Hudson Valley Smart Energy Coalition

Town of Clinton
Clinton Concerned Citizens
Columbia Land Conservancy
Dutchess County Government
Dutchess Land Conservancy
Farmers and Families for Claverack
Farmers and Families for Livingston
Town of Milan
The Olana Partnership
Omega Institute
Pleasant Valley Concerned Citizens
Preservation League of New York State
Scenic Hudson
Town of Pleasant Valley
Walnut Grove Farm
Winnakee Land Trust

See our Supporting Organizations at www.hvsec.org/supporting-organizations

Via Electronic Mail
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Cases 12-T-0502, 13-E-0488 - In the Matter of Alternating Current Transmission Upgrades – Comparative Proceeding.

Comments of the Towns of Claverack, Clinton, Livingston, Milan and Pleasant Valley; Clinton Concerned Citizens; Columbia Land Conservancy; Dutchess County Government; Dutchess Land Conservancy; Farmers and Families for Claverack; Farmers and Families for Livingston; The Olana Partnership; Omega Institute for Holistic Studies; Pleasant Valley Concerned Citizens; Preservation League of New York State; Scenic Hudson, Inc.; Walnut Grove Farm; and Winnakee Land Trust.

INTRODUCTION

Pursuant to the Commission's December 16, 2014 Order Establishing Modified Procedures for Comparative Evaluation ("December Order"), the parties to Case 14-E-0488 listed below ("Joint Commenters") offer comments on the Part A submissions of the four developers participating in the above-mentioned case pending before the Public Service Commission ("PSC", "the Commission"). The Joint Commenters are all members of the Hudson Valley Smart Energy Coalition ("HVSEC").[1] The filing of these comments should not in any way be construed as an endorsement of the need for new AC transmission lines cutting through the Hudson Valley. Rather, these comments are submitted to provide the Commission with the Joint Commenters' views on the proposed projects and their potential impacts on the economy, environment and citizens of the Hudson Valley.

[1] www.hvsec.org

Joint Commenters are: the Towns of Claverack, Clinton, Livingston, Milan and Pleasant Valley; Clinton Concerned Citizens; Columbia Land Conservancy; Dutchess County Government; Dutchess Land Conservancy; Farmers and Families for Claverack; Farmers and Families for Livingston; The Olana Partnership; Omega Institute for Holistic Studies; Pleasant Valley Concerned Citizens; Preservation League of New York State; Scenic Hudson, Inc.; Walnut Grove Farm; and Winnakee Land Trust.

THE HUDSON VALLEY SMART ENERGY COALITION

The Hudson Valley Smart Energy Coalition is a group of municipalities, environmental, historic and land preservation organizations, citizen groups and businesses that are committed to preserving and restoring the scenic, agricultural, cultural, health, environmental and economic assets of the Hudson Valley Region. In submitting these comments, the Joint Commenters seek to minimize the cost burdens and community impacts on residents, farms, businesses and municipalities; protect the special and scenic, historic, agricultural, economic, tourist, and natural resources crucial to the Hudson Valley's ongoing success and viability; and promote sustainable energy solutions in the Hudson Valley that don't damage priceless natural assets.

Our participation in this Proceeding is directed at ensuring a balanced, complete and fully vetted record on the issues presented in order to achieve a 21st century energy system that meets energy needs while protecting the resources and quality of life in the Hudson Valley. Our view at this point in the proceeding is that new transmission lines through the Hudson Valley are not needed. If the Commission decides this Proceeding should move forward, preference must be given to low-impact alternatives that do not require eminent domain, and that protect, beautify and create a sustainable energy future as envisioned in Case 14-M-0101, Reforming the Energy Vision ("REV").

BACKGROUND

The 2012 Energy Highway Blueprint, citing traditionally high congestion prices in the wholesale electric markets south of the Central East ("CE") and the Upstate New York/Southeast New York ("UPNY/SENY") interfaces, recommended transmission projects with a cost of $1 billion to increase alternating current ("AC") transmission capacity south of these constraints by 1,000 MW. On November

12, 2012, PSC commenced Case 12-T-0502 to solicit Statements of Intent from developers and transmission owners that will increase transfer capability through the congested AC transmission corridor to meet the objectives of the Energy Highway Blueprint.[2] In April, 2013, PSC issued an order establishing procedures for a comparative evaluation pursuant to Public Service Law ("PSL") Article VII, establishing a two-part review process.[3] Part A consisted of scoping or preliminary conceptual plans, only. Submission of complete applications fully meeting the requirements of PSL Article VII, including the information necessary for the PSC to meet its statutory obligation to make findings on the basis of the need for the facility before it can grant a certificate for construction, was left until Part B.[4]

Part A submissions that met the criteria for consideration were made by four developers and assigned individual case numbers. On October 25, 2013, PSC established a new, global comparative proceeding under Case number 13-E-0488 entitled "In the Matter of Alternating Current Transmission Upgrades – Comparative Proceeding" (the "Comparative Proceeding").

In February, 2014, in response to a statement by Governor Cuomo in his State of the State address stating a preference for major transmission facilities to be located within existing rights-of way, PSC issued an Order to modify the process in this Comparative Proceeding to allow for consideration of alternative proposals in keeping with this policy (the "February Order"). After issuance of a straw proposal by Department of Public Service Staff ("Staff") recommending a procedure for considering such alternative proposals[5], and in response to public comment regarding the lack of any demonstration that new transmission projects are in fact necessary, PSC issued an Order on December 16, 2014 ("December Order"), directing Staff to prepare a report addressing the question of need, and scheduling a Technical

[2] Case 12-T-0502, Proceeding on Motion to Examine Alternating Current Transmission Upgrades, Order Instituting Proceeding, Issued and Effective November 12, 2012.
[3] Case 12-T-0502, Proceeding on Motion of the Commission to Examine Alternating Current Transmission Upgrades, Order Establishing Procedure for Joint Review Under Article VII of the Public Service Law and Approving Rule Changes, Issued and Effective April 22, 2013.
[4] *Id.*
[5] See Cases 12-T-0502; 13-E-0488; 13-T-0454; 13-T-0455; 13-T-0456; 13-T-1457; 13-T-0461, Notice Seeking Comment on Advisory Staff Recommendations, Issued August 13, 2014; Cases 12-T-0502; 13-E-0488; 13-T-0454; 13-T-0455; 13-T-0456; 13-T-1457; 13-T-0461, Advisory Staff Recommendations, Issued August 13, 2014 ("Straw Proposal").

Conference in mid-June, open to the parties, "so that there can be a full airing and discussion among the stakeholders of the basis of the need for transmission facilities and the viability of potential alternatives."[6] HVSEC's expectation is that the Technical Conference will provide the parties the opportunity for a robust discussion to hear and present on the issue of whether additional transmission through the Hudson Valley is necessary, and whether there are better, more efficient, cost effective and environmentally benign alternatives. A decision on these questions is expected from the PSC in the August or September Session.

The December Order set forth six criteria for consideration by Staff in their evaluation of the applicant's proposals:

(1) The amount of increased transfer capability that each proposal offers;

(2) The cost of the proposal(s) to ratepayers;

(3) Electric system impacts, emissions reductions, and production cost impacts, measured in terms of overall changes to electric generation dispatch;

(4) The extent of any additional rights-of-way ("ROW") that the applicant(s) will need to acquire in order to build and operate the proposed facility(ies);

(5) The application of innovative technologies to enhance transfer capability or reduce the physical footprint of the project; and,

(6) An initial assessment of environmental compatibility, including visual impacts.[7]

The December Order also set forth new requirements for the submission of revised Part A applications by the applicants. The applicants submitted revised proposals, with new alternatives, as follows below.

OVERVIEW OF APPLICANT PROPOSALS

Boundless Energy NE, LLC

[6] December Order p. 3.
[7] December Order at 34.

Boundless Energy NE, LLC ("Boundless") submits a single proposal, called "Leeds Path West," which consists of several components.[8] Boundless proposes to reconductor lines from the Leeds Substation in the Town of Athens in Greene County to the Hurley Avenue substation in the Town of Ulster in Ulster County with higher capacity conductors on existing poles over a distance of 28.6 miles. To bring the lines up to icing standards, it also proposes to reconductor lines from the Leeds substation and the Athens Generating Station to the Pleasant Valley Substation in the Town of Pleasant Valley, Dutchess County, over 39.3 and 39.8 miles, respectively, and it also proposes to reconductor from the CPV Valley tap to the Rock Tavern substation in Orange County on existing poles for 14.7 miles.

To tie-in east to west, Boundless also proposes two new 345 kV lines running from Roseton Substation in the Town of Newburgh in Orange County on the west side of the Hudson River to the East Fishkill substation in Dutchess County on the east side, with the lines installed under the Hudson River by horizontal directional drilling ("HDD") and trenched underground the remainder of the distance to the substation. Additional project components include installation of 40% series compensation on the Leeds to Hurley Avenue and Hurley Avenue to Roseton lines and 5% series reactor facilities on the two New Scotland to Leeds circuits, and modifications at the Roseton Substation and East Fishkill substations. The total cost of the project is estimated at $650 million. According to the applicant's March 2, 2015 submission, the project will "increase transmission capability across the important UPNY-SENY interface by more than 1,200 MW" and will "replace aging, out of date conductors with new technology conductors on the existing towers."[9]

New York Transmission Owners

The New York Transmission Owners ("Transco") submit proposals for nine (9) different alternatives, falling into two basic categories: (1) UPNY/SENY alternatives, which are lower cost and are primarily designed to address only the UPNY/SENY interface; and (2) Central East ("CE") -

[8] Case 13-T-0461.
[9] Boundless Energy NE. LLC, Proposed Leeds Path West AC Transmission Project, Response to December 16, 2014 NYSPSC Order, Case 13-T-0461, March 2, 2015, p. 2.

