COMMENTS OF THE NEW YORK INDEPENDENT SYSTEM OPERATOR, INC.
ON THE FEDERAL PLAN REQUIREMENTS FOR GREENHOUSE GAS EMISSIONS
FROM ELECTRIC UTILITY GENERATING UNITS CONSTRUCTED ON OR BEFORE
JANUARY 8, 2014; MODEL TRADING RULES;
AMENDMENTS TO FRAMEWORK REGULATIONS

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I. Introduction

The New York Independent System Operator, Inc. ("NYISO") is an independent not-for-profit corporation responsible for the reliable operation of New York's nearly 11,000 miles of high-voltage transmission and the dispatch of more than 700 electric power generators. In addition, the NYISO administers bulk power markets through which an average of approximately $7.5 billion in electricity and related products are traded annually. The NYISO's mission is to serve the public interest and provide benefit to consumers by maintaining and enhancing regional reliability; operating open, fair and competitive wholesale electricity markets; planning the power system for the future; and providing factual information to policy makers, stakeholders, and investors in the power system.

On August 3, 2015, the Environmental Protection Agency ("EPA") issued the proposed "Federal Plan Requirements for Greenhouse Gas Emissions From Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations," (hereinafter referred to as the "Federal Plan" or "Model Trading Rules").[1]

The NYISO appreciates this opportunity to comment on the Federal Plan and Model Trading Rules, which are being developed to support the EPA's Clean Power Plan (or "CPP").[2] The NYISO offers its comments on the Federal Plan and Model Trading Rules to assist EPA's efforts to develop Clean Power Plan implementation approaches that are compatible with bulk power system reliability and the regional wholesale electricity markets, and that provide New York State, and neighboring regions with which New York partners, multiple, viable compliance options. The Federal Plan and Model Trading Rules detail important aspects of the trading markets that provide necessary additional compliance options under the Clean Power Plan.

[1] Published in the Federal Register at 80 Fed. Reg. 64966 (October 23, 2015).

[2] Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units: Published in the Federal Register at 80 Fed. Reg. 64662 (October 23, 2015).

The NYISO offers specific comments below and respectfully requests the EPA's consideration of these concerns prior to finalizing the Federal Plan and Model Trading Rules.

II. Executive Summary

The NYISO respectfully requests that the EPA consider its concerns and make appropriate changes prior to finalizing the Federal Plan and Model Trading Rules. The comments generally fit into three categories: (1) the Federal Plan must consider electric system reliability; (2) the Federal Plan and Model Trading Rules should not interfere with existing programs such as the Regional Greenhouse Gas Initiative ("RGGI"); and (3) additional program design comments to harmonize its interaction with the wholesale electricity markets while providing flexible and economically-efficient compliance options.

The NYISO suggests two additions to the Federal Plan to properly consider electric system reliability throughout development and implementation. First, the Federal Plan should include a reliability safety valve similar to the one states are permitted to utilize under the Clean Power Plan. Second, the EPA should review electric system reliability concerns with independent system operators and regional transmission organizations during the preparation and implementation of a Federal Plan for a state.

The NYISO encourages the EPA to incorporate two elements of RGGI into the Federal Plan and Model Trading Rules. First, the EPA should permit emission allowances and Emission Rate Credits ("ERCs") to be banked and rolled-over to future compliance periods without limitation. This proposal includes allowing existing RGGI allowances to be carried forward into future Clean Power Plan compliance periods. Second, the EPA should also consider engaging in more frequent allowance/ERC allocation auctions. The existing RGGI practice of quarterly auctions has worked well for CO_2 allowance allocation and trading.

The NYISO offers a number of additional program design comments to assist EPA's development of a Federal Plan, Model Trading Rules and trading markets that are compatible with the wholesale electricity markets. The EPA should finalize and allow both mass-based and rate-based compliance options under the Federal Plan. The Clean Power Plan and Model Trading Rules should allow ERCs to be created and issued before the first compliance period begins. The EPA should treat all qualifying ERCs equally for purposes of interstate trading among rate-based programs. The Federal Plan should allow other renewable resources, such as Canadian hydropower, and demand-side energy efficiency to produce ERCs for rate-based compliance approaches. The EPA should strengthen its rules and procedures to address the integrity and transparency, or confidentiality, of data submitted by market participants. The EPA should reconsider the Clean Power Plan rules governing leakage so that older, less efficient fossil –fueled generation is not subsidized to the detriment of newer, more efficient fossil resources, such as natural gas combined cycle technologies. The EPA should improve its process for modeling the interaction between its proposed regulations and the wholesale electric system. Finally, the EPA should utilize generating values that represent actual Electric Generating Unit ("EGU") capability for calculations related to the Clean Power Plan.

