BEFORE THE STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. for Electric Service	**CASE 19-E-0065**

PETITION OF CONSOLIDATED EDISON COMPANY OF NEW YORK, INC. FOR APPROVAL TO RECOVER COSTS OF CERTAIN TRANSMISSION RELIABILITY AND CLEAN ENERGY PROJECTS

CONSOLIDATED EDISON
COMPANY OF NEW YORK, INC.

By its Attorney

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Consolidated Edison Company of New York, Inc. ("Con Edison" or the "Company") hereby petitions the New York Public Service Commission (the "Commission") for an Order, no later than April 15, 2021, that:

1. Authorizes cost recovery for the three transmission projects described herein, *i.e.,* the Rainey to Corona Project, the Gowanus to Greenwood Project, and the Goethals to Greenwood Project (collectively, the "Transmission Reliability and Clean Energy Projects" or "TRACE Projects"), including authorization of a surcharge mechanism if any such project is in service prior to the effective date of the Company's next rate plan;
2. Approves and authorizes cost recovery for the TRACE Projects because they are necessary to: (a) meet specific reliability needs that occur in 2023 and 2025; and/or (b)

achieve Climate Leadership and Community Protection Act ("CLCPA")[1] goals, and, as such, these projects are approved, and cost recovery is authorized, if meeting the reliability need is otherwise no longer necessary;

3. Authorizes the costs of the TRACE Projects, while initially from Con Edison's customers, to be included in the CLCPA cost tracker as described herein; and
4. Adopts a halting mechanism that would authorize the Company to recover all costs incurred for the TRACE Projects, if any of the projects is halted for any reason, whether such costs are incurred prior to or following the suspension of construction, including but not limited to the Company's financial obligations to third parties.

Further, the Company notes that this petition is expressly permitted by the Company's currently effective rate plan,[2] and the Company seeks expedited review because, *inter alia*, the local system reliability needs arise in the near-term, immediate commencement of engineering, design and construction work is required and the Company needs approval with assurance of cost recovery as soon as possible.[3]

I. EXECUTIVE SUMMARY

The three Transmission Reliability and Clean Energy Projects identified herein: the Rainey to Corona PAR-Controlled Feeder Project, the Gowanus to Greenwood PAR-Controlled Feeder

[1] New York Public Service Law, § 66-p.

[2] *See* Joint Proposal (October 16, 2019) at p.6, fn. 9.

[3] For the reasons further described herein, approval by a date certain is requested. We note, however, that approval of the TRACE Projects and authorization of their cost recovery was also requested in Case 20-E-0197, *Proceeding on Motion of the Commission to Implement Transmission Planning Pursuant to the Accelerated Renewable Energy Growth and Community Benefit Act* (the "Accelerated Renewable Energy Transmission Implementation Proceeding"), Utility Transmission and Distribution Investment Working Group Report (November 2, 2020) (the "November 2nd Utility T&D Investment Report"). To the extent it is feasible for the Commission to grant such approval and authorization in the Accelerated Renewable Energy Transmission Implementation Proceeding prior to April 15, 2021, we urge the Commission do so, specifying that it is granting the same based on both reliability-based and CLCPA-based justifications. In such event, a decision in this case would be unnecessary. Con Edison is making this filing because of the possibility that there may not be prompt action in that other proceeding.

Project, and the Goethals to Fox Hills PAR-Controlled Feeder Project should be approved by the Commission as necessary to meet reliability and CLCPA needs.

First, the New York State Department of Environmental Conservation's (the "NYSDEC") 2019-enacted air emissions regulations, known as the "Peaker Rule,"[4] have resulted in the projected retirement or unavailability of fossil fuel-fired generation in the Company's service territory, creating transmission security deficiencies in two of Con Edison's Transmission Load Areas ("TLAs").[5] The TRACE Projects solve all these locally driven transmission security criteria needs, which are Con Edison's responsibility to solve.[6]

Second, as the Company described in the November 2nd Utility T&D Investment Report filed pursuant to the Accelerated Renewable Energy Growth and Community Benefit Act (the "Accelerated Renewables Act")[7] and the Commission's related May 2020 Order,[8] the TRACE Projects are necessary to facilitate achievement of the State's clean energy goals as defined in the CLCPA. They do so in at least two ways: first, by enabling the retirement of downstate fossil fuel-fired "peaking" generation units by solving the associated reliability needs thus created without the addition of any new fossil-fueled power plants, itself a significant, first step towards achieving

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[4] *See* 6 NYCRR, Subpart 227-3 *available at:* https://www.dec.ny.gov/regulations/116131.html

[5] Con Edison identified the locally driven transmission security criteria violations on its system in coordination with the New York Independent System Operator, Inc. (the "NYISO"). The NYISO reported these needs in its 2020 Reliability Needs Assessment (the "RNA") and in its Third Quarter 2020 Short-Term Assessment of Reliability[5] (the "STAR"; together with the RNA, the "Comprehensive Reliability Plan Studies" or "CRP Studies"). *See* 2020 RNA Report, available at: https://www.nyiso.com/documents/20142/2248793/2020-RNAReport-Nov2020.pdf at p. 3, Figure 1. *See also* STAR available at: *https://www.nyiso.com/documents/20142/16004172/2020-Q3-STAR-Report-vFinal.pdf* at pp. 3, 19-20.

[6] *See* New York Public Service Law, § 65. *See also* NYISO Open Access Transmission Tariff ("OATT"), Attachment Y, Section 31.2 and Case 05-E-0889, *Proceeding on Motion of the Commission to Establish Policies and Procedures Regarding Generation Unit Retirements,* Order Adopting Notice Requirements for Generation Unit Retirements (December 20, 2005).

[7] New York Public Service Law §§ 162, 123 and 126.

[8] Case 20-E-0197, *Proceeding on Motion of the Commission to Implement Transmission Planning Pursuant to the Accelerated Renewable Energy Growth and Community Benefit Act,* Order on Transmission Planning Pursuant to the Accelerated Renewable Energy Growth and Community Benefit Act (issued May 14, 2020) ("May Order").

a clean energy future in New York. Indeed, because the peaking units are in disadvantaged, "environmental justice" communities, facilitating their retirement will bring near-term air quality improvement to those communities on the worst air quality days – a key CLCPA objective. And second, the TRACE projects will open pathways ("off-ramps") into constrained Transmission Load Areas, a pre-requisite to being able to deliver renewable generation – both from offshore and from upstate – to the State's largest concentration of population and demand for energy.