UPNY/SENY alternatives, which are more costly and include a component from the Edic Substation in the Town of Marcy, Oneida County, to the New Scotland substation in Albany County, in order to both meet the 1,000 MW UPNY/SENY objective and provide CE benefits.[10] All Transco alternatives exclusively utilize existing right-of-way.

Transco's four (4) UPNY/SENY alternatives include:

(1) The Hurley Avenue Phase Angle Regulators (PARs) project ("HA"), which involves installation of equipment at the Hurley Avenue substation in the Town of Ulster, Ulster County in order to increase power transfer from upstate generators to downstate load. This proposal is estimated to cost $109.4 million;

(2) the Knickerbocker to Pleasant Valley Transmission Line ("KB-PV"), which proposes a new 345 kV overhead electric transmission line all within existing ROW beginning from a new Knickerbocker substation to be constructed in the Town of Schodack, Rennselaer County, in two segments. The first segment, over 21.9 miles from Knickerbocker to a rebuilt and expanded 115 kV substation at Churchtown, in Claverack, Columbia County, will entail removal of one existing 80 foot double circuit 115 kV lattice structure line and construction of a new 115/345 kV double circuit line on 90-95 foot monopoles. The second segment, over 32.3 miles from Churchtown to the Pleasant Valley substation in Dutchess County, will entail removal of two existing double circuit 115 kV lattice structure lines and construction of a single line of new 115/345 kV monopoles. It will reduce the number of structures in the ROW. The replacement towers will be 10 feet higher in most places (80 to 90 feet), and 10-20 foot higher in the Town of Milan, although other existing structures within the right-of-way in this area are of similar height. The estimated cost of this alternative is $531 million, and it is predicted to result in a UPNY/SENY transfer capability increase of 1,100 – 1,200 MW and a CE increase of 300-350 MW;

(3) The Leeds to Pleasant Valley 345 kV Transmission Line Reconductoring ("LD-PV(R)"). This involves reconductoring of two existing 345 kV electric transmission lines and replacement of

[10] Case 13-M-0457.

approximately 10% of the structures from the Leeds switching station in the Town of Athens, Green County to Pleasant Valley over 39.8 miles, all within existing ROW. Transco's Cross Section Drawings for this segment indicate that the structure heights are mostly 95-100 feet high. This route entails an existing aerial crossing of the Hudson River, just south of Athens and the City of Hudson. As part of this alternative, Transco also proposes to reconductor the two existing 345 kV lines within the 0.5 mile section from Athens Junction to Athens substation. This alternative is estimated to cost $240.7 million and will provide a transfer increase of 1,150-1,350 MW over UPNY/SENY and will not degrade CE; and

(4) The New Scotland to Leeds 345 kV Transmission Line Reconductoring and Leeds to Pleasant Valley 345 kV Transmission Line ("NS-LD(R)/LD-PV"). It is a two part project. The first is reconductoring of two existing overhead lattice structure 345 kV lines and replacement of approximately 10% of the structures from New Scotland to Leeds over 25.9 miles. Transco's Cross Section Drawings for this segment indicate that the structure heights are mostly 90-95 feet high. The second is the construction of a new 345 kV overhead electric transmission line from Leeds to Pleasant Valley in two segments. The first segment involves removal of an existing 115 kV double circuit lattice structure line and construction of a new monopole double circuit 115/345 kV line over seven miles to the rebuilt and expanded Churchtown switching station, including an aerial crossing of the Hudson River just south of Athens and Hudson. In this section, existing 85 foot lattice structures will be replaced with 95-100 foot monopoles. The second segment is the same as the Churchtown to Pleasant Valley segment of the KB-PV alternative. This alternative is estimated to cost over $548 million and will increase UPNY/SENY transfer by 1,450-1,650 MW and CE by 5-25 MW.

The remaining five Transco alternatives include an Edic to New Scotland ("ED-NS") CE component consisting of construction of a new 345 kV overhead transmission line over a total distance of 91.5 miles entirely within existing right-of-way, in three segments.

The first UPNY/SENY CE alternative combines ED-NS with HA ("ED-NS/HA"). The estimated cost is $787.9 million and it is predicted to provide transfer benefits of 400 MW to UPNY/SENY and 0-100 MW to CE. A second alternative combines ED-NS with KB-PV ("ED-NS/KB-PV"). The estimated

cost is a little over $1.2 billion and it is predicted to provide transfer benefits of 1,100-1,200 MW to UPNY/SENY and 350-450 MW to CE. A third alternative adds an Oakdale to Fraser ("OF") component to ED-NS/KB-PV ("OF/ED-NS/KB-PV"). The estimated cost is over $1.4 billion and it is predicted to provide transfer benefits of 1,050-1,250 MW to UPNY/SENY and 350-450 MW to CE. A fourth alternative combines ED-NS with NS-LD(R)/LD-PV ("ED-NS/NS-LD(R)/LD-PV"). The estimated cost is over $1.2 billion and it is predicted to provide transfer benefits of 1,400-1,600 MW to UPNY/SENY and 300-500 MW to CE. The fifth alternative combines ED-NS with reconductoring of the entire line from New Scotland through Leeds to Pleasant Valley ("ED-NS/NS-LD-PV(R)"). The estimated cost is almost $1.1 billion and it is predicted to provide transfer benefits of 1,350-1,550 MW to UPNY/SENY and 300-450 MW to CE.

North America Transmission

North America Transmission, LLC and North America Transmission Corporation (collectively, "NAT") submit a proposal with two main components: (1) a new 345 kV overhead transmission line parallel to existing line from Edic to the existing Fraser substation in Delaware County in new right-of-way on new monopoles, along with series compensation, for a total of $302.4 million[11]; and (2) a new 345 kV overhead transmission line from New Scotland to Leeds to Pleasant Valley.[12] The latter component has three alternatives.

The Preferred Alternative calls for construction of a new 345 kV overhead line, largely parallel to existing line, in new 80 foot- or 100 foot-wide right-of-way on vertical monopoles over 65 miles from New Scotland to Leeds to Pleasant Valley. The new monopoles will typically be 125 feet high in portions of the line directly adjacent to existing right-of-way, and 100 feet high in non-adjacent section. The Proposed Cross Section drawing for this alternative indicates the existing structures are typically 90 feet tall. This alternative includes a Hudson River crossing at Athens/Hudson alongside existing transmission

[11] 1/7/2015 $ numbers.
[12] Case 13-T-0454.

line crossing via placement of a new tower on each side of the River. The estimated cost of this alternative is $201 million.

The I-87 Alternative also begins at New Scotland and runs in an existing CSX railroad right-of-way to connect with and then follow the New York State Thruway right-of-way south to New Paltz in the Town of Lloyd where it turns to the east and follows along Route 299 in new utility right-of way parallel to existing line, then crosses the Hudson River with a new crossing, and passes through the Town of Hyde Park to the Pleasant Valley substation, for a total of 83 miles. This line will be on new monopoles that are 125 feet high, and in the small sections of the route where it runs parallel to existing transmission line, the poles will be placed roughly adjacent to existing poles which are at least 10 feet shorter than the new poles will be. The estimated cost of this alternative is $397-438 million.

NAT's 115 kV Alternative also begins at New Scotland, and places new, 125 foot monopoles in new rights-of-way at spans of approximately 800 feet following the CSX right-of-way, crosses the Hudson River at Castleton-on-Hudson at the southern end of Shad Island, parallel to existing transmission ROW, a railroad bridge, and the New York State Thruway Berkshire Connector bridge, which all cross at that location, and connects to the Greenbush to Churchtown 115 kV corridor, then follows that south through a new Knickerbocker substation and then through Churchtown to Pleasant Valley. In this 115 kV corridor, this alternative will utilize existing rights-of-way and replace existing 85 foot 115 kV lattice structures with a new 115/345 kV double circuit on 80' H-frame towers. The estimated cost of this alternative is between $518-559 million. Any of NAT's alternatives can also start at a new Knickerbocker substation or switching station instead of New Scotland, which results in the range of cost estimates. NAT asserts that each of its alternatives meet the 1,000 MW UPNY/SENY transfer increase goal.

NextEra Energy Transmission of New York

NextEra Energy Transmission of New York ("NEETNY", "NextEra") submits two separate applications: (1) an Oakdale to Fraser project[13], and (2) a Marcy/Edic to Pleasant Valley project.[14] The Oakdale to Fraser project consists of a 57-mile, single circuit overhead AC transmission line in existing, unused right-of-way parallel to an existing 345 kV transmission line on spun concrete monopoles, with a cost estimate of $98.3 million. The latter project has five alternatives. NEETNY claims all of its alternatives provide 1,000 MW of transfer capability.