III. The Federal Plan's Consideration of Electric System Reliability.

A. The Federal Plan Should Include a Reliability Safety Valve.

The EPA invites comments on its proposal that a reliability safety valve is not needed in the Federal Plan. The EPA specifically provides:

> In the final Clean Power Plan [Emission Guidelines] EGs, the EPA laid out the availability of a reliability safety valve that could be used if an unanticipated catastrophic emergency caused a conflict between maintenance of electric reliability and inflexible requirements that a state plan might impose on an affected EGU or EGUs. Under the federal plan, inflexible requirements are not imposed on specific plants. Rather as explained earlier, the very nature of the federal plan, in which affected EGUs can obtain allowances or credits if needed, supports reliability. Therefore, a reliability safety valve for the federal plan is not needed. The EPA invites comments on this aspect of the proposed federal plan.[3]

The EPA included a reliability safety valve in the Final Clean Power Plan for developing State Plans to address an immediate, unexpected reliability situation.[4] The same situation may arise for a state subject to a Federal Plan despite the increased flexibility available to EGUs. The reliability safety valve is a prudent precaution for unforeseen circumstances that could arise in states subject to a State Plan or a Federal Plan. Therefore, the NYISO recommends that the EPA include the reliability safety valve in the Federal Plan as this is an important tool for reducing threats to regional electric grid reliability. This threat could be specific to a state subject to a Federal Plan or could extend to neighboring states. Each state relies on the transmission and generation resources of the interconnected region to maintain electric system reliability.

The NYISO recommends that the Federal Plan adopt a reliability safety valve process similar to the one set forth in the Clean Power Plan.[5] The reliability safety valve will provide appropriate flexibility to address situations where, because of an unanticipated catastrophic event, there is a conflict between the Federal Plan requirements and the maintenance of electric system reliability. Electric system reliability issues could arise suddenly or result from transmission system changes over time. The NYISO urges the EPA to incorporate a reliability safety valve into the Federal Plan to address those instances where grid reliability (state, multi-state, and/or regional) is, or may be, adversely impacted and there is insufficient time to address the unforeseen reliability issue and still achieve compliance.

[3] 80 Fed. Reg. 64981-64982.

[4] 80 Fed. Reg. 64981-64982.

[5] 80 Fed. Reg. 64671.

B. The EPA Should Work With ISOs/RTOs to Maintain Electric Grid Reliability During the Preparation and Implementation of the Federal Plan for a State.

The NYISO also encourages the EPA to provide the opportunity for independent system operators and regional transmission organizations ("ISOs/RTOs") to review electric grid reliability concerns during the preparation and implementation of a Federal Plan for each state. The NYISO supports the EPA's statement that it will work with planning authorities, transmission system operators and the appropriate ISO/RTO Council members as part of *developing* the Federal Plan.[6] In addition, the EPA should continue working with the ISOs/RTOs and all relevant parties each time it is called upon to implement the Federal Plan for a state to avoid conflicts between maintaining electric reliability and complying with the new carbon standards. The EPA should rely on the ISOs'/RTOs' expertise to analyze state-specific and cross-border, multi-state grid reliability considerations during the development and implementation of a Federal Plan for each state.

The EPA should engage in the same state-specific reliability review process each time that it implements a Federal Plan. The EPA is requiring states to consider electric system reliability during the preparation of every State Plan.[7] While the EPA has endeavored to undertake a reliability review during the initial development of this Federal Plan, there is no way for the relevant electric system entities to engage in the appropriate review until the applicable state has been identified and the facts and circumstances of that state and its neighboring region can be considered in detail. The EPA and the relevant ISOs/RTOs must consider a specific state as well as its surrounding region to effectively review the potential reliability impacts of each Federal Plan. These reliability issues could include, but are not limited to, the impacts of the Federal Plan on generating resources that support regional electric system operations. Recognizing the cross-border dependencies of the electric system when implementing a Federal Plan in a specific state could avoid, or at least mitigate, potential electric grid reliability issues.

IV. The Federal Plan's Consideration of the Existing Regional Greenhouse Gas Initiative

A. The EPA Should Permit Allowances and ERCs to be Banked Without Limitations.

The EPA is seeking comment on its proposal to permit unlimited ERC or allowance banking between present and future compliance periods.[8] The EPA proposes that allowances may be banked for use in any future compliance period, with no restriction on the use of banked allowances, including from the Interim Period (2022 through 2029) into the Final Period (2030

[6] 80 Fed. Reg. 64981 (*emphasis added*).

