STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

CASE 12-T-0502 - Proceeding on Motion of the Commission to Examine Alternating Current Transmission Upgrades.

CASE 13-E-0488 - In the Matter of Alternating Current Transmission Upgrades - Comparative Proceeding.

CASE 13-T-0461 - Application of Boundless Energy NE, LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article VII for Leeds Path West Project.

BOUNDLESS ENERGY NE, LLC'S INITIAL COMMENTS ON TRIAL STAFF'S FINAL REPORT

I. INTRODUCTION

The Public Service Commission ("Commission") initiated this proceeding[1] to increase transmission capacity from upstate to downstate New York, as called for by the Governor's Energy Highway Task Force.[2] The Commission's initiative, however, has been buffeted throughout this Proceeding by new policy proposals, changes in the state's electric power system, a number of regulatory complications and critical responses by neighboring communities. These cross currents have led to changes in the Commission's goals and procedures during the course of this Proceeding. Trial Staff's[3] Final Report does not resolve the resulting confusion, but exacerbates it by recommending that the Commission not make a selection of a project, or projects, which

[1] Case 12-T-0502, Proceeding on Motion of the Commission to Examine Alternating Current Transmission Upgrades, *Order Instituting Proceeding* (issued November 30, 2012) (hereinafter referred to as "Proceeding"). For the purpose of simplicity of expression in these Initial Comments, Boundless does not identify all of the Commission proceedings which are related to Case 12-T-0502.

[2] Governor Andrew Cuomo called for an Energy Highway in his 2012 State of the State Message (January 4, 2012) and formed the Energy Highway Task force. *See* Energy Highway Blueprint, p. 5 (issued October 22, 2012).

[3] "Trial Staff" refers to a cohort of Department of Public Service Employees appointed to participate in these Commission proceedings. Trial Staff is a party to this Proceeding. See the list of individuals designated as Trial Staff, dated January 7, 2015, which was filed in this Proceeding pursuant to 16 NYCRR § 4.3(d).

meet the Commission's public policy goals, but simply refer the selection to the New York Independent System Operator ("NYISO"). The successful resolution of the Commission's solicitation of project proposals from transmission developers is threatened by these changes in the Commission's goals, together with significant errors by Trial Staff.

Trial Staff's recommended selection of projects in the Final Report[4] to be invited to propose projects to the NYISO is flawed by a number of arbitrary and capricious actions and without substantial evidentiary support in the record of this Proceeding. Adoption of Trial Staff's recommendations may subject the Commission's actions to substantial legal challenge. A few examples suffice to show the significant shortcomings of the Final Report.

● Although the Commission directed Trial Staff to identify the contribution of TOTS Projects[5] toward the 1,000 MW target of congestion relief and reflect this contribution "in the baseline used to evaluate the incremental contribution of the remaining projects," Boundless is not aware that these directions were carried out even though the TOTS Projects were included in the base case for the NYISO's power flow analyses during this Proceeding with significant impact on a number of projects. Trial Staff did not account for the TOTS Projects' contribution to transfer capability increase target. This non-recognition results in an effective – and arbitrary – enlargement of the Commission's target. In plain words, the 1,000 MW original target has been markedly reduced by the TOTS projects now underway. This creates a significant change to the goal of this proceeding which has never been incorporated into the requirement or judging factors for the proposed solutions.

● Trial Staff created "project fragments" – portions of larger project proposals – at what appears to have been the last moment. While the larger projects have been studied, there have not been studies of these specific project fragments, particularly concerning the respective contributions to the Commission's goal of congestion relief. Trial Staff recommends that the developers of these "segments should be invited by the Commission to file with the NYISO" "in order to promote competition and encourage the lowest cost project to be built . . . ." [6] The selection of what projects or projects best meet the Commission's public policy objectives, however, will not be made by the Commission, but

---

[4] Trial Staff's Final Report was issued on September 22, 2015.

[5] Transmission Owners Transmission Solutions, authorized by the Commission in Case 12-E-0503, *Order Accepting IPEC Reliability Contingency Plans, Establishing Cost Allocation and Recovery, and Denying Requests for Rehearing* (issued November 4, 2013).

[6] Final Report, pp. 159 – 160.

by the NYISO in a process with no apparent opportunity for public input. Moreover, it is quite unlikely that Trial Staff's proposal will lead to the lowest cost project being built. In addition:

● The NYISO has no mandate to protect affected communities from environmental impacts of new transmission projects. As a result, this important part of the Commission's policies will be either downplayed or completely omitted in the NYISO's selection process.

● Most of the selected project proposals are not within the right-of-way envelope, as called for by Governor Cuomo, as they include towers considerably taller than existing towers[7] and a brand new substation. In contrast, Boundless' projects are entirely within the ROW Envelope.

The Final Report is replete with arbitrary and capricious conclusions regarding Boundless' project proposals and numerous assertions and claims for which substantial evidence in the record of this Proceeding is missing. Boundless has identified some of the most significant of these elements.

Possibly the most important issue in this Proceeding is not any single concrete issue, but the disparate treatment of Boundless throughout this Proceeding, in contrast to the New York transmission owners and the two other developers. Early in this Proceeding, for example, DPS Staff raised the issue of Boundless' ability to gain control of the facilities it would need to carry out this project. While this issue might well apply to all of the non-incumbent developers, DPS Staff sought to seek the dismissal of only Boundless from the Proceeding on the issue. Boundless was able to rebut DPS Staff on this issue, with a combination of legal argument and the fact that a Boundless subsidiary was formed under the Transportation Corporations Law and thus Boundless would be able to exercise the power of eminent domain in the event Boundless received construction authority through Article VII.[8] Similarly, Boundless has been challenged on (a) the extent of its financial backing, (b) whether it met the Commission's 1,000 MW screening requirement and (c) a contingency concerning the impact of proposed series compensation equipment at the Hurley Avenue Substation. While the first two of these challenges were abandoned, Trial Staff rejected Boundless' request seeking relief from the contingency concerning series compensation facilities. In contrast to Boundless' treatment concerning the Hurley Avenue contingency, however, Trial Staff immediately resolved a much more significant `

[7] "Right-of-way" is abbreviated "ROW" in these Initial Comments. "ROW Envelope" refers to the height of the transmission towers as well as the width of the ROW.

[8] It is worth noting that Trial Staff continues to raise this issue, without reference to the ruling in this Proceeding. See Note 42 to the Final Report

system planning contingency involving the three other developers – namely, the CPV Valley contingency.

In the Final Report, this disparate treatment appears yet again, when (1) one developer's project was credited as meeting the Commission's public policy objectives, (2) two other developers were selected to compete with the first developer and (3) Boundless' projects were excluded by Trial Staff on the insufficient grounds that are documented in these Initial Comments. The disparate pattern feels very familiar and very unfair.

Rather than continue on the fruitless regulatory path proposed by Trial Staff, Boundless respectfully submits that the Commission should reverse Trial Staff's errors by recommending that Boundless' Projects be invited to be proposed to the NYISO's public policy process. Significantly, the ostensible reason for not recommending Boundless' projects for participation in the NYISO public policy process – whether Boundless meets a benefit/cost ratio of 1.0 or better is significantly altered by the full recognition of the benefits of Boundless' projects.[9] This Proceeding has continued for almost three years and the parties, the affected public and ratepayers are entitled to a sound decision, based upon substantial evidence in the record and free of arbitrary and capricious actions, as opposed to a decision with key elements hardly even sketched, much less thoroughly analyzed. Establishing a firm basis now for advancing New York's Energy Highway, free of the problems in the Final Report, is the quickest and most efficient way for the Commission to achieve its overall goal of enhanced transmission capability and of public acceptance of its decision.

SUMMARY TABLE OF CONTENTS

[9] See discussion below in Section III (A).

II. ELEVEN CRITICAL ISSUES

Boundless presents in this Section eleven important issues, each one of which merits thorough reconsideration by the Commission of Trial Staff's recommended course of action in the Final Report.

A. TRIAL STAFF DISREGARDS THE COMMISSION'S DIRECTION TO ACCOUNT FOR THE TOTS PROJECTS' CONTRIBUTION TO THE TRANSFER CAPABILITY INCREASE GOAL

The most important Commission goal in this Proceeding is to increase the transfer capability across the UPNY-SENY electric transmission interface[10] by 1,000 MW, which was also the goal in the Energy Highway Blueprint. In December 2014, the Commission recognized that its goal of a 1,000 MW increase had been already been partially met – completely apart from the contributions from any of the project proposals submitted by developers which remain in this Proceeding. [11]

> The TOTS projects have already been accepted as part of the Indian Point Reliability Contingency Plan and their contribution toward the 1,000 MW target of congestion relief should be identified by Trial Staff and reflected in the baseline used to evaluate the incremental contribution of the remaining projects.[12] (Emphases added.)

The Commission expressly observed that the TOTS Projects make a contribution to the 1,000 MW congestion relief target. As a matter of logic, this reduces the remaining amount required to meet the Commission's target of 1,000 MW. There is no indication in the December 16th Order that Trial Staff should increase the target figure by the amount of the TOTS Projects' contribution.

Nor is there any evidence in the Final Report that Trial Staff identified the amount of the TOTS Projects' contribution. Perhaps the only possible explanation why Trial Staff

---

[10] An electric transmission interface is a planning tool used by the NYISO to divide the state's high voltage electric transmission system into planning zones. These interfaces are referred to in these Initial Comments as "Interfaces." In practice, each interface is comprised of a number of high voltage electric circuits which cross the interface.

[11] Case 12-T-0502, Proceeding on Motion of the Commission to Examine Alternating Current Transmission Upgrades, *Order Establishing Modified Procedures for Comparative Evaluation*, p. 40 (issued December 16, 2014). This order is referred to in these Initial Comments as the "December 16th Order."

[12] December 16th Order, p. 40.

did not revise the target for congestion relief in light of the Commission's order is an assumption that the Commission had in mind only a change in the system planning studies as a result of the TOTS Projects. Boundless respectfully submits that this position, if in fact Trial Staff adopts it, is clearly erroneous.

If system planning studies are to be adjusted to recognize the TOTS Projects' partial satisfaction of the Commission's goal of transfer capability increase across the UPNY-SENY Interface, why should not the Commission's net target number of congestion relief in this Proceeding also be recognized? The system planning studies should reflect the changes in the real world. It is clear that the NYISO has calculated the UPNY-SENY interface transfer capability as a result of the TOTS Projects.[13] The Commission's direction that the TOTS Projects' contribution be identified by Trial Staff is the undeniable recognition by the Commission that a portion of the original congestion relief goal has been met through the TOTS Projects' contribution, and that this amount should be recognized by Trial Staff. Otherwise, the effect would be to arbitrarily increase the target amount sought to 1,000 MW plus the TOTS Projects' contribution. The NYISO has calculated the additional transfer capability contributed by the TOTS Projects to the UPNY – SENY interface at 450 MW.[14] Using this figure, the net amount of the Commission's original goal of 1,000 MW remaining as a goal for developers in this proceeding is 550 MW. Nevertheless, Trial Staff adopted a second screen of 900 MWs to exclude Boundless' projects.

The language of the Commission's December 16th Order is clear. The Commission's recognition of the contribution of the TOTS Projects toward the 1,000 MW target of congestion relief and the reference in the same sentence to "the incremental

---

[13] NYISO 2014 Reliability Needs Assessment, p. 29. Similarly, the NYISO's 2015 Congestion Assessment and Resource Integration Study ("CARIS") included the TOTS Projects in the system topology:

> The report also discusses key assumptions adopted for this analysis, and changes in the system topology and forecasts of key model inputs from the prior CARIS Phase 1 analysis, some of which resulted in reduced congestion projections for the next 10 years, for example, the construction of the Transmission Owner Transmission Solutions (TOTS) in 2016 and lower load and natural gas price forecasts. The TOTS projects, which enhance the transfer capability across Marcy South, tend to decrease the overall level of congestion across the UPNY-SENY interface. (Executive Summary, p. 5.)

[14] Presentation by the Reliability Planning Group at the NYISO to the NYISO's Electric System Planning Working Group & the Transmission Planning Advisory Subcommittee, May 8, 2014, concerning MARS Transmission Topology Update for 2014 RNA, p. 7. The 2014 RNA power flow base cases were used without update for the 2015 CARIS report. (2015 Congestion Assessment and Resource Integration Study § 4.1.Another NYISO official reported the contribution of the TOTS projects to cross state transfer capability of approximately 500 MW. Rich Gonzales, NYISO COO at the August 26, 2015 Management Committee, Item 2. c

contribution of the remaining projects" make clear that the Commission was not merely addressing how the NYISO should conduct power flow cases, but was also recognizing the need to determine the incremental, or the net, contributions to congestion relief sought in this Proceeding. The use of "incremental" identifies that the Commission sought a revised goal for contributions by the developers remaining in this Proceeding after the sponsors of the TOTS Projects withdrew them from this Proceeding that reflected the amount of the TOTS Projects' contribution.

Moreover, the Commission did not use "base case" in the December 16th Order, but rather "baseline." Nor did the Commission refer in the order to the NYISO's preparation of power flow analyses for the Commission and Trial Staff. While Trial Staff may attempt to excuse the Commission by arguing that it simply used language in a non-technical sense, this rhetorical argument is without support in the record, is hardly realistic and is not fair to the Commission nor its advisers.

Moreover, the Commission's reference to the "remaining projects" recalls the fact that the developers of the TOTS Projects originally proposed them in this Proceeding. The 1,000 MW goal for the proceeding was used first by the Commission while the TOTS Projects were still under consideration in this Proceeding. There is no statement in the December 16th Order, or subsequently, that the remaining projects in this Proceeding would have to meet the entire 1,000 MW goal without regard to the TOTS Projects' contribution.

The introduction of the TOTS Projects' contribution to the 1,000 MW congestion relief target has had a significant impact on certain, if not all, of the four transmission developers. The power flows in the New York Control Area were changed by the inclusion of the TOTS Projects in the NYISO's base case. The absence of any explanation by Trial Staff for (1) absence of recognition of the TOTS Projects' contribution toward the congestion reduction goal while (2) including the contribution in the power flow analyses is arbitrary and capricious.

Trial Staff refers frequently in the Final Report to the Commission's "original goal." *See*, for example, page xxiii of the Executive Summary of the Final Report. Boundless is not aware of an explanation in the Final Report of the meaning of "original" in this usage, but it may reflect the reality that there was a reduction in the amount of transfer capability increase being sought from project developers remaining in the Proceeding.

Boundless respectfully submits that the failure of Trial Staff to follow the Commission's direction and account for the transfer capability already achieved as a result of the TOTS Projects requires the Commission to correct Trial Staff's definition of the target for congestion relief and the evaluation of the project proposals in the Final Report. It is clear that Trial Staff's emphasis on seeking project proposals with large transfer capabilities is completely misplaced. To make this fundamental error even more extreme, Trial Staff introduced a screening figure of 900 MW in the Final Report. This screening factor is appropriate only if Trial Staff seeks to obtain a transfer capability increase far beyond the net goal sought by the Commission in the December 16th Order.

All four developers' project proposals meet the Commission's incremental transfer capability goal for project proposals in this Proceeding, after subtraction of the TOTS Projects' contribution of 450 MW. The 900 MW screening factor should be eliminated as completely inconsistent with the Commission's instructions regarding the TOTS Projects' contribution to the transfer capability increase.

Finally, in addition to the fact that Trial Staff's continuing focus on a goal of 1,000 MW of transfer capability is erroneous and contrary to Commission direction, Trial Staff's error creates another problem. Some projects in this Proceeding produce much more transfer capability, after accounting for the TOTS Projects' contribution, than is necessary to meet the incremental target figure. It is essential for cost control for the customers who will have to pay for any transmission upgrades and for good environmental stewardship that transmission facilities not be needlessly oversized. This is an unwarranted imposition of cost on the state's electric customers and a waste of assets. Good regulatory management requires that only appropriately-sized projects be authorized, not oversize dinosaurs. Bigger is not always better. This final issue is addressed in more detail below in Section V(C), below.

