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January 31, 2012

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Office of Electricity Delivery and Energy Reliability, OE–20
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

Re: Preparation of the 2012 Congestion Study

Dear Sir or Madam:

I am writing in response to the Notice of Regional Workshops and Request For Written Comments, 76 *Federal Register* No. 218, 70122 (November 10, 2011).

Enclosed please find the comments of the Public Service Commission of the State of New York.

Very truly yours,

Sean Mullany
Assistant Counsel

Attachment

UNITED STATES OF AMERICA
BEFORE THE
DEPARTMENT OF ENERGY

U.S.D.O.E. Plan for Conduct of the 2012 Electric Transmission Congestion Study
November 10, 2011 Notice of Regional Workshops and Request for Written Comments

COMMENTS OF THE PUBLIC SERVICE COMMISSION OF THE STATE OF NEW YORK

BACKGROUND

Pursuant to the Energy Policy Act of 2005, the Secretary of Energy (Secretary) is required to conduct a nationwide study of electric transmission congestion, and issue a report, based on the study in which the Secretary may designate "any geographic area experiencing electric energy transmission capacity constraints or congestion that adversely affects consumers" as a National Interest Electric Transmission Corridor (NIETC).[1] If the Secretary designates an area as a NIETC, the Federal Energy Regulatory Commission (FERC or Commission) is authorized to issue permits for the construction and modification of electric transmission facilities within the NIETC, provided certain findings are made.[2]

On November 10, 2011, the United States Department of Energy (DOE) published, in the Federal Register, a notice of regional workshops and request for written comments. That notice stated that DOE is now initiating preparations for the 2012 Congestion Study, and seeks comments on what publicly-available data and information should be considered, and what types

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1 16 U.S.C. §824p(a)(2).

2 *Id.* FERC must find, *inter alia*, that a state with authority to approve the siting of transmission facilities has withheld approval for more than a year after the filing of an application, or conditioned approval so that the proposed project will not significantly reduce transmission congestion or is not economically feasible.

of analysis should be performed to identify and understand the significance and character of transmission congestion.

The New York State Public Service Commission (NYPSC) hereby submits its comments. Copies of all correspondence should be addressed to:

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DISCUSSION

A. DOE Must Consider the Consumer Costs of Addressing the Congestion Identified

Congestion is not necessarily harmful because the costs of relieving it may exceed the costs of the congestion itself. This, of course, is a fundamental principle of transmission system planning. The statute recognizes this, because it does not direct DOE to identify merely congestion. Instead it directs DOE to identify congestion that "adversely affects consumers." 16 U.S.C. §824*p*(a)(2). Congress also directed that, in deciding whether to designate a corridor, DOE must, among other things, consider the following factors: (1) "[whether] the economic vitality and development of the corridor, or the end markets served by the corridor, may be constrained by lack of adequate or reasonably priced electricity[,]" and (2) "[whether] economic growth in the corridor, or the end markets served by the corridor, may be jeopardized by reliance on limited sources of energy ...." 16 U.S.C. §824*p*(a)(4)(A) & (B). The statute thus recognizes the existence of "economic congestion" (i.e., congestion that costs more to remediate than to

tolerate). As a result, any corridor designation must focus not just on where there is congestion, but on areas where relieving congestion would create a net benefit to consumers.

For these reasons, DOE cannot designate a corridor unless it demonstrates, based on its study, that action is needed to relieve congestion within the areas under consideration for a corridor designation. To do this, DOE must perform an economic analysis, and cannot justify a NIETC designation without (1) quantifying the consumer costs of the congestion it has identified; (2) quantifying the costs of relieving such congestion; and (3) weighing the costs of congestion against the costs and benefits of relieving it. Absent a showing that the benefits of relieving the congestion will exceed the costs of doing so, a NIETC designation is not legally authorized. DOE cannot conclude congestion "adversely affects consumers" without a showing that action of some kind is justified.

