

Western New York Public Policy Transmission Planning Report FAQ

New York Independent System Operator August 23, 2017

Introduction

This frequently asked questions (FAQ) document summarizes comments and questions received and answers provided by the NYISO and its independent consultant, SECO, regarding the draft Western New York Public Policy Transmission Planning Report. Comments related to the Public Policy Transmission Planning Process improvement will be reviewed in the Lessons Learned process.

The NYISO thanks the stakeholders for submitting written comments and questions. The original comments and questions have been posted on NYISO website.

Key References

- NYISO point of contact for the Public Policy Transmission Planning Process: <u>PublicPolicyPlanningMailbox@nyiso.com</u>
- NYISO point of contact for developer qualification: <u>DeveloperQualification@nyiso.com</u>
- Public Policy Transmission Planning Process Manual (PPTPP Manual): http://www.nyiso.com/public/markets_operations/documents/manuals_guides/index.jsp

Project Solicitation:

http://www.nyiso.com/public/webdocs/markets_operations/services/planning_ Studies/Public Policy Documents/Western NY/Western NY PPTN Solution Solicitation Le tter 2015-11-01.aspx

Baseline Results with series reactors bypassed:

http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Planning_ Studies/Public Policy Documents/Western NY/Western NY PPTN Baseline Results 2015-10-27 SR-bypassed.xls

Baseline Results with series reactors in-service:

http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Planning_ Studies/Public Policy Documents/Western NY/Western NY PPTN Baseline Results 2015-10-27 SR-in.xls

Western NY Public Policy Transmission Need FAQ:

http://www.nyiso.com/public/webdocs/markets operations/services/planning/Planning_ Studies/Public Policy Documents/Western NY/Western NY PPTN FAQ 2015-12-15.pdf

Western NY PPTN Viability and Sufficiency Assessment report:

http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Planning_ Studies/Public Policy Documents/Western NY/NYISO WesternNY PPTN VSA 2016-05-31.pdf Western NY Public Policy Transmission Need Phase 2 FAQ:

http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Planning Studies/Public_Policy_Documents/Western_NY/WNY_PPTN_Phase_2_FAQ_Final.pdf

Draft Western NY Public Policy Transmission Planning Report

http://www.nyiso.com/public/webdocs/markets_operations/committees/bic_espwg/meet ing_materials/2017-08-18/WNY_PPTPR_Draft_08152017_Clean.pdf

Comments and questions regarding the draft Western NY Public Policy Transmission Planning Report:

http://www.nyiso.com/public/committees/documents.jsp?com=bic_espwg&directory=201 7-07-27

http://www.nyiso.com/public/committees/documents.jsp?com=bic_espwg&directory=201 7-08-18

Questions and Responses

Independent Cost Estimates

1. Will the NYISO provide the detailed cost estimates from the NYISO's independent consultant, SECO?

<u>NYISO Response</u>: The NYISO has posted the detailed cost estimates developed by its independent consultant SECO as part of its August 18 ESPWG/TPAS meeting materials that includes a detailed breakdown of the assumption and cost estimates for each project.

2. How did the NYISO consider and/or compare the revenue requirements, including the life-cycle capital costs, for each proposed project in its evaluation for the more efficient or cost effective solution?

<u>NYISO Response</u>: The NYISO utilized the overnight capital costs, developed by its independent consultant SECO, in its evaluation process to determine the more efficient or cost effective solution. Please see the draft Western NY Public Policy Transmission Planning Report.

3. How did the NYISO, or its independent consultant, determine the cost contingencies for the individual proposals? Additionally, why did the NYISO, or its independent consultant, apply a contingency on top of the contractor markup?

<u>NYISO Response</u>: A 20% contingency was used as a baseline to account for potential variances in estimating accuracy due to the projects being in a conceptual stage and account for unknown changes discovered as detailed engineering and construction is progressed. A higher contingency was used for projects with higher risk factors such as construction of transmission lines on new ROW. A 15% contractor markup was added to base costs for company overheads (10%) and profit (5%) that a Contractor would apply to their cost proposal.