B. BOUNDLESS' TWO PROPOSED MODIFICATIONS SHOULD BE GRANTED CONSISTENT WITH TRIAL STAFF'S APPROVAL OF MODIFICATIONS FOR OTHER PROJECTS

The Commission stated in the December 16th Order that "no substantial modifications" in developers' projects would be permitted after the January 7, 2015 revisions to projects were filed until the end of the comparative evaluation proceeding.[15] This policy appears to have been intended to be universal, covering all modifications,

[15] December 16th Order at p. 33.

particularly modifications benefitting projects. It may, in particular, be intended to protect a developer from copying by a competing developer. There have been, however, several modifications to developers' projects recently. The examples discussed in Subsection II(B)(1) below present a context in which to understand better the status of the Commission's "no substantial modifications" policy today. Boundless respectfully submits that the two modifications identified in Subsection II(B)(2), below, should be granted.

1. RECENT SUBSTANTIAL MODIFICATIONS

(a) THE CPV VALLEY MODIFICATION

Trial Staff disclosed in the Final Report that it has proposed a substantial modification for all projects except Boundless' projects. It appears that all developers' projects (except Boundless' projects) trigger a contingency on the Orange and Rockland system in the NYISO's power flow analyses which makes these developers' projects' contribution to increased transfer capability non-positive.[16] The NYISO discovered this limitation on certain developers' projects in the NYISO's conduct of power flow analyses for Trial Staff following the issuance of Trial Staff's Interim Report.[17] While Trial Staff might have simply reported the NYISO's finding, it instead undertook to fashion a remedy for the problem for affected developers' projects by proposing a substantial modification to those projects. Although Boundless is not privy to any interactions between Trial Staff and affected developers, it is apparent that Trial Staff determined that it was necessary to resolve the contingency with a proposed rebuilding of Orange and Rockland's Shoemaker to Sugarloaf line. At the least, this modification of developers' projects – including the addition of nearly $100 million cost to the projects – had to be accepted by each developer as a part of its project.[18] No developer has announced opposition to the proposed substantial modification. It appears that Trial

[16] Final Report, pp. xxiv. Trial Staff admits the "after the fact" logic of the proposed modification by noting on Page xxiv that "the transmission project recommended by Trial Staff would not be able to operate at full capacity as the Sugarloaf to Chester line is limiting." The contingency is linked to the impact of the CPV Valley project.

[17] The Interim Report was released on July 6, 2015.

[18] Each affected developer will have its cost estimate increased by the sum estimated to be necessary to make the modification proposed by Trial Staff, as set forth in Trial Staff's cost estimate work papers.

Staff considers this modification to be a *fait accompli*.[19] Boundless respectfully submits that this proposed modification should be considered in light of the Commission's December 16th Order's no substantial modification policy.

Trial Staff may consider that the introduction of the CPV Valley project into this Proceeding took all project developers by surprise. This is clearly not true of North America Transmission Corporation/North America Transmission, LLC, however, as this developer commented on the potential impacts of the CPV Valley project in its Initial Comments on Revised Part A Application in April 2015.[20] Boundless also had assumed prior to the project filings in January 2015 that CPV Valley would be included in the base case. Thus, Boundless modified its projects at that time to accommodate the CPV Valley project.[21]

(b) TRIAL STAFF MODIFIES PROJECTS TO CREATE PROJECT FRAGMENTS

Beginning on Page 156 of the Final Report, Trial Staff presents its basis for recommending Project 11 as best meeting all public policy objectives. Three pages later, however, Trial Staff announces a new direction. Trial Staff proposes to allow a group of specified developers "to bid [portions of their projects] rather than solely selecting the NYTOs." While these selected developers are invited to file proposals with the NYISO, they clearly are in a different category than Project 11 as these "project fragments" are selected in order to "promote competition and encourage the lowest cost project to be built in the interest of ratepayers . . . ." Although Trial Staff has not created newly fledged projects, it does propose that (1) portions of certain developers' projects be substantially modified by creating subprojects, or "project fragments," and (2) these developers be invited to propose these project fragments to the NYISO in the public policy process which the NYISO will commence following the end of this Proceeding. In short, Trial Staff has modified the pending projects for the benefit of selected developers by creating new sub-projects – project fragments.[22] Again, Trial Staff errs in

[19] Figure ES 2 in the Final Report reports transfer capability impacts for individual projects without any reduction for the impact of CPV Valley project, even though Trial Staff notes that "the transmission project recommended by Trial Staff would not be able to operate at full capacity as the Sugarloaf to Chester line is limiting."

[20] Pp. 23-24 (dated April 22, 2015). Boundless has no information about the two other developers' knowledge of the CPV Valley project earlier this year.

[21] Among other factors, Boundless recognized that CPV Valley had received a "Class Year" allocation of system upgrade facility costs and had paid its allocated amount of system upgrade facility costs.

[22] This issue is addressed in more detail below in Subsection II (C) (1).

not allowing Boundless' entire projects in Competition "B" after Competition "A" solves the Central-East congestion resulting, partly, from the TOTS Projects. This exclusion of the only project with no environmental impacts and public acceptance represents an unacceptable bias against the Commission's goal of protecting the environment.

(c) TRIAL STAFF PROPOSES A STAND-ALONE ROSETON TO EAST FISHKILL PROJECT

Trial Staff reports in the Final Report that it evaluated (with the NYISO) the possibility of creating a stand-alone Roseton to East Fishkill project, including combining Boundless' project component together with either Project 9 or Project 14.[23] Trial Staff's evaluation of this stand-alone project indicated, however, that while the Trial Staff-proposed stand-alone project created additional transfer capability, it did not justify the costs.[24]

Trial Staff's proposed consideration of combining Projects 9 and 14 with Boundless' Roseton – East Fishkill component was made notwithstanding the no substantial modification policy. This proposed substantial modification was limited, however, by containing only project elements already proposed in this Proceeding. This approach is artificial, with no explanation or substantial reasoning supporting it. Moreover, while Trial Staff may have believed at some point during the preparation of the Final Report that modifications could only involve project proposals already submitted in this Proceeding, it clearly is not Trial Staff's view now in light of the proposed creation of project fragments.

(d) TRIAL STAFF'S MODIFICATION OF BOUNDLESS' ROSETON SUBSTATION TO CLEAR A CONTINGENCY

The NYISO informed Boundless at the Technical Conference following the release of Trial Staff's Interim Report that an element in Boundless' projects limited the NYISO's power flow results. Central Hudson Gas & Electric Corporation's design of the Roseton Substation created the potential for a stuck circuit breaker in that Substation which could cause multiple failures and thus interrupt one or more of the two new circuits across the Hudson River proposed by Boundless. Boundless requested Trial Staff to inform the

[23] Final Report, pp. 155 – 156.

[24] Final Report, p. 156.

NYISO that the power flow analyses to be conducted following the release of the Interim Report should be run with this contingency eliminated. While it is not clear whether Trial Staff's decision to allow the NYISO to conduct power flow analyses without recognizing this contingency rises to the level of a "substantial modification," Trial Staff did approve a modification to Boundless' project, namely, the requested action regarding the Roseton Substation.

(e) SUMMARY OF CURRENT MOFICATION POLICY

While there may well be other examples of modifications of projects unknown to Boundless, the four examples of Trial Staff's current policy set forth above support the conclusion that the "no substantial modifications" policy announced by the Commission either may not be a complete bar to modifications or that it is not being followed at this time. These four modifications benefited one or more projects. While it might be argued that each of the examples of substantial modifications (e.g., Subsections (a) - (c) above) were initiated by Trial Staff and not a developer, there can be no doubt that those proposed modifications benefit particular developers' projects.

Another principle is evident in all four of these examples. The proposed modification sought to create achievement of the Commission's overarching public policy goals, to achieve increased transfer capability across at least the UPNY-SENY Interface, with minimal acceptable environmental impacts. Moreover, none of the proposed modifications was driven by a developer seeking to copy a project feature in another developer's project. In fact, the no substantial modifications policy may in fact be driven by the Commission's effort to prohibit one developer from borrowing ideas from another. If that is the case, then the modifications proposed by Boundless below should create no concern. Finally, Boundless respectfully submits that the basic rule of admistrative proceedings should apply: a policy should not be applied or an action taken which is arbitrary and capricious. With the perspective of the project modifications which Trial Staff has either originated or agreed to, Boundless respectfully submits that Trial Staff should agree to Boundless' requested modifications set forth below.

2. TWO PROPOSED MODIFICATIONS TO BOUNDLESS' PROJECTS

(a) RELIEF FROM A CONTINGENCY

The NYISO informed Boundless at the Technical Conference following the release of the Interim Report of a second contingency which affected, possibly significantly, the transfer capability produced by Boundless' two projects. The second contingency involved was triggered in situations in which the four generators at the Blenheim–Gilboa pumped storage project were generating power at full capacity. In such circumstances, the two series capacitors proposed by Boundless for installation at the Hurley Avenue Substation would limit the increase in transfer capability across UPNY–SENY in the NYISO's power flow analyses. Boundless understands that such an operating condition would in normal operation of the state's high voltage electric grid by the NYISO be eliminated by the NYISO's operators' dispatch control during the period of that contingency. This is similar to the plan for the New York Power Authority's proposed series compensation facilities being installed at Fraser Substation, which has been approved by the NYISO's Operating Committee. Therefore, this is hardly a modification of Boundless' projects.

Nevertheless, Trial Staff refused to agree to this request.[25] Trial Staff does not explain in the Final Report why it did not instruct the NYISO to eliminate both contingencies. In a response to a Boundless' Interrogatory, however, Trial Staff reported that it did not tell the NYISO to remove the contingency regarding the Hurley Avenue series compensation facilities because it did not want "to reengineer Boundless' project . . . ."[26] This response, however, is hardly a complete answer to why Trial Staff did not make the request involving a contingency which was within the NYISO operators' control as no reengineering is involved. Moreover, it is completely inconsistent with Trial Staff's response to the contingency which affected other developers' projects discussed above. In that case, Trial Staff has created a cost estimate for the proposed upgrade, although Orange and Rockland Utilities is continuing to design the upgrade.

(b) A STAND-ALONE ROSETON TO EAST FISHKILL COMPONENT

[25] *See* Figure 2 on Page xvii in the Final Report. The footnote to that Figure reports that one of the contingencies was addressed by Trial Staff.

[26] Trial Staff's response to Boundless' Interrogatory 1.26.

The modification to developers' proposed projects to remedy a major contingency affecting all the other projects in this Proceeding (discussed above in Subsection II (B) (1), above) is not the only modification considered by Trial Staff following the release of Trial Staff's Interim Report. As discussed above in Subsection II (B) (1) (c), Trial Staff reports in the Final Report that it evaluated (with the NYISO) the possibility of creating a stand-alone Roseton to East Fishkill project, including combining that project component together with either Project 9 or Project 14.[27] Trial Staff's proposed consideration of combining Projects 9 and 14 with Boundless' Roseton – East Fishkill component appears to reflect Trial Staff's judgment that while a project may be modified, even significantly, such modifications may only contain projects already proposed in this Proceeding.

Turning to the substantive question of securing the best project, Boundless suggests that two options exist for a stand-alone Roseton- East Fishkill project. Boundless outlines in the balance of this Subsection two options for an enhanced Roseton to East Fishkill component which (1) would increase its value, (2) be lower cost than the Shoemaker to Sugarloaf circuit upgrade-replacement, (3) would make unnecessary by the stand-alone Roseton-East Fishkill enhancement and (4) would probably avoid the necessity to build a new substation at Knickerbocker and the construction of new transmission facilities in the Knickerbocker to Pleasant Valley corridor. Boundless respectfully submits that the two alternatives below would each meet these goals.

● Increased Cooling Option. Boundless proposed the Roseton to East Fishkill component with no external cooling. Cooling of the conductor could be provided, however, at no increase in Boundless' cost estimate as forced cooling was included in Boundless' cost estimate. For this option, Boundless would propose to add sufficient cooling to the Roseton to East Fishkill component such that the transfer capability of this component would rise significantly.

● Additional Reconductoring Option. Boundless' project application filed on October 1, 2013, included reconductoring components from Leeds to Hurley Avenue to Roseton and Rock Tavern Substations, together with other project components.[28] While these components were withdrawn subsequently, Boundless submits that the Commission should accept them as a component of this Additional Reconductoring Option. In addition, Boundless would now withdraw the series compensation facilities currently proposed for installation at Hurley Avenue Substation. These proposed

[27] Final Report, pp. 155 – 56.

[28] Project Description, Section 1.2 and Figure on p. 2-2.

changes to Boundless' project, or as a stand-alone project, will significantly increase the component's transfer capability increase figure.

Trial Staff attempts to justify allowing certain developers to modify their projects while denying Boundless the same authority. While Trial Staff states that it will not "reengineer Boundless' project in its analysis", this does not explain why Trial Staff has authorized Orange and Rockland to study the upgrade to the Shoemaker to Sugarloaf circuit (i.e., conduct engineering). Moreover, it has clearly authorized all project developers – other than Boundless – to prepare the project fragments, discussed above and in the next Subsection. Finally, the request concerning the treatment of the series compensation facilities installed at Hurley Avenue Substation does not require re-engineering.

C. MODIFICATIONS TO THE COMMISSION'S PROJECT SELECTION PROCEDURE CREATE OPTIONS FOR THE COMMISSION

1. NOTHING IN THE RECORD SUPPORTS TRIAL STAFF'S RECOMMENDED SELECTION OF THREE NEW PROJECT FRAGMENTS

Beginning on Page 156 of the Final Report, Trial Staff presents its basis for recommending Project 11 as best meeting all public policy objectives.[29] On Page 145, however, just three pages later and four pages prior to the Final Report's Conclusion, Trial Staff announces a new direction. While Trial Staff does not choose additional project proposals as meeting all public policy objectives, it does propose to allow a group of specified developers "to bid the project rather than solely selecting the NYTOs." Although these selected developers are invited to file proposals with the NYISO, they clearly are in a different category than Project 11. Trial Staff identified only components of developers' project proposals for submission to the NYISO and did not identify these components as meeting all public policy objectives. Rather, these

[29] Trial Staff's selection of Project 11 in light of its stated concern for cost impacts demonstrates how far the Proceeding has diverged from the Commission's early goals of cost control.. The Commission started this Proceeding looking for transmission options which would provide the best benefit for the state's electric customers at the best price. The Commission even considered a state-authorized cost control measure. Nevertheless incumbent utilities (including the sponsor of Project 11) refused to agree to cost caps, arguing that transmission construction costs were a matter within the jurisdiction of the Federal Energy Regulatory Commission.

components are selected by Trial Staff in order to "promote competition and encourage the lowest cost project to be built in the interest of ratepayers . . . ."

A number of problems are raised by Trial Staff's proposal. First, the "promote competition" group of developers' projects are not project proposals in this Proceeding, but portions of project proposals, or "project fragments." North America Transmission's project fragment is just a part of the project proposal submitted by the developer (Alternate 2). Trial Staff does not propose that NYTOs' Project 11 be submitted to the NYISO, but rather two project fragments derived from Project 11. Similarly, Project 19a, as proposed, starts at the Greenbush Substation. Trial Staff, however proposes to truncate Project 19a, such that it starts at the Knickerbocker Substation. Project fragments are thus being substituted for the actual project proposals submitted by developers. The information in the record, particularly the power flow analyses, is not for Trial Staff's project fragments, but for project proposals. What is the benefit cost ratio for these project fragments? Why should these project fragments be recommended to the NYISO, when there is no benefit cost ratio for them, while Boundless' projects are screened out for missing the benefit cost target? What is the contribution to transfer capability increases across UPNY-SENY? The transfer capability increase value of these project fragments is a mystery as is the benefit cost ratio for each project fragment. Most significant, project developers are free to make small or material changes to these project fragments when they are proposed to the NYISO. In short, the project fragments are Trial Staff's invention, apparently made in the closing days of this three year Proceeding. Thus, under Trial Staff's proposal project fragments are recommended for selection by the Commission based upon the incomplete partial status of the information in the record.