DOE's past efforts to bifurcate its review, and separate "problem identification" from an inquiry into whether a "solution" is needed, is inherently flawed. In the realm of transmission system planning, identifying a "problem" requires considering whether congestion relief will improve matters or instead impose unwarranted costs. Any suggestion that DOE can identify "problems" without examining the costs and benefits of potential "solutions" is, therefore, at odds with the statute, and with how transmission system planning, and transmission congestion analysis, has been performed for decades.[3] For these reasons, it is not enough for DOE, as it has done thus far, to identify congestion and designate a corridor based on a finding that more study and analysis is needed. Congress directed DOE to periodically perform detailed congestion

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[3] For an illustration of how such planning is performed, *see* NYISO, 2009 Comprehensive Reliability Plan, Comprehensive System Planning Process, Final Report, at p. i (May 19, 2009) (referring to the NYISO's economic planning process, called the Congestion Assessment and Resource Integration Study (CARIS), which was scheduled to commence in the summer of 2009)

studies. Congress authorized corridor designations based on those studies, in areas where consumers are adversely affected. Corridor designations allow FERC to issue permits for transmission when states cannot act, or fail to act, within one year. In light of all this, DOE cannot designate transmission corridors based merely on a finding that more study is needed, or that action "might" be needed because consumers "may" benefit from congestion relief. To designate a corridor, DOE must show action is necessary. To do so, of course, DOE must also examine the benefits and potential costs of congestion relief.

The Federal Energy Regulatory Commission ("FERC") has long recognized such basic principles. In Order 890,[4] FERC required transmission providers to perform economic planning studies examining "significant and recurring" congestion, in order to determine whether "transmission upgrades or other investments can reduce the overall costs of serving native load." 72 *Federal Register*, at 12333, ¶524. FERC's Order 890 recognized the importance of identifying, at the systems level rather than on a project-specific basis, whether there are available economic upgrades to transmission systems. 72 *Federal Register*, at 12333-34, ¶543.[5]

It is important to note that examining the economics of transmission congestion does not require a granular review of every instance of congestion. *See* USDOE, Docket Nos. 2007-OE-01, 2007-OE-02, National Electric Transmission Congestion Report, 72 *Federal Register* 56992,

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4 FERC Docket Nos. RM05-17-000 and RM05-25-000; Order No. 890, Preventing Undue Discrimination and Preference in Transmission Service, 72 *Federal Register* 12266 (March 15, 2007).

5 In addition, FERC's findings in Order 890 contrasted sharply with DOE's. In its 2007 NIETC designation orders, DOE relied on a single, novel and undefined, metric (*i.e.*, "persistent") for determining whether congestion "adversely affects consumers." DOE found that all "persistent" congestion necessarily "adversely affects consumers," based on a finding that "persistent" congestion typically warrants further study. In Order 890, FERC reached the opposite conclusion, saying "we do not believe that any single metric, or group of metrics, is adequate" to determine whether economic study is warranted. 72 *Federal Register*, at 12333, & ¶546.

57003 (October 5, 2007). To the contrary, the NYISO succinctly explained the process in its 2009 Congestion Assessment and Resource Integration Study.[6] According to the NYISO, Phase 1 of its study begins "with an assessment of historic and future congestion on the New York State bulk power transmission system and provides an analysis of the potential costs and benefits of relieving that congestion." NYISO, 2009 Congestion Assessment and Resource Integration Study, CARIS Phase 1, p. "i" (January 12, 2010).

B. The Need For Consistent Criteria

DOE needs to draft an independent set of criteria that will be applied consistently across identified congestion areas. The 2009 study appeared to examine each area of the country independently, with separate criteria for determining the seriousness of congestion. As a result, the 2009 Study drew conclusions that were not consistent. For example, the analysis for the Midwest identified congestion, and then down played its significance and found little of concern, even if only a portion of it was being addressed. In contrast, the New York analysis essentially reiterated the flawed concerns from the 2006 Congestion Study and offered little or no analysis of then-current circumstances. Yet DOE identified significantly higher levels of Midwest congestion, compared to New York. An independent set of criteria, applied systematically