4. NextEra's proposals T014 and T015 use a wood construction design for its towers. What, if any, consideration did the NYISO give in its evaluation for the more efficient or cost effective solution the design differences for wood structures versus steel structures? Did the NYISO, or its independent consultant, factor in the costs associated with wider rights of way, additional clearing, and 3-pole dead-ends required for wood H-frame construction? How did the NYISO, or its independent consultant, factor in the future maintenance costs of wood poles structures in relation to steel structures in the revenue requirement?

<u>NYISO Response</u>: SECO considered the differences in wood pole and steel pole construction in estimating material costs, foundation requirements, right-of-way widths, clearing, real estate costs, staffing, equipment, project management, QA/QC, and construction durations. Wood pole construction typically requires less staffing for construction management and shorter construction durations. In determining clearing requirements, SECO not only considered the right-of-way width but also the proposed location of the line on the existing ROW and what area

is already cleared based on the cross sections received. All Developers proposed different centerline locations. SECO confirmed the designs met applicable standards, but did not attempt to optimize any designs. The NYISO utilized the overnight capital costs for all the projects in its analysis. Please refer to the detailed cost estimates posted as part of its August 18 ESPWG/TPAS meeting materials for additional information.

Independent Schedule Estimates

5. What consideration did the NYISO give to incumbent Developers in the independent schedule estimate for their experience in the Article VII siting process?

<u>NYISO Response</u>: Each Developer's schedule for permitting and construction of its project was reviewed based on SECO review team's collective experience with transmission projects sited by the New York State Public Service Commission (NYPSC) under Article VII of the New York Public Service Law and constructed in New York State. SECO review team completed a review of recent Article VII project timelines to identify comparable schedules.

6. What is the status of each proposal in the NYISO's interconnection queue, specifically the status of the System Impact Studies? How did the NYISO reflect in its evaluation for the more efficient or cost effective solution the differences between proposals that have completed a System Impact Study and proposals that have their System Impact Studies still pending completion?

<u>NYISO Response</u>: The NYISO is currently in the final stages of completing the System Impact Studies (SIS) for the proposed projects. The NYISO presented the interconnection queue numbers for these projects at the July 27, 2017 ESPWG/TPAS meeting. The specific status of each project can be tracked through the interconnection process using the information posted on the NYISO's website. The presentation is available at <u>http://www.nyiso.com/public/</u> <u>webdocs/markets_operations/committees/bic_espwg/meeting_materials/2017-07-</u> <u>27/WNY_July_27_ESPWG%20_07262017%20(2).pdf</u>

The NYISO considered the status and results of each SIS in its evaluation. If the SIS is still pending for a project, the NYISO added additional costs to account for potential system upgrade facilities. Please see section 3.3.1 of the draft Western NY Public Policy Transmission Planning Report.

7. Why did the NYISO, or its independent consultant, calculate the same minimum construction duration for proposals T006, T014, and T015 given that proposals T014 and T015 have an anticipated duration estimate that is six (6) months longer than T006?

<u>NYISO Response</u>: The SECO review team calculated the independent minimum duration using what it considered to be the minimum duration for Article VII application preparation, the anticipated time for the Article VII approval process, ROW procurement where significant, and the anticipated time for construction of the project. The independent minimum duration is the

best case and is shown for comparative purposes. The independent anticipated duration estimate is calculated using the greater of the duration proposed by the Developer or what the review team considered to be the minimum duration for Article VII application preparation, Article VII approval process, ROW procurement, and construction.

Production Cost Savings

8. Understanding that there were various in-service dates of the proposals, what were the years or range of years used in performing the production cost savings analysis? Why did the NYISO assume 20 years, while the production cost savings analysis under CARIS uses the first ten years of the project starting from its Commercial Operation Date?

<u>NYISO Response</u>: Production cost changes are calculated based on the first 20 years of the project beginning with the first full year of the project's proposed Commercial Operation date. Section 4.1 of the Public Policy Transmission Planning Process Manual specifies a 20-year study period. The analysis is performed for each year.

9. How did the NYISO analyze the production cost savings with respect to the various scenarios?

<u>NYISO Response</u>: The NYISO considered all scenarios in determining which of the proposed Public Policy Transmission Projects is the more efficient or cost effective solution to satisfy the Public Policy Transmission Need.

10. For the scenario that analyzed the historical IESO - MISO flows (Scenario #3), why were the historical IESO - MISO flows not modeled in a case with all proposals assuming the series reactors on Packard – Huntley 230 kV lines were in service?