Besides their justification on reliability and CLCPA grounds, the TRACE Projects provide additional valuable benefits. For example, they will potentially contribute to reducing the New York Bulk Power Transmission Facilities ("BPTF") needs also caused by the Peaker Rule identified by the NYISO in the RNA beginning in year 2025,[9] thereby helping to facilitate the resolution of those BPTF needs. And, by providing redundancy for existing transmission infrastructure, they improve resiliency if there are any transmission line failures.

For the foregoing reasons, the TRACE Projects are multi-value, "no regrets" solutions: they not only provide critical reliability contributions that require their construction to meet established reliability design criteria, but also put in place the necessary foundation to achieve the CLCPA's goals. Accordingly, consistent with the Company's currently effective electric rate plan,[10] the Company respectfully requests that the Commission approve these projects and grant it supplemental recovery, on the terms described herein, of the costs of the TRACE Projects.

[9] One of the TRACE Projects unbottles Staten Island, allowing generation there to contribute more effectively to the New York City Transmission Security and Resource Adequacy needs.

[10] *See* Joint Proposal at p.6, fn. 9.

II. BACKGROUND

A. The Peaker Rule

In 2019, the NYSDEC adopted a regulation that complements and supports CLCPA objectives by limiting allowable nitrogen oxide ("NOx") emissions from simple-cycle and regenerative combustion turbines ("peakers") during the summer "ozone season" (from May 1 to September 30), typically the period of the worst air quality. They are considered peakers (or peaking units) because they operate during the most stressed operating conditions, providing needed energy during periods of peak electricity demand during the summer. The NYSDEC Rule requires peakers with a nameplate capacity of at least 15 megawatts ("MW") that inject power into the transmission and distribution system, other than black start resources, to comply with the new emissions limits.

To comply, applicable peakers must emit, on a parts per million dry volume basis ("ppmvd"), corrected to 15% oxygen, (1) by May 1, 2023, less than 100 ppmvd, and (2) by May 1, 2025, less than 25 ppmvd for gaseous fuels and 42 ppmvd for distillate oil or other liquid fuel. Alternatively, if a peaker is unable to satisfy the facility-level daily weighted average emission limits on a pounds of NOx per megawatt hour (lb/MWh) basis, the Rule allows two other compliance options. First, the owner/operator can cease to operate during the ozone season (the "ozone season stop"). Second, it can use energy storage or renewable generation at, or within a half-mile of, the facility in combination with the fossil-fueled peaker to get a combined emission rate below the facility's lb/MWh limit. The owners/operators were to submit compliance plans to the NYSDEC by March 2, 2020.[11]

[11] The plans indicate approximately 1,800 MW of peaker nameplate capability (approximately 1,500 MW of net operating capability), mainly in the lower Hudson Valley, New York City, and Long Island, would be unavailable during the summer by 2025 to comply with the emission regulations. A subset of those peakers would be unavailable starting in 2023.

Owners or operators of all peakers in Con Edison's service territory submitted compliance plans in March 2020 indicating their intention to retire or utilize the ozone season stop. It is these compliance plans that gave rise to the reliability needs reflected in the NYISO's studies that the TRACE Projects address.[12]

B. Current Rate Plan and the Need for Incremental Cost Recovery

On October 16, 2019, the Commission adopted Con Edison's current three-year electric rate plan, effective as of January 1, 2020 and continuing through December 31, 2022 ("Electric Rate Plan"). The Electric Rate Plan acknowledges that it may be necessary or appropriate for Con Edison to make certain transmission infrastructure investments – (1) to maintain reliability following the unavailability of certain generation units unable or unwilling to satisfy the new air emission regulations of the NYSDEC, and/or (2) to implement the CLCPA – during its term. Because the identity and amount of such capital expenditures were then unknown, the Electric Rate Plan did not attempt to forecast them; rather, it expressly permits the Company to seek recovery of the incremental costs associated with such investments.[13]

As described in the November 2nd Utility T&D Investment Report, the TRACE Projects fall within both categories of investments. While Con Edison requested approval for these projects in that November 2nd filing, the Company also stated that it may file a separate petition seeking approval after consulting with DPS Staff.[14] As stated in that filing, Con Edison consulted with

[12] *See* fn. 5, *infra*.

[13] *See* Joint Proposal at p. 6 ("Nothing in this JP precludes or limits the Company from seeking recovery of incremental costs associated with: (i) the implementation of the New York State Climate Leadership and Community Protection Act; or (ii) transmission reinforcements necessary to maintain reliability that result from generation retirements due to new air emission regulations that may be adopted by the New York State Department of Environmental Conservation.")

[14] November 2nd Utility T&D Investment Report, fn. 113 at p. 114.

DPS Staff regarding the need to file this separate petition. Con Edison now files the instant petition because the CLCPA approval process is not yet fully articulated and as described herein, there is a need for expedited approval given the reliability need.[15]

III. APPLICABLE CRITERIA AND ANALYSIS

A. Con Edison Reliability Standards

When expanding and incorporating new facilities on its system, Con Edison must adhere to its published Transmission Planning Criteria (Specification TP-7100).[16] Specification TP-7100 describes the planning criteria to assess the adequacy of the Company's Bulk Electric System ("BES") and certain non-BES 138 kV and 69 kV systems (collectively, the "Transmission System") to withstand design contingency conditions in order to provide reliable supply to all Con Edison customers throughout the applicable planning horizon. The specification establishes, as described therein, Fundamental Design Principles and Performance Criteria. These two components complement each other and adherence to both is required by all new projects proposed both by the Company and independent developers that connect to the Company's Transmission System. In addition to Specification TP-7100, all facilities – generation and transmission – must be designed to adhere to all applicable North American Electric Reliability Corporation ("NERC"), Northeast Power Coordinating Council ("NPCC"), and New York State Reliability Council ("NYSRC") Reliability Rules, including NYSRC Local Reliability Rules, as well as applicable Con Edison specifications, procedures, and guidelines.

[15] *See* fn. 2, *infra.*

[16] Available at: https://www.coned.com/-/media/files/coned/documents/business-partners/transmission-planning/transmission-planning-criteria-2017.pdf

B. Con Edison's Transmission System

Historically, the Company's Transmission System was designed and built around generation complexes where a multitude of fossil power plants are connected to the local 138 kV substations that also supply load. This design provided for a highly reliable system that avoided the expense of long transmission lines, together with adequate transmission between the 345 and 138 kV systems that help meet reliability criteria, which is studied through the Company's designation of TLAs. The Company's Transmission System is comprised of seventeen (17) such TLAs, designated based on identified existing Transmission System constraints where supply internal to the TLA is insufficient to meet the internal TLA load, hence the TLA is dependent on transmission to balance supply and load. There are "Stand Alone" TLAs, where only one constraint exists between the area and the rest of the system (See Figure 1), and there are "Imbedded" TLAs, where one TLA is located within a larger TLA, which in turn is in yet another TLA resulting in multiple constraints (See Figure 2).