Trial Staff does not propose that developers study these proposed project fragments in this Proceeding. Rather Trial Staff offers selected developers the opportunity to propose these project fragments – without complete evaluation of them in this Proceeding – in the public policy process to be conducted by the NYISO following the conclusion of this Proceeding. In other words, Trial Staff proposes that this Proceeding end without a Commission decision selecting one or more selected projects – other than possibly Project 11 - as meeting the Commission's public policy objectives. The best that Trial Staff can say is:

> These facilities, locations and routes are most promising from an electric system benefit perspective, and are significantly more environmentally compatible primarily because they are designed to use existing rights-of-way, and generally

replace existing facilities with new facilities while largely avoiding significant new intrusions into existing communities, landscapes and important farmland resources.[30]

In short, Trial Staff's sketchily-described procedural scheme proposes that the competition not conclude with the Commission's final order in this Proceeding selecting one or more projects as meeting public policy objectives, but rather an order which continues the process in a new venue, before the NYISO. The ultimate decision of which projects meet the Commission's public policy objectives will be left to the NYISO.[31] Interestingly, Trial Staff does not include environmental compatibility in the factors identified for the NYISO to consider.[32] After almost three years of this Proceeding, rather than taking responsibility for recommending a decision to the Commission, Trial Staff recommends that the Commission cut short its decision-making role and simply pass the job along to another entity. The NYISO, of course, is not a public agency, but a not for profit corporation governed by market participants and a board of directors.

Further, Trial Staff does not describe the procedure to be followed in the purported competition at the NYISO, for the simple reason that the procedure does not exist in any detail. Because the NYISO has never conducted a project selection process under its "public policy" tariff provisions, which will govern its review of these project fragments, it is impossible to know what the NYISO process will entail beyond referring to its tariff, which leaves more questions unanswered than answered.[33] Nothing in the NYISO tariff applicable to this process provides for active public participation comparable to what is available under the Commission's procedures. There will be, apparently, no discovery and no public hearings. This unique and important state priority would be left unresolved by the Commission. While the absence of explanation by Trial Staff of its proposed procedure going forward prevents Boundless from making any definitive statements about what led to this surprising denouement, Trial Staff needs to explain what procedures it expects the NYISO to adopt and apply.

Additional questions come to mind. Does Trial Staff envision the NYISO will consider the project fragments in a single assessment phase, addressing the projected transfer capacity increases for the UPNY–SENY and any other relevant interfaces at one time?[34] Does Trial Staff expect the NYISO to select the more efficient or more cost

---

[30] Final Report, p. 164.
[31] Final Report, p. 159 - 160.
[32] Final Report, pp. 161 – 162.
[33] NYISO Open Access Transmission Tariff, Article 31(4).
[34] Final Report, p. 161.

effective projects, as its tariff calls for, even if this selection it might result in the Commission's congestion reduction targets only being met at one interface or the other, or neither? What would be the role of the Commission and its Staff in the NYISO process? Will developers be free to avoid meeting any of the environmental policies which are important to this Proceeding? Could, for example, the transmission tower height limits be disregarded or ROWs be widened? Could a developer – other than one of the developers identified by Trial Staff – propose a more efficient or cost effective project in the selected corridors, and thus supplant the selected developers? Will selected developers be free to modify their project fragments to meet competitors' projects? Over what time period does Trial Staff anticipate the reimbursable development costs to cover? Boundless respectfully submits that no one knows the answers to these questions as the proposed process is specified neither in the Final Report nor in the NYISO's tariff.

Another problem with Trial Staff's recommendation of a change in the project selection process is Trial Staff's selection of project fragments for the UPNY-SENY Interface solely in the newly-proposed Knickerbocker to Pleasant Valley corridor. Trial Staff has made a "top down" selection of a corridor for developers' project fragment proposals – without the bifurcated project fragments being analyzed by Trial Staff, the Commission or the NYISO. Since Trial Staff proposes to exclude Boundless as a result of a screening test, there was no real alternative in the region of the UPNY-SENY interface other than replacing or rebuilding the New Scotland to Leeds to Pleasant Valley circuits. Now with only the project fragments are under consideration, there is no evidence that the selection of the Knickerbocker to Pleasant Valley corridor is superior to other corridor options, including particularly projects on the west side of the Hudson.

Of course, it may be argued that project fragments recommended by Trial Staff, could, in any event, have been recommended for submission to the NYISO as part of developers' project proposals in this Proceeding, so there is nothing new in Trial Staff's procedural suggestion. Boundless understands, however, that the original procedure envisioned that the Commission would make a final order selecting one or more of the project proposals submitted by developers in January 2015, not that the Commission would essentially allow the competition to continue at the NYISO among the newly-minted project fragments proposed by Trial Staff, without the complete selection of a project or projects by the Commission as meeting public policy objectives. Moreover, it is not clear if Trial Staff could make the same recommendations for the other developers, as their "project proposals" are not the subject of Trial Staff's recommendations, but rather just project fragments.

This approach to system planning was invented by Trial Staff in an effort to wrest something of value out of this Proceeding's three years' effort, without the Commission having to make a complete decision. Avoiding taking responsibility for a decision in this Proceeding is hardly the most efficient, nor the fairest way to select proposed projects. Trial Staff offers not a word of explanation for the proposed abdication of responsibility and of jurisdiction. While the proposed shift of the final choice of project, or projects, to the NYISO transfers a core responsibility of the Commission to a very different type of organization, the parties, the public and the NYISO are left in the dark as to why the Commission will not make the decision itself. This unexplained, proposed course of inaction is particularly strange for the Commission, which guards its jurisdiction against Federal encroachment.[35]

Boundless submits that the recommended approach implicitly favors projects which were designed to provide significant transfer capability increases at both UPNY–SENY and Central-East Interfaces. Even though the project fragments are to be bifurcated, the NYISO is apparently given the task of selecting projects fragments in a single assessment. Trial Staff should explain why such a process produces better results than the process which has been in place in this Proceeding.

Trial Staff's proposed procedure raises yet another problem. As regards the "no significant modification" policy of the Commission, the new post-Commission decision procedure proposed by Trial Staff opens up an opportunity for just such amendments, before the final public policy decision will be made by the NYISO. While the "no substantial modification" policy would thus end with the end of this comparative proceeding, Trial Staff has modified the project proposals to create the project fragments. Moreover, developers would be permitted to modify their projects for submission to the NYISO. No limits on the scope of any such amendments is set forth by Trial Staff. It is not clear that a selected developer cannot include both the segments identified by Trial Staff in this section of the Final Report and also any number of other proposals. May a "selected developer," for instance propose a "project fragment" which Trial Staff attempted to allocate to another developer? May a "selected developer" propose a project completely geographically remote from the "project fragments" identified by Trial Staff? The short answer is that no one knows. Since the Commission will refer

[35] A recent example is the Commission's brief amicus curiae in Docket No. 14-840, Federal Energy Regulatory Commission v. Electric Power Supply Association, et al. (concerning jurisdiction over regulation of demand response).

making the ultimate public policy decision to the NYISO, the effect is to allow project modifications prior to the ultimate public policy decision being made.

2. THE COMMISSION SHOULD ADDRESS TRANSFER CAPABILITY INCREASES FIRST ACROSS CENTRAL-EAST AND THEN ACROSS UPNY – SENY

Boundless respectfully suggests that a preferable approach to Trial Staff's proposed creation of project fragments exists. This approach does not resolve all of the flaws of Trial Staff's proposal, but it has advantages. Under this approach, the Commission would not prematurely terminate this Proceeding. Rather, proposals addressing relief of congestion across Central-East would be compared and, separately, project proposals which address congestion across UPNY-SENY would be compared. In short, project proposals would be substituted for project fragments. The assessment process would sequenced. The first selection process would involve project proposals which contribute to transfer capability increases across Central-East Interface. Since normal power flows are eastward, from west of the Central-East towards UPNY-SENY, it makes sense to analyze the improvements to the "upstream" interface first, i.e., Central-East. Then, the project proposals which address UPNY-SENY congestion relief would be analyzed, with the benefit of the information about additional power flows across Central-East as a part of this evaluation. This would, in short, configure the analytical procedure to follow the real world's power flows. It is essential therefore that the selection process, and the analysis of power flows be made in a rational manner reflecting the New York grid's power flows. Developers of "combo" projects would be permitted to select which competition to join.

This approach would apply realistically the increased power flows reaching UPNY–SENY as a result of the upgrade of the Central-East interface. Trial Staff's "simultaneous assessment" approach yields unrealistic results for project fragments which increase transfer capability across UPNY–SENY, as the power flows reaching UPNY–SENY are artificially under-reported in Trial Staff's evaluative approach, because any incremental power flow at Central-East is not captured the power flow measurements at UPNY-SENY which results from the Central East upgrade. This proposed "sequential" approach to analyzing power flows treat all projects which were designed with the UPNY-SENY interface in mind fairly.

In addition, this approach, with respect to transfer capability increases across the UPNY-SENY Interface, would permit Trial Staff to avoid the "top down" selection of only projects located in the Knickerbocker to Pleasant Valley corridor for evaluation with

respect to UPNY-SENY. This would open up the potential advantages that, if a project not in the Knickerbocker to Pleasant Valley corridor were selected, Trial Staff could avoid the entire issue of "after the fact" modification of projects with the required rebuilding of the Shoemaker to Sugarloaf circuit. And, obviously, such an approach would permit Trial Staff to potentially avoid the building of a significantly modified 345 kV corridor on the east side of the Hudson River, with substantial visual impacts.

D. TRIAL STAFF'S PROPOSED USE OF PROJECT PROPOSALS' IMPACT ON THE CENTRAL-EAST INTERFACE IS WITHOUT BASIS AND FATALLY UNDERMINES THE FINAL REPORT

In 2012, Governor Andrew M. Cuomo announced in his State of the State Message a welcome approach to solving New York's long-festering problems with its electric transmission grid with the creation of an Energy Highway.

> To make this happen, we will issue requests for proposals to implement a master plan to power our needs for the next half-century. . . .[36] (Emphasis added)

Governor Cuomo's call for an Energy Highway led to the Energy Highway Blueprint and to the Commission's initiation of the Alternating Current Transmission Upgrades Proceeding in November 2012.

In April 2013, the Commission invited Boundless and the three other transmission developers remaining after a winnowing process by the Commission to submit applications in October 2013.[37] The Commission stated the goal of this Proceeding:

> Following submission of the [statements of intent], Staff requested the New York Independent System Operator (NYISO) to perform a high-level screening analysis to determine if portfolios of project proposals would accomplish the goal of increasing transfer capability by 1,000 MW at the UPNY/SENY interface along with an increase in transfer capability across the Central-East interface.[38]

In its Final Report, Trial Staff summarized the role of the Central-East Interface in this Proceeding:

---

[36] 2012 State of the State Message (January 4, 2012).

[37] Case 12-T-0502, Proceeding on Motion of the Commission to Examine Alternating Current Transmission Upgrades, *Order Establishing Procedures for Joint Review under Article VII of the Public Service Law and Approving Rule Changes* (Issued April 22, 2013).

[38] *Id.*, p. 5.

> The primary driver for this proceeding was to increase the UPNY/SENY transfer capability by at least 1,000 MW. However, the synergistic impact of transfer capabilities on other transmission interfaces such as Central-East and New York-New England are also important facets to be considered.[39]

Trial Staff, however, mixes priorities in this conclusion. While Trial Staff recognizes the primacy of reducing transmission congestions across UPNY-SENY, it nonetheless recommends use of the impact of project proposals on the Central-East Interface to decide between the final two project proposals. Moreover, despite its reference to the importance of impacts upon the New York-New England interface, Trial Staff does not address any impacts the project proposals will have on this interface.[40]

> From a Power Flow standpoint, Project 11 results in a 961-MW increase of the UPNY/SENY NTC with CPV Valley in service. This is very close to the Commission's original goal of moving an additional 1000 MW over the UPNY/SENY interface. Projects 6 and 19a are capable of moving a similar amount of power across this interface; however, Project 11 also results in a 375-MW increase in the Central East NTC, whereas other projects only increased the Central East NTC by 25-50 MW, which leads to higher production cost savings in the Brattle MAPS modeling and ultimately more benefits for New York.[41]

This emphasis on congestion reduction across Central-East significantly increases the importance of that Interface in the resolution of this Proceeding. In short, while the Commission's primary goal, against which it requested developers to submit project proposals, is increasing transfer capability across the UPNY-SENY Interface, Trial Staff made its selection on the basis of impacts on a second transmission interface – Central-East. The Final Report presents a resolution of the selection task by use of factors which were not central to the Commission's goal of improving UPNY-SENY and were hardly mentioned at all.

While Trial Staff may argue that the Central-East Interface has increased in importance during the pendency of this Proceeding that is not a sufficient basis for the Commission to change the goals which were provided to the developers in this Proceeding prior to the Commission's request for proposals. Such a change in the goals

---

[39] Final Report, p. 87.

[40] *See* below at Subsection III (G) for additional discussion of the impact of project proposals on New England.

[41] Final Report, p. 157.

of the Commission, as set forth in the Final Report, is without basis.[42] As the competitive phase of this Proceeding heads for decision by the Commission, the public, policy makers, participants in this Proceeding and most of all the Commission must confront the reality that Trial Staff's Final Report is significantly flawed by the changes in goals. This is inherently unfair to the participating developers and legally insufficient. While the Commission may be empowered to change its goals and policies in certain regulatory proceedings, as it obtains more information, it makes no sense, practically or legally, to issue a request for proposals based upon one set of goals and then modify the goals against which the proposals are to be considered after the bids have been submitted.[43] This is comparable to reopening a request for proposals after the responses have been made. In addition to presenting a moving target for developers, the changes have favored certain developers at the expense of others.

When the transfer capability increase goal focused on the UPNY – SENY interface, a reasonable option for developers was to design a project with the least environmental impact, which was low cost and which met the precise goal established by the Commission – increasing the transfer capability across UPNY-SENY Interface. That was precisely what Boundless proposed. Other developers, however, possibly copying a portion of the Base Transmission Plan Project identified in the STARS Report,[44] proposed bigger projects extending from Edic/Marcy Substations to Pleasant Valley Substation. Such projects, measured against the Commission's initial goals for increased transfer capability across UPNY – SENY, were grossly expensive. Of course, these developers' development strategy proved predictive of Trial Staff's decision to recommend a change to the Commission's goal. The Commission, however, should not perpetuate this error.

It is established law that an entity issuing a request for proposals, such as the Commission has done in the case of this Proceeding, may not change the terms of the

---

[42] This major shift in objective has been justified by reference at a Technical Conference to a schematic diagram of the relevant circuits in the Mohawk River – mid-Hudson River Valleys and the fact that three of the four developers proposed projects which take account of transfer capability across the Central East Interface. These references are without merit, however. The explicit statement from the Final Report, set forth above, clearly states the Commission's goal to be increasing the transfer capability across the UPNY – SENY interface. The Commission should not require bidders to guess what the Commission had in mind.

[43] This Proceeding is not focused on developing new policies for the Commission nor of accomplishing any of the many other important responsibilities of the Commission, but on the Commission's solicitation of proposals for electric transmission projects. Developers of specific projects respond to specific solicitations when they submit their applications. Changes in the Commission's goals, after the responses to the solicitation are made, can undermine the rationale for the proposals.

[44] New York State Transmission Assessment and Reliability Study ("STARS"), released April 30, 2012, Figure 6-26.

solicitation when the bids are being considered.[45] That, however, is exactly what the Commission seeks to do in this circumstance. As identified at the outset of these Initial Comments, the Commission invited bidders to submit project proposals upon a set of facts stated by the Commission.

In addition, the nature of the congestion across Central-East is completely different than across UPNY–SENY. Congestion across Central-East is associated by a number of industry experts with the price differential of natural gas prices (which is used as fuel for electric generating facilities) west of the Central East Interface and east of the Interface.[46] This congestion occurs particularly in the winter. Moreover, Trial Staff does not report on the expected sensitivity of future Central-East congestion to increased gas transmission capacity. Nevertheless, such a forward look should have been conducted by Trial Staff before making Central-East transmission congestion significantly more important than announced by the Commission when it requested bids from transmission developers. In particular, increased delivery of natural gas from west of the interface to east and south could make a significant change in the need for western-generated electricity. An example of the potential for remediating this driver for current Central-East congestion was reported on October 20, 2015 when the Federal Energy Regulatory Commission issued an environmental assessment for the New Market Project, which proposes to expand the capacity of an existing natural gas pipeline from western Pennsylvania northeastward towards Albany, New York.[47] Moreover, the supply of low cost electric power produced west of the Central-East Interface from such generating stations as the Ginna Nuclear Power Plant and the FitzPatrick Nuclear Power Plant[48] may well be reduced by the closing of those plants before the transmission lines at issue in this Proceeding are on line. These events are likely to reduce the flow of electric power across the Central-East Interface.