[7] 80 Fed. Reg. 64981.

[8] 80 Fed. Reg. 65010 and 65014.

and thereafter).[9] Similarly, the EPA proposes to allow unlimited banking of ERCs within and between the interim and final compliance periods.[10]

The NYISO supports the EPA's proposal. Requiring allowances or ERCs to be used within a specific, time-limited compliance period would inappropriately link their value to the time remaining in the compliance period and could result in disruptive behavior by market participants. In one case, an EGU could run out of allowances/ERCs before the end of the compliance period simply to avoid the expense of holding allowances/ERCs that expire at the end of the compliance period. Without allowances/ERCs, the EGU could be unavailable to produce electricity towards the end of the compliance period, potentially leading to a reliability problem on the electric system if the generator is a key resource. In another case, an EGU with excess allowances/ERCs remaining could engage in "use them or lose them" behavior that results in near-term increases in CO_2 emissions. Any actions that eliminate the value of allowances or ERCs would be disruptive to the respective allowance/ERC trading markets and could potentially introduce electric system reliability issues.

The NYISO also recommends that the EPA honor existing RGGI allowances in future Clean Power Plan compliance periods. Existing RGGI allowances could simply be rolled-over into the interim, and then final, compliance periods if the allowances are held in a state that becomes subject to a mass-based plan and trading system. In the event that EGUs holding RGGI allowances become subject to a rate-based plan, the EPA should allow the EGUs to continue to hold existing allowances until such time that the entity chooses to sell the vintage RGGI allowances to an EGU subject to a mass-based plan. The concerns discussed above could also materialize during the transition into the first compliance period under the Clean Power Plan if remaining RGGI allowances cannot be carried forward. The Clean Power Plan should incorporate existing RGGI allowances to avoid disrupting the RGGI trading market and potential electric system reliability issues.

B. The EPA Should Allow Multiple Distributions or Auctions of Allowances During Each Compliance Period.

The EPA has proposed that allocation auction results be available six (6) months in advance of each compliance period.[11] This timeline is different than RGGI's current allowance-distribution methodology, which the EPA and the RGGI States have indicated works well to achieve market-based emission reduction objectives while maintaining electric system reliability.[12] RGGI currently holds quarterly auctions, for a total of twelve auctions during each 3-year compliance period. The NYISO supports a timeline similar to the timeline employed by RGGI since 2009. The NYISO recommends that the EPA amend its proposal to allow, during

[9] 80 Fed. Reg. 65010.

[10] 80 Fed. Reg. 65014.

[11] 80 Fed. Reg. 65028 Table 11

[12] *See* 79 Fed. Reg. 34855 ("Some states already participate in a multi-state program that reduces CO2 emissions, the RGGI, and we have noted the success of that program for those states").

each multi-year compliance period, for multiple distributions or auctions that are more contemporaneous with relevant market events.

V. The EPA Should Design its Program to be Flexible and Compatible with Wholesale Electricity Markets.

A. The EPA Should Allow Both Mass-Based and Rate-Based Trading Options in the Federal Plan.

The EPA currently intends to finalize a single approach for every state in which it promulgates a federal plan, either the mass-based or rate-based approach. The EPA's intention is based, at least in part, on the benefits of a broad trading program, as discussed in section I.B of the Federal Plan and Model Trading Rules preamble.[13] The EPA is soliciting comments on whether to finalize a mass-based or rate-based approach for the Federal Plan, *if it opts to finalize a single approach*.[14]

The NYISO recommends that the EPA elect *not* to finalize a single approach and revise its proposal to include the option to implement a mass-based or rate-based approach for each state subject to a Federal Plan. The decision as to which approach is better for a given state and its region should only be made after a detailed consideration of all the facts and circumstances related to that state, its neighboring states, and its region. Selecting only one approach could have negative impacts on the subject state, or neighboring or regional states that have filed State Plans in a timely fashion. States have until September 6, 2018 to submit State Plans to the EPA;[15] therefore, it could be more than two years until the EPA and the states know the details of the various State Plans. The EPA should determine which approach is suitable for each individual state that could be subject to a Federal Plan by taking into account the compliance approaches in neighboring State Plans.