Figure 1: "Stand Alone" TLA

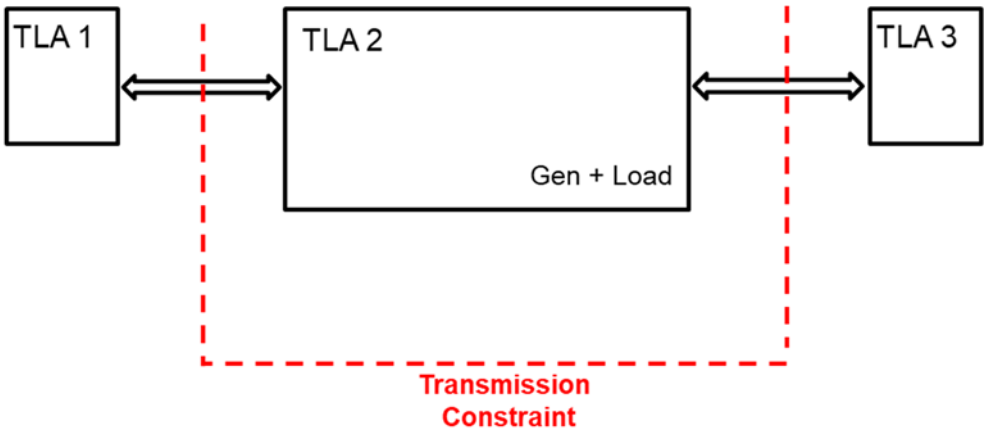
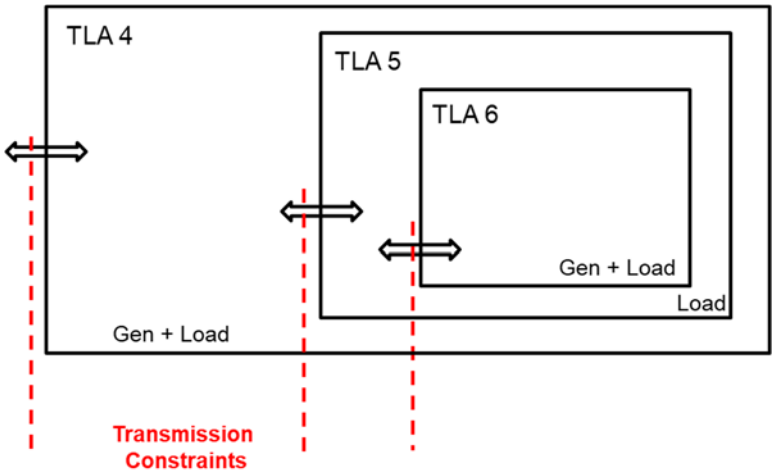


Figure 2: "Imbedded" TLA



The Company's TLAs are designed as follows: (1) those supplied by 345 kV are designed to second contingency (i.e., N-1/-1/-0);[17] (2) a list of specific 138 kV TLAs are also designed to second contingency (i.e., N-1/-1/-0); and (3) the remaining 138 kV TLAs are designed to first contingency (i.e., worst of N-1 or N-1/-1). Specification TP-7100 identifies the Company's TLAs with their designation as first or second contingency design.

C. Transmission Security Violations Resulting from Peaker Rule Impacts

The Peaker Rule limits NOx emissions from fossil generation during the summer ozone season. Their owners have indicated in compliance plans submitted pursuant to the Rule an intention to retire or operate outside the ozone season. This will reduce or eliminate the operations of approximately 1,500 MW[18] (net operating capability) of fossil-fuel generating facilities, of which approximately 1,400 MW are in New York City. Because these peaking units support reliability by producing energy during periods of peak electric system usage (which occurs during the summer ozone season), their unavailability during that season creates reliability needs that

[17] *See* Section 4 of Specification TP-7100.

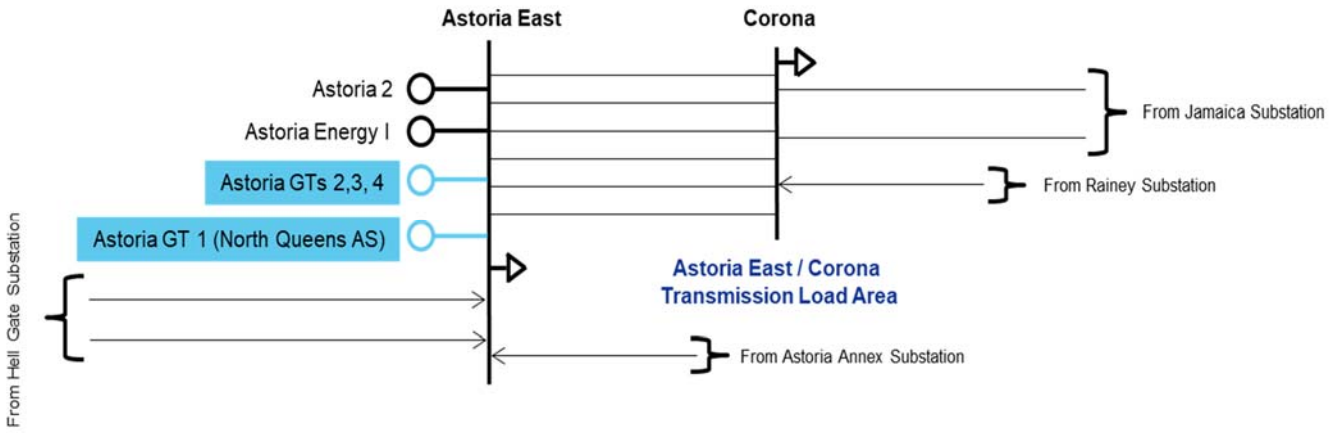
[18] *See* fn. 11, *infra.*

must be solved.[19] Further, many of the peaking units are in already constrained areas, so their unavailability will only exacerbate these constraints. Con Edison has identified transmission security criteria violations on its Transmission System resulting from the Peaker Rule impacts, due to projected deficiencies in the Astoria East / Corona 138 kV TLA and the Greenwood / Fox Hills 138 kV TLA.[20]

Astoria East / Corona 138 kV TLA

Figure 3 shows the high-level topology of the Astoria East / Corona 138 kV, stand-alone TLA. The boundary feeders for this TLA include the feeders from the Hell Gate, Astoria Annex, Rainey, and Jamaica substations.

Figure 3: Astoria East / Corona 138 kV TLA



In 2023, because of peaker unavailability, Con Edison projects thermal overloads to exist on the Astoria East / Corona 138 kV TLA boundary feeders under second contingency reliability design conditions (N-1/-1). Con Edison considered the use of all available phase angle regulator ("PAR") controls and determined the maximum observed deficiency (*i.e.*, compensatory MW)

[19] *See* fn. 5, i*nfra*.