E. TRIAL STAFF DOES NOT FOLLOW THE GOVERNOR'S GOAL OF PRESERVING EXISTING ROW ENVELOPES

[45] *E.g.*, Matter of AAA Carting & Rubbish Removal, Inc. v Town of Southeast, 17 NY3d 136 (2011) ("The disapproval . . . was based on criteria not contained in the bidding proposal. Inclusion of those criteria would have ensured that every bidder had the information necessary to make an intelligent evaluation and bid.")

[46] E.g., 2014 State of the Market Report for the New York ISO Markets, Potomac Economics, p. A-82, May 2015; London Economics Report, § 5.3.2., p. 58).

[47] Dominion Transmission, Inc. website.

[48] Entergy, the owner of FitzPatrick recently announced the write down of the capital value of the plant and its decision end operation of the plant.

In January 2014, Governor Cuomo addressed the issue of the impact of transmission tower heights in new transmission projects on adjacent communities in his 2014 State of the State Message.[49] The Governor recognized that transmission development projects were often delayed by neighboring communities' concerns. To address these impacts, the Governor made three distinct points.

- "The State must encourage utilities and transmission developers to responsibly site projects in a way that is responsive to local communities."
- The Governor outlined an expedited process for projects which remain within the ROW Envelope, that is, within the ROW's width and tower height.[50]
- The Commission's standard review and input process would continue for projects which would make use of a wider right of way "envelope," i.e., taller towers or other expanded transmission corridors.

The State's policy of building electric transmission projects within the ROW, now includes meeting the goal of not introducing new towers which are taller than any pre-existing towers. This clear goal for transmission developers to seek to build transmission within the ROW Envelope is independent of the expedited procedure outlined by the Governor. Conflating the ROW Envelope goal and the proposed special siting procedure is just a way to defer acting on this important transmission siting value.

Nevertheless, Trial Staff's Final Report disregards this goal in its selection process. Review of the Final Report discloses that most, if not all of the project proposals selected by Trial Staff for additional review, fail to meet the Governor's goal. Nothing in the Governor's statement of his goal, however, suggests postponing its application. While the expedited process may not relevant to developers' transmission projects in this Proceeding, the first and third points above set a goal of siting transmission projects such that they are responsible to local communities, particularly regarding the height of towers.

Moreover, at the Technical Conference following the issuance of the Final Report, DPS Staff encouraged developers that were recommended to submit proposals to the NYISO to reduce the height of their projects' transmission towers. It appears that building within the ROW Envelope is important to Trial Staff, but Trial Staff simply

[49] 2014 State of the State Message, p. 64.

[50] Boundless Energy NE, LLC ("Boundless") adopts the Governor's description of this important regulatory goal – "ROW Envelope."

wants to remove it from the selection criteria for projects at this stage of this Proceeding. The details of the projects' tower heights, which show significant increases in tower heights in certain cases are set forth in the footnote.[51] It is, of course, not sufficient for developers and Trial Staff to argue that the developers may reduce tower heights in the future, as the Commission's decision must be based on the known environmental impact in this Proceeding's record, not some possible actions in the future.

The height of towers is a key element of the ROW Envelope which transmission developers should seek to meet. Simply postponing the application of this goal with the hope that developers may modify their projects later avoids Trial Staff's responsibility to apply that goal now in this Proceeding as a selection criterion. Deferral of honoring a goal is just a not-too-subtle way for government to excuse not applying a goal or standard.

F. TRIAL STAFF DE-EMPHASIZES THE IMPORTANCE OF ENVIRONMENTAL COMPATIBILITY

Trial Staff made other changes in evaluation of the twenty-one projects in the Final Report. Instead of focusing on projects with low environmental compatibility, Trial Staff selected Project 11, which is ranked as having a Medium environmental impact, as the favored project proposal. This is a significant change from the importance given to environmental ranking in Trial Staff's Interim Report.

> This Trial Staff Interim Report addresses primarily the issues of environmental compatibility and beneficial electric system impacts on the Central East and Upstate New York/Southeast New York (UPNY/SENY) electrical interfaces. The issuance of this Interim Report is expected to be a major step forward in narrowing the focus of the AC Transmission proceedings by recommending the elimination from further consideration of projects that have significant environmental compatibility issues in relation to the other projects, or

[51] Project 6: new towers will be 85' – 90' tall, compared to the existing towers' height of 80'. (Final Report, p. 49).
Project 9: increased visibility, with monopoles of similar height. Final Report, p. 51.
Projects 10/11 and 10/14: new towers will be 20' to 25' taller than existing towers. Final Report, p. 53. New towers will have increased visual contrast. Final Report, p. 54.
Project 16: new towers will be 97' tall, 28' taller than existing towers. Final Report, p. 61.
Project 19a: 25' taller than the existing towers. Part A Supplemental Application, Exhibit 5, p. 5-3.

that do not demonstrate sufficient electric system benefits as compared to the other proposals.[52]

Moreover, as noted immediately above, the importance of limiting projects to the existing ROW Envelope – that is, no increased horizontal and vertical encroachment on adjacent communities' space – is given reduced importance in the Final Report. At least three of the project fragments selected by Trial Staff for further consideration, including Project 11, involve transmission towers significantly taller than the existing towers.[53] The Governor's policy favoring transmission projects which were constructed within the ROW Envelope was known well before developers in this Proceeding had to submit their revised projects in January 2015.

Comparison of the projects selected by Trial Staff to continue in the Proceeding in Trial Staff's Interim Report with the projects selected in the Final Report reveals the extent to which Trial Staff's emphasis has shifted since the Interim Report. Only three of the six projects selected in the Final Report were also selected in the Interim Report, with four of the projects selected in the Interim Report omitted from the Final Report. The table below makes clear the changes.

Projects Selected in Interim Report	Projects Selected in Final Report
● NYTOs' P7	● NYTOs' P6
● NYTOs' P9	● NYTOs' P9
● NYTOs' P12	● NYTOs' P11
● NYTOs' P14	● NYTOs' P14
● NextEra's P19a	● NextEra's P16
● Boundless' P20	● NextEra's P19a
● Boundless' P21	

This approximate 50% turnover in projects from the Interim Report to the Final Report is a clear indication that Trial Staff's ranking is very sensitive to changes in criteria. The substantial turnover in favored projects also reveals a hidden bias in Trial Staff's approach to selection. Because the selection factors vary significantly between issuance of the Interim Report and the issuance of the Final Report, developers which adopted a "shotgun approach" to proposing multiple projects are clearly favored.

[52] Interim Report, p. ii.

[53] *See* Note 51, above.

In short, it is undeniable that the goals applied by Trial Staff in the Final Report have changed from those announced in the Energy Highway Blueprint and in the Governor's 2014 State of the State message. While government officials often are forced to recognize that policy goals change over time, which require a change in the actions taken, there is no evidence that New York citizens' goals for needed expansion of transmission capacity have changed, and particularly not the goals of the communities adjacent to the proposed transmission expansion projects which will be the most affected by the proposed projects. Finally, the construction of a completely new substation, Knickerbocker, is clearly outside of the ROW Envelope.

G. TRIAL STAFF ERRONEOUSLY VALUES AVOIDED REFURBISHMENT OF EXISTING TRANSMISSION CIRCUITS

Trial Staff reports in the Final Report that avoiding refurbishment is "[o]ne of the most significant benefits associated with many of the proposed transmission system upgrades is enhanced efficiency due to avoided refurbishment costs of aging infrastructure."[54] The supposed value of avoiding refurbishment, however, is grossly overstated with respect to Project 11. Trial Staff adopted the value of $560 million benefit, based upon $4 million/mile of avoided capital cost (times) 70 miles (times) 2 (reflecting the two adjacent 230 kV circuits).[55] A key variable in the calculation is the cost/mile. Trial Staff (working with Brattle) derived their variable from the generic midpoint cost estimate for 345 kV lines, which was adjusted down and then, through unexplained consultations between Trial Staff and Brattle, adjusted up to $3.4 million/mile.

Boundless respectfully suggests that a more accurate and documented cost estimate is derived as follows. Using the values in the current CARIS report,[56] Boundless proposes use of the Low estimate for 230 kV circuits. It is appropriate to use the Low cost estimate for 230 kV transmission circuits – the voltage which Project 11 is

[54] Final Report, pp. 82 – 83.

[55] Final Report, Appendix 1, Slide 118. To simplify the discussion, Boundless refers to the avoided capital cost figure and does not adjust the calculations for deferral of the costs and the re-adjustment to 2015 dollars. Boundless submits that the significant differences in Boundless' and Trial Staff (Brattle)'s approaches are evident in the avoided capital costs.

[56] Table E-29, 2015 CARIS Report, which was approved by the NYISO's Business Issues Committee on October 14, 2015.

designed to replace – not the cost estimate for 345 kV circuits used by Trial Staff.[57] The NYISO uses the Low estimate for generic projects which make use of an existing ROW. This fits refurbishment well. The Low estimate for 230 kV circuits in the CARIS report is $2.6 million per mile, which works out to be $182 million for one circuit in the instant case. The cost for both circuits, if it is unreasonably assumed that there are no efficiencies because the two circuits are adjacent to each other, is $364 million.[58] Of course, there will be some efficiencies in reconstructing two circuits adjacent to each other as Trial Staff did in making its estimate. Boundless adopted a factor of 1.5 times the circuit's length to estimate these efficiencies which will result from work on two adjacent circuits. The resulting savings for avoiding refurbishing the two circuits is $273 million, less than half the value used in the Final Report. Again, while the figures calculated by Trial Staff (as set forth above) might be adjusted to reflect the proposed year of refurbishment, the key issue here is the relative comparison of the two figures.

Looking at Trial Staff's selected project, Project 11, it is clear that changing just the benefit of avoided refurbishment cost makes a material difference in Project 11's purported benefit. Thus, if the avoided refurbishment capital cost identified above, $273 million, is substituted for Trial Staff's grossly overestimated figure, $560 million, the avoided refurbishment cost value for Project l1 reported in the Brattle Groups Slide 144 drops by more than half. While Boundless has not repeated the complete Brattle calculation, if the value of avoiding refurbishment also drops by $500 (one-half of $998), it would reduce the Total Benefits by about a quarter ($2,185 less $500) which appears to reduce Brattle's calculation of the B/C ratio for Project 11 to about 1.15. If the lower benefit numbers based on industry data are used in place of numbers based upon CARIS data, the B/C ratio for Project 11 will most probably drop below 1.0.

This exercise has three impacts. First, Trial Staff's use of avoided refurbishment costs is significantly exaggerated, which must be adjusted to a more reasonable figure. Second, correction of the value of avoided refurbishment costs may well turn "winning" projects into projects with a B/C ratio below 1.0. Third, the reliance upon such relatively important values to reach the all-important B/C ratio is a mistake and Trial Staff erred by relying on unsubstantiated components (such as the consultation between Trial Staff and Brattle) to establish the B/C ratio. Brattle's reference to cost per

[57] Trial Staff Responses to Technical Conference Requests. Boundless rejects the unspecified use of 345 kV line per mile cost estimates without a detailed explanation.

[58] While the Low estimate purports to be for NYISO Zone A, Boundless submits that Zone A is similar to Zones C – E, as far as the drivers of generic transmission costs are concerned.

mile estimates from the Southwest Power Pool (which it inflated with a mystery factor) is clear evidence of the absence of a good basis for this value.[59]

Boundless submits that the Commission should not approve a project selection which turns materially on an insubstantial basis as the figures used to establish the avoided refurbishment cost. If this benefit element is to be used by the Commission in making its decision, Boundless respectfully submits that it is mandatory that the benefit number be recalculated with well-grounded cost figures and without Trial Staff's "consultation" with Brattle about the scope of work which introduced a material, but unsubstantiated, factor into the study.

H. TRIAL STAFF FAILS TO PROVIDE CREDIT TO BOUNDLESS FOR AVOIDING REFURBISHMENT COSTS

In another unexplained aspect of these calculations, Trial Staff provide Boundless' projects no credit for foregone refurbishment expense. Presumably Trial Staff justifies that position on the assumed nature of the refurbishment. It's all or nothing. Trial Staff, however, does not address the fact that electric transmission conductors and transmission towers require refurbishment/replacement on different cycles. One industry source[60] documents the different life spans of conductors and towers, based on corrosion, as follows:

Conductors – 60 to 80 years
Towers – 100+ years

Conductors, which are subject to wear as a result of current flows, are often replaced well before their failure age. There is no basis for Trial Staff's assumption that both conductors and towers need to be replaced at the same time, such that Boundless should earn no refurbishment credit if does not plan on replacing both conductors and towers. This is certainly not the practice of New York utilities, which have engaged,

[59] The cost estimates in the 2015 CARIS are significantly higher than costs of transmission construction from industry sources. A reasonable span of costs for a new 230 kV transmission line is $0.7 to $1.2 million per mile, more than half of the CARIS cost estimates. Even the higher of these two estimates (times) two times the length of the circuits (to account for two circuits) results in a foregone cost of $168 million, more than $100 less than the cost estimate noted above based on CARIS.

[60] J.P. Mayer, "Corrosion Evaluation Methods for Power Transmission Lines," Ontario Hydro Technologies, Toronto, Canada 1998.

and are engaging, in a number of reconductoring projects.[61] Moreover, one of the parties to this Proceeding, National Grid agrees with the Boundless' conclusion here, namely, that conductors can be replaced before the transmission towers have to be replaced. The STARS Report includes the following statement about the Leeds to Pleasant Valley circuits:

> . . . The Condition Assessment need could be met with a rebuild of the two Leeds to Pleasant Valley 345 kV lines. It should be noted that a complete rebuild is not needed for this project. Although identified as meeting the criteria, a more detailed analysis of the two Leeds to Pleasant Valley 345 kV line (sic) performed by National Grid indicated that the extent of mitigation may only include replacement of select towers. (Emphasis added)[62]

National Grid, the owner of the two circuits from Leeds to Pleasant Valley, and presumably the entity with the most information about the condition of the tower structures on these lines, did not accept the requirement that most tower structures on these two lines need to be rebuilt within ten years and conducted "a more detailed analysis" which concluded that only "select towers" would have to be rebuilt.

National Grid also focuses on replacement of only "select towers" in these proceedings. Indicated NYTOs, which includes National Grid, describe the physical elements of their Leeds to Pleasant Valley Project, as follows:

> The scope of work consists of the reconductoring of two existing 345 kV lattice structure lines and replacement of certain structures for approximately 39.8 miles within an existing ROW.[63] (emphasis added)

Immediately following Section 3.5.2 in the January 7, 2015 filing, Indicated NYTOs make clear in Section 3.5.3 that the rebuilding requirement– to the extent it exists, is not based on the physical condition of the tower structures. The rebuilding of approximately 10% of the structures on these two lines is not based upon the physical condition of the towers, but rather on the need to increase the ground clearance of the new conductor, as a result of the NYTOs' selection of a particular type of conductor.

---

[61] *E.g.*, Niagara Mohawk Power Corporation's project in Case 15-T-0305; Niagara Mohawk Power Corporation's Clay-Lockheed Martin No. 14 Line Project; New York State Electric & Gas TOTS Project; and Central Hudson Gas & Electric Corporation's Case 13-T-0469.

[62] STARS Report, p. 41.

[63] January 7, 2015 Indicated NYTOs' Filing of Information Required for NYISO Analysis at the Order of the PSC, Section 3.5.2 Physical Description.

Trial Staff does not provide any credit to Boundless' projects for deferring significant refurbishment costs. It appears that the premise upon which this decision is footed is that the refurbishment is an "all-or-nothing" activity. "If the towers are not replaced, then no refurbishment takes place" appears to be Trial Staff's erroneous methodology. Trial Staff's "all-or-nothing" approach, however, is not based in transmission business experience. Conductors are subject to more wear than are towers.

