NEXTera™ ENERGY
TRANSMISSION NEW YORK

May 3, 2018

**Dawei Fan**
NYISO Public Policy Planning
New York Independent System Operator, Inc.
10 Krey Boulevard
Rensselaer, NY 12144

**Re: NEETNY Comments to NYISO AC Transmission SECO Draft Report**

Dear Mr. Fan:

Attached please find NextEra Energy Transmission New York, Inc. ("NEETNY") comments to NYISO AC Transmission Public Policy Transmission Planning Report.

Respectfully,

**Brian M. Duncan**
Executive Director, Development

**NEETNY Comments on AC Public Policy Transmission Need Selection Report**

NextEra Energy Transmission New York, Inc. ("NEETNY") submits these comments in response to the New York Independent System Operator ("NYISO") request for comments on the Preliminary Evaluation of potential solutions to the AC Transmission Public Policy Transmission Need ("PPTN") and the associated Technical Review Report issued by Substation Engineering Company on March 29, 2018 ("SECO Report").

NEETNY has significant concerns with certain aspects of both the NYISO Preliminary Evaluation and the SECO Report. As set forth more fully below, NEETNY recommends that NYISO: (1) remain focused on the specific public policy objectives applicable to this PPTN; (2) select the transmission solutions that achieve those objectives at the lowest net cost to customers; (3) eliminate solutions that fail to meet established sufficiency criteria; (4) eliminate solutions with potentially fatal permitting flaws; (5) defer selection of the overly-expensive 765 kV and double-circuit options; (6) give little weight to issues that will be addressed during siting and permitting that do not raise questions of viability; (7) modify or eliminate the flawed synergy estimates; (8) revise SECO's cost estimates for concrete monopoles; and (9) use cost containment proposals to differentiate similar projects.

NEETNY appreciates the opportunity to submit comments and work with the NYISO and other stakeholders to ensure the selection of those projects that most efficiently and cost-effectively address the PPTN, consistent with the Tariff's requirements for project evaluation.

## 1. The public policy objectives for the AC Transmission PPTN are not based upon the New York Clean Energy Standard.

### *a. The public policy objectives for the AC Transmission PPTN were focused on alleviating existing constraints and facilitating renewable energy targets in place at the time.*

On December 17, 2015, the New York State Public Service Commission ("Commission" or "PSC") issued an "Order Finding Transmission Needs Driven by Public Policy Requirements",[1] which established the public policy criteria to evaluate AC Transmission solutions. Among other things, the Commission required a 350 MW increase in the normal transfer capability ("NTC") across the Central East interface and at least a 900 MW NTC increase across the UPNY/SENY interface -- without significant environmental impacts.[2]

In the 2015 AC Transmission Order, the Commission held that it was the public policy of the State of New York and the Commission "to avoid refurbishment costs of aging transmission; to take

[1] Case 12-T-0502, et. al., Proceeding on Motion of the Commission to Examine Alternating Current Transmission Upgrades, ("AC Transmission Proceeding", "Order Finding Transmission Needs Driven by Public Policy Requirements" (issued December 17, 2017") ("2015 AC Transmission Order").

[2] See 2015 AC Transmission Order, Appendix B.

better advantage of existing fuel diversity; to increase diversity in supply, including additional renewable resources; to promote job growth and the development of new efficient generation resources Upstate; to reduce environmental and health impacts through reductions in less efficient electric generation; to reduce costs of meeting renewable energy standards; to increase tax receipts from increased infrastructure investment; to enhance planning and operational flexibility; to obtain synergies with other future transmission projects", among others.[3] Importantly, the Commission's determination was not based upon the Clean Energy Standard ("CES") as the CES was not issued by the Commission until August 1, 2016.[4]

Since the CES was not state policy at the time of the AC Transmission solicitation, NYISO should put little emphasis on how AC Transmission proposals perform under CES assumptions. At the time the 2015 AC Transmission Order was issued, the 2015 Congestion Assessment and Resource Integration Study ("CARIS") assumptions included approximately 3,282 MW of installed wind and utility scale solar generation, not including existing hydro resources.[5] In contrast, the 2017 CARIS study assumptions, that contemplated the CES, included a System Resource Shift Scenario which assumed 15,402 MW of installed wind and utility scale solar.[6] The public policy objectives in the 2015 AC Transmission Order did not seek proposals to enable the CES, which is expected to require nearly 5 times more renewable generation than the expectation that formed the basis for the AC Transmission PPTN. Had the order done so, the proposals would have been optimized to meet this objective in the most efficient or cost effective manner.

*b. <u>The Commission recently held that a CES PPTN is premature.</u>*

Including the CES assumptions as an evaluation criteria is even more inappropriate considering that, on March 16, 2018, the Commission rejected proposals to establish a CES PPTN because "the extent and magnitude of additional transmission needs <u>requires further consideration and a more holistic approach</u>."[7] The Commission noted that NYISO will provide the results of its next solicitation for

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3 2015 AC Transmission Order at 66-67.

4 Case 15-E-0302, *Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard*, Order Adopting a Clean Energy Standard (issued August 1, 2016) ("2016 CES Order"). The CES requires that 50 percent of New York's electricity come from renewable energy sources such as solar and wind by 2030, with a progressive phase-in schedule starting in 2017.

5 2015 NYISO CARIS Appendices, Table C-5.

6 2017 NYISO CARIS Draft Report v3, Figure 13.

7 Case 16-E-0558 - In the Matter of New York Independent System Operator, Inc.'s Proposed Public Policy Transmission Needs for Consideration for 2016, "Order Addressing Public Policy Requirements for Transmission Planning Purposes" (issued March 16, 2018) ("CES PPTF Order at 25") (emphasis added). NYISO's offshore wind assumption in its CES case further illustrates the need to undertake a holistic approach. The CES case assumes 240 MW of offshore wind, however, Andrew Cuomo in his State of the State speech on January 10th, 2017, committed to 2,400 MW of offshore wind, which is not reflected in NYISO's evaluation. Intuitively, shifting projected renewable resources from Upstate to downstate should reduce the estimated production cost benefits for all projects, with a bigger impact on the larger and more costly solutions.

stakeholder input on proposed Public Policy Requirements in October 2018. As the Commission stated, "this will afford an opportunity for the Commission to consider the latest information on transmission congestion in certain regions, such as the northern and southwestern parts of the State, where additional transmission facilities may support the deployment of renewable resources needed to further the Commission's CES objectives of ensuring that 50% of all electricity consumed in NY by 2030 will be generated by renewable resources."[8] The Commission directed Department of Public Service Staff to work with the NYISO and New York Transmission Owners to develop a comprehensive review of a potential CES PPTN. NYISO has not had the opportunity to evaluate proposed transmission solutions designed to facilitate the CES and cannot make an informed choice regarding the most efficient or cost-effective way to meet the CES based upon the projects it is currently evaluating.[9]

Accordingly, given the Commission's recent order that "further consideration and a more holistic approach" is needed before determining whether a CES PPTN should be identified, together with the direction to perform a separate comprehensive review of a potential CES PPTN, the NYISO should refrain from giving undue weight to CES assumptions in the AC Transmission analysis.[10]

**2. <u>The more efficient or cost-effective solution is the one that achieves the public policy objectives at the lowest net cost to customers.</u>**

According to the U.S. Energy Information Administration, New Yorkers spend $21 billion annually on electricity, the fourth highest total of any state. Moreover, the average retail rate as of January 2018 was 14.7 cents/kWh, the ninth highest of any state and 40% above the national average rate of 10.5 cents/kWh.[11] To avoid unnecessary increases in the cost of living and doing business in New York, it is important that public policy objectives be achieved as cost-effectively as possible, consistent with the Tariff criteria of selecting the more efficient or cost-effective solution.

