Comments on the New York DPS "Clean Energy Standard White Paper - Cost Study"

PREPARED FOR

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Rochester Building and Construction Trades Council

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THE Brattle GROUP

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I. Comments on the New York DPS "Clean Energy Standard White Paper – Cost Study"

The Brattle Group, at the request of New York labor interests, has reviewed the findings of the New York State Department of Public Service's Cost Study of the proposed Clean Energy Standard (CES), and particularly its assessment of Tier 3, the component of the program designed to maintain the viability of the upstate nuclear plants. The DPS concludes that the environmental (carbon abatement) benefits of Tier 3 exceed the program's costs. We concur with the DPS findings on the magnitude of the environmental benefits, and further find that when considering the full range of benefits, economic in addition to environmental, the total benefits of preserving these plants exceed costs by a significantly larger amount. This further strengthens the DPS's conclusion that preserving the upstate nuclear fleet is a cost effective bridge to a low carbon future which supports New York's goals of a 40% reduction in greenhouse gas emissions and 50% renewables goal by 2030[1].

Key observations:

- In the early years of the CES program, over 75% of the carbon avoided by the program is directly attributable to Tier 3, preserving upstate nuclear plants.
- Over the longer term, Tier 3 will account for more than half of the CES's carbon reduction benefits, while it will incur only about one fifth of the program's cost.
- Incorporating economic benefits in addition to the environmental benefits that were considered by the DPS, the total benefits of preserving the upstate nuclear plants exceed program costs by more than a factor of 70.

The New York State Department of Public Service (DPS) has issued a new Cost Study of the proposed Clean Energy Standard program. This study finds that when considering only carbon abatement, the benefit of maintaining the upstate nuclear plants with Tier 3 of the proposed CES program exceeds the cost, with benefits 6 times larger than costs for the DPS's base case analysis to 2023. By 2023, over 75% of the carbon emissions avoided by the total CES program will be directly attributable to the preservation of the upstate nuclear plants. It also finds that Tier 3 is

[1] New York State Department of Public Service, Clean Energy Standard White Paper –Cost Study, April 8, 2016.

responsible for over 50% of the CES program's longer term carbon avoidance benefits, despite incurring only 21% of the program's overall costs. The report acknowledges that preserving the nuclear plants will have additional ratepayer and economic benefits, referencing and agreeing with the December 2015 analysis by The Brattle Group.[2]

Brattle's 2015 report found that in addition to environmental benefits worth over $700 million (from avoiding emissions of pollutants such as carbon, SO_2, NOx, and particulate matter), preserving the upstate nuclear plants would save New York ratepayers about $1.7 billion in annual electricity costs. This power cost savings enables an additional $3.16 billion in annual GDP. Incorporating the GDP and the environmental benefits together, the total benefits of preserving the upstate nuclear plants exceed program costs by a factor of over 70, much more than the DPS's benefit-cost ratio of 6 that considered environmental benefits alone. And purely from the perspective of ratepayer costs, the benefits of keeping electricity prices low are 36 times greater than the program costs to support the upstate nuclear plants. Further, the DPS study shows that Tier 3, the upstate nuclear component of the CES, is both the largest and the most cost-effective part of the program. This further strengthens the conclusion that the CES, and particularly the Tier 3 nuclear component, is in the best interest of New York consumers.

II. DPS's Study of CES Tier 3 Confirms Nuclear is a Cost Effective Bridge to Low Carbon Future

The Governor of New York, the New York Public Service Commission,[3] consumer groups, labor, environmentalists and The Brattle Group all have issued recent statements and findings that preserving New York's upstate nuclear plants is critical for New York to meet its environmental, reliability and financial stability goals. The DPS study shows that the benefits of continuing to

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[2] The Brattle Group, New York's Upstate Nuclear Power Plants' Contribution to the State Economy, December, 2015.

