

February 12, 2016

**VIA ELECTRONIC MAIL**

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**RE: Comments of the Sierra Club, Pace Energy and Climate Center,  
Environment America, and Acadia Center Regarding RGGI 2016 Reference  
Case Analysis Assumptions**

Dear Ms. Singh and Members of the RGGI Board:

Thank you for making available additional information regarding the modeled reference case. We appreciate your ongoing efforts at transparency and clarity in the stakeholder process, as well as the opportunities to provide feedback on the information provided. These comments supplement the comments filed on behalf of the Sierra Club and Pace Energy and Climate Center on February 5<sup>th</sup>. In addition to the reference case recommendations identified in our February 5<sup>th</sup> comments, based on the new information provided this week, we highlight four additional recommendations below. We also support the reference case comments that are being separately filed by NRDC addressing many of the same concerns.

Ultimately, we want the modeled reference case to represent as accurate a forecast as possible. Generating an accurate forecast enables the RGGI states and RGGI stakeholders to isolate the impacts attributable to the policy scenarios that will be modeled and facilitates a meaningful evaluation of those policy scenarios. We have significant concerns that the modeled reference case fails to accurately incorporate either the full range of state energy efficiency and renewable energy policies or current and forecasted trends in renewable pricing, thereby leading to a significant overestimate of greenhouse gas emissions in the RGGI states. We urge the RGGI states to incorporate the modifications identified below and those previously identified in our February 5<sup>th</sup> comments to improve the predictive accuracy of the reference case modeling.

**I. The Modeled Reference Case Should More Accurately Account for Reductions  
in Load Attributable to Existing Energy Efficiency Mandates.**

As discussed at the February 2<sup>nd</sup> stakeholder meeting and identified in the documentation provided this week, no adjustments to RTO load forecasts were made to account for ongoing state energy efficiency efforts. As Acadia's November 2015 comments highlight, RTOs' heavy discounting of future energy efficiency leads to underestimation of energy savings and over-prediction of load.<sup>1</sup> That is because these forecasts are intended for reliability planning and must therefore include worst case assumptions. However, this overestimation of load has significant

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<sup>1</sup> Comments of the Acadia Center to the RGGI States (Nov. 20, 2015), at 2, *available at* [http://www.rggi.org/docs/ProgramReview/2016/11-17-15/Comments/Acadia\\_Center\\_Comments.pdf](http://www.rggi.org/docs/ProgramReview/2016/11-17-15/Comments/Acadia_Center_Comments.pdf).

repercussions for the reference case modeling, requiring IPM to procure additional generation, which produces additional greenhouse gas emissions, and which ultimately exaggerates the emission reductions required for states to achieve their climate targets.

More accurate tools are available for estimating the impact of existing efficiency programs and resource standards on future load. In its recent report entitled *The RGGI Opportunity*,<sup>2</sup> Synapse Energy Economics estimated the impact of energy efficiency on future load in the RGGI region by first backing out the energy savings assumptions embedded in the underlying load projection<sup>3</sup> and then replacing those energy savings assumptions with energy efficiency resource standard requirements where applicable (e.g., Maine, Maryland, Massachusetts and Rhode Island),<sup>4</sup> state-specific program plans and utility- or state-specific integrated resource planning documents, or a simple extension of current levels where data were otherwise unavailable.<sup>5</sup> This methodology generates a clear, defensible, and much more accurate estimate of the impact of existing energy efficiency efforts on future load, and produces a more meaningful reference case result.

## **II. The Modeled Reference Case Should Fully Incorporate All State Renewable Portfolio Standards.**

The additional reference case documentation provided this week indicates that no “firm” renewable generation is added beyond 2020 in the model. A number of RGGI states, however, have renewable portfolio standards (“RPS”) that extend beyond 2020.<sup>6</sup> And as noted in our prior comments, New York has recently adopted a Clean Energy Standard that is effectively a 50% by 2030 RPS. The RGGI states should verify that all RPS requirements—including those extending beyond 2020—are being fully complied with in the modeled reference case.

## **III. The RGGI States Should Clarify Assumptions Regarding the Availability and Pricing of Energy Storage and Demand Response.**

The materials released this week reveal that the IPM model procures a very large amount (over 4,200 MW) of new “economic” capacity from combustion turbines (“CTs”) during the 2016 to 2030 modeled time horizon. Although CTs are largely a capacity resource, they are also inefficient from a carbon intensity perspective and generate significant emissions when they operate. The accurate inclusion of other capacity resources may obviate the need for a significant portion of the projected CT build-out, thereby reducing projected emissions in the

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<sup>2</sup> E.A. Stanton et al., “The RGGI Opportunity: RGGI as the Electric Sector Compliance Tool to Achieve 2030 State Climate Targets (revised Feb. 5, 2016), available at <http://www.synapse-energy.com/sites/default/files/The-RGGI-Opportunity.pdf>.