Trial Staff's approach to this issue is particularly inexplicable for a distinct reason. Many of the transmission circuits which Boundless proposes to reconductor do not meet the current standards of the National Electric Safety Code for protection against ice buildup. Presumably the existing conductors met the Safety Code at the time the circuits were constructed, but as the years have passed new standards have been issued. In New York, however, transmission owners do not have to continually upgrade their facilities to meet new standards and requirements. Thus, there is a gap between the current assessment of what is required for new projects and the electrical conductors currently in service. In particular, current requirements mandate that electrical conductors be able to withstand ice loading and wind conditions much severe than the older standards.

The shift in climate, which is leading to warming in some areas, can most succinctly be described as leading to more severe weather. Storms, in the winter as well as the balance of the year, are more severe. Thus, the risk of ice buildups and strong wind storms is not diminishing but growing. Boundless respectfully submits that if the Commission is going to provide a credit to transmission developers in this Proceeding, Boundless is also entitled to a credit for the avoided cost of refurbishment of the conductors which its reconductoring project proposals will produce.

Boundless respectfully submits that it should gain the value of the conductor replacement component of Boundless project in the same manner as the New York Transmission Owners were credited for foregone replacement costs in Project 11.

I. THE COMMISSION MUST LEVEL THE PLAYING FIELD

Trial Staff's recommendation of only one project proposal, Project 11, sponsored by the New York Transmission Owners ("NYTOs"), is not surprising. As discussed above in Subsection II (F), this Proceeding has witnessed numerous changes of policy and goals. The change in goals, from a focus on reducing transmission congestion at

UPNY-SENY to a focus on the Central-East which is now treated comparably to UPNY-SENY by Trial Staff, has made it virtually impossible for an independent developer to compete. As noted earlier, the only effective means of competing is to use a "shotgun" approach in which every possible project alternative is identified, studied and presented in the proceeding.

In this Proceeding, the NYTOs submitted nine project proposals, including projects which were focused on reduction of congestion at UPNY-SENY and other projects which Boundless refers to as combo projects, as they sought to reduce congestion significantly at both UPNY-SENY and Central-East Interfaces. Not surprisingly, a developer with the financial resources to submit a project for every possibility may be rewarded with Trial Staff's recommendation.

Of course, the NYTOs' nine-project development efforts don't have to be financed from the utilities' own capital funds as they are likely to be able to recover all, or a significant fraction of the costs from the Commission under the justification of carrying out a New York utility's responsibilities under the Public Service Law. Moreover, the NYTOs have initiated a rate proceeding at the Federal Energy Regulatory Commission, in which that commission has granted NYTOs the right to establish an account for development costs.

While a successful developer in this Proceeding may be pleased with the outcome crafted by Trial Staff, the Commission cannot have the luxury, however, of closing the books on this Proceeding with an order on the Trial Staff's motion. One of the goals of the Energy Highway was to persuade non-incumbent developers to participate in the Energy Highway proceeding before the Commission. In fact, three of the developers with projects pending before the Commission are just that. But, will the record of this Proceeding, including not the least the proposed truncation of the Proceeding in favor of the NYISO, encourage non-incumbent developers to participate in the future in any comparable request for proposals selection process?

Will not the NYISO, under its tariff, address this issue? The relevant tariff provision, Section 31.4.3.2 of the NYISO's Open Access Transmission Tariff provides:

> NYDPS/NYPSC Request for Solutions
>
> To ensure that there will be a response to a Public Policy Transmission Need, the NYDPS/NYPSC may request the appropriate Transmission Owner(s) or Other Developer, as identified by the NYDPS/NYPSC, to propose a transmission solution for a Public Policy Transmission Need. Costs incurred by a Transmission Owner or Other Developer in preparing a proposed transmission

solution in response to a request by the NYDPS/NYPSC will be recoverable under Section 31.5.6.

Although a developer may argue that development costs incurred prior to the NYISO's request to appropriate developers are justifiably covered by this provision of the NYISO tariff, it is at least questionable whether such an argument will prevail with the NYISO.

While the answer to the question facing the Commission – of inducing non-incumbent developers to compete in New York will not be known immediately, the Commission needs to act now, to attenuate the sharp-edged differences in risk to transmission developers in this Proceeding, between incumbents and non-incumbents. Although there may be multiple ways to respond to this need, Boundless suggests that one approach would be for the Commission to determine in a separate track of this Proceeding: (1) what means of recovery of development costs in this Proceeding do the four developers possess, if any and (2) what is the appropriate amount of development costs for any developer without alternative means of recovery. This Proceeding was envisioned by most participants at the outset as an expeditious means of sorting among project proposals. In fact, it has turned into a regulatory marathon, with costs soaring for all developers.

J. "APPROPRIATE-SIZED" IS BEAUTIFUL

In April 2014, the Commission instituted a proceeding to consider Reforming the Energy Vision (the "REV" Proceeding).[64] The Commission identified two assumptions that it considered out-of-date: "demand is inelastic" and "economies of scale are the most economic size for central generating stations." While in a procedural sense the REV Proceeding is distinct from this Proceeding, it is not independent from a policy perspective. The goals and outcome of one proceeding should support the other. Nevertheless, it appears that the policies underlying the Final Report are, at least in part, inconsistent, if not opposite, to the Commission's policies for the REV Proceeding.

- Big transmission projects are favored in this Proceeding over small, more regional projects.

- The goal of constructing electric transmission projects within existing community-favored ROW Envelopes is not being followed.

[64] Case 14-M-0101, Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision.

● Small projects are erroneously screened and eliminated.

While no one today can be sure of the future design of the state's electric grid, there is no question that the goals of smaller, more efficient system design appear likely to play a key role. Nevertheless, Trial Staff recommends an old-fashioned overlarge project with construction of an entirely new substation and miles of new transmission lines. There is a better alternative, and the Commission should adopt it.

K. INNOVATION AND NEW TECHNOLOGY ARE GIVEN LIP SERVICE

A key element of the Energy Highway Blueprint was the expectation that the Commission might be able to persuade developers with innovative and new technology to propose projects. Of course, this requires balancing by the Commission, as un-tested technologies may fail, either economically or mechanically, unacceptably soon after installation. That concern, however, is no excuse for simply raising an insubstantial fear of failure to dissuade developers from proposing it. Trial Staff appears reluctant to adopt truly innovative and new technology in the Final Report. The technologies assessed by Trial Staff were either already in use in New York and elsewhere, while innovative technologies (but hardly untested) are considered to require "further study" before being endorsed by Trial Staff.[65]

In this Proceeding, Boundless has proposed the introduction of new and innovative technology.

- Superior electric conductors
- Environmentally benign crossing under the Hudson River
- Innovative cooling on the Roseton to East Fishkill component

Boundless respectfully submits that Trial Staff errs in dismissing Boundless' projects and with them the innovative technology proposed. Conflating all approaches to crossing the Hudson River (overhead and HDD-construction under the River), for example, simply obscures the needed examination of environmental impacts. The Commission should be a force for change, not merely endorsing what is usual and tried.

[65] Final Report, p. 146.

III. THE FINAL REPORT CONTAINS SIGNIFICANT FACTUAL ASSERTIONS AND CONCLUSIONS WHICH ARE NOT BASED UPON SUBSTANTIAL EVIDENCE

A. COST ESTIMATES

1. BOUNDLESS COST ESTIMATES WITH TRIAL STAFF ADDITIONS

At Trial Staff's request, Boundless submitted its cost estimates on forms prepared by Trial Staff. The key data from those forms for Boundless' projects, plus certain additions proposed by Trial Staff, are set forth below. The cost figures do not include the amounts for contingency, AFUDC and escalation included in Boundless' submissions.

Project 20	Direct and Indirect Costs	$471,383,000[66]
	Trial Staff Addition for Substation	28,548,000[67]
	Trial Staff Addition for Sys. Upgrades	117,766,000
	Trial Staff's Contingency (30%)	185,309,000
	Total	$803,006,000
Project 21	Direct and Indirect Costs	$288,067,000
	Trial Staff Addition for Substation	28,548,000
	Trial Staff Addition for Sys. Upgrades	117,766,000
	Trial Staff's Contingency (30%)	130,314,000
	Total	$564,695,000

2. BOUNDLESS' COMMENTS ON TRIAL STAFF GLOBAL COST ADDITIONS

Trial Staff's use of a common adder for system upgrade facility ("SUF") costs ($117,766,000) overstates the appropriate cost of SUFs in at least two ways. First, looking at the NYISO's last three Class Year Facilities studies (2009, 2011 and 2012), the average annual costs for two of these three Class Years are a small fraction of Trial Staff's proposed added. The meta-average (average of the three years' averages) of SUF costs per developers is $53,123,000, which is less than half of the proposed Trial Staff adder. Second, the cost of SUFs located in the territory of the Consolidated Edison Company of

[66] Source: Boundless' Submission to Trial Staff following release of Interim Report. All the numbers in this Subsection have been rounded to the nearest $1,000.

[67] Source: Trial Staff cost work papers.

New York is considerably higher than facilities proposed north of Southeast New York. Thus, even the SUF costs reported by the NYISO, which include costs in Southeast New York, are significantly higher than will be the case for transmission facilities constructed in upstate New York.

Equally significant is the failure of Trial Staff to account for the fact that the projects in this Proceeding have significantly different transmission capabilities. While use of a common adder for SUF costs is easy and surficially appears "fair," in fact it places a disproportionate burden on the smaller projects. A larger project, in terms of incremental megawatts of transfer capability, can normally be expected to have larger impacts on the state's electric system than a smaller project. Moreover, the same estimate of SUF costs was used for Boundless' Project 20 as for Project 21, even though Project 20 has interconnections at two more substations than does Project 21.

Boundless respectfully submits that these problems should be addressed by discounting the adder for SUF costs for smaller projects. One way to accomplish this discounting is to compare projects to Trial Staff's selected project, Project 11, a larger project. Figure ES 2 in the Final Report states the NTC at the UPNY-SENY Interface limit increase for Project 11, with CPV Valley included, to be 939 MW. By comparison, the size of Boundless' Project 20 is listed at 687 MW; Project 21 is listed at 605 MW. Boundless' two projects are, respectively, 73% and 64% of Project 11's size.

Using those two percentage figures to adjust Trial Staff's proposed adder for SUF costs for project size, reduces the adder for SUF costs to $85,969,000 for Project 20 and $75,370,000 for Project 21. The project estimate totals for the two projects, with the revised figures for SUF costs, are: Project 20 - $761,670,000 and Project 21 - $509,755,000.

Project 20	Direct and Indirect Costs	$471,383,000[68]
	Trial Staff Addition for Substation	28,548,000
	Trial Staff Addition for Sys. Upgrades	85,969,000
	Contingency (30%)	175,770,000
	Total	$761,670,000
Project 21	Direct and Indirect Costs	$288,067,000
	Trial Staff Addition for Substation	28,548,000
	Trial Staff Addition for Sys. Upgrades	75,370,000
	Contingency (30%)	117,770,000
	Total	$ 509,755,000

When the adjustments to the SUF cost figures are made plus the resulting reduction in the amount of the contingency, the revised total cost estimates are: Project 20: $761,670,000 and Project 21: $509,755,000.

3. COMMENTS ON TRIAL STAFF COST ADDITIONS SPECIFIC TO BOUNDLESS

Trial Staff reports (at Page 72 of the Final Report) that it added to Boundless' cost estimates for legal, insulator assembly, engineering and costs at Roseton Substation. Boundless submits that each of those additions to Boundless' cost estimate is erroneous. Boundless included sums in its cost estimate for legal costs, insulator assemblies and line construction and transmission line engineering. Trial Staff's proposed additions are duplications of cost estimate estimates included in Boundless' cost estimate. To the extent that Trial Staff argues that its estimates are more accurate, Boundless respectfully disagrees. Moreover, such an argument flies in the face of the suggestion by the Department of Public Service at the Technical Conference following the release of the Interim Report that Trial Staff restrict its changes to developers' cost estimates to elements which are missing from developers' estimates. There should not be dueling cost estimates.

The reference in the Final Report to costs at Rock Tavern Substation was reported by Trial Staff, in response to Boundless' Interrogatory 1.2, to refer to Roseton Substation. With respect to the addition to the cost estimate for the Roseton Substation of a Global Addition of $30 million, this is simply a double counting. Boundless included $68.7

[68] Source: Boundless' Submission to Trial Staff following release of Interim Report. All the numbers in this Subsection have been rounded to the nearest $1,000.

million in its cost estimate for direct costs at substations, a significant portion of which covered work at the Roseton Substation. Moreover, Trial Staff made an addition of $28,548,000 for the East Fishkill Substation as a part of its specific cost adders in Trial Staff's cost work papers. There are no justifiable additions in Trial Staff's cost estimate to Boundless' cost estimate and the two estimates should be the same.

4. SUMMARY

The estimated capital cost for Project 20, based upon the adjustments described above, are $761,670,000, or $762 million and for Project 21, $509,755,000, or $510 million. The estimated capital cost per kW is: Project 20: $434.5/kW and for Project 21: $355.7/kW.

5. BENEFIT/COST RATIOS

An important screening measure in the Final Report is the Benefit/Cost Ratio calculated by Trial Staff's consultant, the Brattle Group ("Brattle"), for each Project Proposal. While Boundless is not able to recreate the Brattle B/C model, several adjustments to the Benefit/Cost Ratio for Boundless' projects must be made. In the discussion in Subsection III (C), below, Boundless presents the changes to the Brattle calculation.

(a) ADJUSTED CAPITAL COST

Brattle's capital cost estimates are close to Boundless' own cost estimates (attached to the Final Report as Appendix 1, Slide 15). For the sake of simplicity, Boundless will use Brattle's cost estimates in this Subsection. As noted above, however, Boundless does not agree with Trial Staff's additions to Boundless' cost estimates.

(b) ECONOMIC ADVANTAGE OF ACCC CONDUCTOR

In undertaking its analysis of the several projects in this Proceeding, Brattle analyzed several net benefits of the projects. Significantly, however, Brattle omitted an important monetized benefit Boundless' projects, namely that the beneficial impact of ACCC conductor on significantly reducing line losses compared to competing conductors. This subject is addressed in detail below, in Subsection III (C).

(c) ECONOMIC IMPROVEMENT WITH AN IMPROVED ROSETON TO EAST FISHKILL COMPONENT

The suppliers of the cable which is proposed to be used on the Roseton to East Fishkill segment has informed Boundless that cooling the cable would produce an increase in transfer capability in the range of 20 to 25%. This dramatic increase in the value of this component should have been considered by Trial Staff in the context of Boundless' project.

B. TRIAL STAFF'S DISCUSSION OF TRENCHING AND HORIZONTAL DIRECTIONAL DRILLING

Trial Staff describes underground transmission construction in the Final Report as follows:

> Construction of underground transmission requires large excavation for the duct bank trench and splice boxes. The duct bank is concrete encased and requires a trench that is eight to ten feet wide (or more) and six to eight feet deep (or more). The splice boxes are normally pre-cast concrete that require excavations that are deeper and wider than the trench that holds the duct bank. Underground construction is slow and requires complex environmental management due to the amount of soil disturbance. Excavation in bedrock conditions can add to the extent and duration of construction and site restoration activities.[69]

This description is completely inconsistent with Boundless' description of the underground component from the east bank of the Hudson River to the East Fishkill Substation and is without support in the record. Rather, it reflects Trial Staff's understanding of traditional utility underground cable installation practices.

Boundless described the underground installation in its January 20, 2015 filing, Pp. 21. as follows:

> Applicant proposes to dig a single trench to 36 to 48 inches depth and approximately six feet in width. Appropriate measures will be used to prevent erosion as defined during the Environmental Management & Construction Plan phase. Topsoil removed during construction will be stored off site and replaced as cover once construction is complete. Excess soil will be disposed of at appropriate offsite locations.

[69] Final Report, pp. 30 – 31.

Boundless provided additional information on its plans for undergrounding the component of the project from the east side of the Hudson River to the East Fishkill Substation to Trial Staff in a response to a data request by Trial Staff on March 6, 2015.