<u>NYISO Response</u>: The NYISO added a scenario modeling the historical IESO - MISO flows and assuming the series reactors on Packard – Huntley 230 kV lines in service. The production cost savings for the Tier 1 projects under these conditions are available in Table 3-20 of the draft Western NY Public Policy Transmission Planning Report.

11. What is the base case Niagara Gen + Niagara Ties flow in 2025?

<u>NYISO Response</u>: 23,066 GWh for MAPS Scenario 2 (series reactors on Packard – Huntley 230 kV lines in service).

12. The July 20, 2015 Order from the NYPSC states that "the analysis should also ensure the system would be maintained in a reliable manner with fossil fueled generation in Western New York out-of-service, as well as in-service."¹ To what extent, if any, does dispatching Somerset coal plant have on the production cost savings? If the dispatch of Somerset coal plant has an impact

¹ PSC Case No. 14-E-0454, *In the Matter of New York Independent System Operator, Inc.'s Proposed Public Policy Transmission Needs for Consideration,* Order Addressing Public Policy Requirements For Transmission Planning Purposes, at pp 27-28 (July 20, 2015) ("July 2015 Order").

on the increased production cost savings, how did the NYISO, or its independent consultant, consider those results in the evaluation for the more efficient or cost effective solution?

<u>NYISO Response</u>: The NYISO modeled the Somerset unit as in-service in the Viability and Sufficiency Assessment as it results in the worst reliability violation. Please see the October 29, 2015 ESPWG/TPAS presentation at <u>http://www.nyiso.com/public/webdocs/markets</u> <u>operations/committees/bic espwg/meeting materials/2015-10-29/Western NY PPTN</u> <u>Baseline.pdf</u>. The NYISO considered potential scenarios related to the coal units in the production cost analysis, but the NYISO observed that it is not a significant distinguishing factor between the various projects.

- 13. How did the NYISO, or its independent consultants, specifically model the PAR on the Dysinger East Stolle 345 kV circuit proposed in project T014? Specifically,
 - a. Did the NYISO monitor the PAR for potential congestion to ensure flows did not exceed the PAR's 700 MVA rating on base case flows or for the loss of the Dysinger East Stolle 345 kV circuit?

<u>NYISO Response</u>: Yes, the NYISO modeled additional contingencies and monitored elements specifically to account for the PAR proposed in T014.

b. Did the NYISO monitor downstream elements from the proposed PAR for potential congestion to ensure flows do not exceed the PAR's rating, such as Stolle 345 kV – 115 kV transformer for the loss of the other Stolle 345 kV – 115 kV transformer?

<u>NYISO Response</u>: Yes, the NYISO modeled additional contingencies and monitored elements specifically to account for the PAR proposed in T014.

c. Did the NYISO ensure the operation of the proposed PAR remain within its physical design limitations, such as the required angle adjustments, in its evaluation using GE MAPS?

<u>NYISO Response</u>: The NYISO modeled the angle and rating limits for the proposed PAR, and took into account the limitations of modeling a PAR in GE MAPS. Even when the proposed PAR is bypassed, the project T014 still demonstrates significant benefits.

14. If the production cost was calculated as a net present value, what is the weighted average cost of capital that was used in the draft Western NY Public Policy Transmission Planning Report?

<u>NYISO Response</u>: The weighted average cost of capital used is 6.843%, consistent with the 2016 CARIS Phase 2. Please see section 3.3.6 of the draft Western NY Public Policy Transmission Planning Report.

15. Under the Load Payment Change results, was the Zonal Load Cost Savings described in CARIS Manual M-35 Section 3.3.3 utilized? What did the NYISO assume for TCC revenues in the Load Payment Change results?

<u>NYISO Response</u>: The Load Payment Change results reported in the draft Western NY Public Policy Transmission Planning Report are based on the corresponding zonal LBMP changes before TCC hedging. The hedged load payment in the CARIS process is used for beneficiary identification and cost allocation purpose. The default cost allocation methodology for Public Policy Transmission Planning Process is based on load ratio share.

16. How are production cost savings considered compared to other outputs such as demand congestion, emissions, and load payments?