However, all options under consideration are expected to impose net costs on customers. Specifically, under the base case assumptions, the benefit-to-cost ("B/C") ratio of all solutions is less than 1.0. Put another way, for every project, SECO's cost estimate is greater than the present value of the production cost savings.[12] The B/C ratios further decrease with the rightful inclusion of the costs

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8 CES PPTF Order at p. 24.

9 As discussed further in these comments, for this and other reasons, NYISO should defer any evaluation of large-scale proposals like T025 and T027, which go well beyond the AC Transmission public policy objectives, until it can evaluate those proposals against other proposals specifically designed to meet the CES.

10 "Updates to Preliminary AC Transmission Needs Results", dated April 19, 2018, Slide 35, confirms that it is prudent for NYISO to defer consideration of large-scale transmission solutions until the CES PPTN because significant increases in production cost savings in the CES scenario are not expected until the 2028-2030 timeframe.

11 See U.S. Energy Information Administration. (March 2018). Electric Power Monthly. Retrieved from: https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_5_6_a

12 As of April 23, 2018, the date of these comments, NYISO had not yet published ICAP results.

associated with the upgrades to the Rock Tavern Substation and the new Shoemaker to Sugarloaf line, both of which are required to be included in Segment B proposals and are necessary to enable the AC Transmission project that is selected.[13]

Given these economic challenges, and the magnitude of investment under consideration in this process, NYISO should be acutely focused on the rigorous evaluation of cost-effectiveness.

*a. <u>When evaluating cost-effectiveness, NYISO should focus primarily on the net cost to customers.</u>*

When evaluating efficiency and cost-effectiveness, the NYISO is required to look at a number of prescribed metrics.[14] In the current selection process, NEETNY suggests that the NYISO should exercise care when using metrics such as the B/C and $/MW ratios, which can be misleading when used to rank projects of very different sizes.

The following hypothetical of two projects, each of which satisfies the same public policy objective, illustrates this point:

- Project A has a cost of $2 million and a $1 million present value of benefits, resulting in:
  - a B/C ratio of 0.5, and
  - a net cost to customers of $1 million
- Project B has a cost of $1 trillion and an $800 billion present value of benefits, resulting in:
  - a B/C ratio of 0.8, and
  - a net cost to customers of $200 billion

In this example, a selection made solely on the basis of B/C ratio would impose costs equal to 10 times New York's annual statewide cost of electricity. While this may be an extreme example, it illustrates the point that ratios such as B/C should be considered in context, and are no substitute for understanding how a project impacts customer bills. The better metric uses the same inputs – benefits and costs – but looks at the difference instead of the ratio, *i.e.*, the net cost. In the example above, a focus on net cost to customers would show that the project with the lower B/C ratio was actually much more cost-effective, costing New Yorkers a mere $1 million.

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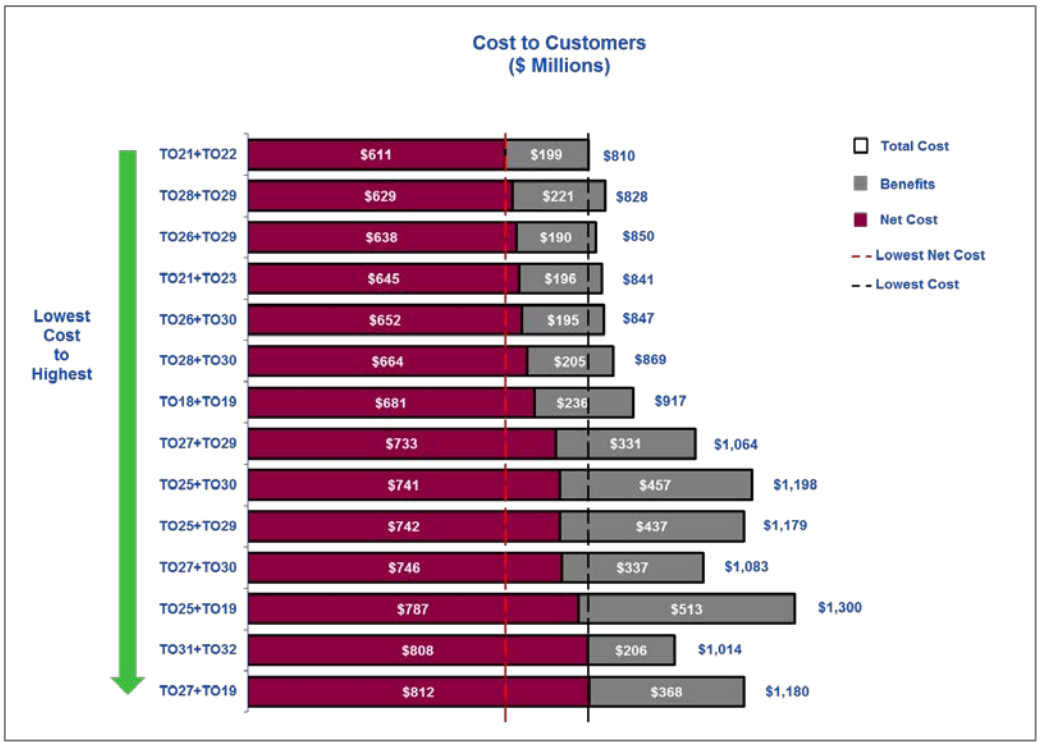
[13] NEETNY observes that the B/C ratios would be worse if the analysis is consistent with the CARIS methodology, factoring in only 10 years of benefits and a proxy revenue requirement for the project over those 10 years, or, alternatively, using the same proxy revenue requirement over the 20-year period of this analysis.

[14] Prescribed metrics to evaluate the most efficient or cost-effective solution include: capital cost estimates for proposed solutions and accuracy of those estimates, cost per MW ratio, expandability, operability, performance, extent to which developer has property rights, schedule and potential for delay, and additional criteria prescribed by the Commission and staff. NYISO Tariff – OATT Attachment Y 31.4.8.1. The 2015 AC Transmission Order included additional criteria such as minimizing new right-of-way, no Hudson River crossing, and minimum transfer limit increases, among others. The order also stated that the process should "favor transmission solutions that result in upgrades to aging infrastructure," but, importantly, did not say maximizing upgrades to aging infrastructure was a criterion. 2015 AC Transmission Order, App. B.

NEETNY submits that the single best measure of efficiency or cost-effectiveness is the net present value ("NPV"), or in this case net cost, of production cost savings less the capital costs of the project. Importantly, this is the only metric that reflects net customer bill impacts. B/C and $/MW ratios can lead to misleading results because, as is the case in this process, the project combinations that benefit customers with the highest NPV, or in this case the lowest net cost, may not be the project combinations with the highest B/C and $/MW ratios.[15]

Figure 1 below depicts NYISO's 14 project groupings, ranked in order of net cost. The chart shows that the lowest-cost combination could save New Yorkers up to approximately $500 million in capital costs and $200 million in net costs after factoring in the value of production costs. The combination with the lowest net cost to customers (TO21 + TO22) has a net cost of $611 million, while the combination with the highest net cost to customers (TO27 + TO19) has a net cost of $812 million.

**Figure 1**




[15] This approach is consistent with the NYISO Tariff, which states: "The ISO, in consultation with stakeholders, shall, as appropriate, consider other metrics in the context of the Public Policy Requirement, such as: change in production costs; LBMP; losses; emissions; ICAP; TCC; congestion; impact on transfer limits; and deliverability." NYISO Tariff – OATT Attachment Y 31.4.8.1.9. Thus, the Tariff requires that costs be considered and allows for benefits such as cost savings to be considered, but does not prescribe that cost-effectiveness can only be evaluated using the B/C ratio.

*b. Project costs should include all quantifiable expected costs such as required upgrades.*

Per the Commission's direction in the 2015 AC Transmission Order, NYISO excluded the cost of the required Segment B upgrades to Rock Tavern and the new Shoemaker to Sugarloaf line from its comparative analysis. SECO estimated the cost of those upgrades to be $113 million,[16] which is a significant increase to all Segment B projects. Both of those upgrades are required by the 2015 AC Transmission Order, and are necessary to enable the benefits of the Segment B projects. Although these costs are not included when comparing individual project costs to one another, inclusion of these costs in the overall analysis results in considerably lower B/C ratios for all scenarios and further emphasizes the need for NYISO to focus on net customer bill impacts.