> "One Possible Configuration of Boundless Energy's Underground Double Circuit Conductors from the East Bank of the Hudson River to the East Fishkill Substation.
>
> 
>
>
> While the conductors can be buried at various depths, they need not be buried at a depth of more than a few feet. The final configuration will be identified for the Part B phase of this proceeding and during the final engineering and construction phase."

Trial Staff included the same comment on trenching in the Interim Report.[70] Although Boundless responded to the comment in the Interim Report, Trial Staff did not correct the description of Boundless' proposal regarding trenching in the Final Report.[71] In short, Trial Staff has no basis in the record for this description of the trenching methodology which Boundless proposes to use for the east side of Hudson River to East Fishkill Substation component. This baseless description of Boundless' proposed methodology is completely without merit and cannot be relied upon by the Commission.

While Trial Staff attempts to sidestep its statement in the Final Report that Boundless' underground cable route (apart from the portion crossing under the Hudson River) "will be installed via the traditional open cut trenching" by claiming that such references in the Final Report are merely a "general term,"[72] that hardly explains the definitive statement in the Final Report on Page 71 purporting to describe Boundless' proposed method of trenching. In any event, Trial Staff has not established a reason for discarding Boundless' explanation of its projects in favor of Trial Staff's generic statement.

Turning to the use of horizontal directional drilling technology, the issue is much the same. Trial Staff refers to its understanding of HDD technology and environmental

[70] Interim Report, p. 17.
[71] Boundless' Initial Comments on DPS Trial Staff's Interim Report, pp. 2 and 11-12.
[72] Trial Staff's response to Boundless Interrogatory No. 1.22.

impacts which could result.[73] Trial Staff refers to a "breakout" from the drilling and, in the next sentence an adverse impact of HDD:

> The drilling mud may damage aquatic habitats in the same way that any other sediment would degrade water quality and harm aquatic plants or animals.[74]

With respect to Boundless' use of HDD specifically, Trial Staff comments as follows:

> Impacts to be expected from the HDD activities include potential drilling fluid leaks or —frac-outs and clearing for staging areas for construction equipment and entrance and exit pits. Additionally, noise to the surrounding community can be expected during HDD operations.[75]

These comments are without basis in the record. Boundless commented on Trial Staff's Interim Report with the following information concerning HDD.

> The potential for drilling fluid release is not depicted accurately. Drilling fluid is generally managed easier for a smaller diameter installation such as a cable rather than a pipeline and impacts from HDD, including "frac-outs", are not an expectation of an HDD, rather, a failure and the HDD should not evaluated with this as a potential routine outcome. The point of an HDD application is to avoid any surface disturbance, i.e. the "frac-outs". Such a "frac-out" impact is not expected from the use and application of an HDD at the Hudson River crossing location and is not physically possible at this location. In this area, Boundless proposes an HDD at depth under the Hudson River in the existing bedrock layer. If a drill with this approach fails, a "frac-out" through the overburden layer of bedrock is highly unlikely and the drilling fluid is likely to return pressure via the entry pit as that is the path of least resistance. In other shallow HDD crossing approaches such as river beds and shoreline, the overburden may consist of unconsolidated material which increases the potential for "frac-outs" along the length of the HDD. That is not the condition at this location and should only be contemplated as part of a contingency analysis.
>
> Also, drilling muds required on recent linear projects in New York are not petroleum based and have few additives. Many of the additives are fibrous and biodegrade in the marine environment. The specific amount of each component

[73] Final Report, pp. 30 – 31.
[74] Final Report, p. 31.
[75] Final Report, p. 71.

contained in many drilling fluids is proprietary but recent permits issued by the NYSDEC have confirmed the basic components of certain fluids that are commercially available are not categorized as solid waste by NYSDEC and have not been shown to cause degradation to water quality or sensitive aquatic habitats that may be present in the Hudson River at the crossing location.

Neptune Regional Transmission System project, a 65 mile underwater and underground electric cable which runs from Sayreville, New Jersey to Nassau County, on Long Island. During the construction of that project, a number of HDD operations had to be undertaken. There were no instances of "breakout" on the Neptune Project's construction.[76]

Trial Staff's statement that it has witnessed frac-outs along various lengths of gas pipeline installations is not material to the introduction of smaller diameter electric conductor boring and should be disregarded.[77] Moreover, without explanatory detail of Trial Staff's evidence, there is no way for the Commission to evaluate Trial Staff's claims.

C. ACCC COMPOSITE CONDUCTOR IS FAR SUPERIOR TO OTHER CONDUCTORS PROPOSED BY DEVELOPERS IN THIS PROCEEDING

Trial Staff asserts that ACCC composite conductor has drawbacks. There is no support in the record for these assertions, however. In fact, there is ample evidence in the record to the contrary.

1. LINE LOSSES - RESPONDING TO TRIAL STAFF'S MISUNDERSTANDING OF ACCC CONDUCTOR

Trial Staff argues that Boundless' choice of ACCC conductor will lead to higher line losses.[78] The reference cited by Trial Staff (see Footnote 41 to the Final Report) makes the opposite point, however, on Page 238. Trial Staff is left to observe that it did not cite the report for that purpose.[79] If a source is sufficient for Trial Staff for one purpose, however, it should be sufficient for other purposes, absent a detailed

[76] Boundless' Initial Comments on Trial Staff's Interim Report, pp.12 - 13.
[77] Trial Staff's response to Boundless' Interrogatory No. 1.23.
[78] Final Report, p. 150.
[79] Trial Staff's response to Boundless' Interrogatory 1.11(b).

explanation by Trial Staff. Here, no explanation of forthcoming and Trial Staff's non-responsive statement effectively concedes Boundless' point.[80]

Moreover, Trial Staff's response to Boundless' Interrogatory 1.111(c) is completely confusing. Boundless, relying on the text cited by Trial Staff in Footnote 41 of the Final Report, highlighted studies at the Kinectrics Lab which shows that ACCC conductor operates at lower temperature than competing conductors. This, under Trial Staff's theory, leads to lower losses. Again, Trial Staff's statement in response to Boundless' Interrogatory 1.11(c) does not support its claim in the Final Report. In fact, Trial Staff's failure to produce any substantive support, in the face of the manifest support for the conclusion that ACCC conductors have lower losses – not higher losses as claimed by Trial Staff, speaks strongly to the correct answer.

Trial Staff's reliance on "Demonstration of Advanced Conductors for Overhead Transmission Line = 1017338"[81] is the weakest support claimed by Trial Staff for their claim that Boundless' selection of ACCC conductors will lead to higher line losses. The authors of the report note (on Page 6-2) "HTLS conductors have roughly the same electrical resistance as conventional conductors having the same cross-sectional area of aluminum." Trial Staff, however, fails to consider the very important point that ACCC conductors have much more aluminum than competing conductors.

> More importantly, due to the composite core's decreased weight compared to steel, an ACCC® Drake size conductor, for instance, could incorporate 28% more aluminum using compact trapezoidal shaped strands, with a slight overall reduction in weight. The added aluminum content and improved conductivity of the annealed Typed 1350-O aluminum used in ACCC® conductors (63% IACS) allow them to operate more efficiently compared to any other commercially available conductor of the same diameter and comparable weight. The ACCC ® conductor achieves the highest ampacity at the coolest operating temperature compared to the other high temperature capable conductors, as shown in Figure 1 below.[82]

---

[80] Such casual use of reference material raises a question whether Trial Staff diligently researched the relatively new conductor technology proposed by Boundless, or simply sought a bullet point to disparage the technology.

[81] Trial Staff's response to Boundless' Interrogatory 1.11(a).

[82] e.g., Engineering Transmission Lines with High Capacity Low Sag ACCC® Conductors, CTC Global, p. iv, available at http://www.ctcglobal.com/products/learn-more-about-accconductor.

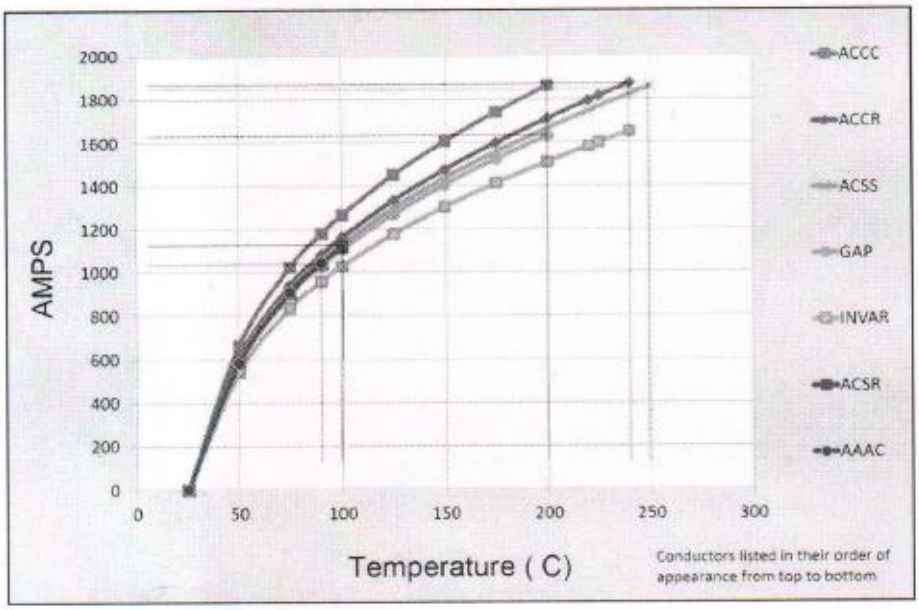


Figure 1 - Conductor comparison showing ampacity capabilities, attainable at recommended thermal limits of several conductor types. The ACCC® conductor delivers greater emergency current at 200°C than other conductors operated at temperatures as high as 250°C.

Cooler operating temperatures under high load conditions reflect substantial reductions in line losses that can decrease generation requirements, reduce fuel consumption (and associated emissions), and decrease lifecycle costs. These and several other attributes described in this document have led to the successful deployment of over 24,000 km (~15,000 miles) of ACCC® conductor at over 275 project sites worldwide.

The ACCC conductor is the top curve in Figure 1. In short, there is no support in the record for Trial Staff's assertion. In fact, just the opposite is true, as Trial Staff's own reference (see Footnote 41 to the Final Report) makes clear. The lighter weight core of ACCC conductor allows the incorporation of approximately 28% more aluminum for ACCC conductors compared to conventional conductors of the same diameter and weight. The added aluminum content reduces the conductor's electrical resistance and reduces line losses by 25 to 40%. The key to this result is that ACCC conductor operates cooler than competing conductors at the same load conditions. The source relied upon by Trial Staff on P. 150 of the Final Report makes this point.[83]

[83] Engineering Transmission Lines with High Capacity Low Sag ACCC® Conductors, CTC Global, pp. iv – vii, 51 - 59, available at http://www.ctcglobal.com/products/learn-more-about-acccconductor.

2. ACCC CONDUCTOR AND REDUCED LINE LOSSES

The world supplier of ACCC conductor, CTC Global, has prepared a comparison of ACCC conductor with two competing alternatives conductors, ACSR and ACSS for the 39.4 mile circuit from Athens to Pleasant Valley. The CTC Global table, with the complete information concerning ACCC conductor, is attached to these Initial Comments as Appendix No. 1. Several elements of the table are of particular significance at the context of Trial Staff's Final Report. First, ACCC conductor has lower line losses than the two competing conductors and will save, cumulatively $328,532,551 over ACSR conductor and $305,400,338 over ACSS conductor, over a 30 year period, for the Athens to Pleasant Valley circuit. This is based on a value of energy of $0.05/KWH. Since this value, however, is not escalated over the 30 year period, it is clearly a conservative calculation. A similar calculation for the slightly longer Leeds to Pleasant Valley results in increased savings.

In addition to the two circuits identified immediately above, Boundless' 28.6 mile circuit from Leeds to Hurley Avenue will also use the same type of conductor. The Leeds to Hurley Avenue Substation is 73% of the length of the Athens to Pleasant Valley circuit, and the 30 year savings total for Leeds to Hurley Avenue is $239,828,762 savings over ACSR conductor and $222,942,247 over ACSS conductor. Total 30 year total project savings for just these three circuits is $568,361,313 over ACSR conductor and $528,342,585 over ACSS conductor.[84]

CTC Global also studied the savings for these three lines on the 45 year life used by Brattle (see Slide 11) and the same discount value, 9.1. This calculation resulted in savings for the Athens to Pleasant Valley circuit of $121,980,088 million against the current ACSR conductor and savings for the Leeds to Pleasant Valley circuit of $123,199,889. These two circuits together have a present worth savings of $244,399,778. Using again the 73% figure for the relative length of the Leeds to Hurley Avenue circuit, the savings for that segment (on a present worth basis) are $89,045,464. The total savings, for the three circuits, compared to ACSR conductors, for Boundless' proposed ACCC conductor are: $333,445,242, which is relatively close to the negative NPV shown on Brattles B/C ratio table on Slide 145.

[84] Boundless has not included the 14.7 circuit from CPV Valley to Rock Tavern as Boundless proposes to use a different size of ACCC cable.

In addition, reducing line losses also frees up generation capacity. In this instance (assuming a load factor of 63%) line loss reduction has the effect of freeing up over 59 MW of generation from just the loss savings on the Athens to Pleasant Valley circuit. Again, the reference cited by Trial Staff in the Final Report provides substantial information about environmental benefit from use of ACCC conductor.[85] Here, as in other matters, Trial Staff and its consultant have failed to adequately understand Boundless' project proposal. In this case, it is not a hidden resource, as the information is in the source relied upon by Trial Staff.

When these increased savings for the capacity resource savings of 64 MW are added to Brattle's B/C ratio table on Slide145, it is evident that the B/C ratio for at least Boundless' Project 20 is positive, and possibly Project 21 as well. CTC Global uses the figure $63,583,616, or $1,000/MW, to monetize this capacity savings value. The assumptions for these analyses are set forth on the table attached as Appendix No. 1 showing the present worth calculations.

While CTC Global did not calculate the savings from reduced losses for the almost 15 mile segment from CPV Valley to Rock Tavern, because the proposed conductor is of a different size than the conductor proposed for use elsewhere, the potential for savings from the proposed reconductoring of this circuit is comparable (on a per mile basis) to the savings for the other lines discussed above. To provide an estimate of the additional savings from reduced losses gained by reconductoring with ACCC conductor, this 15 mile segment is 38 per cent of the length of the Athens to Pleasant Valley segment studied by CTC Global, yielding additional savings of 38% of the $121,980,088 savings of ACCC conductor of ACSR conductor, or $46,352,433. This amount, as in the case above, is a 45 year present worth calculation, as provided by Brattle in their study.

Neither Trial Staff nor Brattle Group reported on other economic and environmental benefits of ACCC conductor. CTC Global, however, has supplied certain information about these values. Because the ACCC conductor exhibits reduced line losses, it also reduces fuel consumption and associated emissions. Based on CTC Global's assumption of the diverse sources of electric power in the New York market, it assumed that the CO2 emission average would drop to about 1.6 pounds per kWh. The reduction of line losses on just the relatively short 39.39 mile line from Athens to

[85] The economic benefits of ACCC conductor are addressed above in Subsection III (A).

Pleasant Valley will have the effect of reducing CO2 emissions by over 147,000 metric tons annually.

The value of ACCC conductor has not been a hidden issue in this Proceeding. While Trial Staff has erroneously commented from time to time on mis-perceived weaknesses of ACCC conductor, Boundless has provided significant information on the conductor in this Proceeding. Point II of Boundless' Initial Comment on Trial Staff's Interim Report addressed a number of advantages of ACCC conductor, including: lower loses; lower weight; reduced sagging; cost advantages over ACSS conductor; durability; and performance under ice-loading/storm conditions. Moreover, in its Second Set of Comments on Trial Staff's Interim Report, Boundless highlighted the widespread use of ACCC conductor in more than 325 projects worldwide with more than 22,000 miles of ACCC conductor in service with no warranty claims.

Trial Staff has not responded in detail to the statements of value of ACCC conductor, but chosen to repeat inaccurate and mis-informed assertions. Trial Staff's failure to address seriously the innovative technology issue in this Proceeding says much more about the diligence and fairness of Trial Staff than it does about ACCC conductor.