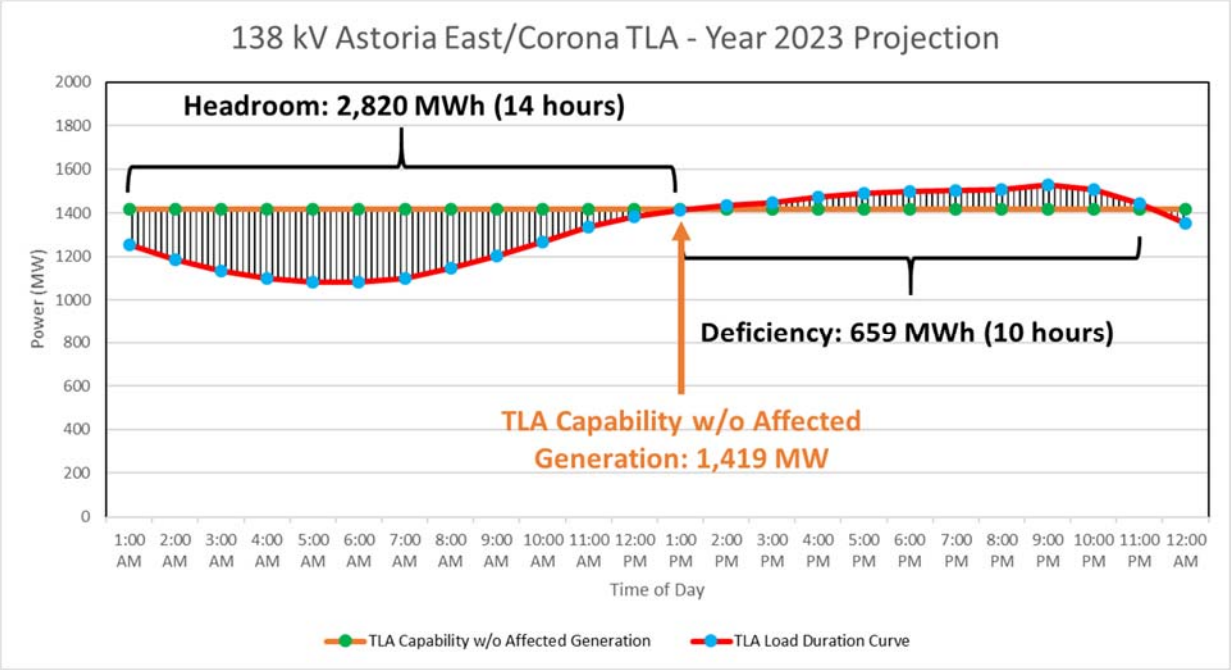
[20] *See* RNA at pp. 55-58 - Transmission Owner Local Criteria Violations; STAR at pp. 19-20 - Additional Transmission Owner Local Criteria Assessments.

within this TLA ranges from 110 MW in 2023 to 180 MW in 2030, as shown in Figure 4. As shown in Figure 5 and Figure 6, load in the Astoria East / Corona 138 kV TLA does not experience a peak coincident with system peak.[21] Based on the load duration curves shown in Figure 5 and Figure 6, Con Edison projects that the TLA may be deficient over 10 hours (659 MWh) on a peak day in 2023, increasing to 13 hours (1,461 MWh) on a peak day in 2030.

Figure 4: Astoria East / Corona 138 kV TLA Deficiency

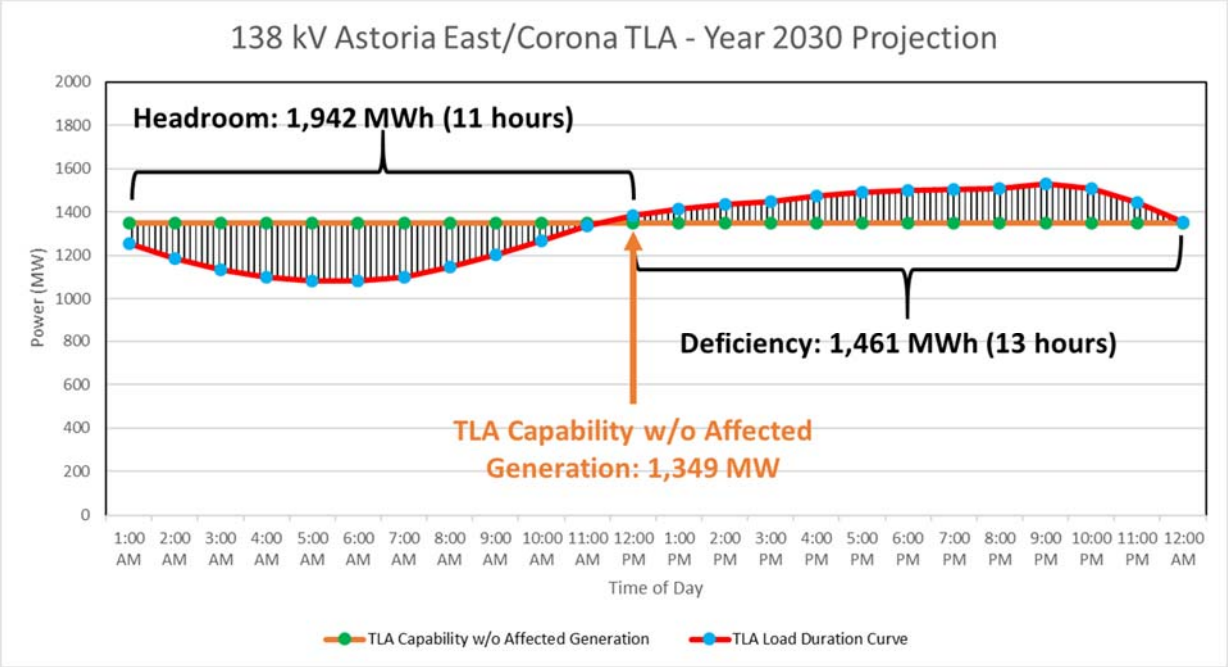
Year	2023	2024	2025	2026	2027	2028	2029	2030
Deficiency (MW)	110	115	110	115	120	125	170	180

Figure 5: Astoria East / Corona 138 kV Load Duration Curve for 2023



[21] NYISO's database, for purposes of the CRP Studies, was modified to address load profiles specific to the TLAs. As shown in Figure 5 and Figure 6, the TLA peaks at approximately 9 PM, whereas the system peak is generally between 4 PM and 6 PM.