**3. Projects that do not meet the sufficiency criteria should be eliminated.**

NYISO has impermissibly evaluated projects that should be disqualified for failing to meet Tariff requirements. NYISO's Tariff requires rejection of a proposed solution that fails to satisfy the evaluation criteria at any time during the planning cycle:

> The ISO will evaluate each proposed solution…to confirm that the proposed solution satisfies the Public Policy Transmission Need. The ISO will evaluate each solution independently to measure the degree to which the proposed solution satisfies the Public Policy Transmission Need, including the evaluation criteria provided by the NYPSC/NYDPS. If the ISO determines that the proposed solution is not sufficient, the ISO shall reject the proposed solution from further consideration during the planning cycle.[17]

The Tariff neither directs nor permits NYISO to evaluate projects for compliance with the evaluation criteria only at the outset of the process and then ignore the criteria later in the process.

In this case, projects that fail to meet the minimum transfer increase requirement should be eliminated from consideration. The 2015 AC Transmission Order established the evaluation criteria for the AC Transmission solution stating, that "[n]o transmission solution shall be selected for Segment A that provides less than a 350 MW increase in normal transfer capability (NTC) across the Central East interface."[18] Consistent with this, NYISO's solicitation includes Sufficiency Criteria requiring that "[p]roposed solutions to Segment A (Central East) must provide at least a 350 MW increase to the Central East interface transfer capability…" The results in the SECO Report demonstrate that project combinations TO26 + TO29, TO26 + TO30 and TO28 + TO30 fail to satisfy this requirement. Accordingly, these project combinations must be eliminated from further consideration.

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[16] SECO Report at p. 28.

[17] NYISO Tariff – OATT Attachment Y 31.4.6.4 (emphasis added).

[18] 2015 AC Transmission Order, App. B, para. 7 (emphasis added).

*a. <u>All project combinations involving TO26 should be excluded from the evaluation because they fail the mandatory Central East transfer limit increase.</u>*

All project combinations involving TO26 should be excluded from evaluation. Transfer limit increases were not assessed for combinations TO26 + TO19, TO26 + TO22, TO26 + TO23 and TO26 + TO32, because those combinations are "electrically similar" to TO26 + TO29 and TO26 + TO30.[19] In the absence of studying and reporting all project combinations involving TO26 for the mandatory transfer limit criteria, NYISO should exclude all "electrically similar" combinations involving TO26, because the only two combinations involving TO26 that were evaluated both fail the 350 MW transfer increase.

NEETNY requests that NYISO explain how project combinations that were not studied because they include a Segment A that is "electrically similar" to TO26 should be treated with respect to the minimum transfer limit requirement. For example, it is not clear how project combination TO18 + TO30 should be evaluated. That combination was not studied, but it is "electrically similar" to TO26 + TO30, which fails the minimum transfer requirement, and it is also "electrically similar" to TO31 + TO32, which passes the minimum transfer requirement.[20]

*b. <u>All project combinations involving TO28 should either be excluded from the evaluation because they fail the mandatory transfer limit increase or NYISO should evaluate all TO28 combinations for compliance with the mandatory transfer increase.</u>*

Whether project combinations involving TO28 should be excluded raises fundamental questions with NYISO's decision to limit its analysis to only 14 possible project combinations. Project combination TO28 + TO30 fails the 350 MW minimum transfer limit increase, while project combination TO28 + TO29 passes the mandatory requirement. However, NYISO considers TO28 + TO29 and TO28 + TO30 to be "electrically similar" and, therefore, proxies for one another.

NYISO should either evaluate all project combinations involving TO28 for compliance with the transfer limit sufficiency criteria, eliminating from consideration those that fail the 350 MW minimum transfer increase, or exclude all combinations involving TO28. Selecting a combination involving TO28 on grounds that the combination was "electrically similar" to TO28 + TO29, is not supportable when TO28 + TO30 fails the threshold evaluation criteria.

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[19] It is not clear why T026 + T019 was not evaluated because T019 is not considered "electrically similar" to the other Segment B projects.

[20] NYISO indicated that, for purposes of evaluating the Central East Voltage Transfer, combinations T018 + T030 and T031 + T032 should not be treated as "electrically similar" to T026 + T030. "Updates to Preliminary AC Transmission Needs Results", dated April 19, 2018, Slide 8. This, however, contradicts NYISO's "electrically similar" groupings and overall approach to using "electrically similar" as explained on Slide 7 of the same presentation and Slide 41 of "AC Transmission: Preliminary Results," dated March 30, 2018.

**4. Proposals to expand the Rotterdam substation directly over gas pipelines should be rejected.**

The NYISO should not select a project with obvious fatal flaws, nor should it allow SECO to fix such proposals, as this puts SECO in the role of revising and rehabilitating flawed bids, which is not authorized by the Tariff. Projects TO25, TO26, TO27, TO28 and TO31 propose expanding the substation at Rotterdam in a way that would require building the substation on top of natural gas pipelines. According to SECO, doing so will likely require relocating the substation or the gas pipelines. Based upon the SECO Report, it does not appear that the feasibility of relocating the gas lines or the substation was considered by SECO or included in the proposals by the project sponsors. Instead, it appears that SECO simply fixes this serious flaw by adding a cost for possible mitigation suggested by SECO. But, SECO's fix would require additional new easements for the gas pipelines or relocating the substation, both of which would require new non-utility right-of-way and are a direct violation of the Commission's direction that the acquisition of new right-of-way should only be *de minimis* in size. Gas pipeline permitting, as well as having to reach an agreement with the pipeline owner and possibly other landowners or stakeholders, adds another substantial level of uncertainty and schedule risk.

NYISO's tariff permits it to "engage an independent consultant to review the reasonableness and comprehensiveness of the information submitted by the Developer and may rely on the independent consultant's analysis in evaluating each metric."[21] Thus, SECO's role is limited to evaluating the proposals, and not attempting to rescue or salvage projects from fatal flaws. SECO cannot change a project in order to remedy a fatal flaw by simply adding a cost (especially while not addressing whether the proposed fix is even feasible). In stark contrast, TO18 also proposes to rebuild the Rotterdam substation. But, the developers made a careful design choice to use a Gas Insulated Substation ("GIS"), which has a smaller footprint and avoids the gas pipelines.[22] Permitting SECO to fix the flawed design choice for projects TO25, TO27, TO27, TO28 and TO31 is inconsistent with the Commission's evaluation criteria and NYISO's tariff, and is fundamentally unfair to the other proposals that, due entirely to the diligence of their sponsors, do not contain this flaw. Projects TO25, TO26, TO27, TO28 and TO31 should be rejected because they cannot be built as proposed.

Moreover, even if the changes suggested by SECO were permissible for evaluation, they still carry substantial feasibility, cost, and schedule risks. Ultimately, projects proposing to expand the Rotterdam substation may not be able to obtain permits. The 2015 AC Transmission Order establishes "*de minimis* exceptions" to the prohibition against acquiring new right-of-way. The Commission held that such exceptions are limited to situations where "[t]he impacts of such are generally minor, often temporary in nature and can be managed or minimized through the Commission's Environmental

[21] NYISO Tariff – OATT Attachment Y 31.4.8.

[22] NYISO and SECO also cannot fix the flawed design in T025, T026, T027, T028 and T031 by changing the design of those projects to copy the choice of GIS in T018. Remedying a fatal design flaw by assuming a material change proposed by a competitor would be fundamentally inconsistent with the competitive process established by FERC Order 1000.

Management and Construction (EM&CP) process."[23] Moving a proposed substation, existing substation or existing gas pipelines are not minor or temporary actions and cannot be minimized through the EM&CP process. They are major components of a project proposal that must be solved before the Article VII process is initiated. SECO only accounts for this failure to satisfy the Commission's evaluation criteria by including an unsubstantiated cost assumption for relocating the gas pipelines.