D. REPLACEMENT OF TOWERS

Both NYTOs and Boundless propose reconductoring the two 345 kV circuits from Leeds to Pleasant Valley Substations. (NYTO's Project Proposal 7 and Boundless' Project Proposal 20) The significant difference between these two Proposals is the conductor types each developer proposes to use. (See Section III(C) immediately above.) Trial Staff, however, treated the two proposals differently regarding the replacement of towers. With respect to Boundless' Project 20, Trial Staff stated:

> From an environmental standpoint, it would not be practical to install new conductors on aging infrastructure that would require another sequence of more extensive environmental impacts associated with a more significant construction effort in the near future. Consideration should be given to replacement of the infrastructure prior to and during reconductoring activities.[86]

And, again, in the discussion of the environmental ranking of the projects, Trial Staff reports:

[86] Final Report, p. 70.

> Second, structures along proposed reconductoring segments would likely require replacement during or after Boundless' activities are undertaken.[87]

In contrast, Trial Staff does not make this comment regarding the NYTOs' comparable Project 7, which also involves reconductoring of the same Leeds to Pleasant Valley 345 kV circuits. In fact, Trial Staff states about this Proposal:

> The proposal will include replacement of approximately ten percent of existing lattice structures within the ROW and several other structures will be repaired and/or increased in height.[88]

Trial Staff assigns Project 7 an overall environmental ranking of Low. Among the factors contributing to this ranking, Trial Staff includes the following statement:

> . . . the limited amount of environmental impacts anticipated from reconductoring construction activities within an existing ROW.[89]

On the other hand, Trial Staff gave Boundless' Project 20 as having a Medium environmental rank. Trial Staff's comments about two project proposals – NYTOs' No. 7 and Boundless' No. 20, address the same reconductoring activities and are inconsistent. Trial Staff does not offer any plausible distinction between the two projects. In response to Boundless' Interrogatory No. 1.14, for example, Trial Staff indicated that it gave Boundless' Project 20 an environmental ranking of Medium because Boundless' Project 20 includes other project components, unlike Project 7 which otherwise affects the same facilities as the Leeds to Pleasant Valley component of Project 20 and was given an environmental ranking of Low by Trial Staff. Trial Staff, however, failed to explain why these additional components (which make up Project 21) should have reduced the ranking for Project 20 when Trial Staff gave Project 21 an environmental ranking of Low. Longer projects should not be penalized simply because of their length. Moreover, it appears from Trial Staff's response to several of Boundless' interrogatories that it does not view Boundless' restructuring project between Leeds and Pleasant Valley differently than the competing project, in terms of tower replacement. See Interrogatories 1.16 and 1.17. Trial Staff's environmental ranking of Boundless' No. 20, is simply wrong and without basis in the record. It should be changed to Low.

---

[87] Final Report, p. 146.
[88] Final Report, p. 49.
[89] Final Report, p. 142.

E. USE OF HELICOPTERS

Trial Staff makes the following comments about Boundless' possible use of helicopters:

> According to Boundless, helicopters can be used during removal of old and stringing of new conductors. Trial Staff counters this notion, and expects that most of these activities will be performed using traditional methods utilizing ground equipment... Some minor aspects of the reconductoring may be accomplished with the aid of helicopters; however, Boundless has not provided documentation supporting such use.[90]

Boundless' potential use of helicopters in connection with reconductoring appears to have transfixed Trial Staff. In Boundless' March 2, 2015 filing it made the following statement concerning use of helicopters:

> During the construction phase of the proposed project, however, temporary impacts to visual resources would be expected, as reconductoring would be accomplished via helicopter." Page 57.

Boundless responded to a data request from Trial Staff about use of helicopters as follows, which Boundless understands was added to the March 2, 2015 filing as a supplement:

> Boundless may use helicopters in sensitive areas where a ground access to the right-of-way would cause greater environmental impacts. Generally, helicopter-based reconductoring is similar to conventional ground-based reconductoring, with the primary difference that ground-based impact and installation time is reduced through use of aircraft. In the proposed method, a helicopter could be used during removal of old and stringing of new conductors. Tensioning would be performed using conventional ground-based truck-mounted tensioning equipment. A helicopter could also be used to aid line crews during mounting of rollers on existing structures and during placement of new conductors on rollers. Finally, a helicopter could be used to pull the new conductors, while a conventional ground-based tensioning truck would be used to tension the new conductors. The benefit of this approach is sensitive areas can be avoided through an alternative construction approach and in some instances temporary and permanent impacts to the right-of-way will not occur.

[90] Final Report, p. 69.

Three key points about this response are important.

- First, Boundless "may" use helicopters in connection with reconductoring.

- Second, any use of helicopters would be in sensitive areas where ground access to the right-of-way would cause greater environmental impacts.

- Third, the benefit of the use of helicopters in sensitive areas is the avoidance of impacting those areas and thus avoiding temporary and permanent impacts to the right-of-way.

Boundless has not proposed to use helicopters as the major installation technique in the course of reconductoring, but in sensitive areas from an environmental point of view. Boundless agrees with Trial Staff that the use of helicopters is likely to be limited to specific areas. Trial Staff's use of "counters" in the Final Report, however, reflects a complete misunderstanding of Boundless' proposed use of helicopters.

F. HUDSON RIVER CROSSINGS

Trial Staff makes numerous references to potential crossing of the Hudson River. For example, on Page 157, in its comments on Project 11:

> First, from an environmental perspective, Project 11 does not result in the construction of any facilities across the Hudson River, whether via a new circuit or a reconductoring or replacement of an existing circuit. This avoids impacts to sensitive environmental and scenic resources and is a major benefit of Project 11 over Project 14.

Boundless respectfully submits that this assessment of possible crossings of the Hudson River inappropriately combines projects with significantly different environmental impacts. Reconductoring an existing line will not increase the visual impact, contrasted with the construction of a new line. Using HDD to install a line beneath the River's bottom will not disturb sensitive areas such as burying a line on the bottom of the River. Trial Staff mistakenly compares apples with oranges, and does not persuasively provide a reasoned basis for is project selection.

Boundless does not agree with the environmental ranking of Project 20. This project, for the reasons set forth above, should be ranked as having a Low environmental impact.

G. TRIAL STAFF GIVES INSUFFICIENT CONSIDERATION OF IMPACT OF THE PROPOSED KNICKERBOCKER SUBSTATION ON NEW ENGLAND TO/FROM NEW YORK FLOWS

Trial Staff does not discuss in the Final Report the potential for adverse impacts of construction and operation of the Knickerbocker Substation on power flows from and to New England on the New Scotland to Alps to New England 345 kV circuit. The Knickerbocker Substation is proposed to intersect this circuit. This topic is expected to be examined in the System Reliability Impact Study ("SRIS") (or SIS as appropriate) completed for each project making use of the proposed Knickerbocker Substation. Boundless is not aware if any of the developers seeking to make use of this proposed Substation have completed the SRIS for their projects, or how many of these studies are even in progress. Boundless' opposition to the motion of one developer seeking to adjourn the deadline for having the SRIS in progress is pending before the Commission.

The Cricket Valley generation project located in Dutchess County proposes to make interconnections which will affect the electric system both in New York and in Connecticut. While the NYISO maintains the details of an SRIS under a level of confidentiality, Boundless is able to state that the NYISO SRIS study for that developer's interconnection indicates that there are impacts on the power flows between New York and New England and that the developer will be responsible for payment of these SUF costs.

In the case of the proposed Knickerbocker Substation, however, there is no discussion in the Final Report of any SUF costs for the projects which would make use of the proposed Knickerbocker Substation. To the extent that such costs were incorporated in Trial Staff's generic adder for SUF costs for projects, the cost for Boundless' projects must be reduced substantially more than proposed above in Subsection III (A) (2).. To the extent that these SUF costs are not included in Trial Staff's cost estimate for the projects using the proposed Knickerbocker Substation, there is a cost element, possibly a significant cost element, which is unexplored. Trial Staff needs to explain its position or seek the time from the Commission to prepare a factual explanation of this matter.

IV. ARBITRARY AND CAPRICIOUS DECISION-MAKING

A. LEGAL STANDARD FOR ARBITRARINESS

While judicial review of Commission actions is not unlimited, standards exist which the Commission must meet in carrying out its determinations. Public Service Law § 128. There must be substantial evidence in the record to support the Commission's determinations and those determinations may not be arbitrary, capricious or an abuse of discretion.

B. TRIAL STAFF'S FINAL REPORT IS REPLETE WITH ARBITRARY AND CAPRICIOUS RECOMMENDATIONS

A number of issues discussed above in these Initial Comments reflect Trial Staff's arbitrary and capricious approach to the Final Report. Boundless will not repeat the discussion here the discussion above, but will simply identify certain of the earlier discussions which reflect the failures of Trial Staff to deal appropriately with key issues in this Proceeding. In particular, Boundless refers to Section II, above, and its subsections In addition to these topics discussed above in these Initial Comments, Boundless notes additional examples of Trial Staff's arbitrary and capricious decision making set forth in the Final Report.

● Trial Staff's decision is not based upon specific factors but "holistic" assessment. It must be rational and based upon the record.[91]

● Much of Trial Staff's analysis, and that of its consultants, the NYISO and the Brattle Group relies upon computer studies. This is a "black box" approach which is makes it inappropriate in competitive matters. In the limited time available following the issuance of the Final Report, Boundless has not had access to these studies to perform the detailed analysis necessary to understand them.

Developers' SRIS' are significant contributions to the Commission's decision making in this matter. The original procedural schedule called for these studies to be complete by the time the Commission issued its decision in this Proceeding. However, as one developer's pending motion to delay the deadline for even having the respective SRIS' "underway" demonstrates, other developers do not plan to have a complete SRIS by the time of the Commission's December 2015 meeting. Trial Staff's failure to oppose

[91] Final Reports, at p. 76.

requests for adjournment of the SRIS mandates that the Commission defer acting on Trial Staff's Final Report until the SRIS' are completed.

V. BOUNDLESS' SOLUTION TO THE COMMISSION'S DILEMMA

A. THE PROBLEM

The Commission initiated this Proceeding with the expectation of being able to carry out the policies and goals set in the Governor's call for an Energy Highway. In particular, the Commission was appropriately sensitive to the need to renovate the state's high voltage electric transmission system. Boundless applauds this initiative. Unfortunately, as noted at the outset of these Initial Comments, the Commission's Proceeding has faltered on its last lap.

Trial Staff proposes that the Commission end this Proceeding without making a decision on which project, or projects, best meets public policy goals. Such a determination, if it is ever made, will be made by an entity with no environmental mandate and nothing in its governing tariff which even considers the environment. While it will be necessary for any project selected by the NYISO to also obtain siting authority from the Commission under Article VII of the Public Service Law, that procedural step will hardly achieve the Commission's overriding requirement of selecting a project best suited to meeting public policy goals. Trial Staff has fashioned, in the final few pages in the Final Report a procedural approach which may or may not prove successful.

The evaluation of transmission alternatives using traditional load flow and production cost simulation techniques is not intended to be an exact science and can be colored by the "experts" who wield them through the assumptions made, either intentionally or unintentionally, to yield very different and at times startlingly opposite conclusions. This is why the SRIS process is a collegial one in which the NYISO, developer, and appropriate committees consider alternatives. Ranking the projects without a full understanding of the implications each has for the system, and a discussion of alternative views, is foolhardy.

Trial Staff has combined 20th Century environmental and social sensitivities, with early-21th Century evaluation methodologies in the hope of yielding a solid product for the ages. Unfortunately, the result is a chimera which is satisfactory to no one.

Boundless is aware of the difficulty facing the Commission as it tries to establish new protocols for situations that have not previously been encountered. What is called for is a 21st century paradigm that considers each of three possible alternatives without relying unduly on biased traditional techniques that seek to reduce evaluation to a single number. Each of the following should be considered, without using the methodologies that are appropriate to only one: 1) new build alternatives, 2) no-build alternatives, and a new category 3) rebuild alternatives. Each should consider and value the social and environmental implications as well as the need to reconstitute an aging high voltage infrastructure.

Traditional tools and approaches will always yield results which favor new-build, mega-sized projects over right-sized rebuild projects, and they will do so in spite of sound social, environmental and energy transfer arguments to the contrary.

B. THE WAY FORWARD

It is not necessary to recount all of the shortcomings in Trial Staff's proposed procedural scheme. The key issue is what should the Commission do at this point? While it may be convenient simply to hustle this Proceeding off the Commission's docket, Boundless respectfully submits that the Commission should not simply approve Trial Staff's Final Report.

Rather, Boundless respectfully submits that the Commission should re-think the proposed approach.

● Specifically, the Commission should select focused projects which are environmentally compatible.

● The Commission should not mix distinct system problems, but rather should focus first on the Central East Interface and then on the UPNY – SENY Interface.

● The Commission should recognize that project changes are required and undertake to treat applicants equitably.

C. COST CONTROL FOR OVER-LARGE PROJECTS

Projects which significantly exceed the Commission's net goal for transfer capability increase should not be permitted to charge the public to recover a return on excessively large projects. Developers have submitted projects of varying sizes in terms of projected transfer capability increases. As described above in Section II(A), the Commission's original

goal of congestion relief of 1,000 MW has been partially met by the contribution of the TOTS Projects. Using the NYISO's calculated figure of this contribution of 450 MW, the amount remaining for the remaining developers is 550 MW.

Boundless respectfully submits that the Commission should set an upper limit on the size of projects, such that project sponsors for projects larger than the net goal would not receive a profit on their excessive size. Such projects could recover actual costs of the proposed project, i.e., the return of the investment, but not a return on the investment. This is simply an adjunct to the Commission's strong interest in cost control.

VI. CONCLUSION

Boundless welcomes the Commission's initiative to secure additional transfer capability across the UPNY – SENY interface. Nevertheless, this Proceeding has left the mainline that it deserves and is rather headed down a dead end spur track. The Commission requested project proposals from developers with stated goals in mind. Over the three years that this Proceeding has continued, many aspects of the original request for proposals have changed.

A. FAIR TREATMENT

Boundless wants fair treatment from the Commission. Underlying the many issues, the many pages of documents, the substantial development costs which all four developers have incurred in response to the Commission's RFP is the sense that the proceeding is inherently unfair. When the NYISO discovered a contingency which affected Boundless' transfer capability increase numbers, Trial Staff ignored the problem. When the NYISO discovered a contingency which affected the three other developers' transfer capability increase number, Trial Staff went to work with the NYISO to fashion a remedial fix – a substantial change in those three developers' project proposals.

When the Commission directed Trial Staff to calculate the amount of transfer increase capability contributed by the TOTS projects, which would have significantly reduced the amount of transfer increase capability sought in this Proceeding – and would have the effect of eliminating developers' advantages from submitting large combo projects, Trial Staff did not include the Commission direction in the Final Report, nor act on it. Developers, which notwithstanding the Commission's clear direction and the equally clear implications for future projects' selection by the Commission submitted over-large projects were accorded respect and favorable treatment.

When the Commission sought innovative project proposals from developers, Boundless' use of innovations was derided by Trial Staff as needing more study. When the Governor sought transmission projects which remain in the ROW Envelope, Trial Staff picked a project which clearly proposes taller towers.

Boundless wants fair treatment and the examples above – from among a veritable multitude of comparable examples – manifest the opposite: unfair treatment. Boundless does not ask for a suspension of the criteria, but it asserts that with a fair proceeding, Boundless' project proposals would have fared better in the selection.