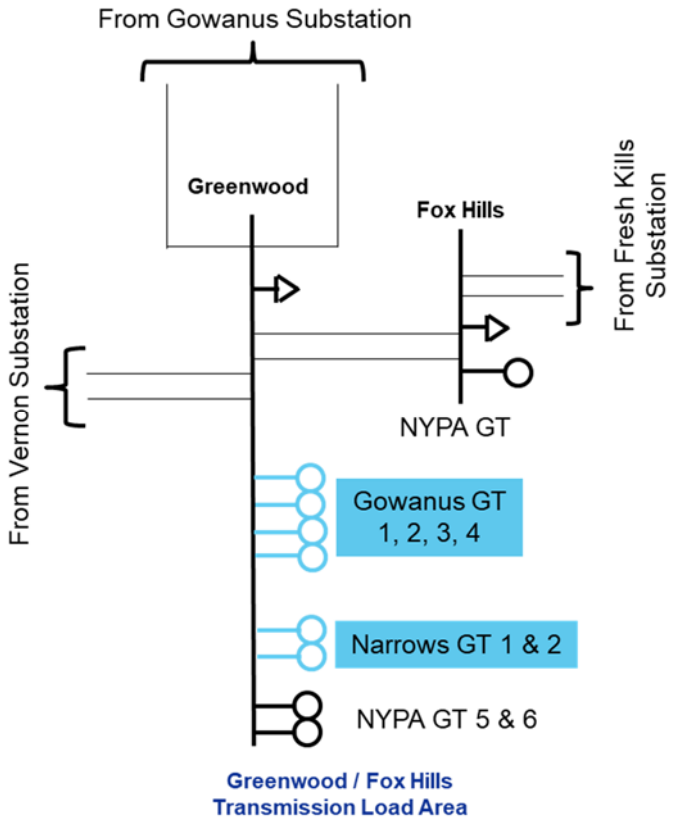
Figure 6: Astoria East / Corona 138 kV Load Duration Curve for 2030



Greenwood / Fox Hills 138 kV TLA

Figure 7 shows the high-level topology of the Greenwood / Fox Hills 138 kV, stand-alone TLA. The boundary feeders for this TLA include the feeders from the Vernon, Gowanus, and Fresh Kills substations.

Figure 7: Greenwood / Fox Hills 138 kV TLA



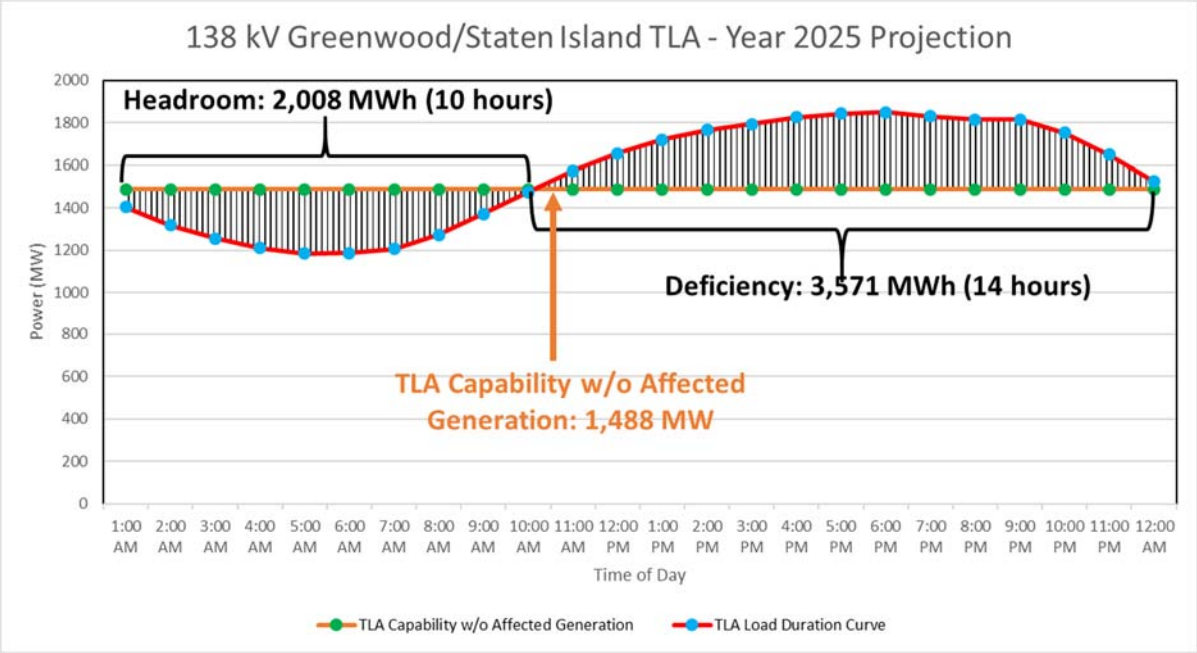
As a result of peaker unavailability, Con Edison projects thermal overloads and voltage violations to exist on the Greenwood / Fox Hills 138 kV TLA boundary feeders even in the steady state (N-0) condition, which are exacerbated under N-1/-1 reliability design conditions.

Con Edison, considering the use of all available PAR controls, has determined that the maximum observed deficiency (*i.e.*, compensatory MW) within this TLA ranges from 360 MW in 2025 to 370 MW in 2030, as shown in Figure 8. Based on the load duration curve shown in Figure 9, the TLA may be deficient over 14 hours (3,571 MWh) on a peak day in 2025. As there is little change in the peak deficiency (± 10 MW - as shown in Figure 8), the deficiency shown in Figure 9 would not have much variance from 2025 to 2030.

Figure 8: Greenwood / Fox Hills 138 kV TLA Deficiency

Year	2025	2026	2027	2028	2029	2030
Deficiency (MW)	360	350	360	360	370	370

Figure 9: Greenwood / Fox Hills 138 kV TLA Load Duration Curve for 2025



IV. PROPOSED PROJECTS

A. Overview

The TRACE Projects (1) address the forecasted transmission security violations in the Con Edison service territory due to deficiencies projected to occur in the Astoria East / Corona 138 kV TLA beginning in 2023, and in the Greenwood / Fox Hills 138 kV TLA beginning in 2025, while also (2) alleviating local transmission system constraints necessary to achieve the CLCPA's clean energy goals.

Each TRACE Project adds approximately 300 MW of capability. In selecting the TRACE Projects, the Company first considered their ability to solve the reliability need by addressing the magnitude and duration of the compensatory MW deficiency created by the Peaker Rule impacts.