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[6] The NYISO also clearly described why the "problem" cannot be divorced from assessing the need for a "solution," because the inquiry necessarily involves the balancing of costs: "[W]hen the price difference between nearby, more expensive generation and more distant, cheaper power resources is sufficiently high for enough time, it may be economically feasible to relieve that congestion by building or upgrading transmission systems, building a less expensive power source in closer proximity to the load, or by reducing the demand for power." 2009 Congestion Assessment and Resource Integration Study, CARIS Phase 1, p."i" (January 12, 2010) (emphasis added). The NYISO's phrase "sufficiently high for enough time" demonstrates the need to study the magnitude and duration of congestion.

across identified congestion areas, is needed to ensure the 2012 Congestion Study speaks with one voice.

C. Sources of Information

DOE's notice in the Federal Register said that, in performing its 2012 Congestion Study, DOE will draw upon many of the same kinds of data, analyses and information as the earlier studies, with some additions, including electricity market analyses, reliability analyses and actions, historic energy flows, electric supply and generation plans, transmission and interconnection queues, current and forecast electricity loads, energy efficiency, distributed generation and demand response plans and policies, and state and regional policies with respect to renewable development, analytic results from the eastern and western interconnection-level planning studies undertaken with DOE support, and filings made pursuant to FERC Order 890. We endorse this approach. Casting a large net for gather information will help ensure a fully-informed study. We note, however, that the eastern-interconnection study ("EIPC") is not a "planning" study. Instead, it is an "analysis" that is the first of its kind. The scenarios identified in that effort are constructs for demonstration purposes, not for planning purposes. The value of the information developed through that initiative should be weighed in light of this.

As a result of EIPC, much is being learned about how to coordinate planning interconnection-wide. Many of the issues that would have to be resolved during actual planning have been identified. However, there are potential flaws in the methodology that indicate a closer review of the EIPC results is needed to assess their meaning and value. For example, some load projections included energy efficiency measures but others did not. As a result, there is no clear understanding of what level of demand resources are included in the analysis. In

addition, the analysis presumes that 67 GW of coal generation is deactivated in the first 5 years of the study, but such an assumption is very speculative at this point. Also, the methodology deactivates generation in excess of the reserve margin rather than just assuring a minimum reserve margin. Moreover, the analysis is a compilation of peak cases, rather than a coincident peak case, leading to a likely exaggeration of any possible congestion. Nor is there any co-optimization between adding generation, transmission or demand resources. Finally, there is no clear understanding why the model treated areas with established markets differently than those still under command and control regulation, despite high prices in the regulated areas.

If the results of the EIPC analysis are used at all, it should be in the context of "order of magnitude" of a possible future problem – not for identification of areas of congestion in need of system upgrades.

D. Consultation

States want to work in partnership with DOE in identifying and resolving electric transmission congestion problems. Thus far, States have guided the planning for the entire electric system and, with very few exceptions, sited the inter-state transmission system we have today. States, like DOE, have a strong interest in ensuring that the congestion studies are a useful tool for reaching informed decisions when identifying and addressing congestion problems. Federal and state cooperation is the most effective and efficient way to achieve our mutual aims. A recent outstanding example of inter-state cooperation is the energization of the TrAIL transmission line in the PJM territory earlier this year. It was just three short years between the time PJM identified the need for this new line and its entry into service. In those three years, the line was designed, sited across three states (WV, VA & PA) and constructed.

Once a facility's need is identified and a demonstration of consumer benefits is made, states have the tools needed to get the job done.

Consultation with states can help facilitate siting efforts, whether undertaken at the state or Federal level. To successfully site any transmission facilities, documentation and justification must be developed. Consultation with affected states, during DOE's congestion study, may help develop information that could inform subsequent, project-specific, siting efforts. This could, in turn, help place transmission projects on a strong track for siting. Congress at least implicitly recognized this when it required DOE to consult with affected states when performing its congestion studies.

Consultation must be an active, dynamic, and iterative process. States should be embraced as partners in the process. Just seeking our comments on draft reports along with all other stakeholders is not enough. Conversations between DOE study staff and state staffs need to take place as DOE is formulating positions, not later when DOE is in the position of defending a proposal. DOE's consultation efforts can build a foundation for improved understanding and help reduce obstacles to effective planning.