<sup>3</sup> Synapse used EIA’s 2015 Annual Energy Outlook and backed out efficiency savings according to the methodology described in D. White et al. “State Energy Efficiency Embedded in Annual Energy Outlook Forecasts.” 2013 Update, available at [http://synapse-energy.com/sites/default/files/SynapseReport.2013-11.0.EE-in-AEO-2013.12-094-Update\\_0.pdf](http://synapse-energy.com/sites/default/files/SynapseReport.2013-11.0.EE-in-AEO-2013.12-094-Update_0.pdf).

<sup>4</sup> Synapse, “The RGGI Opportunity,” at 18-19 and Fig. 11.

<sup>5</sup> *Id.* at 19, Fig. 12.

<sup>6</sup> For example, the Massachusetts RPS requires an incremental 1% increase in renewable generation each year after 2020; New Hampshire’s RPS includes a 2025 goal, and Delaware’s RPS includes a 2025-26 goal).

reference case, and the assumptions leading to the large modeled CT procurement should be carefully examined.

First, as noted above, energy efficiency efforts do not appear to have been fully and accurately incorporated into the reference case. Efficiency is both an energy and a capacity resource and full incorporation of efficiency savings would reduce peak load and consequently the need to procure additional CTs. Section I above suggests a methodology for more accurately incorporating energy efficiency into the modeled reference case. Second, the Supreme Court's decision in *FERC v. EPSA* upholding FERC's authority to regulate wholesale market operators' compensation of demand response is anticipated to significantly reinvigorate the market for this capacity product. The reference case modeling assumptions regarding the cost and availability of demand response should be carefully reviewed in light of the recent *EPSA* decision. Third, state initiatives like New York's Reforming the Energy Vision also promise to significantly reduce peak demand by creating new markets and reducing barriers for capacity resources like energy efficiency, storage, and demand response. Finally, energy storage is a capacity resource that continues to decline rapidly in price and may be able to outcompete CTs within the time horizon of the reference case modeling based on current trends.<sup>7</sup> The model does not currently appear to include any assumptions about energy storage pricing. We encourage the RGGI states to incorporate appropriate assumptions for battery storage pricing in order to evaluate its potential to obviate the need for additional CT peakers.

#### **IV. The Modeled Reference Case Should Include the Retirement of C.P. Crane Units 1 and 2 in Maryland and Bridgeport Harbor Station Unit 3 in Connecticut**

C.P. Crane Units 1 and 2 (Maryland) are not included as firm retirements. However, according to the most recent EIA Form 860, these units will retire in June 2020.<sup>8</sup> The identified June 2020 retirement date corresponds with the compliance date for recently finalized state regulations of nitrogen oxide (NOx) emissions from coal-fired electric generating units in Maryland.<sup>9</sup> Pursuant to these recently finalized regulations, C.P. Crane Units 1 and 2 would be required to install and operate selective catalytic reduction controls to reduce NOx emissions by over 75%, repower to natural gas (which does not appear to be a readily available option given the lack of proximate gas supply), or retire. Consistent with the representations in EIA Form 860, the reference case modeling should treat C.P. Crane Units 1 and 2 as firm retirements effective June 2020.

In addition, very recent developments in New England have established a firm retirement date for Bridgeport Harbor Station Unit 3. The plant's owner, PSEG, successfully bid a new combined cycle natural gas unit into ISO New England's Forward Capacity Auction 10

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<sup>7</sup> See e.g., H.K. Trabish, Why Battery Storage Is 'Just About Ready to Take Off,'" Utility Dive (Oct. 13, 2015), <http://www.utilitydive.com/news/why-battery-storage-is-just-about-ready-to-take-off/407096/>; R. Naam, How Cheap Can Energy Storage Get? Pretty Darn Cheap (Oct. 14, 2015), <http://rameznaam.com/2015/10/14/how-cheap-can-energy-storage-get/>.

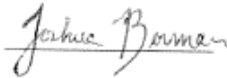
<sup>8</sup> See EIA Form 860 (Generator), available at <https://www.eia.gov/electricity/data/eia860/>.

<sup>9</sup> Maryland Register, Vol, 42, Issue 24, at 1506, available at <http://www.dsd.state.md.us/MDR/4224/Assembled.htm>.

(FCA10).<sup>10</sup> Pursuant to a Community Environmental Benefits Agreement between PSEG and the City of Bridgeport, the effectiveness of which is triggered by the successful clearing of the new gas unit in FCA10, the existing coal unit (Unit 3) is obligated to retire by July 1, 2021. This retirement should be incorporated as a “firm” retirement into the modeled reference case.

Thank you for your consideration.

Respectfully submitted,



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<sup>10</sup> See P. Marrin, 3 New Plants Clear New England Capacity Auction as Prices Drop 25% YOY, SNL.com (Feb. 11, 2016).