The Thruway Route consists of a new, overhead AC transmission line on all new 97 foot monopoles, largely parallel to and in existing New York State Thruway right-of-way from Edic to Pleasant Valley over a total of 178 miles. The route leaves the Thruway right-of-way in the Town of Lloyd and heads east with new 97 foot high monopoles in a new 110 foot wide right-of-way to Pleasant Valley through the City and Town of Poughkeepsie, with possible undergrounding the last 5 miles. This section requires a Hudson River crossing, and NEETNY has proposed using a bridge crossing or horizontal directional drilling ("HDD"). The estimated cost of this alternative is $573.5 million.

NEETNY also proposes a 62-mile Knickerbocker Route, which begins at the Greenbush substation and entails replacement of a line of existing 80 foot high 115 kV lattice structures with new 115 kV monopoles of approximately the same height for a distance of 7.5 miles to the new, Knickerbocker substation. From the Knickerbocker substation through a new North Churchtown substation to Pleasant Valley, NEETNY proposes to replace a line of 80 foot high 115 kV lattice structures with 115/345 kV double circuit monopoles 105 feet in height. The estimated total cost of this alternative is $168 million.

NEETNY's third alternative is the Marcy Northern Route, which has two parts, for a total of 147 miles. The first is a new 345 kV line on 97 foot high monopoles in new, 110 foot right-of-way from Marcy to a new Orchard Hill substation on a 15-acre site near New Scotland in Albany County over a

[13] Case 13-T-0456.
[14] Case 13-T-0455.

distance of 84 miles. The second part of the Marcy Northern Route is the same as the Knickerbocker Route. The estimated total cost of this alternative is $362.4 million.

The fourth alternative, Marcy Southern Route1, consists of two parts for a total of 135 miles. A first segment, from Marcy to Princetown, consists of reconductoring on existing poles for 14 miles, then replacement of an existing 230 kV 70 foot high line with 97 foot high monopoles, then replacement of two existing 230 kV 70 high lines with 85 foot high monopoles to the existing Rotterdam station, and includes construction of a new Princetown substation on a 15-acre site in Schenectady County. The second part of the Marcy Southern Route 1 is the same as the Knickerbocker Route. The estimated total cost of this alternative is $369.5 million.

NEETNY's final alternative, Marcy Southern Route 2, consists of three parts, for a total of 167 miles. It connects the Marcy to Princetown and Knickerbocker routes of the Marcy Southern Route 1 alternative together with third segment from Princetown through New Scotland to Knickerbocker, which crosses the Hudson River in Castleton-on-Hudson. In this segment, NEETNY proposes to replace and existing line of 175 foot high structures with two lines of 97 foot high monopoles, which rebuilds an existing 345 kV line and adds a second. The rebuilt line will use an existing overhead crossing of the Hudson River, while the new line is proposed to be installed by HDD. The estimated total cost of this alternative is $500.8 million.

I. EXECUTIVE SUMMARY/HVSEC POSITION

As a threshold matter, as discussed fully below in Section II, the need for new transmission south of the CE and UPNY/SENY has not been established. HVSEC seeks to ensure that the proposed projects are proven to be truly necessary as corroborated by independent parties before this Comparative Proceeding continues. The potential impacts on Hudson Valley residents are too great to proceed when there is no near-term, and likely no long-term, need for additional transmission capacity. Other, more sustainable, initiatives such as REV are well underway and will change the paradigm of electricity generation and transmission in New York State in the coming years.

However, assuming *arguendo* the Commission determines there is a need for new AC transmission and the proceeding continues, HVSEC's concerns are summarized below.

First, the taking of more land for additional right of way should be avoided, and only those projects which require no new right-of-way acquisition should be allowed to move forward for consideration in Part B. When revised Part A applications were submitted in January 2015, several, but not all, of the revised proposals remain entirely within existing rights-of-way. The acquisition of new right-of-way outside of existing transportation or utility rights-of-way should disqualify any project moving on to Part B of the Proceeding, and those projects that would require the taking of additional land should be rejected. The December Order's Criterion (4) is of primary concern to Joint Commenters.

Second, only those projects that have no or minimal impacts on environmental and visual resources, including historic and cultural resources, should move forward for consideration in Part B. HVSEC's position is that this criterion is equally important to the extent of additional right-of-way required criterion, and the two are closely related. Projects that require new right-of-way will generally have greater environmental impact due to an expansion of the area of impact. However, even among projects within existing rights-of-ways, potential environmental and visual impacts can differ significantly, as discussed further in Sections IV and V below. Particularly in the Hudson Valley, the density of invaluable natural and scenic resources is so great, that if any project is to move forward to Part B, it must represent the minimum possible environmental and visual impact to these resources. Criterion (6), the extent of impact on environmental and visual resources, should be a key evaluative criterion. Projects which provide a visual improvement over existing right-of-way visual impacts should be supported over those projects which do not.

HVSEC's primary concerns relate to acquisition of additional right of way and environmental and visual impacts of the proposed projects. However, we are also concerned about the costs of the proposed projects, particularly as related to any purported benefit. Communities in the Hudson Valley have frequently been called upon to share costs which provide negligible local benefits. Projects which present a positive benefit to cost ratio for ratepayers should be given preference. Additionally, as part of its

review of the economic impact of these projects, the PSC should consider the overall economic impact of such projects on the impacted region, rather than purely focusing on the capital cost of the project. The cost of the project should include the impacts on property values of those affected by the lines, as well as their impact on the economy of the Hudson Valley, which depends greatly (and in increasing amounts) on tourism, recreation and farming.

HVSEC does not believe a need for any of the proposed projects has been established, and therefore any costs outweigh benefits. However, assuming a need is demonstrated, projects that propose to build additional transmission infrastructure at a higher cost to maximize possible "benefits" well above the target 1,000 MW of transfer capability should be rejected in favor of proposals that meet the minimum threshold set by the Commission with fewest environmental and visual impacts. To the extent more than one project meets this goal, then the project of lowest cost should be selected. Thus, Criterion (3) is a vital part of the comparative evaluation.

Generally, projects which consist *exclusively* of reconductoring and/or series compensation have the least environmental and visual impact. Temporary construction impacts of reconductoring projects could still be significant, but overall the permanent impact would likely be small. If the Commission decides to move forward with the Proceeding, these are the types of projects that should move forward. To the extent the Commission may determine that it prefers a project that would require new transmission towers, projects which remain within the existing rights-of-way in all three dimensions should be given preference, and projects that involve replacing existing towers should be preferred over those that propose new additional towers. Any proposed increase in tower height is of great concern to Joint Commenters should be closely scrutinized as well.

Given the potential for negative economic and environmental impacts of new transmission lines cutting through the Hudson Valley, HVSEC urges the PSC to fully and seriously consider alternatives to new, overhead transmission lines, as well as alternatives to transmission itself, to minimize those effects. HVSEC's ultimate goal is the creation of a 21st century energy system for New York that meets energy

needs, enhances cost effectiveness, performance, reliability, and system security and minimizes external threats, while protecting the resources and quality of life in the Hudson Valley.

II. THE NEED FOR NEW TRANSMISSION HAS NOT BEEN DEMONSTRATED

The Comparative Proceeding was initiated with an implicit presumption that there is a "need" for construction of at least one of the proposed AC transmission projects, even though the statutorily-required finding of the "basis of need" under Article VII of the PSL was not to occur until Part B of the Comparative Proceeding. Thus, there has been no demonstration that these projects are in fact necessary. A preliminary determination of need is now going to take place in Part A pursuant to the Commission's December Order scheduling a Technical Conference on this issue. The determination of need for additional AC transmission in the Hudson Valley must occur as a threshold determination before the Comparative Proceeding moves forward.

The Department of Public Service ("DPS") in 2012 invited developers and transmission owners to file notices of intent to construct projects that would increase the capacity for the transfer of electric power between upstate and central New York, and the lower Hudson Valley and New York City, relieving existing bottlenecks. Specifically, DPS called for projects that relieved congestion, including those benefitting the transmission corridor consisting of: Central East – New Scotland – Leeds – Pleasant Valley between the Mohawk Valley region, the Capital Region, and the Lower Hudson Valley. Proposals in response to a Request for Information and New York State transmission owner's April, 2012 New York State Transmission Assessment and Reliability Study (STARS), only "estimated that approximately 1,000 MW of cost-effective opportunities existed to upgrade the AC transmission system;" there was no explanation of why such new transmission projects were in fact necessary. On November 12, 2012, PSC commenced Case 12-T-0502 to solicit Statements of Intent from developers and transmission owners that will increase transfer capability through the congested AC transmission corridor to meet the objectives of the New York Energy Highway Blueprint, based only on the Blueprint's recommendation to do so, not on any independent determination of necessity.

Large new transmission projects are a questionable methodology for addressing congestion costs, which are in decline. The NYISO's 2013 Congestion Assessment and Resource Integration Study ("2013 CARIS") found that nearly all of the estimated benefit-cost ratios for possible solutions to congestion in New York fall below one, meaning that, in the words of the U.S. Department of Energy, "it would cost less for New Yorkers to bear the continuing congestion costs than to spend the money to mitigate it through the transmission, generation and demand response solutions evaluated."[15] Moreover, the 2013 CARIS report indicates that the cost of congestion is declining, and is predicted to continue to be less than historic levels.[16] This begs the question of whether any of the proposed transmission solutions in the Comparative Proceeding are needed.