[3] "The State's nuclear power plants provide clean, reliable power throughout the year that is free of carbon emissions and contributes significantly to the energy, capacity and reliability needs of the electric system." NY PSC CASE 15-E-0302 - Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard., February 24, 2016, p1.

operate the upstate New York nuclear power plants (Ginna, Fitzpatrick, and Nine Mile Point) are large, and greatly exceed the cost to New Yorkers. New York Governor Andrew Cuomo recognized this in his December 2, 2015 directive to the New York Public Service Commission to establish a Clean Energy Standard for New York by June of 2016. In that directive, Gov. Cuomo stated "In developing the Standard, additional attention needs to be given to ensure emission free sources of electricity remain operational. Specifically, elimination of upstate nuclear facilities, operating under valid federal licenses, would eviscerate the emission reductions achieved through the State's renewable energy programs, diminish fuel diversity, increase price volatility, and financially harm host communities."[4] The Governor cited the critical need to maintain New York's upstate nuclear plants in order to allow New York to reach its goal of reducing carbon emissions 40% by 2030.

One of the primary reasons the upstate New York nuclear plants are at risk is the market's failure to recognize their contributions to reducing carbon emissions. As the NY PSC found, "Loss of these facilities in the short-term would undermine progress towards meeting the State's clean energy goals. Unfortunately, the important zero-emission and other beneficial attributes of these facilities are not adequately compensated in the current competitive electric wholesale market structure."[5] To address the market risk to upstate nuclear plants and preserve their carbon benefits, the CES would treat these nuclear plants in a manner similar to renewable energy. Tier 3 of the CES introduces ZECs – zero emissions credits – for the upstate nuclear plants, similar in intent and function to the existing RECs that reward renewables for their lack of carbon and other emissions.

New York's three upstate nuclear plants currently account for 35% of New York's carbon-free generation, with most of the rest coming from hydro (35%) and downstate nuclear (23%). In comparison, wind accounts for only 7%, and solar for less than 1% of the state's carbon-free generation. The Brattle Group report found that the loss of upstate nuclear facilities would increase carbon emissions in New York by 16 million tons annually. This is an increase of 27%

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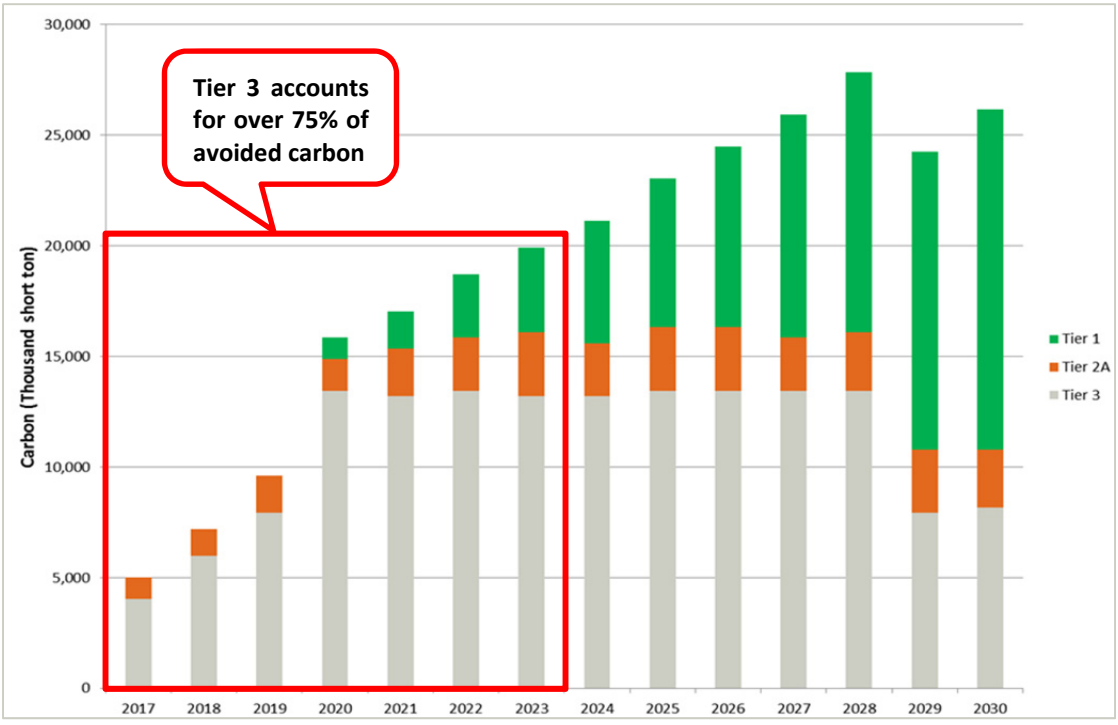
4 December 2, 2015 Letter from Governor Andrew Cuomo to Audrey Zibelman directing the establishment of a Clean Energy Standard for New York.