Moreover, SECO gives no indication that its assumption that the pipelines can be relocated is reasonable, especially given the likely opposition SECO notes in its description of the risk. SECO does not provide any detail on its estimate to relocate the gas pipelines including whether it considered legal, environmental, permitting or siting costs, costs of obtaining new right-of-way, the feasibility of being able to obtain new right-of-way, or schedule risk. Given right-of-way and local opposition concerns, it is not reasonable for SECO to assume that the gas pipelines or the substation can just be relocated without creating significant and potentially insurmountable risks.

### 5. The 765 kV and double-circuit options are not ripe for selection in this process.

NYISO should not use the AC PPTN to justify excessive grid investments based upon yet-to-be-defined future policy needs. Given the already high cost of electricity in New York, projects that increase the Central East and UPNY/SENY transfer limits significantly in excess of the public policy objectives should be deferred for future consideration until such time as need is fully and properly established. It is premature and imprudent to consider projects of the cost and scale of the 765 kV project (TO25) or the 345 kV double-circuit project (TO27), both of which: (i) significantly exceed the minimum transfer limit increase in the 2015 AC Transmission Order, (ii) can be implemented in the future, and (iii) are more costly than other viable and sufficient solutions on a gross and net cost basis.

#### *a. Consideration of TO25 and TO27, which are designed to address assumed future public policy goals, should be deferred.*

One of the clear lessons from the Western New York and AC processes is the value of the innovative solutions that competing proponents can bring to the table in response to the NYISO's clearly-articulated needs. However, in this instance, NYISO has not had the opportunity to evaluate multiple options that could satisfy larger transfer requirements or system needs far in excess of the public policy objectives identified in the 2015 AC Transmission Order. As such, it is possible that TO25 and TO27 may be inferior to other upgrade alternatives of similar scope and cost. Larger-scale upgrades like those in TO25 and TO27 should not be pursued until the CES PPTN will allow NYISO to solicit, and properly evaluate, larger-scale projects designed for CES-driven public policy objectives. It is also worth noting that the current assumptions in the CES sensitivity case could be significantly different than the CES assumptions that will be developed when NYISO and the Commission evaluate and define the CES PPTN. In short, selecting either project now would be an expensive exercise in jumping the gun.

[23] 2015 AC Transmission Order, p. 41, n. 17 (emphasis added).

*b. Deferring a decision on these proposals is a "no regrets" path that is cost-effective and flexible.*

TO25 fundamentally is an upgrade that can be undertaken in the future. In no way does implementation of any other Segment A project preclude a future 765 kV upgrade. Therefore, deferral is a flexible strategy. For example, at a later date, in the CES PPTN, the 765 kV upgrade could be compared with similar large-scale projects and, should it be deemed the best solution, still be in service in time to facilitate additional renewable generation required to comply with the 2030 CES requirement.[24]

The benefits of deferral would be significant. Incremental production cost savings from TO25 over the period 2023-2030 would average just 2.0% of the project capital cost per year. These savings would be more than offset by incremental costs attributable to the revenue requirement, which NYISO typically estimates at 15% of capital investment per year. In addition, further substantial savings from deferral could be achieved in the form of more efficient or cost-effective solutions identified through the CES PPTN, potentially backstopped by cost containment.[25]

Similarly, implementation of other Segment A proposals does not preclude adding a second 345 kV circuit in the future. SECO notes that the "new Edic-New Scotland line for Segment A [for single-circuit projects] could be designed for double-circuit capability similar to the NAT/NYPA TO27 double circuit line proposal."[26] This would be a low-cost modification that would, as SECO notes, add full upgrade flexibility. Importantly, this is not a decision that the NYISO needs to, or should, make today. Rather, NYISO should select the project combination that satisfies the criteria established in the 2015 AC Transmission Order at the least net cost, and leave it to the Commission to determine whether to add in expansion flexibility during its siting process. Not only is this the right path forward in principle, it also has the practical advantage of giving the Commission more time to determine, with input from the NYISO, whether such flexibility would be in the public interest.

The benefits of deferring TO27 would also be significant. Incremental production cost savings from TO27 over the period 2023-2030 would average just 1.1% of the project capital cost per year, which would be more than offset by incremental costs attributable to the revenue requirement.

*c. There are significant questions as to whether the 765 kV project can be permitted and built.*

Project TO25 would almost certainly face significant permitting difficulties, many of which are described in the SECO Report. These challenges create serious risk of significant delays and cost increases in the best case, and could result in the project not being constructed in the worst case.

[24] The 765 kV upgrade could potentially be in service as early as 2025 after going through a competitive solicitation for the CES PPTN.

[25] This analysis compares T025 + T019 and T018 + T019 using annual production cost savings from NYISO's "Updates to Preliminary AC Transmission Need Results," dated April 19, 2018.

[26] SECO's Draft report at p. 81.

Moreover, TO25 violates the directive requiring projects only to require a *de minimis* amount of new right-of-way. SECO estimates that TO25 would need an additional 242 acres of right-of-way to comply with electromagnetic field ("EMF") requirements. This is a significant amount of new right-of-way, some of which is located near homes or businesses.

Historically, 765 kV transmission has faced significant opposition in New York, and Commission orders regarding proposed 765 kV projects have imposed strict requirements, particularly relating to EMF. The Commission issued two orders[27] authorizing the operation of the Massena – Marcy 765 kV line only if Power Authority of the State of New York (PASNY) "…acquired right-of-way sufficient to exclude existing residences in an area extending 175 feet on each side of the centerline of the certified route." It is not clear whether SECO's EMF mitigation estimates are based upon this requirement.

TO25 also has significant uncertainties around viability, timing, and cost. As SECO explained:

> New York State's only 765kV transmission line between Marcy and Massena was completed in 1975 amidst heavy public opposition. As such, it is highly likely that converting the 345kV line between Marcy substation and the proposed Knickerbocker substation will be controversial due to increased EMF, noise from corona and increased structure heights, and result in delays associated with obtaining regulatory approvals and EMF easements likely based on public opposition. This risk could be mitigated with a targeted and well-planned outreach effort. However, negative public opposition may result in delays associated with the project's schedule and affect the project's cost and the ability to obtain required EMF easements.[28]

There are serious questions as to whether it is possible to acquire enough right-of-way to comply with that EMF requirement. Even if such a large amount of right-of-way could be acquired, doing so violates the Commission's order that projects can only require a *de minimis* amount of new right-of-way.

Further, the 2015 AC Transmission Order states that "[n]o transmission solution shall be selected that includes a crossing of the Hudson River, either overhead, underwater, in riverbed, or underground, or in any other way, by any component of the transmission facility."[29] The line proposed to be upgraded to 765 kV crosses the Hudson River. TO25 may require rebuilding towers that span the Hudson River to support additional wire that may need to be added across the Hudson River to match the quadruple-bundled conductor proposed for TO25. The Commission's directive is clear and unambiguous, and TO25 violates the prohibition against crossing the Hudson River.

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[27] NYPSC Opinion and Order on Cases 26529, 26559, June 19, 1978 (imposing operating conditions and authorizing operation of the Massena - Marcy 765 kV Transmission line).

[28] SECO Report at p. 56 (emphasis added).

[29] 2015 AC Transmission Order, App. B, para. 3.

TO25 also carries risk relating to right-of-way around the Princetown substation. SECO explains that the proposed TO25 (and TO27, TO28 and TO31) design occupies all available land around the Princetown substation and may require additional property.[30] The proposed 765 kV conversion will also have to consider additional AC induction mitigation for a gas pipeline that shares the same corridor between Princetown Junction and New Scotland, which could be very costly. These challenges present additional risk to both schedule and cost, and the viability of the project, especially given the proximity of residences to the Princetown substation.