Recently, NYISO determined that new transmission is not necessary for purposes of reliability in New York's electric system. In its Draft 2014 Comprehensive Reliability Plan (CRP) released March 20, 2015, NYISO concluded that there are sufficient resources in the CRP base case such that the New York Control Area ("NYCA") will be in compliance with the resource adequacy criterion for the ten-year study period.[17] The basis for this determination is the fact that transmission owners submitted local transmission plan updates with effective operational procedures to address any potential violations, and numerous generation status changes were announced, which together resolved the transmission security violations previously identified in the 2014 Reliability Needs Assessment (RNA).[18]

The new and returning resources identified in the CRP total approximately 1,986 MW, and about half of that amount is located below the UPNY/SENY interface. In fact, based on the initial analysis of the RNA model updates satisfying the identified reliability needs, the NYISO withdrew its request for solutions on November 14, 2014. The CRP concludes: "Given that the NYISO determined that there are no remaining reliability needs, the NYISO does not need to determine the viability and sufficiency of any proposed solutions, and it is not required to evaluate and select a more efficient or cost effective

[15] 2013 CARIS at p. 6; See also USDOE National Electric Transmission Congestion Study, August 2014, at 69.
[16] *Id.*
[17] NYISO 2014 Comprehensive Reliability Plan, Draft Report, March 20, 2015, at 4.
[18] *Id.* at 4-5.

transmission solution pursuant to OATT Attachment Y."[19] These new resources will reduce congestion[20]. Moreover, these resources, together with reduced fuel prices, means there will be even less benefit in the form of production cost savings from costly transmission projects.

In addition to the new and returning generation resources identified in the CRP, NYISO has also reduced its projections of load and peak load. Not only are there more resources, there will be less demand. As noted above, the 2015 projected NYCA-wide baseline annual average rate of energy growth is flat – 0.0% -, a drop from the 2014 projection of 0.16%. The average summer coincident peak growth is also much less than last year's projection: 0.48% rather than 0.83%.[21] This further militates against a finding that new transmission is necessary.

Further, many other new generation and transmission projects are pending in the geographic area of the identified transmission constraints that will impact these constraints and congestion costs if constructed. As of March 31, 2015, the NYISO interconnection queue shows many relevant projects, based on the project location and status. Many projects have higher queue positions than any of the proposed AC transmission projects and are farther along in the interconnection and regulatory approval processes. These include, but are not limited to: the Berrians GT projects, CPV Valley Energy Center, Champlain Hudson Power Express, the Taylor Biomass project, the West Point Transmission Project, the Poseiden Transmission Project, Bowline 3 and the Cricket Valley Energy Center. The NYISO queue also contains numerous proposals for solar projects in Load Zone K on Long Island in various stages of approval.

In addition, the Transmission Owner Transmission Solutions ("TOTS") projects proposed in the Indian Point Retirement Contingency Plan are moving forward, and the Danskammer generating station has restarted operations. NRG has committed to a new 775 MW Unit 3 at Bowline in Haverstraw,

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[19] *Id.* at 18.
[20] The 2015 bi-annual CARIS is expected later this year, probably in the 4th Quarter, based on previous schedules and that work product should be reviewed before the Commission makes a final determination on Part A in this proceeding.
[21] NYSIO 2015 Gold Book, Overview, April 13, 2015.

Rockland County and Caithness is pushing forward with a 750 MW gas fired generating project in Yaphank, Long Island. All of these projects will impact transmission congestion below the constraint, and while there is no certainty that all projects in the NYISO queue will be constructed, they must be considered in any evaluation of need for new transmission.

A study by Bard College Research Professor of Environmental Physics, Dr. Gidon Eshel, also confirms that the projects in the NYISO queue, even if only half of them are actually built, are sufficient to handle projected peak demands.[22] Dr. Eshel independently developed a model which translates population, population cohort ratios and temperature into future predicted peak loads. In doing so, he rejected the use of affluence as a predictor, based on its failure to meet rigorous inclusion criteria. Indeed, as stated by NYISO itself in the 2015 Draft Gold Book, "as has been noted by load forecasters nationwide, we no longer observe a close linkage between the economy and energy usage."[23] Dr. Eshel concludes that while downstate peak loads are indeed expected to rise modestly, taking into account energy savings rates, assets exceed expected future peak loads, even with the closure of Indian Point. Therefore, no new transmission capacity is needed into New York's downstate region.

Finally, perhaps the most important and overarching among the numerous relevant changes that have occurred since the Energy Highway Blueprint was issued and the Comparative Proceeding was initiated, is the PSC's initiation of the REV Proceeding in April 2014. This major undertaking is receiving national and international attention because it seeks to make a fundamental change in New York's 100-year-old utility paradigm. The purpose of the REV proceeding is to "consider a substantial transformation of electric utility practices to improve system efficiency, empower customer choice, and encourage greater penetration of clean generation and efficiency technologies."[24]

[22] Eshel, Gidon. *Hudson Valley Transmission Line Plan: Assessing Need & Alternatives*. Filed November 18, 2014 in the Comparative Proceeding.
[23] NYISO 2015 Draft Gold Book, at 2.
[24] See Case 14-M-0101, Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision, Order Instituting Proceeding, Issued and Effective April 25, 2014; REV Staff Report.

The REV Proceeding considers fundamental changes in the manner in which utilities provide service, which in the past has been based on two main assumptions: (1) that demand is inelastic, and (2) that economies of scale make central generating stations the most economical way to meet power needs.[25] These assumptions have meant that "for most of its history, the basic design of the electric grid has remained essentially the same. Electricity is generated at central stations, transmitted long distances via high voltage lines, then stepped down in voltage and delivered to customers through local distribution systems."[26] However, these assumptions are now called into question, and this old approach to grid design is no longer valid. Because it is designed to meet peak demand, much of the grid is underutilized most of the time, and it is inefficient, since approximately 9% of generated power is lost when it has to travel over long distances.[27]

Applying the REV Proceeding's approach, it is clear that new, long distance transmission projects are not the way of the future. In the face of existing statewide energy efficiency programs and the growing impact of new, sustainable technologies in the interest of reducing electricity generation's impacts on the climate, it does not make sense to build costly projects which will perpetuate this "business as usual" approach. Thus, the REV Proceeding acknowledges that "a business-as-usual approach should no longer be considered the only cost-effective way" for utilities to provide high quality service at reasonable cost.[28] The Comparative Proceeding was initiated with these out-of-date basic assumptions as the backbone of its justification. Further, the very proposition of building costly transmission lines to mitigate congestion is at odds with New York State policy and numerous initiatives of Governor Cuomo aimed at providing incentives to reduce energy demand.

[25]Case 14-M-0101, Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision, Order Instituting Proceeding, Issued and Effective April 25, 2014, p.3
[26] REV Staff Report, p. 4.
[27] Case 14-M-0101, Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision, Order Instituting Proceeding, Issued and Effective April 25, 2014, p.3; REV Staff Report p. 5.
[28] REV Staff Report p. 8.

III. PROJECTS THAT DO NOT REQUIRE ACQUISITION OF NEW RIGHT-OF-WAY MUST BE PREFERRED

One of the evaluative criteria set forth in the December Order that is of utmost concern to the members of HVSEC is "the extent of any additional rights-of-way that need to be acquired" by the proposed projects. HVSEC members are concerned with the financial and environmental impacts of expansion of the width and length of existing rights-of way, as well as impacts from any increase in a third dimension: height. Governor Cuomo has explicitly stated his policy preference for projects that stay within the three-dimensional envelope of existing transmission structures.

Physical takings of property for new rights-of-way and acquisition of new easements will obviously have an effect on property values. The residential, commercial and agricultural property owners of the Hudson Valley whose properties contain existing transmission lines have been subject to these physical impacts for years.

The new rights-of-way for new transmission lines (as well as existing lines) have an impact on property values, based on the perceived health and aesthetic impacts from having high voltage lines nearby. Potential buyers of lands affected by transmission lines and their right-of-way may refuse to even look at such properties, or their purchase price may be reduced and they can take longer to sell. The lowered property values may in turn have a negative impact on the tax base of a municipality. New rights-of-way for transmission lines may also affect value due to their visual effects, not only to the directly adjacent properties, but on those that have the transmission lines in their line of sight, or viewshed. These aesthetic impacts result from cutting vegetation in new rights of way, as well as the introduction of an entire new line of visible transmission poles or structures. These visual impacts may also affect tourism and have other indirect economic effects.

New rights-of-way (and existing lines) may also negatively impact the value of agricultural property, based on the effects of stray voltage, health risks to livestock and cattle, diminished heritage, use of herbicides which may affect crops and organic certifications, limited land use, such as from interrupted irrigation and drainage and fragmented cropland, diminished lease value, and lessened

aesthetic appeal. The impacts of new right-of-way and their associated transmission lines are not necessarily a one-time event, either. Even transmission line right-of-way maintenance and reconductoring, which may require upgraded or new access roads and entail additional vegetation clearing, can impact property values.

Keeping farmland in production in the Hudson Valley is a vital goal, important to local and regional economies and endorsed at all levels of government, from municipalities to the state. For example, several counties have adopted Agriculture and Farmland Protection Plans, and the recently approved state budget earmarked $20 million for farmland protection in the Hudson Valley. Where farmland has been protected with a conservation or agricultural easement, expanding the right-of-way threatens a protected resource. Farms that lose land to transmission developers will be directly affected, and their losses ripple through the local economy.