The Company also considered whether the solutions would facilitate the achievement of CLCPA goals. That is, whether the project(s) would: (1) relieve identified constraints on the local system to enable loads to be later served by new, clean sources of energy; and (2) connect and fully deliver energy supplies from new resources such as offshore wind and new upstate renewable generation. The Company also considered whether the project(s) would provide sufficient capability to address potential future load growth from electrification and improve resilience on the Company's local system by providing redundancy to existing assets. The Company determined that the TRACE Projects represent the most efficient, cost effective, optimal solutions to address the local reliability need, while also providing the CLCPA and other benefits.

The Company also evaluated whether non-wires solutions, load reductions and/or load transfers,[22] renewable resource or energy storage deployment within the TLA, local transmission additions, or a combination of these solutions, could address both the local reliability need and the constraints. The Company determined that only the TRACE Projects would both solve the local system reliability needs and alleviate transmission system constraints to enable the State to achieve its clean energy goals. Specifically, physical space limitations within the TLAs challenge or virtually foreclose the addition of utility scale photovoltaic ("PV") and large-scale energy storage systems there. And, as described below, storage within the TLA can only partially address reliability needs because the TLA deficiencies, which extend over 10 to 14-hour periods often over consecutive days, exceed the capability of storage technologies to respond.

In sum, expansion of the Transmission System thus provides the best viable solution to solve the local transmission security violations resulting from the peaker retirements. Moreover,

[22] That is, where load may be transferred out of the local constrained TLA to an unconstrained TLA.

the TRACE Projects are necessary to eliminate the constraints that presently prevent existing and future renewable resources – particularly those located outside the local area – from reaching and serving load. If renewable energy cannot serve customers within a local TLA, then fossil generation within the TLA will continue to be required to serve the load, challenging the State's ability to achieve the CLCPA target of 70% renewable energy by 2030 and ultimately 100% emissions-free energy by 2040.

B. Reliability Justification

1. Description of TRACE Projects. To ensure that the TRACE Projects are in service by their need date, Con Edison requests that the Commission issue an Order by April 15, 2021, approving the cost recovery mechanism described herein for the following three TRACE Projects, described in more detail in Exhibits A, B and C hereto, respectively:

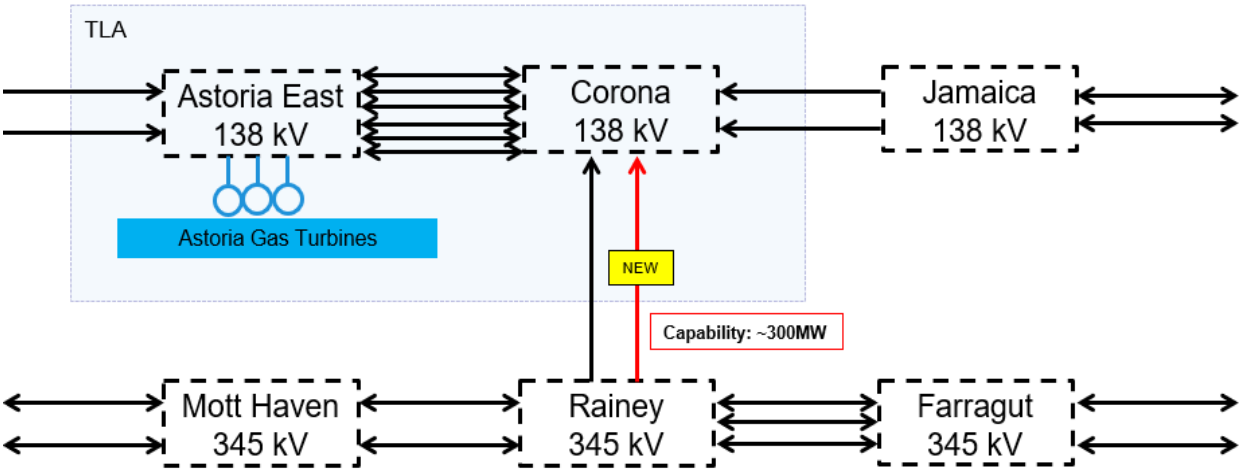
- Rainey to Corona;
- Gowanus to Greenwood; and
- Goethals to Fox Hills

As indicated in the exhibits, the currently estimated combined cost of these projects is $780 million.[23]

[23] As a result of additional engineering work, the overall cost estimate for the TRACE Projects is lower than the $860 million order of magnitude estimate included in the November 2nd Utility T&D Investment Report.

Rainey to Corona Project

Figure 10: Project Schematic

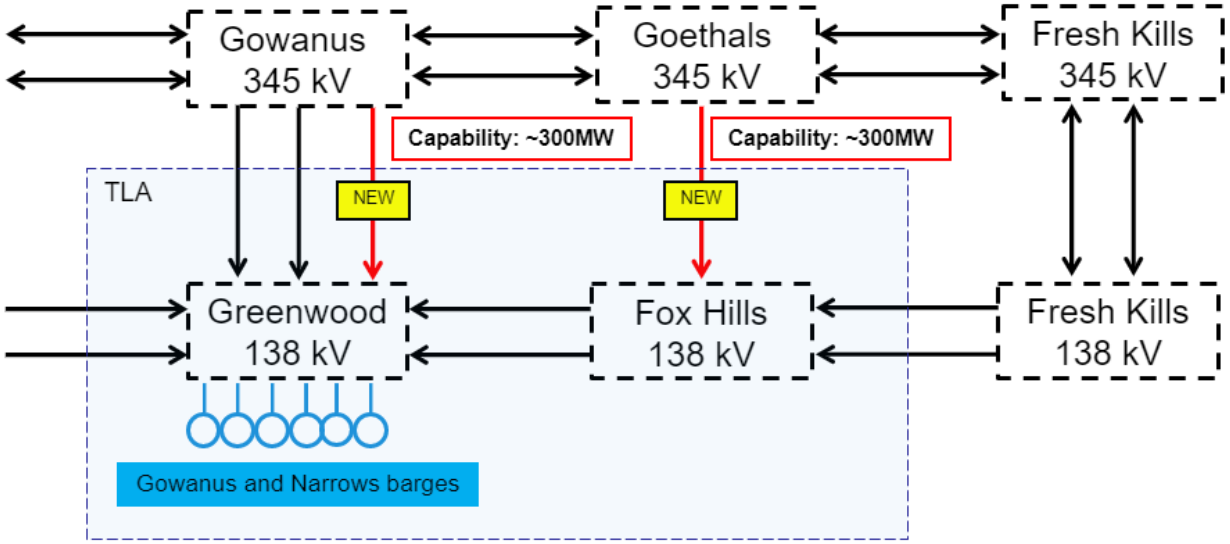


This project will solve the 110 MW deficiency in 2023 escalating to 180 MW deficiency in 2030 in the Astoria East / Corona TLA created by the retirement of the peaking units at Astoria in combination with the identified constraints on the TLA's boundary feeders. The Company will install, as shown in Figure 10 (above), a 6-mile long, 345 / 138 kV PAR controlled underground feeder. Con Edison plans to place this project in service by Summer 2023.[24] The new feeder will electrically connect the Company's 345 kV Rainey substation with its Corona 138 kV substation, increasing transfer capability by approximately 300 MW to solve the reliability need. The new feeder will also create a 345 to 138 kV off-ramp that enables 300 MW of existing and future renewable supply to access the load.