<u>NYISO Response</u>: The NYISO takes into account all metrics in its evaluation. Minimizing the production cost is the main objective of the production cost analysis. It determines the overall benefit of a project. Other outcomes such as demand congestion, emissions, and load payments are byproducts of the production cost analysis.

17. How did the NYISO value and consider the System CO₂ Emission Reduction for each proposal in its evaluation for the more efficient or cost effective solution?

NYISO Response: As stated in the response to Question No. 16, the NYISO considered system CO₂ emission reduction in its evaluation. This corresponds to the Public Policy Transmission Need ("Western NY Need") ancillary benefit of reducing environmental emissions.²

18. What is the annual binding flowgate congestion (e.g., Total Shadow Prices)?

NYISO Response: Shadow prices are a component of the overall demand congestion. Table 3-27 of the draft Western NY Public Policy Transmission Planning Report lists the NYCA demand congestion change.

19. The High and Low Load Forecast in the draft Western NY Public Policy Transmission Planning Report includes a column for solar. How was this solar forecast utilized in the MAPS and transfer analyses (*e.g.*, how was the solar distributed across NYISO and what were the capacity factors assumed or was the solar forecast netted out from the energy forecast)?

<u>NYISO Response</u>: The solar forecast in Tables 3-2 and 3-3 was netted out from the energy forecast. The solar forecast was added back to the energy forecast in MAPS since it explicitly models the distributed solar as generators based on historical values. The power flow cases do not model distributed solar explicitly, so they use peak forecast with solar netted out.

² July 2015 Order at p 29.

20. Do additional connections at Dysinger improve overall performance? How does this relate to the Ontario – NY transfer limit?

<u>NYISO Response</u>: Cutting out the 345 kV loop to Somerset reduces the impedance along the Niagara to Rochester 345 kV path. Lower impedance allows more energy to flow down this path. All else being equal, it tends to increase the Ontario to NY transfer limits.

21. Was the Niagara complex modeled in MAPS as a single aggregate generator or three aggregate generators representing the Niagara 230 kV connected generation and the two separate sets of generation connected to the 115 kV buses? What 115 kV limitations were used to develop the Niagara dispatch?

<u>NYISO Response</u>: The Niagara complex is modeled as three aggregate generators representing the Niagara 230 kV connected generation and the two separate sets of generation connected to the 115 kV buses. The Niagara dispatch is based on a historical flow that does secure both the bulk and non-bulk transmission system. In addition, the NYISO monitored the flows on the 115 kV system pre- and post-project, and found that the flows on the 115 kV lines decreased post-project.

22. For each of the Tier 1 proposals, please provide the NY to PJM transfer limits from the steady state testing, pre- and post-project in service modeling.

<u>NYISO Response</u>: The SIS evaluates the impact of projects on the NY to PJM transfer limits.

23. For each of the Tier 1 proposals, please provide the change in energy flow, pre and post in service project modeling, between WNY NY and PJM from the production cost simulations.

<u>NYISO Response</u>: As stated in section 3.3.5 of the draft Western NY Public Policy Transmission Planning Report, the energy flow from New York to PJM West is similar for Tier 1 projects with an average increase of approximately 800 GWh in 2025.

Miscellaneous Study Assumptions/Findings

24. How did the NYISO model wind?

<u>NYISO Response</u>: Operationally, wind plants can experience all conditions. The transfer limit analysis takes this into account by dispatching wind at 0% and 100%. The production cost analysis models wind according to historical wind shapes.

25. What were the years or range of years assumed in performing the various transfer analyses?

<u>NYISO Response</u>: As stated in section 3.2.1, the baseline transfer analysis used the 2014 Reliability Planning Process (2014 RPP) base case system representation of 2024 summer peak load conditions. The NYISO performed a transfer analysis scenario based on the latest 2016 Reliability Planning Process (2016 RPP) base case system representation of 2026 summer peak load.

26. Why did the NYISO model series reactors on the Packard – Huntley 230 kV lines as in service for those projects that elected to bypass the series reactors in the original proposals? Did the NYISO identify any issue in either the baseline or any scenario analysis with the series reactors in service for the Tier 1 proposals?

<u>NYISO Response</u>: Developers were given the option to elect whether to model the Packard – Huntley 230 kV series reactors in-service or bypassed. The baseline analysis modeled the series reactor according to the desired status (in-service or bypassed) specified by each Developer. The series reactors entered into service in 2016, with the NYISO having operational control over them. Therefore, some scenarios modeled the series reactors in service for all the projects.