*d. <u>There are also potential issues with the 345 kV double circuit in TO27</u>*

NEETNY recommends that SECO review the EMF calculations to ensure that each proposal's EMF impact has been appropriately captured. The existing EMF violation is related to the existing Edic to New Scotland #14 345 kV line, which is currently designed in a horizontal configuration. Without rebuilding the #14 line into a vertical configuration, it does not appear to be possible to mitigate the existing electric field violation with just the construction of a new double circuit structure. However, SECO's calculation[31] suggests that the proposed design for TO27 is able to achieve this reduction of the existing EMF violation. Other errors from SECO's calculation bring into question the accuracy of the EMF calculations: 1) TO18 appears to have greater Electric Field violations than TO21, yet TO21 is listed as having slightly more additional right-of-way requirement; 2) TO27 lists double-circuit 345/115 kV structures, but SECO's detailed cost breakdown does not mention or include any double-circuit 345/115 kV structures; and 3) TO32 includes a rebuild of the #14 line, and thus should have mitigated the Electric Field exceedance, yet the acreage requirement shows that TO32 has not mitigated it. SECO should revisit their EMF calculation to confirm the accuracy.

## 6. <u>NYISO should not evaluate solutions based on state regulatory considerations except as directed by the PSC.</u>

NYISO should not give undue weight to risks that are more appropriately addressed by the Commission during the Article VII process. These types of considerations, such as visual impacts, do not raise questions of viability, which is dissimilar to a potential fatal flaw such as construction of a substation over gas pipelines, or the construction of the first 765 kV line in some 40 years that would need more than 240 acres of new right-of-way. Similarly, aging infrastructure upgrades are important, but are not a useful differentiator among projects because all solutions result in upgrades to existing infrastructure and it is not clear to what extent specific existing transmission lines need to be replaced.[32]

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30 SECO Report at p. 54.

31 Transmission Line ROW Estimated for EMF Mitigation by SECO, 4/18/2018.

32 The Commission's criteria do not include maximizing upgrades to aging infrastructure or specify that preference should be given to projects that upgrade more aging infrastructure. All projects upgrade aging infrastructure and, thus, all projects meet this criterion, which states that "[t]he selection process for

Potential visual impact is not an issue for the NYISO process, and is not a useful differentiator in any event. The Commission made clear that visual impacts should be left to its decision, stating that:

> [S]tructure heights are often dependent on specific decisions as to structure location and span length which are often influenced by the consideration of site-specific impacts to natural resources, agricultural practices, and visual impacts. As to structure height, the Commission will not mandate criteria to be applied by the NYISO, but all proposers of transmission solutions should be aware as they prepare their submissions that minimization of structure heights will be an important issue in the siting review process so applicants should be careful to not lock themselves into designs that could not later be approved.[33]

NYISO should take structure height and visual impacts into account, but structure height should not be given undue weight. Notably, SECO does not consider other factors that go into a visual impact evaluation such as existing infrastructure, number and type of new and existing structures, reduced visibility in some areas, consistency, or whether a structure is visible through a viewshed analysis.[34]

Further, unlike design changes that would require relocation of a proposed substation (or gas pipelines), there is flexibility in structure height without materially impacting project design or cost. NEETNY stated in its proposal that the "specific structure type and geometry will be finalized during detailed design. Final design will fully comply with the mandated height and other requirements."[35] NEETNY's design was based on available data about average structure heights, and the proposed design contains inherent flexibility such that pole heights can be adjusted during detailed design and siting.

In contrast to items that are appropriately addressed during permitting, several proposals would require a new Princetown substation to fit entirely within existing utility right-of-way. As noted in the SECO Report, this is a significant risk because it is questionable whether the designs will actually fit in the existing right-of-way.[36] The proposed location of the Princetown substations for most proposals is at a transmission junction of 345 kV and 230 kV lines, adjacent to homes. TO21, on the other hand, proposes a new Princetown substation located on new right-of-way where NEETNY has an option to acquire 20 acres of property. However, TO21's option for the Princetown substation will only work for TO21's design.[37] The existing utility right-of-way is approximately 200 feet and includes two gas

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transmission solutions shall favor transmission solutions that result in upgrades to aging infrastructure." 2015 AC Transmission Order, App. B, para. 10.

[33] 2015 AC Transmission Order at pp. 42-43.

[34] SECO's classification of a ten-foot increase in height as a "severe" impact is subjective and its visual assessment is of limited value in predicting the actual assessment that would be done during licensing.

[35] NEETNY AC Application, Attachment C.4.4.

[36] *E.g.*, SECO Report at p. 60 (describing this risk for T027, which is the same as the risk for T025, T028 and T031).

[37] SECO Report at p. 54 describes that T025 may need an alternative site "such as NextEra proposed location between the Junction and Rotterdam which has adequate space…." NEETNY reads SECO's comment only to

pipelines. TO21 will only require two 345 kV lines to be constructed in order to loop in the new Princetown substation and can easily fit within the existing right-of-way. For all other Princetown proposals, the design will require either four or six 345 kV circuits to be constructed within the right-of-way. As a result, the other proposals would require additional right-of-way in order to construct the transmission lines to tie into TO21's location for the Princetown substation. Additionally, the other proposals would be unable to minimize the ROW by utilizing double circuit structures, which would require a new electrical design, and require NYISO to study additional tower outages. As a result, NYISO should reject projects where the substation siting is uncertain or would require additional non-utility ROW to be acquired not currently under site-control by the developer.

While there is value in replacing aging infrastructure, NYISO should not overemphasize differences between projects because it is not clear which specific transmission lines need to be rebuilt or replaced. The New York State Transmission Assessment and Reliability Study ("STARS") provides a high level overview of potential transmission lines that need to be replaced.[38] However, the STARS report also reveals that not all identified transmission lines necessarily need replacement. For example, the two Leeds to Pleasant Valley 345 kV lines, each 40 miles in length, are identified as requiring replacement within 10 years, yet "a more detailed analysis of the two Leeds to Pleasant Valley 345 kV lines performed by National Grid indicated that the extent of mitigation only requires replacement of select towers."[39] Using the same methodology used in the SECO Report, projects replacing the Leeds to Pleasant Valley lines would be credited with 80 miles of aging infrastructure benefit, when, according to the owner of those facilities, only a few towers required replacement. While none of the proposed projects for Segment B propose to replace the Leeds to Pleasant Valley line, the example is illustrative of why NYISO should not overemphasize aging infrastructure benefits. Without a more detailed assessment of whether, and to what extent, existing specific transmission lines need replacement, it may be inaccurate to indicate that one project has more miles of aging infrastructure benefit compared to another. Therefore, aging infrastructure should not be a differentiator among the proposed projects.

**7. <u>The methodology for estimating synergies is flawed.</u>**

Valuing synergy savings using a generic 5% of project costs, when one developer builds both Segments, adds no value to the analysis. The 2015 AC Transmission Order did not require synergy savings to be included, but said such savings may be considered.[40] To include synergy savings in its

provide an analogy, because NEETNY's analysis indicates that T021 is the only design that would fit on the parcel NEETNY secured. SECO makes the same statement about T027, T028, and T031, which NEETNY believes have the same problem.

38 New York STARS, April 30, 2012 at page 18.

39 New York STARS, April 30, 2012 at page 32.

40 NYISO stated during the April 19, 2018 meeting with developers that it applied the 5% synergy savings "according to the PSC Order." This is incorrect. The Commission did not require NYISO to apply synergy savings. The Order provided that "synergies produced by being selected to provide both segments may be

analysis, NYISO should look only at reasonable synergies estimated for each specific project combination involving the same developer.[41] A simple example illustrates the biggest problem with SECO's methodology: if a single developer were to build a $1 billion project and a $1 million project, SECO estimates that the combination of the two projects creates $50 million in synergy savings (5% of $1.1 billion). In this example, calculating synergy savings as a percentage of total project costs leads to an unreasonable result where the savings from adding the second project is 50 times greater than the cost of the second project. Therefore, if a blanket percentage savings is to be used, SECO should calculate the percentage only using the cost of the smaller project, not the combined project cost. In the example above, this approach would result in $50,000 in synergy savings (5% of the smaller $1 million project).