Federal Plans could potentially impose one trading approach on a significant number of the regulated states, distributed around the country. Imposing a single trading approach on all states subject to a Federal Plan could have a significant impact on the states that have approved State Plans that use a different approach; principally by limiting the potential trading partners. For example, if EPA requires a rate-based approach in all states subject to a Federal Plan, neighboring states that utilize a mass-based approach could lose valuable trading partners that would enable compliance and more economically efficient trading across states and regions. In the event that a State Plan utilizes the trading approach not used in the Federal Plan, such a state may be required to reexamine the underlying assumptions in the analysis showing goal attainment. A state may encounter a significant, unforeseen compliance risk if it is unable to trade emission allowances or ERCs with some or all of its neighbors and the other states in its

[13] 80 Fed. Reg. 64968-64969.

[14] *Id.* (emphasis added).

[15] The Clean Power Plan requires each state to submit a final plan by September 6, 2016, unless a timely extension is requested. The EPA is allowing for a 2-year extension to submit a final plan by September 6, 2018. *See* 80 Fed. Reg. 64669.

region. Neighboring or regional states could also be significantly limited when reacting to a multi-state or regional electric system need if their implementation approaches are different and regional issues were not reviewed during development of their implementation plans.

The EPA should consider all approved and pending State Plans when finalizing the Federal Plan approach applied to individual states. Larger, more active trading programs will increase the market opportunities for all of the states involved; those subject to approved State Plans or a Federal Plan. These robust regional trading markets will also facilitate cost-effective compliance options with substantial flexibility for the affected EGUs to maintain electric system reliability.

B. The EPA Should Allow for the Creation and Issuance of ERCs Before the First Compliance Period.

The EPA's rule would create an unnecessary disparity between the rate-based and mass-based approaches by proposing to issue ERCs annually, after the end of the relevant compliance year.[16] The proposed timing introduces an inherent temporal asymmetry in the risk profiles between rate-based and mass-based compliance methods. The Federal Plan/Model Trading Rules propose to distribute ERCs annually; 6 months **after** the end of the relevant year. Allowances, on the other hand, would be distributed on June 1 of the year **before** the multi-year compliance period begins. Therefore, EGUs subject to a rate-based approach will have to emit before obtaining sufficient qualified ERCs to cover their past emissions. EGUs subject to a mass-based approach can hold allowances to emit in advance of producing any actual emissions. EGUs subject to a rate-based approach will bear the risk of obtaining after-the-fact valid ERCs to demonstrate compliance. If the market perceives a risk bias between the two approaches, the perceived lower risk alternative may be favored while in reality the potentially higher-risk alternative could produce a better long-term result.

The NYISO recommends that the EPA take additional action to allow for the creation of ERCs ahead of the first compliance period. These ERCs could be created by qualified resources in any state, but ultimately could only be relied on by EGUs in states that choose a compatible, rate-based compliance approach. The mass-based and rate-based approaches should start from a comparable design to the extent practicable. The NYISO's recommendation primes the supply of qualified ERCs to reduce the timing bias currently apparent between the rate-based and mass-based compliance approaches.

C. The EPA Should Treat All Qualifying ERCs Equally.

The EPA requests comment on expanding the scope of interstate trading of ERCs to allow trading by states covered by a Federal Plan with any state that has a State Plan meeting certain criteria.[17] The NYISO recommends that the EPA allow all qualifying ERCs to be traded

[16] 80 Fed. Reg. 65000.

[17] 80 Fed. Reg. 64977.

among all states utilizing rate-based trading systems; including Federal Plans and approved State Plans imposing either a state rate or a subcategory rate.

ERCs can be created in the following ways: (1) by EGUs that emit under their respective sub-category rate; (2) by EGUs that emit under a state rate goal; (3) by EGUs that receive a nameplate capacity increase; (4) by RE resources; and (5) by Demand-side EE.[18] Any of these ERCs should be eligible for use or trading in all rate-based compliance approaches, once created and appropriately verified. The broadest trading opportunities create the greatest incentive to develop projects that produce ERCs; further reducing the tons of CO_2 emitted and increasing the economic efficiency of this compliance approach.

The EPA's state rate goal rules unnecessarily limit the use of ERCs to states that have combined their compliance programs. This restriction fails to recognize that all ERCs – regardless of where they are created – have the same valuable attribute, one MWh of electric power generated or saved without the emission of CO_2. Restricting the trading of such ERCs is counterproductive to the goals of the Clean Power Plan.