The draft Western NY Public Policy Transmission Planning Report and the System Impact Studies have not identified any issue with the series reactors in service for the Tier 1 proposals.

27. How did the NYISO consider the operational impact of the various proposals during construction?

<u>NYISO Response</u>: The NYISO considered the operational impacts of all the proposals during construction to the grid in its operability metric by identifying the potential impacted facilities during construction and categorizing them into various impact levels.

Feasibility of Proposal Designs

28. How is NYSEG's local reliability criteria satisfied with the proposed Tier 1 designs with regard to the Stolle Road interconnection? Do the designs meet NYSEG's local reliability planning criteria that the Stolle Road substation would need to be built out to a breaker and a half design in accommodating a new line? If the Tier 1 projects did not meet NYSEG's local reliability planning criteria, how was this accounted for in the evaluation?

<u>NYISO Response</u>: Local reliability criteria are evaluated in the interconnection process. The NYISO considered the status and the results of the interconnection studies. Projects with an incomplete interconnection SIS have a cost assigned for potential System Upgrade Facilities (SUF) as part of the project's independent estimate.

29. What if any Tier 1 projects are affected by gas transmission lines owned by National Fuel and NYSEG that cross NYPA's and NYSEG's rights of way near the Somerset tap? If any Tier 1 projects sited a new switching station facility over or in close proximity to one of the aforementioned gas transmission lines, how did the evaluation account for the potential interference with the gas transmission lines?

<u>NYISO Response</u>: The NYISO considered all gas transmission lines in proximity to proposed facilities, and all locations are at least 400 feet from the nearby gas regulator station.

30. Why does the draft Western NY Public Policy Transmission Planning Report mention that proposal T006's configuration of having Stolle Road transformers in parallel present a reliability risk, given that this is the current configuration of the system?

<u>NYISO Response</u>: Compared with other projects that proposed to separate the parallel transformers, T006 has the risk of losing all three transformers simultaneously. The loss of all three transformers simultaneously was modeled in the NYISO's contingency analysis.

31. As further discussed above, NextEra's T014 and T015 projects propose to use wood structures. How did the NYISO, or its independent consultant, account on potential restrictions that could be placed on the use of wood pole structures along proposed rights of ways by the New York State Public Service commission or the New York State Department of Environmental Conversation (DEC)?

<u>NYISO Response</u>: Consultation with the DEC would occur in the Article VII application process by the selected Developer. During the NYISO's evaluation and selection process, SECO identified the risk of the potential need for an alternate route to avoid wetlands or other sensitive environmental locations. This risk exists for both steel and wood poles since installing a structure and clearing for the line have negative environmental impacts. Since the proposals are at the conceptual level the exact location of structures (and access roads) are not known. In addition, wetlands delineations will need to be done to know exactly which structures may be in a wetlands. DEC and United States Army Corps of Engineers (USCOE) will evaluate the potential impacts and the options to determine if they will grant approval to install any structure in a wetland. If DEC approves the location of the structure but does not allow a treated wood pole then there would be some cost increase for steel or alternative design to be covered by the contingency.

Treatment of Property Rights

32. How did the NYISO, or its independent consultant, consider the treatment of property rights with respect to transferring utility rights of way from an incumbent Transmission Owner/Developer to a non-incumbent Developer? Specifically, did the NYISO, or its independent consultant, factor in increases in the independent cost estimate or independent

schedule estimate for proposals submitted by non-incumbent Developers where they proposed to use existing rights of way?

<u>NYISO Response</u>: The NYISO's independent consultant SECO has given consideration to the additional time and cost required to acquire real estate from an incumbent Transmission Owner while establishing the project schedules and cost estimates. SECO believes that sufficient time has been allocated in the schedules for the non-incumbent Developers to complete transactions with the incumbent Transmission Owner in light of the PSC's expectation that the incumbent Transmission Owners will negotiate in good faith on a timely basis.