During the April 6, 2018 developer meeting, SECO acknowledged that they did not consider whether and to what extent synergies scale with project size. Many synergy savings do not scale as the total cost of the project increases. For example, material and labor costs associated with unique and costly equipment, such as 765 kV substation components (including transformers), 765 kV corona mitigation, or a GIS substation, do not scale by combining them with a dissimilar project. In the case of TO25, more than $150 million of project cost is attributable to the 765 kV portion of the project (including SECO's Contractors Mark-up estimate). In addition to the equipment being unique, there is also a limited market for sourcing contractors, which limits or eliminates any potential labor cost savings by combining that work with another project. The unique items for which there should effectively be no synergy savings create over $7 million of synergy savings using SECO's approach. To put that in perspective, the synergy savings is nearly half of the $16 million cost difference between TO25 + TO30, which includes synergy savings, and TO25 + TO22, which does not have synergy savings.

Given these potential challenges in generating reliable synergy estimates, NEETNY recommends eliminating them altogether from the project cost estimates.

### 8. <u>The installation costs for concrete monopoles are overstated and erroneous.</u>

SECO significantly overestimates the installation cost for direct embed concrete structures by at least a factor of 4x. In response to questions regarding the basis for SECO's cost estimate, SECO's subcontractor, Kenny Construction ("Kenny"), reported that their entire experience with concrete pole installation is limited to two projects, each about 3.5 miles. Assuming an average span of 700 feet, Kenny's experience with concrete pole installation is approximately 55 structures. Kenny stated during the April 19, 2018 NYISO meeting that it did not use any third party data or benchmarking sources for its estimated installation costs for direct embed concrete structures.

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considered." 2015 AC Transmission Order, App. B, para. 11. The Commission also did not say or suggest that NYISO should use a percentage of total cost or 5% of total costs.

[41] To the extent "electrically similar" projects are difficult to distinguish, it would be an absurd result if a project combination from a single developer was selected on the basis of a blanket synergy savings assumption, while firm cost containment commitments that were required to be submitted for each proposal are disregarded.

By comparison, NEETNY and its affiliates have installed over 3,000 concrete structures in the past 3 years alone; and set over 15,000 concrete poles in the last 10 years. Each of NEETNY's transmission line projects is carefully monitored and the installation metrics evaluated and integrated in our estimating database. Our estimating tools consider site specific contributors that could affect installed costs, including terrain, accessibility, economies of scale, weather, local labor market, labor cost, equipment rates, and supervision. The costs provided in NEETNY's proposals are derived from a wealth of real world experience from a diverse base of installed structures, both in size and configuration, and in a variety of conditions.

The unit cost methodology applied by Kenny is unsound. In response to questions about the details behind the cost estimate, Kenny explained that they assumed a rate of $1.35/lb for concrete pole installation. They added an incremental cost over steel poles, which they assume to be $1.11/lb, because of the "additional weight and length of the poles, handling and delivery, and equipment used to set the poles".[42] By applying a $/lb rate that is already higher because of the "additional weight", Kenny compounded its assumed delta between concrete and steel pole installation – first by using a higher unit cost (due to weight) and again because the unit cost is multiplied by the higher weight.

The methodology of applying a unit rate based on weight is flawed because the relationship between cost and weight is not linear. For example, installing a heavier pole may (or may not) require a larger crane, but would require the same number amount of crew and operators and the same duration. In other words, some costs may (or may not) increase when installing a heavier structure and some costs will not. A more representative approach is to estimate the cost of the crew, equipment, and operators necessary to perform this work for both steel and concrete poles. Notably, although Kenny assumes concrete poles are significantly more expensive than steel poles,[43] steel poles actually require more labor because they have multiple sections that require assembly whereas concrete is one piece.

The significant problems with Kenny's estimates are illustrated by comparing Kenny's estimate to install both concrete and steel poles, and referencing a third party data source for crane costs.

- For the equivalent delta tangent structures on the Princetown to Rotterdam section for TO21, Kenny estimated average installation costs of:
    - $53,923 for a concrete pole, versus
    - $10,244 for a steel pole.

The primary difference between a steel and concrete pole installation is the size of the crane required to handle the additional weight. Using the NYSDOT equipment rate table, the maximum

[42] Updates to Preliminary AC Transmission Needs Results, dated April 19, 2018, Slide 28.

[43] Another cost consideration is the recent announcement of the Section 232 tariff on certain steel imports. NEETNY and its affiliates have already seen a 9% to 11% increase in steel pole pricing and are anticipating a total impact of 18-20% before the market normalizes. We anticipate the steel market to remain highly volatile for the next several years. The steel tariff represents a significant risk to steel pricing and should not be ignored as it is separate and distinct from escalation.

difference in crane costs for installing concrete and steel poles would be about $82/hour, or about $1000/day. Assuming a crew sets two poles a day, the added cost would be about $500/pole. Even if one assumes that the crane rental is a twice as expensive for a concrete pole than what is required for a steel pole, that would still only amount to an additional $1,000 per pole. Assuming the $1,000 premium per pole for setting the concrete poles, plus an extra $500 per pole for a heavier crane needed for handling before setting, the most that could be justified from a lifting equipment standpoint is $1,500 per pole. Labor for setting a concrete pole is similar to that required for a steel pole (except that prior to setting the steel pole, additional labor would be required to assemble the sections of the steel pole). Using that third party data, the installation cost difference between concrete and steel poles would be $1,500 per pole versus the delta in Kenny's estimate of more than $43,000 for the Princetown to Rotterdam structures. Applying that methodology, Kenny should adjust its installation cost for concrete poles to $11,744 per pole ($10,244 per steel pole, plus $1,500 for additional crane costs).

**NYSDOT Equipment Rental Rate Schedule**
**August 2017**[44]

**SECTION 14 : LIFTING (cont.)**

**Crawler Mounted Lattice Boom Cranes**
Diesel Powered

| Lifting Capacity (Tons) | Rental Rate Schedule | |
|---|---|---|
| | Column 1 | Column 2 |
| Up to 75 | $61.09 | $57.07 |
| 100 | $81.77 | $73.81 |
| 150 | $107.35 | $93.20 |
| Over 150 | $142.10 | $119.98 |

Another instance where installation cost estimates appear flawed, and are inconsistent with NEETNY's experience, is highlighted by comparing Kenny's estimate to install direct embed steel H-frame structures in TO26 with the estimate to install direct embed concrete monopoles in TO21.

- For TO26, Kenny estimates installation for direct embed steel H-frames for the Edic to Princetown section to range from:
  - $14,700/structure to $43,700/structure
    - The estimate for the overwhelming majority of the structures is less than $20,000 per structure[45]
- For TO21, Kenny estimates installation for direct embed concrete monopoles for the Edic to Princetown section to be:
  - $47,964/structure[46]

[44] New York State Department of Transportation, Operations & Asset Management Division, Office of Transportation Maintenance, Equipment Rental Rate Schedule, August 2017 at p. 27.

[45] SECO Report Attachments, Project T026, Lines 3.13-3.26.

Kenny's estimate suggests that installation costs for the steel H-frames are, on average, about half the cost to install concrete monopoles. However, H-frame structures require installation of two poles, at least one cross-arm and associated bracing, while the concrete structure is a single pole. NEETNY does not believe there is any basis for assuming higher installation costs for concrete monopoles in TO21 than for steel H-frame structures in TO26.

