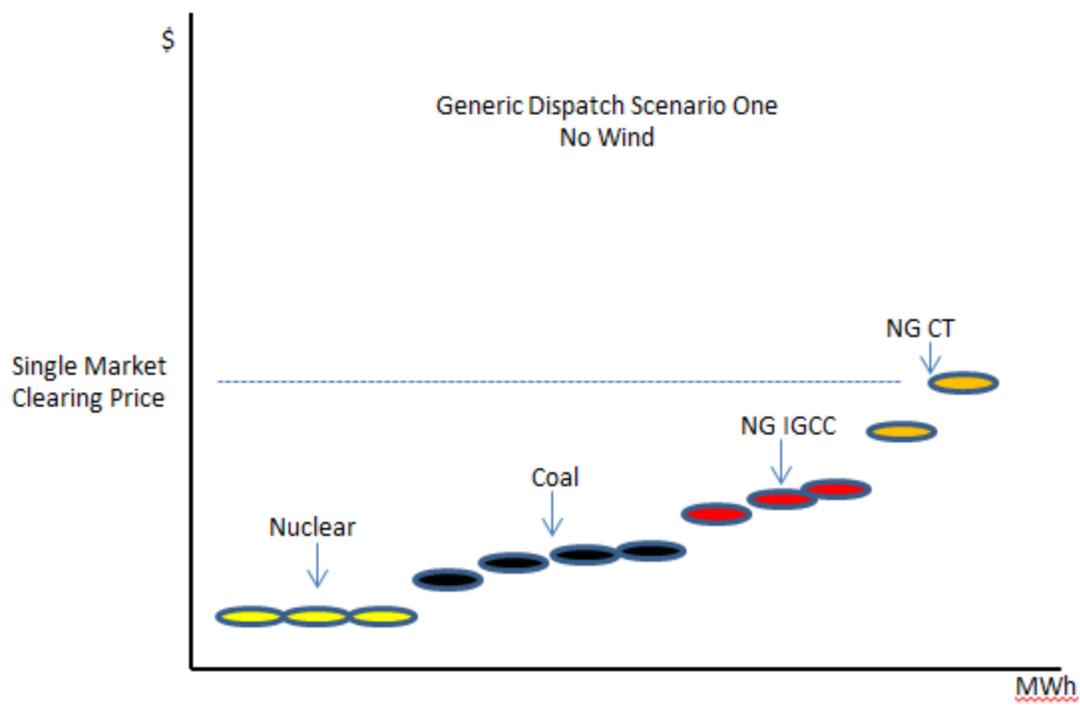
<sup>1</sup> See 26 Del. C. §354(j).

***Benefits of Renewables***

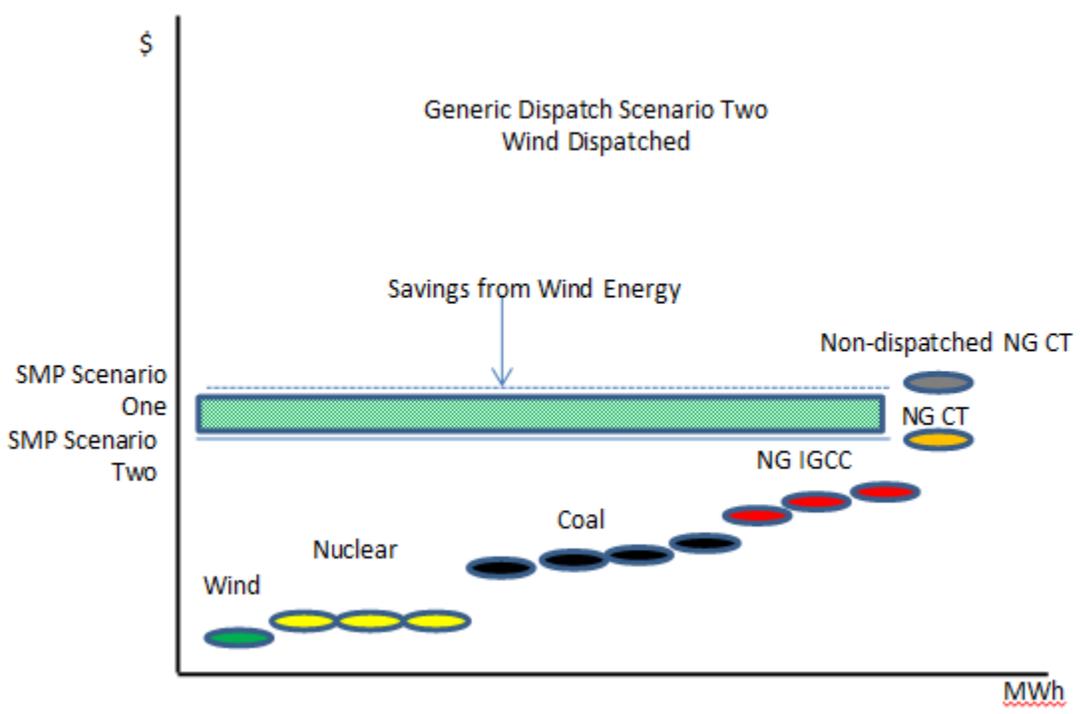
Since this discretion exists, the Director should consider other factors besides cost, such as those mentioned in Section 5.4 of the current regulation. In previous comments, MAREC has shown how to value the benefits of renewable energy (specifically shown in the context of wind energy) for considering whether or not the Director would determine to impose a freeze under his or her discretionary authority. Specifically, we have discussed how wind energy reduces volatility by protecting against both price spikes and longer-term fossil fuel price fluctuations, reduces pollution that damages the environment and harms public health, and suppresses the price of electricity. Here more detail is provided on the last point.