D. Other Renewable Energy Measures and Demand-Side Measures Should be Eligible Under the Federal Plan.

The EPA requests comment on whether other renewable energy ("RE") measures and demand-side energy efficiency ("EE") measures should be eligible to produce ERCs under the Federal Plan.[19]

i. Other Renewable Energy Measures

The NYISO strongly supports allowing other RE measures such as qualifying, non-emitting electric generation in a neighboring country and imported directly into the United States to produce ERCs. In the Clean Power Plan, the EPA recognized the domestic interconnectedness of the bulk electricity system and wholesale markets by proposing to allow cross-state-border trades of qualifying renewable energy to be considered as Clean Power Plan compliance options.[20] The interconnectedness of the bulk electricity system and wholesale markets extends to Canada, and Canadian imports should be equally recognized as Clean Power Plan compliance options.[21] The Federal Plan and Model Trading Rules should provide flexibility for states to collaborate and coordinate with RE resources located in Canada and interconnected to the U.S.

[18] Clean Power Plan Final Rule Section 60.5800

[19] 80 Fed. Reg. 65002.

[20] 80 Fed. Reg. 64897.

[21] See 2014 Reliability Needs Analysis, New York Independent System Operator, Final Report, Figure D-1: NYISO MARS Topology for Year 2015, D-13 (September 16, 2014) available at http://www.nyiso.com/public/about_nyiso/fundamentals_of_planning/reliability_planning/index.jsp. (The MARS Topology shows the interconnections and the amount of power that can flow under normal operating conditions between the New York Control Area and external Control Areas including IESO Ontario and Hydro Quebec in Canada).

electric power grid. RE resources in Canada have the same potential to reduce the tons of CO_2 emitted by EGUs in the United States and the EPA should not foreclose the opportunity for states to exchange this electric power as part of their compliance strategies.

In 1966, New York, the New England states, and several Canadian provinces recognized that reliable operation of their individual bulk transmission grids depended on the reliable operation of the grids to which they were interconnected. They also recognized that their bulk transmission grid interdependence extended across the Canadian-United States border. To provide that the interconnected grids are operated reliably, New York, the New England states and the Canadian provinces of Ontario, Quebec, New Brunswick, and Nova Scotia formed the Northeast Power Coordinating Council ("NPCC") to develop regional reliability standards and coordinate system planning, design and operations.[22] NPCC is now a Regional Entity of the North American Electric Reliability Corporation ("NERC") and comprehensively monitors and enforces compliance with reliability standards among all users, owners and operators of the bulk-power system in the NPCC Region.[23] Electric system operation and overall grid reliability require coordination of resources regionally, including across the Canadian-United States border. The EPA should recognize this same regional approach by allowing Canadian RE resources to produce ERCs and make arrangements with U.S. entities to exchange electric power with the United States.

ii. Demand-Side EE Measures

The proposed Federal Plan does not include energy efficiency as a potential source of ERCs, while the Clean Power Plan and State Plan guidelines specify that ERCs can be produced by energy efficiency. The NYISO recommends that the EPA align the Federal Plan with the Clean Power Plan and include energy efficiency as a source of ERCs. Entities within states that become subject to a Federal Plan should have the same opportunities to produce ERCs as entities in other states. ERCs from energy efficiency will also add to the number of tradable instruments available in the rate-based trading program, increasing the overall flexibility and economic efficiency provided by the market.

E. The EPA Should Strengthen its Rules and Procedures Addressing the Integrity and Transparency of Data Submitted.

The EPA requests comment on "appropriate market monitoring activities, which may include tracking ownership of allowances and ERCs, oversight of the creation and verification of credits, and tracking market activity (*e.g.*, transaction volumes and prices)."[24] The EPA is proposing allowance and ERC markets with estimated annual values in the tens of billions of dollars. However, the CPP and the proposed Federal Plan do not provide adequate quality assurance/quality control ("QA/QC") checks of the Continuous Emissions Monitoring System

[22] Northeast Power Coordinating Council, Inc., About NPCC, https://www.npcc.org/About/default.aspx.

[23] *See* discussion at: Northeast Power Coordinating Council, Inc., Compliance, https://www.npcc.org/Compliance/Default.aspx.

[24] 80 Fed. Reg. 64977.

("CEMS") data that will be submitted quarterly or prior to allowance/ERC true ups. The CPP and proposed Federal Plan also lack a market monitoring function to review the underlying data that is reported by market participants. The EPA should improve and expand its QA/QC and market monitoring approaches to ensure that the new allowance and ERC markets operate properly. The EPA must protect the markets from the possibility that baseline CEMS data supplied by EGUs could contain persistent errors over multi-year periods.