The alternatives proposed by the applicants present varying degrees of compliance with the Governor's stated policy that new transmission should stay within existing rights-of way, and therefore provide different answers to the question to what extent they require acquisition of new right-of-way:

Boundless states in its Part A submission regarding its singular proposal:

> Boundless does not project introducing any new towers. Boundless does propose to upgrade certain cross elements on the existing towers. The revision, therefore, will not involve the taking of any new real estate for a revised right-of-way.[29]

The Transco application states:

> The Project will be constructed entirely within existing ROW on property either owned in fee by the Applicant or on property which the Applicant has easements for transmission construction.[30]

As the incumbent owner, Transco is able to use the rights-of-way it already owns, and therefor will remain within them in width and length. For the sections of its proposals that involve

[29] Case 13-T-0461, Boundless Part A Materials at pages 5 – 6.
[30] Additional Filing Information, Section 1.0

reconductoring, Transco estimates that 10% of structures will need to be replaced. Several of its alternatives involve replacement of existing lines, which will result in structures that are higher than existing. This may result in visual impacts (see Section IV, below). Thus, while the replacement does not technically require acquisition of new right-of-way, it may nevertheless have negative visual and financial impacts, effectuating a taking. The Transco alternatives that will result in increased structure height are those that involve the Leeds to Churchtown, Knickerbocker to Churchtown, and Churchtown to Pleasant Valley segments: (1) KB-PV; (2) ED-NS/KB-PV; (3) OF/ED-NS/KB-PV; (4) NS-LD(R)/LD-PV; and (5) ED-NS/NS-LD(R)/LD-PV.

NEETNY states regarding ROW:

> NEETNY carefully evaluated alternative route options in light of the Commission's ROW policy objectives. Four of the five potential routes—Thruway, Marcy Southern 1, Marcy Southern 2, and Knickerbocker—have been designed to require minimal to no new ROW development because they would be constructed entirely or almost entirely within existing utility ROW or state-owned ROW. The Marcy Northern Route requires development of 84 miles of additional ROW along existing utility ROW; the remaining 64 miles would be constructed within existing ROW. Although the Marcy Northern Route requires new ROW, NEETNY believes this route alternative should be considered because, as compared with the Marcy Southern Routes, it requires fewer electrical outages during construction, and outages can result in increased costs to ratepayers due to congestion during construction.[31]

NEETNY also submitted an analysis of the extent of right-of-way utilization by its proposed alternatives with its Part A supplemental filing. It indicates that three of its alternatives require no new right-of-way: Marcy Southern 1, Marcy Southern 2, and Knickerbocker. In the area of concern to HVSEC, the Hudson Valley, a fourth alternative, Marcy Northern, also requires no acquisition of new right-of way. With regard to height, the alternatives within the Hudson Valley do propose replacement of existing lattice structures with new monopoles that are 10 feet higher, in the Knickerbocker to Pleasant

[31] Part A Supplemental Application, Executive Summary, page ES-6.

Valley corridor. NEETNY's Marcy Southern Route 2 Alternative actually proposes to decrease existing tower height by replacing 175 foot high structures with two 97 foot structures in the segment between New Scotland and Knickerbocker.

NEETNY's Thruway alternative may require acquisition of new, additional right-of-way of up to 35' wide for its proposal to place a new line of 97 foot high monopoles adjacent to the Thruway right-of-way. And in the area where it diverges from the Thruway to connect to Pleasant Valley, this alternative will require acquisition of a new 110 foot wide right-of-way in some areas, and an additional 40 feet adjacent to the existing transmission right-of-way.

NAT states it is:

> Following the guidance of the Commission, and in an attempt to be responsive to the extensive public feedback received to date, North America has modified the Project proposal in an effort to minimize the acquisition of additional lands for rights-of-way and minimize the construction of major electrical transmission facilities that are out of scale or character with existing facilities already in the landscape.[32]

NAT also presents a table comparing its three proposed alternatives that are located in the Hudson Valley to the Commission's criteria:

NS-L-PV Adjacent	Parallel to existing transmission line over 85%, Adjacent To Existing 345 kV ROW
NS-L-PV I-87 ROW	In existing railroad, I-87 ROW over 76%
NS-K-PV 115kV ROW	In existing railroad, 115 kV ROW 99%
Series Compensation	In existing ROW.

NAT's Preferred Alternative, running adjacent to existing transmission right-of-way from New Scotland to Leeds to Pleasant Valley, proposes new 125 foot high poles in a new 80 foot wide right-of-way adjacent to existing rights-of-way, and 100 foot high poles in a new 100 foot wide right-of-way in non-adjacent areas. NAT proposes to place 125 foot high poles within the existing 250 foot wide

[32] NAT AIA at 1.

Thruway right of way in its I-87 alternative, but will require acquisition of new ROW for its connection from the Thruway to Pleasant Valley. NAT's third alternative presents the least amount of new right-of-way required, with 99% of the route being in existing railroad or transmission right-of-way. The first section of this alternative proposes to place 125 foot high poles in existing railroad right-of-way, and the remainder is entirely within the Knickerbocker to Pleasant Valley transmission corridor right-of-way. In this latter section, NAT proposes to replace existing 80 foot high lattice structures with 80 foot high H-frame structures, so it does not propose an increase in height.

Based on HVSEC's position that the acquisition of new right-of way for new transmission lines through the Hudson Valley should be avoided, NEETNY's Thruway Alternative and NAT's Preferred and I-87 Alternatives should be ranked lower for consideration in Part B of the Comparative Proceeding, should the Commission find that there is even a need for new transmission. In addition, the Transco and NEETNY alternatives that result in increased structure height should be carefully evaluated within the context of the right-of-way analysis, due to their potential negative visual and financial impacts.

IV. ONLY PROJECTS THAT RESULT IN NO NEW VISUAL IMPACTS OR IMPROVE VIEWS SHOULD BE CONSIDERED

HVSEC has engaged landscape architect and Certified Environmental Professional Richard C. Smardon, MLA, PhD, to assist in our analysis of the visual impacts of the proposed projects. Dr. Smardon's preliminary analysis found that while all projects proposed will have impacts to visual and historic resources in the Hudson Valley to some extent, there are several that would have quantitatively worse impact than others, and some that would likely have minimal impacts. Dr. Smardon also identified particular corridors and sensitive scenic areas that would be particularly vulnerable to any new visual intrusions in the landscape.

The Hudson River crossing areas and the Knickerbocker to Churchtown corridor in Columbia County are visually sensitive and highly dense historic landscapes that would be especially affected by any change to the visual environment. Several developers have proposed new Hudson River crossings: some consist of new, additional towers; some propose to replace existing structures; and some propose to

bury new lines under the Hudson River through horizontal directional drilling ("HDD") or to reconductor existing lines.

All three NAT Alternatives include new overhead lines crossing the River: NAT Preferred Alternative, NAT I-87 Alternative, and NAT 115 kV Alternative. Replacing existing structures is preferable from a visual resources standpoint, but there could still be some level of impact – proposals taking this approach include Transco's Edic-Pleasant Valley and Leeds-Pleasant Valley routes and NEETNY's Marcy Southern 2 alternative. Projects that cross the Hudson River either underground or by reconductoring existing lines would represent the least visual impact to the Hudson River. These projects are Boundless' Roseton to East Fishkill segment, NextEra's Thruway Alternative (if HDD burial is selected) and Transco's Leeds to Pleasant Valley reconductoring alternatives. However, even burying the lines is not without impact – there is still concern for surface clearing on the Hudson River shore area during construction and maintenance.

The Hudson River crossings proposed at Schodack – NextEra Marcy Southern 2 and NAT 115 kV Alternative - would also impact the Columbia North Significant Area of Statewide Significance ("SASS") CGN-4 Islands Subunit[33]. This unit covers south of the Thruway bridge over the river to north of Coxsackie Creek. These are mostly flat islands, with alluvium and fill. They include Upper and Lower Schodack Islands and are used for limited recreation – hunting, wildlife viewing and passing boats. According to the New York State Department of State ("DOS") SASS report the islands have an unspoiled natural appearance and have "screened, relatively short and narrow views over the Hudson River and Schodack Creek to dramatic background elements of bluffs, hills and historic villages on the shore lands in adjacent subunits"[34]

[33] *See* New York State Department of State: Scenic Areas of Statewide significance- Columbia-Green North, Catskill-Olana, Estates District, Ulster North, Esopus-Lloyd, Hudson Highlands. Division of Coastal Resources and Waterfront Revitalization, July 1993 (Reprinted 2004). Available at: *http://www.dos.ny.gov/opd/programs/HudsonSASS/Hudson%20River%20Valley%20SASS.pdf*
[34] DOS 1993, at 31.

These two proposals would also impact the CGN-13 Schodack Landing Subunit of the Columbia North SASS. The northern boundary of this subunit is Knickerbocker Road and eastern boundary is the coastal edge and southern boundaries include the railroad spur inland from the Hudson River and the CGN-15 Poolsburg Subunit. The area consists of heavily wooded bluffs and terraces paralleling the Hudson River. Vegetation is diverse consisting of lawns to individual trees to mature woodlands, orchards and meadows. The predominate land use is residential with clusters of historic houses along Route 9J. According to the DOS SASS report there are "full views of 90 to 180 degrees in width and 2 to 3 miles long of the Hudson River and Lower Schodack Island"[35]

Proposed projects located within the Knickerbocker to Churchtown corridor in Columbia County would impact the CGN-14 Stuyvesant Farms Subunit of the Columbia North SASS. This area has a high density of historic structures and districts plus open scenic agriculturally influenced landscape, which will be sensitive especially to any options involving replacement of utility support structures. This is true even if new lines are proposed within the existing ROW if structures are to be any taller (such as Transco and NextEra proposals) and/or wider (such as NAT proposal) than what exists there now. Proposed routes impacting this submit include: NAT 115 kV Alternative; NextEra Marcy Northern, Marcy Southern 1, Marcy Southern 2 and Knickerbocker Route; and Transco KB-CT.