To understand price suppression, one must first understand how the wholesale market for electricity works. The best way to demonstrate this is through some simple graphs demonstrating a generic dispatch scenario. PJM, the regional transmission organization which operates the wholesale electricity market and electricity system of which Delaware is part, dispatches power plants based on the lowest costs (in other words, power plants with the lowest cost are dispatched first). The last power plant to come online to meet electricity demand in a given time interval sets the power price for that time interval. As previously mentioned, wind energy has very low variable costs and so it is always among the lowest or the lowest cost resource to operate in PJM's energy market. When wind energy is added to the electricity system it displaces the need for higher cost power plants to be dispatched, therefore lowering the single market clearing price for a given time interval. The reduction of the single market clearing price applies to every MWh generated during that given time interval.

The following is a generic graphical example of energy market dispatch and the corresponding single market clearing price without wind energy:



In this dispatch scenario, a natural gas combustion turbine is the final unit dispatched to meet demand in the given time interval and, therefore, sets the single market clearing price. In the next dispatch scenario wind energy will be added to demonstrate how the single market clearing price is lowered.



Dispatch scenario two demonstrates how wind energy lowers wholesale electricity prices in a given time interval for which it is dispatched. In dispatch scenario two, additional generation from wind energy

displaces a more expensive natural gas combustion turbine (represented by the gray dot labeled “Non-dispatched NG CT”) that would otherwise need to be dispatched, thereby lowering the single market clearing price for every single MWh dispatched during the given time interval. The green bar represents the cost savings resulting from the lower single market clearing price from the entrance of wind energy into the dispatch order.

There have been several PJM specific studies performed which evaluate the price suppression effects of wind resources. In 2009, PJM studied the impact of adding up to 15,000 MWs of wind energy to the PJM grid. The study found the addition of 15,000 MWs of wind to the PJM grid would decrease wholesale electricity prices (LMPs) by between \$5 to \$5.50 per MWh and the wholesale cost of power in the aggregate by between \$4 to \$4.5 billion. As a result, electricity customers’ monthly bills would decrease by \$3.50 to \$4 per month or by \$42 to \$48 annually.<sup>2</sup> In 2013, Synapse Energy Economics, Inc. found that doubling the use of wind energy in PJM beyond existing requirements would decrease consumer electric bills by \$6.9 billion per year on net. The additional wind would reduce the cost of operating the power system by \$14.5 billion per year, for an upfront cost of only \$7.6 billion per year, yielding \$6.9 billion per year in net benefits for consumers. The economic benefits of increased wind energy use outweigh the costs by a factor of almost 2 to 1 according to the Synapse study.<sup>3</sup> In February 2014, PJM released a study, called the PJM Renewable Integration Study, which reviewed the scenario of renewable energy comprising 20 or 30 percent of the grid’s electricity supply. What PJM found is that wind energy produces massive reductions in electricity production costs and wholesale price. Obtaining 20% of PJM’s electricity from wind energy reduces the overall cost of producing electricity by \$9 billion annually (about 25% of the overall production costs of \$37 billion), while 30% wind reduces production costs by \$13 billion annually across the 20% and 30% scenarios, with the high offshore scenarios producing the largest wholesale price reductions of \$21 billion.<sup>4</sup>

In February 2014 AWEA published an examination of wind power’s consumer benefits, titled *Wind Power’s Consumer Benefits*.<sup>5</sup> This publication provides further explanations of wind energy’s consumer benefits and how wind energy reduces wholesale electricity prices. At page three it includes a number of references to independent studies which confirm that wind energy reduces electricity prices.

### III. Conclusion

MAREC generally supports the proposed revised regulations. Removal of the Bloom energy cost from the cost cap calculation was an appropriate change. It is important to maintain the discretion of the Director in implementing the cost cap, as that stays true to the original intent of the legislation. Finally, the consideration of whether or not to implement the cost cap should consider the benefits of

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<sup>2</sup> PJM, “Potential Effects of Proposed Climate Change Policies on PJM’s Energy Market,” 2009.

<http://www.pjm.com/~media/documents/reports/20090127-carbon-emissions-whitepaper.ashx>

<sup>3</sup> Synapse Energy Economics, Inc. “The Net Benefits of Increased Wind Power in PJM” 2013. <http://www.synapse-energy.com/Downloads/SynapseReport.2013-05.EFC.Increased-Wind-Power-in-PJM.12-062.pdf>

<sup>4</sup> PJM Renewable Integration Study (PRIS) (conducted on PJM’s behalf by GE Energy Management) 2014. <http://www.pjm.com/~media/committees-groups/committees/mic/20131028-impacts/20131028-pjm-renewable-integration-study.ashx>

<sup>5</sup> It can be found at: <http://awea.files.cms-plus.com/AWEA%20White%20Paper-Consumer%20Benefits.pdf>

renewable power, including hedging against volatile prices, reducing pollution, and suppressing the price of electricity.

MAREC appreciates this opportunity to comment on the proposed revised regulations that are required to implement the renewable energy portfolio cost cap provisions.

Sincerely,



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