NYISO stated that, in some cases, Kenny's estimates were revised after SECO and NYISO had compared them with information from developer proposals or information from other sources. NEETNY requests that Kenny's estimates for the costs to install concrete poles be changed to reflect NEETNY's substantially more reliable estimates, or be changed consistent with the approach described above to reflect the reality that the installation cost for concrete poles is not significantly higher than for similar steel poles. The table below shows compares Kenny's average installation cost per pole for concrete and steel direct embed tangents, and provides an adjusted average installation cost for concrete poles by taking Kenny's average steel costs and adjusting for NYSDOT crane costs.

| Segment | Kenny Avg. Cost Concrete Direct Embed ($/tangent) | Kenny Avg. Cost Steel Direct Embed ($/tangent) | NYSDOT Crane Costs (Delta between Concrete vs Steel) ($/tangent) | Revised Concrete Cost (Kenny Avg. Steel + NYSDOT Crane Delta) ($/tangent)[47] |
|---|---|---|---|---|
| Segment A | $72,400[48] | $30,000[49] | $1,500 | $31,500 |
| Segment B and B-Alt | $87,000[50] | $23,700[51] | $1,500 | $25,200 |

**9. <u>Cost-containment proposals should be used to differentiate between similar solutions.</u>**

Relying on cost-contained proposals is the only objective way to distinguish project combinations that are "electrically similar". The 2015 AC Transmission Order and the NYISO's AC Transmission solicitation require all proposals to include a cost containment price alternative.[52] As an initial matter, to the extent any proposals did not include a cost-contained alternative, they should be

[46] SECO Report Attachments, Project T021, Line 3.1.

[47] Adjusted for the difference in crane costs between steel and concrete poles, based on NYSDOT costs.

[48] SECO Report Attachments, Project T021.

[49] SECO Report Attachments, Project T026.

[50] SECO Report Attachments, Project T022.

[51] SECO Report Attachments, Project T029.

[52] 2015 AC Transmission Order, App. C, para. 4.

excluded from consideration as deficient.[53] Because NYISO solicited cost-contained proposals, it is in a position to fairly evaluate cost-contained proposals. This is different from the Western NY PPTN where NYISO was not directed to solicit cost-contained proposals. NYISO has stated, at least informally, that it will consider cost-contained proposals as a differentiating factor if two alternatives are similar.

*a. Using cost-contained pricing and assuming identical performance for "electrically similar" projects is the only fair way to distinguish "electrically similar" projects.*

NYISO's choice to treat project combinations as having identical performance, instead of conducting a detailed evaluation of all combinations, is precisely the situation where NYISO has the opportunity, and obligation, to fairly evaluate cost-contained proposals. For example, notwithstanding the issues we have raised with the "electrically similar" approach, using NYISO's approach, we assume that TO27 + TO22 and TO27 + TO29 must be treated as performing identically. Because these projects are identical for performance metrics, NYISO should rely on pricing from the cost-contained proposals required by the NYISO solicitation – and not the SECO cost estimate – to distinguish these "electrically similar" project combinations.[54]

In the evaluation process, NYISO did not evaluate all 42 proposal combinations. Instead, NYISO only conducted detailed evaluations for 14 of the 42 possible combinations. NYISO explained that it did not need to evaluate all 42 possible project combinations, because certain proposal combinations are "electrically similar" to the 14 proposal combinations it evaluated. NYISO provided a matrix titled "Representative Groupings" showing which of the 14 evaluated combinations should be used as the proxy for each of the 28 combinations that were not evaluated.[55] The matrix, copied below, raises additional significant questions about NYISO's "electrically similar" approach because NYISO does not actually treat "electrically similar" combinations the same and, in some instances, uses different proxy combinations for evaluating different metrics. In other words, NYISO suggests that the "electrically similar" projects should be considered identical for performance metrics except when NYISO decides not to treat them as identical. NYISO's approach may unfairly disadvantage projects that it did not evaluate.

[53] To ensure that stakeholders have a full opportunity to meaningfully assess NYISO's recommendations, NYISO should identify any proposals that did not include the required cost containment alternative.

[54] This discussion focuses on NYISO selecting the most cost-effective option, because, presumably, if two combinations are "electrically similar" such that one combination need not be fully evaluated by NYISO, then those combinations must have equally "efficient" performance. *See* NYISO Tariff – OATT Attachment Y 31.4.8 (requiring it to select the "more efficient or cost effective transmission solution").

[55] "Updates to Preliminary AC Transmission Needs Results", dated April 19, 2018, slide 8.

| Grouping ID | Representative Combination |
|---|---|
| 1 | T018+T019 |
| 2 | T021+T022 |
| 3 | T021+T023 |
| 4 | T025+T019 |
| 5 | T025+T029 |
| 6 | T025+T030 |
| 7 | T026+T029 |
| 8 | T026+T030 |
| 9 | T027+T019 |
| 10 | T027+T029 |
| 11 | T027+T030 |
| 12 | T028+T029 |
| 13 | T028+T030 |
| 14 | T031+T032 |

Representative Results for Central East Voltage Transfer and Production Cost Analysis

| Grouping ID | T018 | T021 | T025 | T026 | T027 | T028 | T031 |
|---|---|---|---|---|---|---|---|
| T019 | 1 | 3 | 4 | 7 | 9 | 12 | 14 |
| T022 | 1 | 2 | 5 | 7 | 10 | 12 | 14 |
| T023 | 1 | 3 | 5 | 7 | 10 | 12 | 14 |
| T029 | 1 | 3 | 5 | 7 | 10 | 12 | 14 |
| T030 | 1 | 3 | 6 | 8 | 11 | 13 | 14 |
| T032 | 1 | 3 | 5 | 7 | 10 | 12 | 14 |

Representative Results for UPNY-SENY Thermal Transfer

| Grouping ID | T018 | T021 | T025 | T026 | T027 | T028 | T031 |
|---|---|---|---|---|---|---|---|
| T019 | 1 | 1 | 4 | 1 | 9 | 1 | 1 |
| T022 | 2 | 2 | 5 | 2 | 10 | 2 | 2 |
| T023 | 3 | 3 | 5 | 3 | 10 | 3 | 3 |
| T029 | 7 | 7 | 5 | 7 | 10 | 12 | 12 |
| T030 | 8 | 8 | 6 | 8 | 11 | 13 | 13 |
| T032 | 14 | 14 | 5 | 14 | 10 | 14 | 14 |

For example, NYISO treats projects TO18 + TO19 as "electrically similar" to TO18 + every other Segment B project.[56] For purposes of the Central East Voltage Transfer and Production Cost Analysis, NYISO treats TO18 + every other Segment B proposal the same as TO18 + TO19. However, for purposes of the UPNY-SENY Thermal Transfer NYISO treats each TO18 project combination as follows:

- TO18 + TO22 is equal to TO21 + TO22
- TO18 + TO23 is equal to TO21 + TO23
- TO18 + TO29 is equal to TO26 + TO29
- TO18 + TO30 is equal to TO26 + TO30
- TO18 + TO32 is equal to TO31 + TO32

As a result, the combinations involving TO18 that are "electrically similar" to TO18 + TO19, are treated as identical for Central East Voltage Transfer and Production Cost Savings, but different for the UPNY-SENY Thermal Transfer. This specific example is particularly troubling because TO18 + TO29 and TO18 + TO30 are being treated as identical to TO26 + TO29 and TO26 + TO30, respectively, both of which actually fail the minimum transfer limit increase for the Central East interface. If the combinations are "electrically similar" to TO26 + TO29 and TO26 + TO30, then they should be treated as identical for all purposes, including failing the minimum transfer limit increase.

Similarly, although TO25 + TO29 and TO25 + TO30 are "electrically similar", those combinations perform differently for different metrics. However, all other "electrically similar" combinations involving TO25 are deemed equal to TO25 + TO29, but not TO25 + TO30.

[56] As a threshold matter, NYISO should explain how combinations involving TO18 can be "electrically similar" to TO18 + TO19, when TO19 is not "electrically similar" to the other Segment B projects. "Updates to Preliminary AC Transmission Need Results," April 19, 2018, slide 7. NYISO applies the same inconsistent treatment to combinations involving TO19 and TO21, TO26, TO28, and TO31, which are treated as "electrically similar" to combinations involving other Segment B projects, none of which are "electrically similar" to TO19.