The Stuyvesant Farms Subunit is eastward of the Hudson River bluffs and runs south for 3 miles from the Columbia-Rensselear County Line and is roughly 1 mile in width. This landscape area has rolling hills and small ravines- interspersed with large open agricultural fields with meadows, orchards and woodlands. There are varied views with limited views of the Hudson River. According to the DOS SASS report there are "more substantial views 90 to 180 degrees over fields to woods and distant hills to the east, the Berkshires, and west to the Catskills. Views of farms and woodlands create a rich 3-

[35] DOS 1993, at 52.

dimensional tapestry. Historic farmsteads and estates serve as focal points in the landscape of fields and woods."[36]

In general, projects which require acquisition of new ROW will cause more landscape impacts than those that remain in existing ROW through clearing of vegetation and opening up visibility to power lines and adding structures into the landscape. Alternatives which would require new utility ROW in the Hudson Valley are: NAT Preferred Route, NAT I-87 Alternative and NextEra Thruway Alternative.

Proposed expansions of existing substations or construction of new substations will also introduce new visual impacts to the landscape. The Hurley Avenue substation in Ulster County is the most sensitive and near historic properties, districts and SASS areas, including the Hurley Historic District and Catskill Forest Park Preserve. Both the Boundless Leeds to Hurley Avenue and Transco Hurley Avenue PARS propose expansion of the Hurley Avenue substation.

Another key scenic resource that would be impacted by several proposals is CO-6 Olana Subunit-Catskill/Olana SASS. Boundless Leeds-Athens-Pleasant Valley Reconductoring, NAT Preferred Alternative and Transco's ED-PV and LD-PV alternatives would impact this Subunit. However, Boundless and Transco's LD-PV Reconductoring proposal would involve only reconductoring and therefore are expected to have a lesser impact than the NAT proposal and other Transco LD-PV proposals. Still, the reconductoring process might require additional equipment on towers which could increase visibility, and Transco estimates that it would have to replace approximately 10% of existing towers for its reconductoring projects.[37]

The Olana sub-unit is one square mile and is within the Olana State Historic Site. This site has a 475-foot high dramatic hill with the Olana Mansion at the top of the hill and the designed landscape on the side slope. There are distant Hudson River views from the top of the hill. According to the DOS SASS report "meadows extending down the steep hill from the mansion were designed by [Frederick]

[36] DOS 1993, at 53.
[37] Case 13-M-0457, Submission of the Indicated New York Transmission owners For Authority to Construct and Operate Electric Transmission Facilities in New York.

Church to frame the dramatic views of the Hudson River and Catskill Mountains to the SW and west. The views extend over five miles down the Hudson and over twenty miles to the Catskill Mountains. Originally, views were also available to the west, north and northwest, and over the last five years, many of these views have been restored.[38]

Both NAT and NextEra's Thruway Alternatives would impact the CO-4 Catskill Creek Subunit-Catskill/Olana SASS. This sub-unit consists of the Catskill and Cauterskill Creek corridors west of the Village of Catskill. The eastern boundary is the Village of Catskill and the western boundary extends upstream for 2 miles to the route 23 bridge and up ¾ mile for the Cauterskill Creek to the confluence with Catskill Creek. The Creek meanders through a narrow floodplain with wooded banks and sheer cliffs that rise 250 feet above the rocky stream beds. The unit is in a relatively undisturbed state. According to the DOS SASS report views are quite short and narrow throughout the steep, wooded banks and winding creek beds. "The views of the winding creeks, flood plains and the steep banks have a pleasing natural composition. From the tops of the creek banks there are partial views of the Catskill mountains to the west."[39]

Both NAT and NEETNY's Thruway proposals would also impact Esopus/Lloyd Scenic Area of Statewide Significance EL-1 Big Rock and Hemlock Point Subunit. This sub unit is the Northern Boundary of the SASS, which reaches to Riverview Cemetery on NY9W to the Hudson River and then south to Prospect Hill and is 1 to 2 miles in width. The area is dominated by steep wooded bluffs averaging 200 to 250 feet in elevation and with rolling uplands behind the bluffs. The vegetation is mature woodland, open meadows, secondary scrub growth and landscaped lawns. The Hudson River shoreline at the foot of the bluffs features the Esopus Meadows, which are a large freshwater tidal flat. There is scattered residential development and converted summer camps throughout the area and several historic homes along River Road at the top of the bluffs. Hemlock Point is a Native American burial site.

[38] DOS 1993, at 122.
[39] DOS 1993, at 118.

There are full and unobstructed views of the Hudson River and the eastern back of the Estates District SASS and the views are up to 20 miles long to the Northwest and Southeast to the historic Esopus Meadows lighthouse. The views to the west from the bluffs include the Catskill Mountains, which are a dramatic backdrop to the rolling woodlands and farmlands.[40]

Importantly, NAT's Thruway Alternative would also directly impact the FDR and Val Kill National Historic sites with new overhead towers in new ROW, bringing a significant visual intrusion to these National Historic Sites renowned for their natural beauty.

Boundless' Roseton to East Fishkill proposal is in the viewshed of the HH-27 Dutchess Junction Subunit - Hudson Highlands SASS and HH-26 Hudson Highlands State Park Subunit- Hudson Highlands SASS. However, as this segment is proposed to be constructed entirely underground, permanent visual impacts are expected to be minimal. However, there might be additional clearing for construction/access roads that could open up views to existing lines.

Dr. Smardon's preliminary comparative analysis of overall visual impact on sensitive scenic and historic resources within the Hudson Valley[41] ranks the alternatives proposed by each applicant as follows:

Alternative Name	**Rank**
Boundless	LOW
Transco LD-PV(R)	LOW
Transco ED-NS/NS-LD-PV(R)	LOW
NAT 115 kV	MEDIUM
Transco OF/ED-PV	MEDIUM

[40] DOS 1993, at 3.
[41] Dr. Smardon only considered impact on Hudson Valley resources, from approximately New Scotland to the north and west to East Fishkill to the south and east. Impacts to visual and historic resources in other areas of the state were not evaluated.

Transco ED-NS/KB-PV	MEDIUM
Transco NS-LD(R)-LD-PV	MEDIUM
Transco ED-NS/NS-LD(R)/LD-PV	MEDIUM
Transco KB-PV	MEDIUM
NEETNY Marcy Southern 1	MEDIUM
NEETNY Knickerbocker	MEDIUM
NEETNY Marcy Northern	MEDIUM
NEETNY Marcy Southern 2	HIGH
NEETNY Thruway	HIGH
NAT Preferred Alternative	HIGH
NAT Thruway	HIGHEST

NAT's Thruway Alternative has the overall worst visual impact. This alternative is closely followed by the NEETNY Thruway alternative and NAT's Preferred Alternative as both require new ROW in visually sensitive areas. The projects that, on a comparative basis, would represent the least visual impact are those that exclusively involve reconductoring and/or undergrounding – Boundless and Transco's LD-PV(R) and ED-NS_NS-LD-PV(R) proposals. These projects would still involve temporary visual impact during construction, whether the reconductoring is done aerially or from the ground. Transco also proposes that about 10% of structures would need to be replaced, which could represent increased visual impact.[42] Boundless states that additional equipment would have to be placed on some towers, but there is no analysis of the visual impact of that equipment or whether it would add to the height or visual profile of the transmission towers.[43] While there would be some visual impact, certainly temporary and perhaps

[42] Case 13-M-0457, Submission of the Indicated New York Transmission owners For Authority to Construct and Operate Electric Transmission Facilities in New York.
[43] Case 13-T-0461, Updated Initial Application, Boundless Energy NE, LLC, Proposed Leeds Path West AC Transmission Project.

permanent, from these reconductoring proposals, it would be on balance the least impactful of the alternatives on the table.

V. SELECTED PROJECTS MUST BE THOSE WITH THE LEAST IMPACT ON ENVIRONMENTAL, CULTURAL AND OTHER RESOURCES

HVSEC engaged the services of an environmental consulting firm Asbestos & Environmental Consulting Corporation ("AECC") through its subcontractor, CC Environment & Planning, which conducted a detailed review of the potential environmental impacts of the revised Part A applications submitted in January 2015, pursuant to the Commission's December 16, 2014 Order by TRANSCO, NAT, NEETNY and Boundless (hereinafter "Potential Environmental Impact Review"). In particular, environmental and ecological impacts, specifically those related to land use, wetlands, streams, critical habitats, and wildlife in Albany, Columbia, Dutchess, Greene, Rensselaer and Ulster Counties, which are considered the primary area of interest ("AOI") to HVSEC in this proceeding. The Environmental Impact Review utilized not only the information submitted by four applicants but also included a "desktop review" using certain existing GIS datasets and information found on the US Fish and Wildlife Service ("USFWS") Information, Planning, and Conservation System and the New York State Department of Environmental Conservation ("NYSDEC") Nature Explorer websites. All of the preferred and alternate transmission routes proposed by the four developers were reviewed.