[24] The need date coincides with the first deadline by which peaking units must comply with the Peaker Rule's new emissions standards.

Gowanus to Greenwood Project and Goethals to Fox Hills Project

Figure 11: Projects Schematic



This project will solve the 360 MW - 370 MW deficiency in 2025 through 2030 in the Greenwood/ Fox Hills 138 kV TLA and the identified constraints on that TLA's and its neighboring Staten Island 138 kV TLA's boundary feeders resulting from the retirement of the Gowanus and Narrows Barges driven by the Peaker Rule.

The Company will install, as shown in Figure 11, two new feeders. The first feeder is a 1-mile-long, 345 / 138 kV PAR controlled feeder that the Company plans to place in service by Summer 2025.[25] The new feeder will electrically connect the Company's 345 kV Gowanus substation with its Greenwood 138 kV substation, increasing transfer capability by approximately 300 MW to partially address the deficiency. The new feeder will also create an off-ramp to enable the delivery of renewable power.

[25] The need date coincides with the second deadline by which peaking units must comply with the Peaker Rule's second set of new emissions standards.

The second feeder is an 8-mile-long, 345 / 138 kV PAR controlled feeder that the Company plans to place in service by Summer 2025. This new feeder will electrically connect the Company's 345 kV Goethals substation with its Fox Hills 138 kV substation, increasing nominal transfer capability by approximately 300 MW to, together with the first feeder, solve the reliability need. Con Edison would reconfigure the existing Fox Hills 138 kV substation into a 138 kV Ring Bus, which will not only enhance transfer capability between substations that are currently limited by a straight bus design, but significantly improve operating flexibility by eliminating the loss of multiple facilities during a single outage and mitigating renewable resource curtailment during planned or unscheduled transmission facility outages.

With a combined capability of approximately 600 MW, the feeders together resolve the reliability need in the Greenwood / Fox Hills 138 kV TLA while allowing approximately 600 MW of renewable resources to access the load. All projects will reduce dependency on local fossil fuel power plants to meet established reliability design criteria. Further, the Goethals to Fox Hills feeder will un-bottle the existing resources connected to Staten Island's 345 kV and 138 kV system, thus potentially reducing, by approximately 200 MW, the BPTF reliability needs identified in the RNA.

In conclusion, because most of the Company's TLAs cannot presently accommodate a large delivery of renewable power (the off-ramp concept), the TRACE Projects will facilitate the achievement of CLCPA's goals by "unbottling" the local transmission system into the constrained TLAs to meet established reliability criteria. By providing additional transfer capability (about 900 MW) for renewable generation supplies located on the bulk system to access the load connected to the local system, the TRACE Projects will establish the off-ramps necessary for a reliable and clean State energy system.

2. Alternative Solutions Considered. The Company reviewed the expected deficiencies from the generator retirements/unavailability in the Astoria East / Corona 138 kV TLA and Greenwood / Fox Hills 138 kV TLA and performed a comprehensive evaluation to determine if the incremental load could be met through a Non-Wires Solutions ("NWS") instead of the TRACE Projects. As described below, NWS are not sufficient or effective to solve the reliability needs.[26]

The Company examined the feasibility of using only bulk energy storage acquired through a market solicitation to defer the three transmission solutions. As demonstrated in Figure 9 above, addressing the full need in the Greenwood / Fox Hills 138 kV TLA using storage alone would be physically impossible due to charging limitations during off-peak periods to meet the on-peak needs. While this physical limitation does not exist for the Astoria East / Corona 138 kV TLA (Figures 5 and 6), the ability to acquire a storage only solution of the magnitude necessary to address a 110 MW to 180 MW deficiency over 10 to 13 hours by the need date is infeasible and would reasonably be expected to be far more costly than the proposed transmission solution. The Company notes there were no viable bids within the constrained TLAs in its July 2019 Bulk Energy Storage Request for Proposals ("RFP").

Because bulk energy storage alone is not a viable solution, Con Edison's NWS assessment evaluated deferring installation of additional 345 / 138 kV PAR- controlled feeders in the Astoria East / Corona TLA and both the 345 / 138 kV feeders in the Greenwood / Fox Hills 138 kV TLA through a portfolio of customer-sided solutions. In addition, the Company evaluated a partial NWS using a portfolio approach to solve for a single 345 / 138 kV feeder in Greenwood, which would require an estimated 80 MW of peak load relief by 2025. The Company reviewed example NWS portfolios based on its experience with implementing customer-sided

[26] NWS also do not support renewables.

solutions to evaluate deferring the 345 / 138 kV traditional solutions for multiple years while maintaining a positive Benefit-Cost Analysis - Societal Cost Test[27] score that is necessary to pursue these load relief measures. The Company's assessment used its expected peak MW savings and pricing from implementing cost beneficial energy efficiency ("EE") programs across multiple customer segments. These EE "adder" programs help to accelerate load relief by offering customers low or no-cost energy efficiency upgrades. The assessment also incorporated recent market pricing from developer responses to the Company's July 2019 Bulk Energy Storage RFP in current NWS areas to determine the mix of EE and storage measures that maintains a positive cost benefit analysis.

Based on the magnitude of load relief identified in the assessment to successfully defer the traditional solutions, as well as the limited time to conduct, and uncertain outcome of, a market solicitation that would be necessary to implement an NWS, the Company concluded that pursuing a portfolio of Non-Wires would not timely resolve the reliability needs in a cost-effective manner in all three instances. A successful portfolio would require *both* achieving: (1) ambitious energy efficiency goals in the TLAs, which are a factor of 1.5 to 3 times above the Company's already ambitious goals as part of the state's New Efficiency New York initiative;[28] and (2) significantly *more* dispatchable capacity from energy storage than what the market suggests is capable of being delivered in the TLAs, as indicated by responses received in the Company's 2019 Bulk Energy Storage RFP. In addition, uncertainty of receipt and execution of viable market solutions by the need date introduces significant and unmitigable risk to ensuring a successful outcome.