The EPA is proposing that affected EGUs subject to a Federal Plan (rate-based or mass-based) monitor and report CO_2 emissions and output data quarterly in accordance with 40 C.F.R. Part 75 beginning on January 1, 2022.[25] The NYISO supports the EPA and recommends that all EGUs be subject to uniform reporting requirements, regardless of whether a mass-based or rate-based compliance approach is being utilized. Uniform reporting requirements provide a more consistent, rigorous and statistically significant dataset for analysis and market compliance demonstrations.

The EPA provided the Greenhouse Gas Mitigation Measures Technical Support Document ("TSD")[26] with the final CPP. The TSD states the following related to CEMS data submission pursuant to 40 C.F.R. Part 75:

> The data used in the analysis include hourly gross heat rate values. 40 CFR Part 75 requires that most coal-fired EGUs continuously measure emissions of CO_2, NO_X, and SO_2, and report those hourly emissions along with hourly heat input and gross electricity generation to EPA/CAMD at the end of each calendar quarter. The monitoring regulation requires regular quality assurance/quality control (QA/QC) of the monitoring systems, including daily calibrations and semi-annual or annual relative accuracy tests. When EGU operators submit the hourly emission and operation data to EPA/CAMD, a responsible company official must certify that the data are true, accurate, and complete. In addition, the data undergo thousands of automated quality assurance tests as well as statistical analyses and EPA staff audits. Therefore, the agency believes these high-quality data are the best available information for assessing coal-fired EGUs' performance over time.

At the same time, the EPA is "proposing to require affected EGUs to report net generation" and "to make the reported generation data [] public."[27] The EPA should consistently require EGUs to provide and conduct QA/QC checks on both net and gross generation data. The methods of QA/QC employed by the EPA should assure generators and other ERC/allowance market participants that the underlying CEMS data provided by each EGU is accurate prior to

[25] 80 Fed. Reg. 65010.

[26] http://www.epa.gov/sites/production/files/2015-11/documents/tsd-cpp-ghg-mitigation-measures.pdf.

[27] 80 Fed. Reg. 65021.

assigning monetary values to tradable compliance units or for compliance demonstrations based on that data.

The EPA intends to provide public access to view all allowance holdings based on allowances distributed directly to EGUs. However, in a market with ongoing auctions, such as the current RGGI system, compliance entity account holdings are not publicly available and are treated as confidential, market-sensitive information. The EPA should consider maintaining the allowances awarded during auctions as confidential, market-sensitive information. The EPA should also align the requirements for maintaining confidential data in states that directly allocate allowances and states that auction allowances.

F. The EPA Should Reconsider the Rules Governing "Leakage."

The EPA requests comment on the proposed treatment of leakage and of interstate effects under both the proposed rate-based Federal Plan approach and the proposed mass-based Federal Plan approach.[28] The EPA also seeks comment on its proposal to set-aside allowances to existing Natural Gas Combined Cycle ("NGCC") units as a means of mitigating leakage and to reduce incentives for generation to shift away from EGUs covered under mass-based plans to new unaffected EGUs.[29] The EPA's definition of "leakage,"[30] which concerns shifting of carbon dioxide emissions to new fossil generation, is predicated upon the concern[31] that such new resources will gain a significant market advantage over existing generation units subject to the CPP; resulting in a meaningful increase in CO_2 emissions when compared to imposing specific subcategory rate-based emission limits on new units.[32] The NYISO offers that the proposed leakage control measure may have an adverse impact on system reliability and subsidize older, less efficient generation to the detriment of competitive wholesale electricity markets, and guards against only a very small increase in CO_2 emissions.

The EPA's proposed leakage control measure is inaccurate and could unreasonably restrict the development of new NGCC units in New York.[33] The limitation determined by the EPA, based on the erroneous modeling discussed below, is not compatible with maintaining electric system reliability. Further, the EPA's analysis of the CPP and Model Trading Rules fail

[28] 80 Fed. Reg. 64978.

[29] 80 Fed. Reg. 64978.

[30] 80 Fed. Reg. 64822 "…define as "leakage" the potential of an alternative form of implementation of the BSER (e.g., the rate-based and mass-based state goals) to create a larger incentive for affected EGUs to shift generation to new fossil fuel-fired EGUs relative to what would occur when the implementation of the BSER took the form of the standards of performance incorporating the subcategory-specific emission performance rates representing the BSER.

[31] 80 Fed. Reg. 64821 "…EPA analysis identified a concern that a mass-based state plan that failed to include appropriate measures to address leakage could result in failure to achieve emission performance levels consistent with BSER."