D. Specific Questions Posed By DOE

1. Identify pertinent studies DOE should review as part of its evaluation of transmission congestion in your state and region.

Please see **Attachment A** for a list of New York electric studies that should be consulted by DOE as part of its 2012 congestion study.

2. Describe actions New York agencies have taken since the publication of the 2009 study that DOE should be aware of as it prepares the 2012 study.

Please see **Attachment B** for a list of projects approved pursuant to the New York Public Service Law.

3. Metrics New York Agencies or others have used in gauging the existence or significance of transmission congestion in your State or region.

The NYISO CARIS (economic) studies calculate several metrics (e.g. reduction in losses, load payments, generator payments, capacity costs, emission costs, transmission congestion rents) but only uses production cost analysis to determine what projects can progress through tariffed processes to receive cost recovery. The additional metrics are meant to be used by the industry and regulators in their own planning evaluations. Note that the NYISO CARIS process is designed to identify projects that should be developed through market mechanisms, and limits tariffed cost recovery to projects that require regulatory intervention (e.g. to overcome free rider issues) to achieve major benefits to ratepayers.

The chief metrics used by DPS staff are production cost analysis and ratepayer impacts: Is a project economic? Over an extended period of time, is the consumer paying more by the congestion being present than they would have to pay if the congestion were resolved? While the NYISO processes are limited to a 10 year analysis, staff and the utilities look at the benefits a new facility will bring to the ratepayers over the facility's anticipated life span. Additionally, while the NYISO process takes a very narrow view at determining a benefit/cost ratio based on production costing, the DPS staff and utilities look for a broader level of benefits to ratepayers and the state economy such as future reliability needs, efficient market operations, public policy goals such as development of renewable resources, economic development, etc. This view of planning puts the issue of congestion within a broader context of viable system expansion.

4. Identify obstacles to the removal or mitigation of significant transmission congestion.

Current planning tools are not sufficiently sophisticated to identify more than the most egregious areas of uneconomic congestion. We can track historical congestion for trends, but tools for forecasting congestion and determining whether the trends will continue are insufficient. More accurate forecasting is needed to justify the major commitment of ratepayer resources for congestion relief.

5. In its 2009 Congestion Study, DOE found that the entire Mid-Atlantic region remained a Critical Congestion Area and that there were large portion of the East with rich renewable resources development potential that merited recognition as Conditional Congestion Areas. The Study also found that the New England area no longer merited recognition as a Congestion Area of Concern. Do you think the 2009 Study came to the appropriate conclusions regarding congestion in this region in 2009-2010? Based on current conditions, analysis and recent developments in your region, do you think your area has become more or less congested, and why?

The 2009 report was in error regarding transmission available to serve renewable generation. As the NYISO Wind Study 9/10 report demonstrated, for a full development of the 8,000 MW of renewable projects currently in the NYISO queue only about 7% of total renewable energy would be constrained with the existing transmission system in New York. With the down turn in load due to economic conditions, congestion levels have been fluctuating. Analysis of the most persistently constrained portion of the New York grid – the Central-East Interface through the Hudson River corridor – have only produced marginal benefit-cost ratios.

Governor Cuomo has called for development of an energy "super highway" within New York. Congestion relief is one factor in pursuing this effort. The Governor's goal also looks to the long-term future of the transmission grid to capitalize on New York's renewable resources, and ensure a flexible system that will remain reliable as market forces influence the new entry

and retirement of generation resources. This broader view of planning will produce a more robust transmission system to the benefit of ratepayers.

6. What factors should DOE look at when evaluating congestion and identifying congestion areas in this region? How might each factor affect future congestion in this region?

The cost to upgrade the New York grid is significantly higher than in the Midwest. Factors such as higher land values, rocky terrain, and fewer open rights-of-way, add significantly to the costs of constructing new transmission. Any quantification of congestion needs to be balanced with the cost to resolve the congestion.