33. NYPA reported that its property is subject to the Public Authorities Accountability Act (Public Authorities Law § 2897) and is protected from condemnation based upon its sovereignty. What, if any, property that NYPA holds an interest in was proposed to be used in the competing Tier 1 projects? If any of the Tier 1 projects proposed to use property that NYPA holds an interest in, how did the NYISO reflect in the feasibility and cost analysis the limitations on a non-incumbent Developer's ability to use that property or exercise condemnation over that property?

NYISO Response: Tier 1 projects do not utilize NYPA ROW.

34. How did the NYISO take into account the differences in the area needed to be cleared between proposals T006 and T014/T015?

<u>NYISO Response</u>: In determining clearing requirements, SECO considered not only the right-ofway width but also the proposed location of the line on the existing ROW and what area is already cleared based on the cross sections received. All developers proposed different centerline locations. SECO did not attempt to optimize designs. The average area estimated to be cleared for NAT T006 is 100 feet wide and the area to be cleared for T014/T015 is 115 feet. The matting and work areas, as well as construction and equipment costs, are based on assembly of steel poles on the ground.

Treatment of Non-BPTF Components

35. What criteria, parameters, or rationale did the NYISO apply to identify and back out non-BPTF component of proposed? Specifically, why was some of non-BPTF components modified or eliminated, while other non-BPTF components were unchanged, such as certain 115 kV non-BTPF components of National Grid's proposals that addressed certain identified non-BPTF overloads that were not removed from its proposals?

<u>NYISO Response</u>: The NYISO has set forth in its January 24, 2017 ESPWG presentation how it would model the three non-BPTF upgrades directed by the NYPSC Order in evaluating the Western New York Public Policy Transmission Projects. This presentation is available at below

link, and it is also included in Appendix C of the draft Western NY Public Policy Transmission Planning Report. <u>http://www.nyiso.com/public/webdocs/markets operations/committees/</u> <u>bic espwg/meeting materials/2017-01-24/2 Updates WNY PPTN Ph2 Assumptions.pdf</u>

36. How was the South Perry 230/115 kV transformer treated in the T013 proposal?

<u>NYISO Response</u>: The System Impact Study for the South Perry 230/115 kV transformer was approved by the Operating Committee in May 2017. Therefore, it was not considered as part of any Western NY transmission project. Section 2.5 of the draft Western NY Public Policy Transmission Planning Report was added to clarify this.

Operability

37. What consideration did the NYISO give Developers' proposals to separate the towers on Lines #61 and #64?

NYISO Response: The NYISO modeled the elimination of the tower contingency if proposed. The tower contingency for loss of Niagara – Packard 230 kV line #61 and Niagara – Robinson Road 230 kV line #64 is limiting in the pre-project transfer analysis. With the Western NY Public Policy Transmission Projects in place, this tower contingency is no longer the most limiting element in the transfer analysis. While the tower separation provides benefit to system operation, it is not a significant distinguishing factor between projects in the evaluation.

Cost Containment

38. To what extent has the NYISO considered cost containment in its evaluation for the more efficient or cost effective solution?

<u>NYISO Response</u>: In its Public Policy Transmission Planning Process, the NYISO considers a solution's total performance across a wide range of technical and cost-based selection criteria to enable it to select the more efficient or cost effective solution for an identified Public Policy Transmission Need. In evaluating proposed solutions to the Western NY Need, the NYISO assessed the proposed solutions on the basis of their performance under all of the selection metrics and detailed its analysis in its final Public Policy Transmission Planning Report.

The Federal Energy Regulatory Commission (FERC) accepted the NYISO's selection process under Attachment Y to the OATT as consistent with Order No. 1000. In doing so, FERC rejected arguments that the NYISO should be required to consider cost as the primary metric in its evaluation and to specifically include specific cost-containment commitments among its evaluation metrics. FERC reiterated that it specifically declined to impose a requirement under Order No. 1000 to select a project or bidder that is willing to guarantee the lowest net present value of its annual revenue requirement. FERC also determined that the NYISO's evaluation criteria "are broad enough to allow NYISO to appropriately assess the cost-effectiveness of proposed transmission solutions" and specifically referenced the NYISO's ability to consider the accuracy of proposed cost estimates and potential issues associated with delay in constructing the solution (*see New York Indep. Sys. Operator, Inc.*, 151 FERC ¶ 61,040, at PP 116, 117 [2015]; *see also* Section 31.4.8 of Attachment Y to the OATT).