[32] 80 Fed. Reg. 64821 "…the EPA has determined that sates using rate-based goals as the foundation for plans implementing the BSER are unlikely to foster generation shifts to new fossil fuel-fired sources to an extent that would deviate from the BSER.

[33] *See* 80 Fed. Reg. 64961-64964.

to consider the potential retirement of two nuclear facilities in New York.[34] The loss of these nuclear facilities may require replacement with a mix of resources, potentially including fossil resources, that can be reasonably expected to increase emissions in the interim until connecting transmission reinforcements and additional renewable resources could be brought on line. The states need the flexibility to allocate allowances based on dynamic electric system conditions and should not be restricted by the EPA through mandatory set-asides. New York State has a history, through the RGGI program, of implementing a combined CO_2 emissions limit for existing and new generation resources without setting aside allowances for either existing or new resources. The EPA should allow the states, such as New York, to implement measures to address these potential CO_2 emissions increases on a state-by-state basis. The EPA's proposed rules could interfere with the electric markets by effectively subsidizing the continued operation of older less efficient, higher emitting, less optimally located generators, and creating a barrier to entry for new highly-efficient, lower emitting generators.

Notwithstanding these potential adverse impacts on reliability and markets, the EPA's own analysis demonstrates that the proposed "leakage" measure guards against only a potential 0.3% increase in CO_2 emissions.[35] This increase is insignificant considering the potential range of error in other assumptions in the model, *e.g.*, the U.S. Energy Information Administration's ("EIA") Short-Term Energy Outlook forecasts a natural gas price of $2.65/Dth for 2016 compared to a $4.04/Dth price used in the IPM analysis. This variance represents a 34.4% reduction in critical input data for the model. Correcting the input data could increase the amount of generation from NGCC units while reducing the use of coal-fired generation. The resulting projection shows fewer total tons of CO_2 emissions and, therefore, the absolute value of the proposed leakage control measure will be even less than the 0.3% change in emissions projected in the IPM model results.

G. The EPA Should Improve its Processes and Procedures for Modeling Regulations.

Complete and accurate modeling efforts are critical to the implementation of the Clean Power Plan. The EPA must review its modeling program to provide the necessary level of accuracy. The Regulatory Impact Analysis ("RIA") that accompanies the CPP is meant to inform the affected community about feasible options for compliance and the Integrated Planning Model ("IPM") analysis results will be used as a reference to measure Federal Plans and State Plans. Incomplete IPM analyses are currently being used to support the RIA for the proposed Federal Plan and Model Trading Rules, as well as for the CSARP Update Ozone

[34] The James A. FitzPatrick nuclear generating facility and R.E. Ginna Nuclear Power Plant in New York have indicated intentions to retire, *see* http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Documents_and_Resources/Planned_Generation_Retirements/Planned_Retirement_Notices/Notice_of_%20Intent_to_Retire_James_A_FitzPatrick_Nuclear_Generating_Facility.pdf *and* New York Public Service Commission November 14, 2014 Order in Case 14-E-0270 at pp 21-22.

[35] EPA–HQ–OAR–2013–0602-37120 shows the impact of the output based set aside to control leakage results in a 0.3% reduction of CO2 emissions across the period across the country.

Season NOx revisions.[36] The EPA performed individual IPM analyses of several building blocks independently and provided illustrative cases for rate-based and mass-based approaches without modeling all of the building blocks collectively.[37] In addition, the IPM analyses apply state rate goals to all states, which is prohibited by the Clean Power Plan unless all of the participating states have joined their respective plans and accounting methods.[38] The EPA should correct these errors in conducting the IPM analyses that underlie the Clean Power Plan and CSAPR programs. Moreover, the EPA should publicly release the IPM analyses for review and comment by stakeholders.

The IPM used by the EPA for crafting air emission programs does not accurately reflect the intricacies of the New York Bulk Electric System. New York has eleven geographic zones that represent load centers defined by electric transfer limits and within which the wholesale prices for energy and capacity are near uniform. The EPA's current model only represents seven zones for New York State. The mismatch leads directly to overlooking the importance of inter-zonal transfer limits at key interfaces on the New York system. Further, the New York electric system is subject to numerous stringent reliability rules from NERC, NPCC, New York State Reliability Council ("NYSRC"), and local reliability rules that are not captured in the EPA's version of the model. Among these rules are requirements to design and operate the electric grid to higher standards than are applicable elsewhere, including requirements: (1) to design and secure the system for the occurrence of a second contingency;[39] (2) to secure the system against the loss of gas in New York City and on Long Island through the use of oil burning generators;[40] (3) to operate the system with multiple load pockets within New York City that require generators to operate within each of the load pockets; (4) to secure the system against the potential loss of transmission facilities during periods when thunderstorms are possible;[41] and (5) to operate certain generators to satisfy NOx RACT compliance plans. Specific actions are required almost every day of the year to operate generators, or to have generators available, to satisfy these specific reliability and environmental rules. All of these characteristics of the New York State Bulk Electric System should be appropriately reflected in models used to develop rules regulating the operation of generators in New York.