Transmission is not the only solution to congestion. The market has been efficient in encouraging new generation to locate in congested areas such as within New York City. If the generation is sited near load, new transmission is not necessary.

7. Is there current or conditional congestion in your area or region today? What evidence – quantitative or qualitative – supports your conclusions regarding current or condition congestion in your area or region today? (Please provide such evidence or direct us to appropriate source materials.) To the extent that you believe your region has condition congestion of national significance, what are the factors or conditions upon which that conclusion rests and how likely are these conditions likely to materialize?

Yes, there is congestion within the New York system; any system entirely free of congestion is likely overbuilt to the detriment of ratepayers. The existing congestion does not jeopardize reliability. The NYISO's CARIS studies and log of historical congestion levels quantify congestion throughout the bulk system in New York. To date, the market response to the congestion has been to locate generation downstream of any constraint such that the remaining congestion is economic.[7] Congestion across the Central-East Interface and down

[7] *See* NYISO, Power Trends 2011, at 12 (noting that locational price signals in the NYISO energy and capacity markets have encouraged investments near load centers in areas where demand is highest, thereby alleviating the need to develop major, new transmission).

through the Hudson Valley area is monitored closely by the NYPSC to identify when an upgrade would provide benefits to ratepayers.

Conditional congestion has not been identified in large amounts. If the existing coal plants were forced into retirement by EPA regulations, there might be some localized system upgrades required but given the plants are all upstream of bulk system congestion, conditional congestion has not been identified.

8. If current or conditional congestion exists in your area, what are its consequences in terms of reliability, resource options, wholesale competition and market power, cost of electricity to consumers, environmental quality, or other? Are these consequences so significant that this congestion should be mitigated?

See response above.

9. Assuming that it would not be economic or practical to mitigate all congestion, what is the range of options to mitigating severe congestion?

The New York markets have responded to severe congestion by building new generation downstream of the congestion point. Between market signals and recent drops in expected loads, New York is experiencing some of the lowest-cost generation capacity since markets were established. Where major congestion remains, the NYISO CARIS process is the appropriate path for developers to pursue regulatory supported solutions (transmission, generation or demand resource). Cost recovery is provided through a FERC tariff for transmission upgrades and through complementary NYPSC processes for generation and demand solutions.

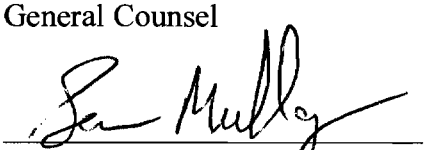
As discussed in the answer to question 5, Governor Coumo's energy "super highway" initiative will take a longer-term, multi-purpose view of bulk electric system transmission requirements.

10. Are there particular data sources, analysis and organizations DOE should look at for expertise and source material in preparing 2012 congestion study? In particular, how should DOE best use the expertise and insight offered by the EISPC and EIPC?

Studies performed by the NYISO and commissioned by New York City are the main sources of information about congestion on the New York system. The list of reports completed by these entities is contained in the **Attachment A**.

The EIPC studies have limited application, however. The first-ever EIPC analysis provides only a high level quantification of the direction for planning, and indicators as to the magnitude of problems the system may face in twenty years if certain policies are pursued at a federal level. Such an analysis cannot do more than indicate whether a current proposal for a project likely will or will not be useful in the long-term. For the 2013 Congestion Study, the best references are the planning processes conducted by local and regional planning authorities.

Respectfully submitted,
Peter McGowan
General Counsel



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Dated: January 31, 2012
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ATTACHMENT A

New York Electric Studies as Reference for 2012 DOE Congestion Study

NYISO, 2010 Reliability Needs Assessment, Final Report (September 2010)
http://www.nyiso.com/public/webdocs/services/planning/reliability_assessments/2010_Reliability_Needs_Assessment_Final_Report_September_2010.pdf

NYISO, 2009 Congestion Assessment and Resource Integration Study (CARIS), Phase 1, (January 12, 2010)
http://www.nyiso.com/public/webdocs/services/planning/Caris_Report_Final/CARIS_Final_Report_1-19-10.pdf