The AOI extends along the Hudson River from the Capital District in Albany County, NY to Pleasant Valley in Dutchess County, NY. This area comprises a large part of the Hudson River Valley, renowned for its ecological, scenic, cultural, and recreational resources. There is a diversity of ecosystems contained the AOI which in turn support diverse and unique plant communities and animal populations, many of which are listed on state and federal threatened and endangered species lists. In response to the ecological value and ecosystem services that the Hudson River Valley provides, multiple public and private agencies and organizations are charged with a mission to protect this unique and important landscape.

A. Relative Ranking of Potential Environmental Impacts

Based on the detailed Potential Environmental Impact Review, a relative comparison of potential environmental impacts associated with each of the numerous proposed transmission routes in the AOI was conducted. Based upon this analysis, Table 1, below, was generated which lists each proposed alternative route within the AOI (identified by proposal and route or combined route name) and which assigns a preliminary, relative ranking (spatial and qualitative) of *potential* environmental impacts (low/medium or high). This relative ranking is based on detailed analysis of the data reviewed HVSEC's environmental expert and is summarized in the attached spreadsheet (Attachment B). In general, proposed routes with less potential impact to wetlands, streams, and fewer intersections with Class 1 wetlands, Significant Natural Communities ("SNCs"), and priority areas for conservation and open space plans were rated as low/medium. Routes with the most potential impacts in these areas were rated as medium or high. These ranks provide a preliminary comparison of potential impacts to ecological resources based primarily on the quantity and quality of resources *intersected* by proposed transmission routes.

Direct and indirect impacts to Class 1 wetlands, SNCs, and areas that are identified as high priority in conservation and open space plans are considered most vulnerable to potential negative effects or impacts associated with disturbance. Even temporary disturbances to such communities can have immediate and long-term negative effects including a higher likelihood of negative impacts to sensitive plant and animal species and an elevated risk of introducing invasive species. Additional stressors beyond those already present at many of these sites (incompatible adjacent land use, encroachment of invasive species, climate change, etc.) can have significant, cumulative, and therefore disproportionately large negative effects. Furthermore, these areas are communities that are connected and interdependent within larger ecosystems, watersheds, and ecoregions. Such indirect impacts are important considerations.

Table 1. Relative rank of potential environmental impacts for alternative routes.

Alternative Name	**Rank** [a]
NAT 115kv (Alternative 2)	LOW/MEDIUM
Transco O-F/ED-PV	LOW/MEDIUM
Transco ED-NS/KB-PV	LOW/MEDIUM

Transco KB-PV	LOW/MEDIUM
Boundless	LOW/MEDIUM
Transco LD-PV(R)	LOW/MEDIUM
NAT (preferred)	LOW/MEDIUM
NEETNY (4 KB Alternatives)	LOW/MEDIUM
Transco NS-LD(R)/LD-PV	HIGH
Transco ED-NS/NS-LD-PV(R)	HIGH[b]
Transco ED-NS/NS-LD(R)/LD-PV	HIGH
NEETNY Thruway	HIGH
NAT Thruway (Alternative 1)	HIGH

[a] Relative rank of low/medium or high based on combined review of potential environmental impacts identified in proposals, checklists, summaries, and through CC's independent desktop review. Note that ranks provided for this preliminary review are assigned irrespective of overall practicability of proposals, logistics, cost efficiencies, and benefits/impacts to other social and economic issues outside environmental impacts associated with water, natural habitats, and wildlife. See Attachment B.
[b] Reconductoring may result in significantly fewer/smaller impacts than other technologies along similar routes. See discussion regarding proposed technology and reconductoring below.

It is important to note that proposed technology did not specifically influence rank in the table above. However, it is generally recognized that there may be less environmental impacts associated with proposals emphasizing reconductoring only. This was not a specific factor in the preliminary ranking in part because reconductoring proposals are inconsistent in their reported degree of potential impacts. For example, Boundless specifically emphasizes reconductoring with no new structures which suggests minimal impact but their proposal also acknowledges impact minimization requirements associated with trenching. Other reconductoring proposals (e.g. TRANSCO "R" alternatives) identify structure replacements and other construction associated with the reconductoring segments. These relative comparisons may need to be refined by integrating further analysis regarding the varying levels of projected disturbance associated with different technologies in each alternative.

Assuming that need for any of the proposals is established, certain proposed project routes, as evidenced by Table 1, have significant (e.g., High) impacts and should not be considered in the future review process. Those with Low/Medium impacts will also be subject to more careful review of potential environmental impact but are, for now, deemed to be more desirable than those with High Impacts.

B. Application Submission and Scoping Statement Deficiencies:

This Potential Environmental Impact Review also looked for obvious data gaps in the revised submissions. While most of the proposals were inclusive and accurate in their representation of potential environmental impacts to wetlands, streams, wildlife, habitats, and SNC, a few exceptions or areas that need additional information and/or clarity were identified as follows:

- NEETNY proposes to convert 6.13 acres of NYSDEC-regulated Class 1 forested wetland and 10.74 acres of NWI-mapped forested wetland to scrub/shrub or emergent wetland. It would be helpful to identify all intersections with Class 1 wetlands that will result in temporary, permanent, direct, and indirect impacts including wetland conversion. This is true for all four applicants.
- A final decision on the listing of the northern long-eared bat was released on April 4, 2015, when the bat was listed as threatened. Clarification regarding approaches to avoiding impacts on northern long-eared bats should be made in light of the final listing. Transco in particular did not mention the northern long-eared bat in its impacts summary.
- Boundless only provided wetland data for their preferred routes. Boundless provides number of wetlands intersected and indicates no permanent impacts but does not provide an estimate of temporary impacts. Temporary and permanent impacts estimates as provided by NAT, Transco and NEETNY are helpful in comparing overall environmental impacts.

In addition, the Potential Environmental Impact Review evaluated each of the Scoping Documents provided by the developers. Deficiencies and issues needing additional attention were identified as follows:

- *NAT*: NAT provided an inclusive scope for evaluating potential environmental impacts for land use, aquatic resources, listed species, and habitats. There does not appear to be mention of SNC or SCH by NAT in their scoping statement even though all three of their alternatives intersect with one or more SNC. Identification of potential communities (results of our review presented above) along with a discussion of further analysis and avoidance/minimization measures needs to be undertaken.

- *TRANSCO*: The scoping statement initially submitted by Transco (Exhibit 4: Environmental Impacts) provided notably less information than those of the other applicants later accounted for in subsequent submittals but in a format difficult to review and summarize. Additional and/or better organized detail in scoping statement regarding potential impacts and how they will be evaluated in Part B is recommended.
- *NEETNY*: The preliminary scoping statement developed by NEETNY proposes a thorough investigation of potential impacts of each route for land use, aquatic resources, and listed species and their habitats. A baseline database of invasive species along routes is proposed as well. NEETNY's scoping document also did not address two threatened plants, small whorled pogonia and northern wild monkshood, that appear on the New York Nature Explorer list of threatened and endangered species occurring in Ulster County. This may be because consultation with NYNHP and USFWS did not reveal any populations of these plants within the project area or intersection with the route. NEETNY must clarify why they do not address the two threatened plants in Ulster County listed above.
- *Boundless*: While Boundless provided a detailed scoping statement with clear indication of avoidance/minimization measure of their preferred alternative and an inclusive scope of evaluating potential impacts to land use, aquatic resources, listed species, SNC, and protected areas, an estimate of acres of potential wetland impact should be developed.

VI. ONLY PROJECTS WITH A POSITIVE BENEFIT-COST RATIO SHOULD MOVE FORWARD

In 2012, the PSC originally identified the goal of this Comparative Proceeding as the selection of a transmission solution to meet the objectives of the New York Energy Highway Blueprint, which recommended upgrades to the congested corridor "providing approximately 1,000 MW of additional transmission capacity and representing a total investment of $1 billion."[44] As discussed above, the results

[44] Case 12-T-0502, Proceeding on Motion to Examine Alternating Current Transmission Upgrades, Order Instituting Proceeding, issued and effective November 30, 2012.

of the subsequently issued 2013 CARIS, however, demonstrate that a generic transmission solution costing that much (and which would increase the Central East voltage transfer limit by 635 MW and the UPNY/SENY thermal capability by about 1,200 MW) would not be cost effective, and also showed that congestion is declining.[45] And now, as more time has passed, it has become increasingly evident that new transmission is not necessary for reliability of the system, energy usage will be flat, and peak demand is growing at lower rates than previously estimated, making expensive new transmission projects highly questionable from an economic perspective.

All of the applicants propose alternatives or combinations of alternatives which they claim meet the UPNY/SENY 1,000 MW goal.[46] Some go well beyond it, with much larger proposals that include Central East components and additional projects located even farther west. Cost estimates for the various proposals range from a low of $102.5 million, for Transco's Hurley Avenue PARs project (which does not by itself meet the 1,000 MW threshold), to over $1.4 billion for the enhanced version of Transco's proposal as originally submitted in 2013, O-F/ED-PV, which has a component from Oakdale to Fraser, another from Edic to New Scotland, and another from a new Knickerbocker substation to Pleasant Valley.[47] NAT's proposals for a New Scotland to Pleasant Valley project range from $201 million to $559 million, plus an Edic to Fraser component for $260 million, plus additional series compensation and other work for $59.2 million. NEETNY's proposals which extend from Edic/Marcy to Pleasant Valley, range from a total, including demolition and removal costs, of $362.4 million to $500.8 million for its routes along existing transmission corridors, $573.5 million for its Thruway Route, and $168 million for its shorter route from Knickerbocker to Pleasant Valley. NEETNY also proposes an Oakdale to Fraser component for $98.3 million. Boundless's proposal is estimated at $650 million.