ICF, the entity responsible for the creation and administration of the IPM platform, has an eleven-zone IPM model available for New York. The NYISO stands ready to work cooperatively with the EPA to adjust its models to more reasonably project the impacts of

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[36] http://www.epa.gov/airmarkets/analysis-proposed-cross-state-air-pollution-update-rule.

[37] http://www.epa.gov/airmarkets/analysis-clean-power-plan.

[38] Clean Power Plan Final Rule Section 60.5795(c).

[39] *See* http://www.nysrc.org/pdf/Reliability%20Rules%20Manuals/RRC%20Manual%2034%20final%201-9-15.pdf at p. 84).

[40] *See* http://www.nysrc.org/pdf/Reliability%20Rules%20Manuals/RRC%20Manual%2034%20final%201-9-15.pdf (see pg. 87); http://www.nysrc.org/pdf/Reliability%20Rules%20Manuals/RRC%20Manual%2034%20final%201-9-15.pdf at p. 90.

[41] *See* http://www.nysrc.org/pdf/Reliability%20Rules%20Manuals/RRC%20Manual%2034%20final%201-9-15.pdf at p. 84.

proposed regulations on New York. Without these adjustments, the EPA and New York stakeholders will continue to look at the same electric system and envision two very different futures.

H. The EPA Should Use Actual EGU Capability For All Calculations Related to the Clean Power Plan

The EPA is proposing to use "net summer capacity" as reported to the US EIA[42] for the calculation of a NGCC EGU's capacity factor.[43] Alternatively, the EPA is proposing that NGCC EGUs be required to report "net summer capacity" at the unit-level. Capacity factors would be computed using the prior control period's reported net summer capacity and net generation. The EPA also seeks comment on using the nameplate or "maximum load level" reported by the EGUs in their monitoring plans as a proxy for EGU-level net summer capacity.[44]

Using nameplate or "maximum load level" does not provide an accurate or timely measure of an EGU's capacity to generate electricity and could vary greatly among units with the same actual operational capabilities. The NYISO supports the EPA moving away from nameplate capacity and using a measure of generator output that represents actual unit capability. For example, the EPA could consider EGU data from the NERC Generating Availability Data System ("GADS").[45] Generators throughout the United States report net capacity data into GADS, such as Net Dependable Capacity,[46] which could be used as an alternative to nameplate. Accurate EGU characteristics are necessary to operate and plan the bulk power system and NYISO markets reliably. Regardless of the metric used, actual EGU performance characteristics should also be utilized for environmental regulations impacting the bulk power system operation. This alignment would allow for the greatest alignment of environmental and operational parameters, and provide consistent incentives between energy markets and CPP regulatory compliance.

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[42] EIA reports summer capacity in Form-860 at the generator level.

[43] 80 Fed. Reg. 65021. *See also*, 80 Fed. Reg. 65114 (Net summer capacity means the maximum output, commonly expressed in megawatts (MW), that generating equipment can supply to system load, as demonstrated by a multi-hour test, at the time of summer peak demand (period of June 1 through September 30.) This output reflects a reduction in capacity due to electricity use for station service or auxiliaries.).

[44] 80 Fed. Reg. 65021.

[45] http://www.nerc.com/pa/RAPA/gads/Pages/default.aspx.

[46] http://www.nerc.com/pa/RAPA/gads/DataReportingInstructions/Entire%20GADS%20Data%20Reporting%20Instructions-Effective%20January%201%202015.pdf in Section IV-B NERC defines Gross Maximum Capacity, Gross Dependable Capacity, Net Maximum Capacity, and Net Dependable Capacity.

VI. Conclusion

The NYISO appreciates the opportunity to comment on the draft Federal Plan and Model Trading Rules. These comments address the Federal Plan and Model Trading Rules' consistency with electric system reliability and provide guidance on how the EPA could implement both in a manner beneficial to the future trading markets under the CPP. Accordingly, the NYISO respectfully requests that EPA consider these comments when finalizing the Federal Plan and Model Trading Rules.

Respectfully submitted,

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