B. RELIEF SOUGHT BY BOUNDLESS

While in the exercise of its regulatory power, the Commission may have the authority to change important ground rules during the course of a proceeding it is not clear that the Commission has authority to request project proposals with one set of goals and then, during a three year-long proceeding, change substantially all of the goals. Boundless proposed its projects to meet the goals the Commission initially announced. Now, as discussed above in these Initial Comments, the Commission's goals have changed significantly. Boundless seeks in this Proceeding that the Commission:

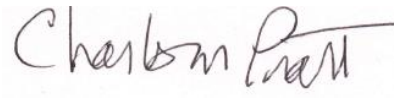
- not discriminate against Boundless by modifying all other projects to fix problems which affected those projects sufficient so that they did not increase transfer capability, while refusing to carry out sensible, less dramatic changes to Boundless' projects;

- not allow the goal of transfer capability increase to be, effectively, increased by almost 50% (from 1,000 MW to 1,450 MW);

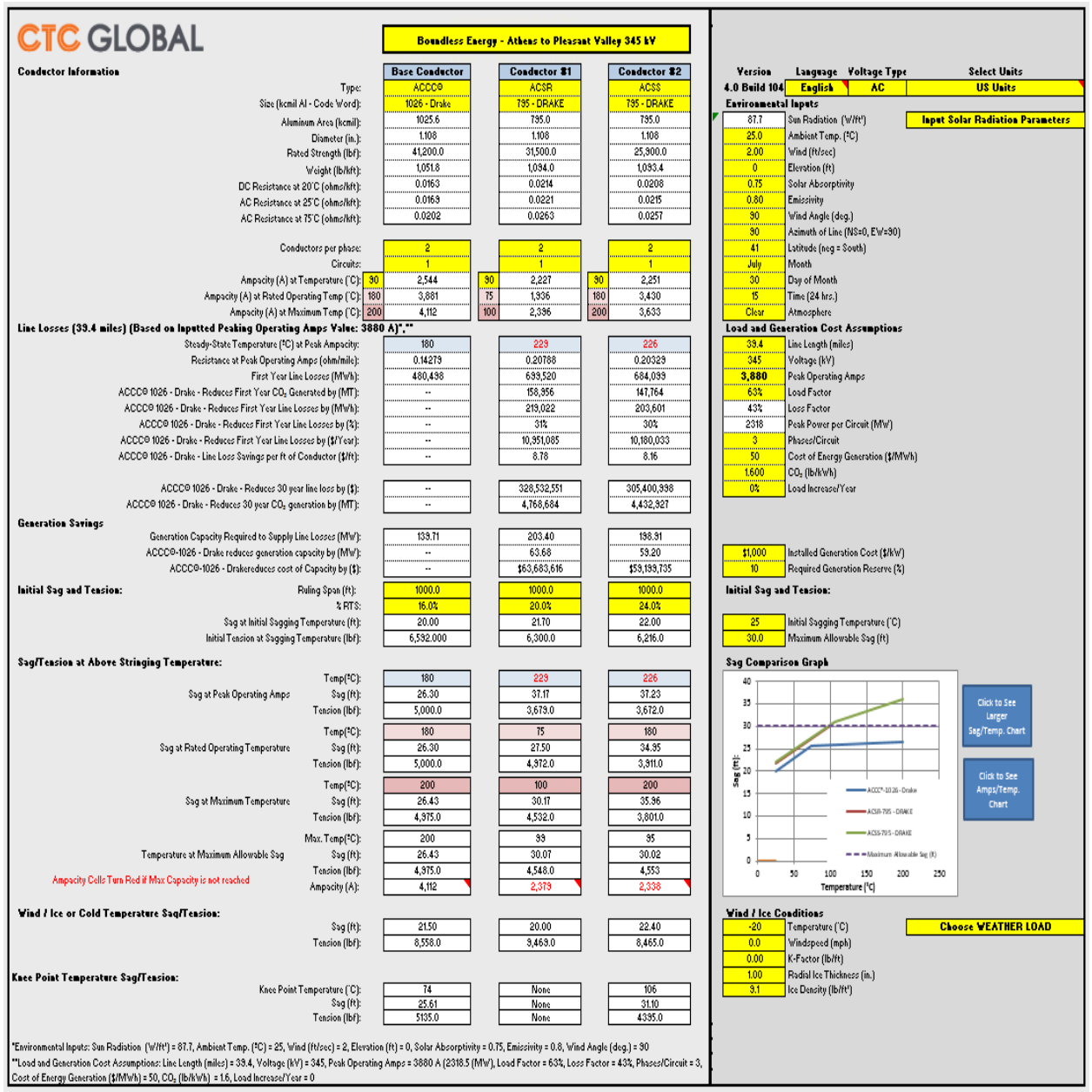
- recommend that Boundless' Projects 20 and 21 be submitted to the NYISO for its public policy proceeding; and

- recommend that Boundless and other developers be permitted to recovery development costs expended to date.

Respectfully submitted,



Charles M. Pratt
General Counsel
Boundless Energy NE, LLC
435 East 57th Street
New York, New York
(212) 289 2569



CTC GLOBAL

Boundless Energy - Athens to Pleasant Valley 345 kV

Conductor Information	Base Conductor	Conductor #1	Conductor #2
Type:	ACCC®	ACSR	ACSS
Size (kcmil Al - Code Word):	1026 - Drake	795 - DRAKE	795 - DRAKE
Aluminum Area (kcmil):	1025.6	795.0	795.0
Diameter (in.):	1.108	1.108	1.108
Rated Strength (lbf):	41,200.0	31,500.0	25,300.0
Weight (lb/kft):	1,051.8	1,094.0	1,093.4
DC Resistance at 20°C (ohms/kft):	0.0163	0.0214	0.0208
AC Resistance at 25°C (ohms/kft):	0.0169	0.0221	0.0215
AC Resistance at 75°C (ohms/kft):	0.0202	0.0263	0.0257
Conductors per phase:	2	2	2
Circuits:	1	1	1
Ampacity (A) at Temperature (°C):	90 / 2,544	90 / 2,227	90 / 2,251
Ampacity (A) at Rated Operating Temp (°C):	180 / 3,881	75 / 1,336	180 / 3,430
Ampacity (A) at Maximum Temp (°C):	200 / 4,112	100 / 2,396	200 / 3,633
Line Losses (33.4 miles) (Based on Inputted Peaking Operating Amps Value: 3880 A)*,**			
Steady-State Temperature (°C) at Peak Ampacity:	180	229	226
Resistance at Peak Operating Amps (ohm/mile):	0.14213	0.20788	0.20323
First Year Line Losses (MWh):	480,498	699,520	684,099
ACCC® 1026 - Drake - Reduces First Year CO_2 Generated by (MT):	--	158,356	147,764
ACCC® 1026 - Drake - Reduces First Year Line Losses by (MWh):	--	219,022	203,601
ACCC® 1026 - Drake - Reduces First Year Line Losses by (%):	--	31%	30%
ACCC® 1026 - Drake - Reduces First Year Line Losses by ($/Year):	--	10,951,085	10,180,033
ACCC® 1026 - Drake - Line Loss Savings per ft of Conductor ($/ft):	--	8.78	8.16
ACCC® 1026 - Drake - Reduces 30 year line loss by ($):	--	328,532,551	305,400,398
ACCC® 1026 - Drake - Reduces 30 year CO_2 generation by (MT):	--	4,768,684	4,432,327
Generation Savings			
Generation Capacity Required to Supply Line Losses (MW):	139.71	203.40	188.91
ACCC®-1026 - Drake reduces generation capacity by (MW):	--	63.68	59.20
ACCC®-1026 - Drakereduces cost of Capacity by ($):	--	$63,683,616	$59,199,735
Initial Sag and Tension: Ruling Span (ft):	1000.0	1000.0	1000.0
% RTS:	16.0%	20.0%	24.0%
Sag at Initial Sagging Temperature (ft):	20.00	21.70	22.00
Initial Tension at Sagging Temperature (lbf):	6,592.000	6,300.0	6,216.0
Sag/Tension at Above Stringing Temperature:			
Sag at Peak Operating Amps — Temp(°C):	180	229	226
Sag (ft):	26.30	37.17	37.23
Tension (lbf):	5,000.0	3,673.0	3,672.0
Sag at Rated Operating Temperature — Temp(°C):	180	75	180
Sag (ft):	26.30	27.50	34.95
Tension (lbf):	5,000.0	4,972.0	3,911.0
Sag at Maximum Temperature — Temp(°C):	200	100	200
Sag (ft):	26.43	30.17	35.96
Tension (lbf):	4,975.0	4,532.0	3,801.0
Temperature at Maximum Allowable Sag — Max. Temp(°C):	200	99	95
Sag (ft):	26.43	30.07	30.02
Tension (lbf):	4,975.0	4,548.0	4,553
Ampacity Cells Turn Red if Max Capacity is not reached — Ampacity (A):	4,112	2,379	2,338
Wind / Ice or Cold Temperature Sag/Tension: Sag (ft):	21.50	20.00	22.40
Tension (lbf):	8,558.0	3,463.0	8,465.0
Knee Point Temperature Sag/Tension: Knee Point Temperature (°C):	74	None	106
Sag (ft):	25.61	None	31.10
Tension (lbf):	5135.0	None	4335.0

*Environmental Inputs: Sun Radiation (W/ft²) = 87.7, Ambient Temp. (°C) = 25, Wind (ft/sec) = 2, Elevation (ft) = 0, Solar Absorptivity = 0.75, Emissivity = 0.8, Wind Angle (deg.) = 90

**Load and Generation Cost Assumptions: Line Length (miles) = 33.4, Voltage (kV) = 345, Peak Operating Amps = 3880 A (2318.5 (MW), Load Factor = 63%, Loss Factor = 43%, Phases/Circuit = 3, Cost of Energy Generation ($/MWh) = 50, CO_2 (lb/kWh) = 1.6, Load Increase/Year = 0

Version	Language	Voltage Type	Select Units
4.0 Build 104	English	AC	US Units

Environmental Inputs

87.7	Sun Radiation (W/ft²)
25.0	Ambient Temp. (°C)
2.00	Wind (ft/sec)
0	Elevation (ft)
0.75	Solar Absorptivity
0.80	Emissivity
90	Wind Angle (deg.)
90	Azimuth of Line (NS=0, EW=90)
41	Latitude (neg = South)
July	Month
30	Day of Month
15	Time (24 hrs.)
Clear	Atmosphere

Input Solar Radiation Parameters

Load and Generation Cost Assumptions

33.4	Line Length (miles)
345	Voltage (kV)
3,880	Peak Operating Amps
63%	Load Factor
43%	Loss Factor
2318	Peak Power per Circuit (MW)
3	Phases/Circuit
50	Cost of Energy Generation ($/MWh)
1.600	CO_2 (lb/kWh)
0%	Load Increase/Year

$1,000	Installed Generation Cost ($/kW)
10	Required Generation Reserve (%)

Initial Sag and Tension:

25	Initial Sagging Temperature (°C)
30.0	Maximum Allowable Sag (ft)

Sag Comparison Graph

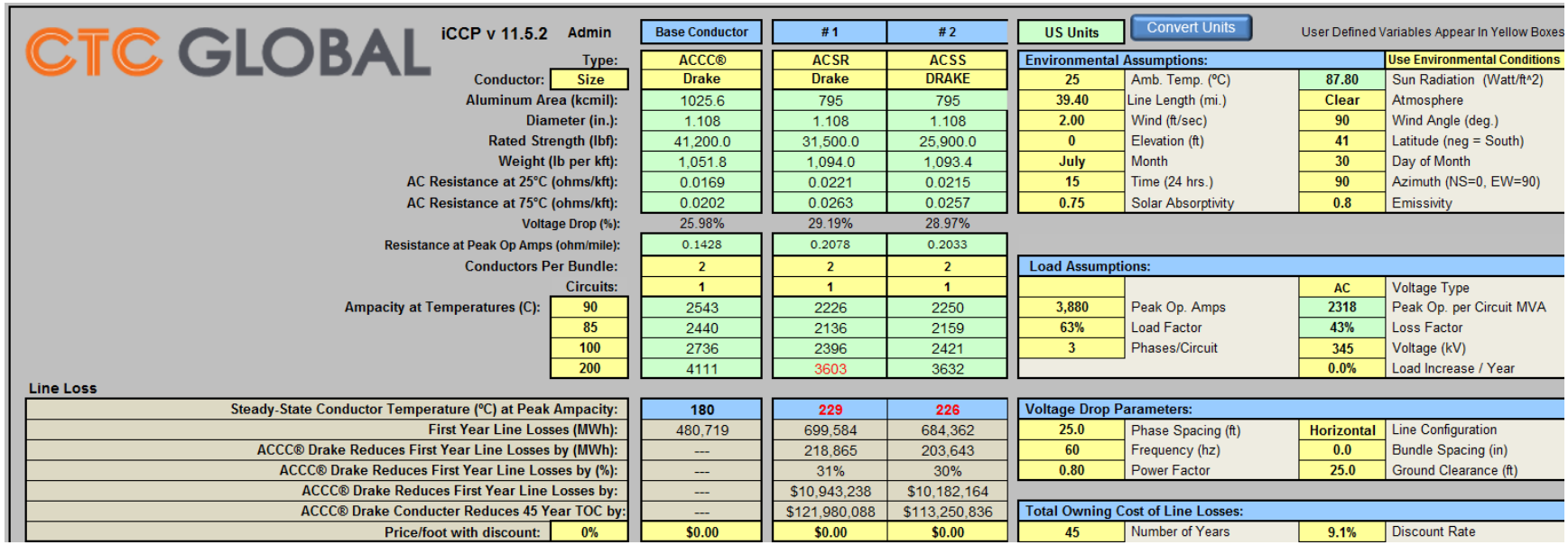
Click to See Larger Sag/Temp. Chart

Click to See Amps/Temp. Chart

Wind / Ice Conditions

-20	Temperature (°C)
0.0	Windspeed (mph)
0.00	K-Factor (lb/ft)
1.00	Radial Ice Thickness (in.)
3.1	Ice Density (lb/ft³)

Choose WEATHER LOAD



CTC GLOBAL

iCCP v 11.5.2 Admin

		Base Conductor	# 1	# 2
Type:		ACCC®	ACSR	ACSS
Conductor:	Size	Drake	Drake	DRAKE
Aluminum Area (kcmil):		1025.6	795	795
Diameter (in.):		1.108	1.108	1.108
Rated Strength (lbf):		41,200.0	31,500.0	25,900.0
Weight (lb per kft):		1,051.8	1,094.0	1,093.4
AC Resistance at 25°C (ohms/kft):		0.0169	0.0221	0.0215
AC Resistance at 75°C (ohms/kft):		0.0202	0.0263	0.0257
Voltage Drop (%):		25.98%	29.19%	28.97%
Resistance at Peak Op Amps (ohm/mile):		0.1428	0.2078	0.2033
Conductors Per Bundle:		2	2	2
Circuits:		1	1	1
Ampacity at Temperatures (C):	90	2543	2226	2250
	85	2440	2136	2159
	100	2736	2396	2421
	200	4111	3603	3632

US Units | Convert Units | User Defined Variables Appear In Yellow Boxes

Environmental Assumptions:			Use Environmental Conditions
25	Amb. Temp. (°C)	87.80	Sun Radiation (Watt/ft^2)
39.40	Line Length (mi.)	Clear	Atmosphere
2.00	Wind (ft/sec)	90	Wind Angle (deg.)
0	Elevation (ft)	41	Latitude (neg = South)
July	Month	30	Day of Month
15	Time (24 hrs.)	90	Azimuth (NS=0, EW=90)
0.75	Solar Absorptivity	0.8	Emissivity

Load Assumptions:			
		AC	Voltage Type
3,880	Peak Op. Amps	2318	Peak Op. per Circuit MVA
63%	Load Factor	43%	Loss Factor
3	Phases/Circuit	345	Voltage (kV)
		0.0%	Load Increase / Year

Line Loss

Steady-State Conductor Temperature (°C) at Peak Ampacity:		180	229	226
First Year Line Losses (MWh):		480,719	699,584	684,362
ACCC® Drake Reduces First Year Line Losses by (MWh):		---	218,865	203,643
ACCC® Drake Reduces First Year Line Losses by (%):		---	31%	30%
ACCC® Drake Reduces First Year Line Losses by:		---	$10,943,238	$10,182,164
ACCC® Drake Conducter Reduces 45 Year TOC by:		---	$121,980,088	$113,250,836
Price/foot with discount:	0%	$0.00	$0.00	$0.00

Voltage Drop Parameters:			
25.0	Phase Spacing (ft)	Horizontal	Line Configuration
60	Frequency (hz)	0.0	Bundle Spacing (in)
0.80	Power Factor	25.0	Ground Clearance (ft)

Total Owning Cost of Line Losses:			
45	Number of Years	9.1%	Discount Rate