NYISO, 2010 Comprehensive Reliability Plan, Final Report (January 11, 2011)
http://www.nyiso.com/public/webdocs/services/planning/reliability_assessments/CRP_2010_FINAL_REPORT_January_11__2011.pdf

ABB, Inc., New York State Transmission Assessment and Reliability Study (STARS), Phase 1 Study Report – "As Is" Transmission System, (January 13, 2010)
http://www.nyiso.com/public/webdocs/services/planning/stars/Phase_1_Final_Report_1_13_2010.pdf

NYISO, Growing Wind, Final Report of the NYISO 2010 Wind Generation Study, (September 2010)
http://www.nyiso.com/public/webdocs/newsroom/press_releases/2010/GROWING_WIND_-_Final_Report_of_the_NYISO_2010_Wind_Generation_Study.pdf

CRA International, A Master Electrical Transmission Plan for New York City, Final Report, CRA Project No. D13536, Prepared for NYC Economic Development Corporation, (May 28, 2009)
http://www.nycedc.com/resource/master-electric-transmission-plan-new-york-city

NYISO, Locational Minimum Installed Capacity Requirements Study, Covering the New York Control Area For the 2011 – 2012 Capability Year, (January 14, 2011)
http://www.nyiso.com/public/webdocs/services/planning/resource_adequacy/LCR_OC_report_final.pdf

NYSIO, Operating Study Summer 2011, (July 14, 2011)
http://www.nyiso.com/public/webdocs/documents/studies_reports/operating_studies/Sum2011_OpStud_OC_7-14-2011.pdf

GE Energy Applications and Systems Engineering, Report on Assessment of Proposed NOx RACT Regulations on Emissions, Costs of Electricity and Electric System Reliability, Submitted to NYISO, (February 12, 2010)
http://www.nyiso.com/public/webdocs/services/planning/special_studies/GE__NOx_RACT_Study_Report-Public-FINAL.pdf

NYISO 2010 Interim Review of Resource Adequacy Covering the New York Balancing Authority For the Period 2011 to 2014, Approved by the NPCC Reliability Coordinating Committee, (November 30, 2010)
https://www.npcc.org/Library/Resource%20Adequacy/NYISO_Interim_Review_Resource_Adequacy_NPCC_RCC_11_30_10_approved.pdf

ISO New England, New York ISO and PJM, 2009 Northeast Coordinated System Plan
http://www.nyiso.com/public/webdocs/services/planning/ipsac/ncsp09_final.pdf

ISO New England, New York ISO and PJM, 2011 Joint Report on the Impact of Environmental and Renewable Technology Issues in the Northeast, Final (June 24, 2011)
http://www.nyiso.com/public/webdocs/services/planning/ipsac/2011_Northeast_env_renewable_report.pdf

NPCC Inc., Review of Interconnection Assistance Reliability Benefits, (June 1, 2011)
https://www.npcc.org/Library/Interconnections%20Assistance%20Reliability%20Benefits/RCC_Approved_CP-8_Tie_Benefit_Report_June_1_2011.pdf

NPCC Inc., Northeast Power Coordinating Council Reliability Assessment for Winter 2011-2012, Conducted by the NPCC CO-12 & CP-8 Working Groups, Final Report, (Approved by the Reliability Coordinating Committee November 29, 2011)
https://www.npcc.org/Library/Seasonal%20Assessment/NPCC_Reliability_Assessment_2011-12W_Final_Approved%20Report.pdf

New York State Reliability Council, LLC, Installed Capacity Subcommittee, New York Control Area Installed Capacity Requirements For the Period May 2011 Through April 2012, Technical Study, (December 10, 2010)
http://www.nysrc.org/pdf/Reports/2011%20IRM%20Final%20Report%2012-10-10[1].pdf

NYISO, 2008 Intermediate Area Transmission Review of NYS Bulk Power Transmission System (Study Year 2013), (March 12, 2009)
http://www.nyiso.com/public/webdocs/services/planning/reliability_assessments/2008_ATR_Final_ver3_TFSSMar12.pdf