[45] NYISO 2013 CARIS, at 6.
[46] In February, 2014, PSC issued an order stating that it will accept proposals that contribute to the level of congestion relief we have targeted even if they do not, individually, provide the full 1,000 MW of additional transfer capability. Case 12-T-0502, Proceeding on Motion to Examine Alternating Current Transmission Upgrades, ORDER AUTHORIZING MODIFICATION OF THE PROCESS TO ALLOW FOR CONSIDERATION OF ALTERNATIVE PROPOSALS, issued and effective February 21, 2014.
[47] Transco does not characterize its cost estimates as binding.

As part of its analysis, the Commission must carefully consider the costs and benefits of each proposal. If the Commission determines a new AC transmission project is needed, and one or more alternatives are ultimately identified which minimize environmental and visual impacts, then the least expensive option should be chosen. Even then, that alternative should not be allowed to move forward for consideration for a certificate in Part B unless it proves to be worth its cost as compared to other alternatives in increased transfer capability and, ultimately, congestion reduction and production cost savings.

HVSEC also continues its objection to a risk allocation of 80%/20% because it incentivizes cost overruns, making ratepayers 80% responsible for any overruns, while it discourages efficiency, since it minimizes developers' penalty in the event of cost overruns to 20%. The potential for cost overruns is evident from the range of estimates given for similar projects by the developers. For example, Transco, predicts a cost of $531 million for a Knickerbocker to Pleasant Valley project, while NEETY, which has a similar project, estimates $135 million, and NAT, whose 115 kV alternative uses the same route, estimates it will cost from $518 to $559 million. If there is such discrepancy among cost estimates, it is likely that the ultimate cost will be greater than estimated, even if the least expensive option among similar alternatives is chosen.

Finally, beyond the more narrow issues of the cost-effectiveness of any individual transmission solution and the fairness of cost recovery and allocation, however, the Commission must consider the larger economic impact of the proposed transmission projects on the ratepayers, property owners, communities, concerned citizens, businesses and overall economic development in the Hudson Valley. The burdens on the Hudson Valley that come with being the only corridor for the transmission of energy from upstate to New York City, exceed both quantitatively and qualitatively the claimed benefits. Again and again, the residents of the Hudson Valley have borne the costs of these transmission lines in the form of higher and higher energy rates, loss of property through takings for rights-of-way, loss of property value through adjacency of power lines, impacts on sales prices, impacts on the tourism economy,

impacts on agricultural lands, and numerous other financial consequences. These impacts will only be exacerbated by these unneeded, expensive, and outdated projects.

VII. ALTERNATIVE CONGESTION SOLUTIONS AND TRANSMISSION TECHNOLOGIES MUST BE SERIOUSLY CONSIDERED

While this comment compares impacts of the various proposals and identifies some that have greater potential impacts than others, it is clear that if *any* of the AC transmission proposals are ultimately constructed, there will be negative environmental and visual impacts within the Hudson Valley. This fact counsels strongly in favor of the necessity to conclusively determine a near-term need for the new lines before moving forward. We appreciate the Commission's providing that opportunity in the form of the Technical Conference.

However, should a need for a solution to the congestion over the UPNY-SENY and CE interfaces be decided upon, non-transmission solutions must be evaluated alongside the current transmission proposals. Pursuant to the Energy Highway Blueprint, the Commission sought only AC transmission solutions to energy issues facing New York State. As a result, nearly all of the projects under consideration consist of long-distance, above-ground AC transmission lines, and serious consideration of alternatives that could free up capacity without the addition of new transmission lines has never occurred. Non-transmission alternatives including end-user efficiency, demand response, distributed generation, microgrids, smart grids and development of renewables and energy storage could provide many if not all of the purported benefits of new transmission infrastructure, and much more cost-effectively and sustainably.

In fact, it is exactly these reasons that underlie New York's revolutionary REV proceeding, as discussed in Section II, *supra*. The REV proceeding seeks answers to the questions of how efficiency can be increased through distributed energy resources and load management and, in turn, what changes can be made in regulatory, tariff and market design and incentive structures to align utility interests with energy

policy.[48] Its first inquiry is to examine "how the distributed grid architecture that is now technically feasible can be achieved on a wide scale."[49] This initiative is consistent with the January 7, 2014 draft State Energy Plan, which calls on the Commission to: "Maximize the cost effective utilization of all behind meter resources that can *reduce the need for new infrastructure* through expanded demand management, energy efficiency, clean distributed generation and storage."[50]

The REV Proceeding has moved quickly towards its goals, and on February 26, 2015, the Commission issued a major Order which recognized in its introductory sentence that "[t]he electric industry is in a period of momentous change."[51] The Order continues:

> The Public Service Law entrusts the Commission with responsibility to ensure that utility service is safe and reliable, at just and reasonable rates, with care for the natural environment. The challenges and opportunities now facing the electric industry and electric customers, taken in the aggregate, lead to a conclusion that conventional utility and regulatory practices no longer represent the best approach to satisfying our responsibilities. The confluence of cost, reliability and environmental concerns cannot be satisfactorily resolved under a business as usual approach. In order to fulfill its statutory duty, the Commission must consider new approaches.[52]

Yet, the Comparative Proceeding perpetuates exactly the "business-as-usual" approach that the REV Proceeding is seeking to supplant. It is unthinkable that on parallel tracks before the same Commission, the REV Proceeding counsels that New York must seek more innovative, efficient and cost-effective solutions, while in a separate silo the Comparative Proceeding trudges along seeking "business as usual" transmission projects that will costs hundreds of millions of dollars and lock New York into an outdated approach for decades to come. The REV Proceeding's February Order warns of this:

> The need for investment also presents an opportunity to develop alternatives; a substantial portion of the infrastructure used in today's system was designed and

[48] Case 14-M-0101, Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision, Order Instituting Proceeding, Issued and Effective April 25, 2014, at 2.
[49] REV Staff Report, at 8.
[50] REV Staff Report, at 1 (*emphasis added*).
[51] Case 14-M-0101, Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision, Order Adopting Regulatory Policy Framework and Implementation Plan, February 26, 2015 ("Order").
[52] Order, at 14.

> built prior to the existence of the internet. But the longer the delay in identifying alternatives, the more risk of locking in inefficient investments.[53]

To add massive AC transmission infrastructure to address energy needs is inefficient, unnecessary and costly. Proceeding with the Comparative Proceeding while the REV Proceeding is moving towards more sustainable and efficient alternatives represents a confounding policy conflict. Particularly considering the declining costs of congestion and rate of peak demand growth discussed in Section II, *supra*, the Commission must thoroughly explore the kind of alternatives REV is seeking before locking New York State in to an outmoded approach.

In addition, to the extent transmission is determined to be a preferred approach after full consideration of need and alternatives, undergrounding must be seriously considered. Only short portions of two alternative proposals - Boundless' Roseton to East Fishkill route and the portion of NEETNY's Thruway Alternative that is east of the Hudson River - are considering undergrounding at this point in time.

None of the developers in the Comparative Proceeding have developed an underground alternative. Particularly through an area such as the Hudson Valley, with such a critical mass of sensitive visual, historic and environmental resources, undergrounding should be fully evaluated before any of the proposed projects move forward. An assessment of the actual cost benefits of such alternatives would be helpful in determining best projects.

HVSEC believes the costs of undergrounding must be considered on a total life-cycle basis, rather than only capital cost. Investing in underground lines which preserve our landscapes and are less vulnerable to increasingly violent storm events makes sense over the long-term. While undergrounding transmission lines does generally increase capital cost, technology is advancing quickly and the cost differential is much less today than it was only a few years ago. Further, the impact of towering overhead transmission lines on the Hudson Valley's tourism-based economy is significant, and a shift to

[53] REV Proceeding February Order at 17.

underground lines would mitigate this significant economic impact. At the very least, a full analysis of the benefits and life-cycle costs of underground transmission lines must be done if the Comparative Proceeding is to move forward.

CONCLUSION

As a threshold matter, the need for any of the proposed AC transmission projects has not been demonstrated, and the Comparative Proceeding might be terminated on that basis. However, if the Commission does decide to move forward with the Proceeding, Criteria (4) and (6) from the December Order should be given high priority when comparing the alternatives. If it is determined that multiple projects meet the minimum 1,000 MW transfer capability threshold, do not require any additional ROW and would have minimal environmental and visual impacts, then the project with the least cost should be selected. Before any proposal comprised of new overhead lines moves forward, alternatives to transmission including demand response, energy efficiency, distributed generation, and energy storage should be evaluated.

Based on the preliminary analysis of our consultants, there are a few projects which clearly have negative impacts that far exceed the others. HVSEC believes that NAT's Preferred and Thruway Alternatives and NEETNY's Thruway Alternative should be rejected on the basis of additional ROW required and visual and environmental impacts. HVSEC also believes that projects that consist exclusively of reconductoring within the Hudson Valley should be preferred.

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Dated: April 22, 2015
Poughkeepsie, New York