NYISO's inconsistent treatment of "electrically similar" project combinations is problematic and appears to disadvantage certain project combinations simply because those combinations were not evaluated. The only logical and fair way for NYISO to resolve this critical issue is to treat all projects that were not evaluated as having identical performance to any "electrically similar" combination that was evaluated. We suggest that NYISO use the most favorable results from any "electrically similar" combination that was evaluated, but the critical point is project combinations that NYISO chose not to evaluate should not be unfairly disadvantaged by inconsistent application of the "electrically similar" concept. By treating those "electrically similar" combinations as having identical performance, NYISO can fairly determine which "electrically similar" combinations are the more cost-effective by comparing the cost-contained price proposals, which the Commission required developers to submit.

*b. Using cost-contained proposals to compare "electrically similar" combinations is consistent with NYISO's tariff and provides for a more reliable evaluation.*

NYISO's tariff requires proposals to include an enumerated list of items, including "capital cost estimates for the projects…[and] evidence of the reasonableness of project cost estimates."[57] NYISO is permitted to engage an independent consultant to "review the reasonableness and comprehensiveness of the information submitted by the Developer and may rely on the independent consultant's analysis in evaluating each metric."[58] NYISO is required to rank projects by "[t]he capital cost estimates…including the accuracy of the proposed estimates," and the proposals are required to be credible and supported by detailed and itemized costs.[59] Importantly, the tariff does not require NYISO to evaluate projects based solely upon estimates developed by its independent consultant.

SECO's cost estimates for each project will inevitably differ from the costs proposed by developers. NYISO stated during the April 30, 2018 ESPWG meeting that it uses the SECO estimates to ensure it is comparing projects on an "apples-to-apples" basis, to check accuracy and credibility, and to assess risk of completion for each proposal. Presumably NYISO's objective is to avoid selecting a project based upon an unreasonably low cost estimate that ends up being higher when it is constructed. However, when, as is the case here, developers were required to submit cost-contained proposals, cost-containment helps ensures that the cost is credible and substantially mitigates any risk of the proposed cost being unreasonably low. Cost-contained proposals substantiate the accuracy and credibility of the developer's cost estimate because the developer has risk associated with its cost-contained price.[60] There is no basis for NYISO to assume that a developer's cost estimate carries greater risk simply because it is lower, when that cost is subject to cost-containment. Utilizing cost-contained proposals in its evaluation will help ensure that NYISO selects the more cost effective projects.

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57 NYISO Tariff – OATT Attachment Y 31.4.5.1.

58 NYISO Tariff – OATT Attachment Y 31.4.8.

59 NYISO Tariff – OATT Attachment Y 31.4.8.1.1.

60 Confirming the credibility of the cost-contained proposals, the New York Transco ROE settlement, which included cost containment consistent with the New York Transco's AC proposal, was filed and approved by FERC in docket no. ER15-572. NEETNY intends to finalize and file a settlement shortly in docket no. ER16-2719.

## Conclusion

NEETNY appreciates the opportunity to submit comments and work with NYISO and other stakeholders to ensure the selection of the projects that most effectively address the AC PPTN. In order to achieve that goal, NEETNY recommends that NYISO identify a shortlist of proposals based upon the evaluation to date that includes "electrically-similar" combinations for further detailed evaluation including cost containment. In our view, the shortlist should be comprised of those proposals that:

- Meet the Commission-required transfer capability thresholds;
- Have no fatal flaws from a siting or any other perspective; and
- Incorporate cost containment.

Based on the data provided to date, TO21+TO22 meets all of the above tests at the lowest net cost. However, we suggest only that that combination should be one of 12 project combinations to make the shortlist for further evaluation. Applying the "electrically similar" approach suggests the shortlist shown in the table below.

### Recommended Shortlist for Further Evaluation

| Seg. A | Seg. B | Net Cost: Benefit minus Cost ($ MM) | Cost ($ MM) | Benefit ($ MM) | Meets Minimum Transfer Limits | No Significant Design Flaw |
|---|---|---|---|---|---|---|
| 18 | 19 | (681) | 917 | 236 | √ | √ |
| 18 | 22 | (642) | 878 | 236 | √ | √ |
| 18 | 23 | (674) | 910 | 236 | √ | √ |
| 18 | 29 | (669) | 905 | 236 | √ | √ |
| 18 | 30 | (690) | 926 | 236 | √ | √ |
| 18 | 32 | (779) | 1015 | 236 | √ | √ |
| 21 | 19 | (744) | 940 | 196 | √ | √ |
| 21 | 22 | (611) | 810 | 199 | √ | √ |
| 21 | 23 | (645) | 841 | 196 | √ | √ |
| 21 | 29 | (684) | 880 | 196 | √ | √ |
| 21 | 30 | (705) | 901 | 196 | √ | √ |
| 21 | 32 | (794) | 990 | 196 | √ | √ |

**Recommended Combinations to Eliminate from Further Evaluation**[61]

| Seg. A | Seg. B | Net Cost: Benefit minus Cost ($ MM) | Cost ($ MM) | Benefit ($ MM) | Meets Minimum Transfer Limits | No Significant Design Flaw |
|---|---|---|---|---|---|---|
| 25 | 19 | (787) | 1300 | 513 | √ | |
| 25 | 22 | (757) | 1214 | 457 | √ | |
| 25 | 23 | (789) | 1246 | 457 | √ | X[62] |
| 25 | 29 | (742) | 1179 | 437 | √ | |
| 25 | 30 | (741) | 1198 | 457 | √ | |
| 25 | 32 | (894) | 1351 | 457 | √ | |
| 26 | 19 | (695) | 931 | 236 | | |
| 26 | 22 | (654) | 844 | 190 | | |
| 26 | 23 | (686) | 876 | 190 | X | X[63] |
| 26 | 29 | (638) | 828 | 190 | | |
| 26 | 30 | (652) | 847 | 195 | | |
| 26 | 32 | (791) | 981 | 190 | | |
| 27 | 19 | (812) | 1180 | 368 | √ | |
| 27 | 22 | (756) | 1093 | 337 | √ | |
| 27 | 23 | (788) | 1125 | 337 | √ | X[64] |
| 27 | 29 | (733) | 1064 | 331 | √ | |
| 27 | 30 | (746) | 1083 | 337 | √ | |
| 27 | 32 | (893) | 1230 | 337 | √ | |
| 28 | 19 | (718) | 954 | 236 | ? | |
| 28 | 22 | (647) | 868 | 221 | ? | |
| 28 | 23 | (679) | 900 | 221 | ? | X[65] |
| 28 | 29 | (629) | 850 | 221 | √ | |
| 28 | 30 | (664) | 869 | 205 | X | |
| 28 | 32 | (783) | 1004 | 221 | ? | |
| 31 | 19 | (781) | 1017 | 236 | √ | |
| 31 | 22 | (725) | 931 | 206 | √ | |
| 31 | 23 | (757) | 963 | 206 | √ | X[66] |
| 31 | 29 | (752) | 958 | 206 | √ | |
| 31 | 30 | (772) | 978 | 206 | √ | |
| 31 | 32 | (808) | 1014 | 206 | √ | |

[61] For those combinations not studied specifically by NYISO, the highest production cost benefits of electrically similar projects are shown.

[62] Requires significant additional ROW for EMF mitigation, proposed substation on top of gas pipelines, Hudson River crossing, likely public opposition, and not ripe for AC PPTN.

[63] Fails minimum transfer limit increase and proposed substation on top of gas pipelines.

[64] Double circuit tower may not be constructible as proposed, proposed substation on top of gas pipelines and not ripe for AC PPTN.

[65] One of two evaluated combinations fails minimum transfer increase and proposed substation on top of gas pipelines.

[66] Proposed substation on top of gas pipelines, Princetown substation does not fit within utility right-of-way.