Charles River Associates, Indian Point Energy Center Retirement Analysis, CRA Project No. D16322, Prepared for the New York City Department of Environmental Protection (August 2, 2011)
http://www.nyc.gov/html/dep/pdf/energy/final_report_d16322_2011-08-02.pdf

NYISO, 2011 Load & Capacity Data, A Report by the New York Independent System Operator, "Gold Book", Version 1 (Originally Released April 2011).
http://www.nyiso.com/public/webdocs/services/planning/planning_data_reference_documents/2011_GoldBook_Public_Final.pdf

ATTACHMENT B

Certified Article VII Projects

Bayonne Energy Center Project: 345kV (Proposed 2008, Certified 2009)

The Bayonne Energy Center Project involves construction of an interconnection transmission line consisting of a 345kV AC submarine electric cable system to connect the new 512 MW electric generating facility located in Bayonne NJ to the NYISO electric grid at the Con Edison Gowanus substation in Brooklyn NY.

From: Bayonne Generating facility, Bayonne NJ
To: ConEd Gowanus Substation, Brooklyn NY
Voltage: 345kV
Capacity: 512MW

Hudson Transmission Project: 345kV (Proposed 2008, Certified 2011, Construction in Progress)

Hudson Transmission Partners plan to build a new high voltage direct current (HVDC/AC) electric transmission facility linking the regional PJM Interconnection with the New York Independent System Operator (NYISO). The Project involves the construction of a new back-to-back (High Voltage conversion equipment located in the same converter station location) Alternating Current (AC)-DC-AC Converter Station to be located in Ridgefield, New Jersey and installation of a new 230 kilovolt (kV) AC link to the nearby PSE&G Bergen Substation, also in Ridgefield. From the Converter Station a new 345 kV AC electric transmission cable system will be routed in an overland underground configuration from Ridgefield to Edgewater, NJ where it will then cross the Lower Hudson River estuary in a buried submarine cable configuration to make landfall at Piers 92 – 94 at the Mid-town Manhattan waterfront where it will then interconnect via upland underground cable to the existing Con Edison West 49th Street Substation. This new electric transmission line will have a capacity to transmit 660 MW of PJM-generated electrical power on a firm basis into Zone J.

From: New substation located in Ridgefield, NJ
To: ConEd West 49th St Substation
Voltage: 345kV
Capacity: 660MW

M-29 Line: 345kV (Proposed 2007, Certified 2007, Construction Completed February 2011)

The M-29 Line is a ConEdison owned project of a 345 kilovolt, high-pressure, fluid-filled, pipe type underground transmission line. The line is located primarily in roadways in Yonkers, Riverdale, the Bronx and upper Manhattan. It was placed in the curb-to-curb portion of public road right-of-ways connecting the existing Sprain Brook substation in Yonkers to the new Academy Street substation being constructed in the Inwood section of upper Manhattan. The total length of the underground transmission facility is about 9.5 miles. The project was completed and put into service in February 2011.

From: Sprain Brook Substation, Yonkers NY
To: Academy Street Substation, Manhattan NY
Voltage: 345kV
Capacity: 520MW

Filed Article VII Projects

Champlain Hudson Power Express 300kV (Proposed 2010)

Champlain Hudson Power Express Inc. (CHPEI) proposes to construct, operate, and maintain a 1,000 megawatt (MW) underwater/underground high-voltage direct current (HVDC) transmission system to be known as the Champlain Hudson Power Express Project (the Project). The Project will consist of a 1,000 MW circuit that will interconnect with the transmission system of Hydro Quebec. The circuit would extend approximately 319 miles from Hydro Quebec to Yonkers, New York, where it would connect with a converter station to be owned by CHPEI. CHPEI would also construct a 345 kV AC cable system running approximately 6.6 miles to a 345/138 kV substation that would connect this circuit to Con Edison's Sherman Creek substation in Manhattan.

From: Hydro Quebec Generation facility, Canada
To: ConEd Sherman Creek Substation, Manhattan NY
Voltage: 300kV
Capacity: 1000MW