5 NY PSC CASE 15-E-0302 - Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard., February 24, 2016, p2.

beyond current power sector emissions, and is valued at about $700 million using the $43/ton social cost of carbon estimate prepared by a Federal government task force. The Brattle report and the DPS analysis agree on the magnitude of the environmental benefits of the upstate nuclear power plants.

The DPS report illustrates graphically the sources of the CES's carbon avoidance benefits. As restated below, Figure C.4 of the DPS report shows that Tier 3's support of upstate nuclear generation will provide the large majority of the CES's near-term carbon savings.[6] In fact, not until 2028 do Tiers 1 and 2 match nuclear's carbon savings even on an annual basis. Further, Tier 3 accounts for only 21% of cumulative CES program costs committed by 2023. This means that the Tier 3 nuclear component of the CES is not only the largest, but also the most cost-effective component of the CES plan.

Figure 1: DPS Study Chart Illustrates Nuclear (Tier 3) is a Bridge to New York's Low Carbon Future



Source: Restated DPS Figure C.4.

[6] DPS Report, page 284. The DPS projects that renewables will eventually catch up with nuclear in terms of cumulative carbon savings, in a longer-term projection that accounts for the full lifetime output of renewables installed in 2030, as the nuclear units are retiring at the end of their license lives.

The DPS report also notes that in addition to the environmental benefits, preserving the upstate nuclear plants will keep wholesale power prices lower, though it does not independently evaluate the price impact. The Brattle report did this, however, finding that by providing fully 15% of the state's total electricity generation, the upstate nuclear plants avoid a significantly heavier reliance on higher cost sources of power, thus accounting for $1.7 billion annually in electricity savings for consumers. While the DPS cautions that these price impacts do not represent a societal benefit since they reflect transfers from one subset of society to another, the power price effect is nonetheless very important to ratepayers. From the ratepayer perspective the net cost of the DPS tier 3 program to preserve the upstate nuclear plants is substantially lower than the $270 million estimated by DPS. In fact, ratepayers actually benefit from this investment. In return for spending $270 million, they realize over $10 billion in electricity savings through 2023 on present value basis. Savings are 36 times the ratepayer costs of preserving the upstate nuclear plants.

Beyond this, the electricity cost savings enable an economic boost that is responsible for an additional $3.16 billion in annual GDP, as was also shown in the Brattle report. This GDP benefit is not a transfer and should be considered in societal benefit comparisons. Adding this measure of economic benefit to the DPS's estimated $1.3 billion in gross environmental benefits yields total benefits of $19.5 billion (evaluated from 2017 to 2023, the period of overlap in the DPS and Brattle studies). These environmental and economic benefits vastly exceed the Tier 3 program costs, which are estimated at $270 million in the DPS base case. This is a benefit-cost ratio of over 70 for Tier 3 of the CES.

III. Jobs Effect of Proposed CES

Finally, in addition to the environmental and economic benefits, continued plant operations accounts for over 24,000 full time direct and indirect jobs, over and above the jobs that would exist without the plants. These include direct jobs at the plants and plant suppliers, and also a significant number of jobs throughout the economy that result from the economic boost of keeping power prices low. Labor voices throughout New York are united on this point:

- "Nuclear energy is an economic engine and jobs provider for Upstate New York," said Ted Skerpon, Chairman of the New York State IBEW Utility Labor Council.

- “New York’s Upstate nuclear energy plants - Ginna, FitzPatrick and Nine Mile Point - provide good-paying jobs that hard working families depend on. They are important assets to the State of New York, providing economic value, environmental benefits, and a reliable electric grid,” said Gregory Lancette, President of the Central and Northern New York Building & Construction Trades Council.

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