[27] *See* https://www.nyserda.ny.gov/About/Publications/New-Efficiency

While the Company continues to evaluate opportunities for NWS and bulk energy storage to meet future load relief needs, the magnitude of the needs identified in the Astoria East / Corona 138 kV TLA and Greenwood / Fox Hills 138 kV TLA are such that NWS cannot feasibly solve such needs. Relying on alternative approaches of this scale to satisfy the reliability needs with no operational back-stop solution would unacceptably threaten the Company's ability to deliver reliable power to a significant number of customers. The transmission solutions the Company proposes herein are the most efficient, most cost-effective solutions to the local system reliability needs and also accommodate future load growth given the clean energy movement toward increased electrification.

C. CLCPA Justification

1. Enabling Fossil Fuel Generation Retirement. Beyond addressing local system reliability needs, the TRACE Projects perform several critical functions that are necessary to achieve CLCPA goals. First, the TRACE Projects are needed to decrease the dependency on and enable the complete retirement of polluting peakers. The Peaker Rule reduces polluting emissions from these older peaking units. This will set in motion a process that will phase out the dependence on fossil generation and lead to its eventual replacement with clean resources. Such a transformation must be accomplished while still maintaining local system reliability; the TRACE Projects accomplish that. And while the TRACE Projects described herein cannot, by themselves, solve *all* reliability needs to permit the complete elimination of the peakers in New York City (*i.e.*, bulk power reliability needs remain),[29] such elimination cannot be accomplished without them.

[29] As noted above, however, the Goethals to Fox Hills Project will potentially reduce, by approximately 200 MW, the bulk system transmission security needs.

2. Serving Environmental Justice. Consistent with the Peaker Rule[30] and CLCPA objectives, enabling the retirement of the peakers will have air quality benefit to Environmental Justice Communities and ultimately enable delivery to them of clean, renewable energy.

3. Creating Off-Ramps for Renewable Delivery. The TRACE Projects facilitate the State's achievement of its environmental goals by eliminating Transmission System constraints that would otherwise prevent renewable resources (such as new offshore or upstate wind) from reaching and serving some of the largest concentrations of load in the State. Each of the TRACE Projects provides an off-ramp – that is, together they will enable 900 MW of renewable energy carried on the 345 kV system highway to be connected to and delivered down to these load areas, which would otherwise be served by fossil fuel power plants. Further, as described above, the Goethals to Fox Hills feeder will un-bottle resources connected to Staten Island's 345 kV system, which is expected to include renewable power in the future.

4. Servicing Load Growth Through Electrification. The fourth way that the TRACE Projects assist the State to support the goals of CLCPA is by providing additional Transmission System capacity and operational flexibility, which may be necessary to accommodate the load growth expected from electrification in the heating sector.

D. Additional Benefits of the TRACE Projects

1. Bulk System Reliability Benefits. In addition to satisfying the reliability needs identified above, the TRACE Projects provide other valuable benefits to the bulk power system. The new 345 kV feeder from the Goethals to Fox Hill Project has the significant, additional benefit of unbottling generating capacity in Staten Island, which will reduce the bulk system needs beginning in 2025 per Con Edison's estimate as identified by the NYISO in its RNA. Currently,

[30] https://www.dec.ny.gov/public/911.html

the amount of generating capacity net of load located in Staten Island exceeds the available transfer capability to export that power to other areas in New York City. This lack of export capability makes Staten Island's generating capacity 'bottled' and unavailable for use at certain times, even when those units are not operating at or near their maximum capability. The construction of the new Goethals to Fox Hills feeder will add approximately 300 MW of transfer capability, unbottling the existing generation on Staten Island and potentially reducing the bulk power reliability need by 200 MW. While the NYISO will be soliciting market and regulated solutions to address the bulk system needs, this potential 200 MW reduction will increase the flexibility and range of options that may be viable and is expected to lower the costs.

2. Resilience Benefits. In addition to enhanced reliability benefits, the TRACE Projects provide enhanced system resiliency, adding redundancy by building new transmission lines into two constrained TLAs that are each currently served by six (6) 138 kV transmission feeders. The new transmission lines will be constructed using cross-linked polyethylene (*i.e.,* solid dielectric) (XLPE) cable. In addition to eliminating the environmental risk that comes with oil-filled circuits, the new solid dielectric cable can be restored to service more quickly after an electrical fault and other types of outages. The new lines will thus help maintain redundancy on the Con Edison Transmission System with both improved environmental performance and restoration times as compared to legacy oil filled circuits. This is true for all the TRACE Projects.

3. Energy and Capacity Market Benefits. The TRACE Projects also offer short to mid-term market benefits to customers. These market savings are achieved primarily in two ways:

(1) by reducing energy and uplift costs payable to fossil units (out of merit generation) required to run to meet load requirements in constrained TLAs due to increased import capability (*See* the right portion of the graphs in Figures 5, 6 and 9); and

(2) by unbottling Staten Island, which will translate into reduced New York City locational capacity requirements (thereby lowering capacity costs).[31]

These savings will diminish gradually as fossil generation in the TLAs can safely be retired on a path to 100% carbon free energy by 2040.

V. COST RECOVERY AND COST ALLOCATION MECHANISM

A. Cost Recovery

Because of the near-term reliability needs arising in the Astoria East / Corona 138 kV TLA and the amount of time needed to properly engineer, design, permit and construct transmission projects in the downstate region, Con Edison requests cost recovery for the development and construction of the TRACE Projects as soon as possible, *i.e.,* by April 15, 2021.

Consistent with the Company's current electric rate plan and the recommendations in the November 2nd Utility T&D Investment Report, the Company requests approval and cost recovery for the TRACE Projects. Because one or more of the TRACE Projects may be placed into service prior to effectiveness of the Company's next rate plan, the Company requests approval to timely recover the carrying costs (including any operation and maintenance ("O&M") costs) of the TRACE Projects through a surcharge (or other applicable pass-through mechanism) until its next rate case, at which time the capital investments and the associated O&M would be reflected in base rates. Specifically, the Company requests approval to begin to accrue a carrying charge[32]

[31] *See* RNA, Appendix D, Figure 28 (page 58), which shows NYISO's evaluation of the impact of removing certain constraints, including fully unbottling Staten Island, which, all else being the same, resulted in a 0.047 days per year reduction in NYCA loss of load expectation (LOLE). https://www.nyiso.com/documents/20142/2248793/2020-RNAReport-Nov2020.pdf/64053a7b-194e-17b0-20fb-f2489dec330d

[32] The accounting profession (and the SEC) has interpreted applicable accounting standards to require that a regulator approve an automatic recovery mechanism in an order to enable a regulated utility to accrue a carrying charge on an asset which includes the weighted average cost of capital.

after any of the TRACE Projects are placed in service. The carrying charge includes a return on the amount placed in service and related depreciation expense at its current allowed weighted average cost of capital. The Company would recover such costs monthly through a surcharge until base rates are reset. To the extent a carrying charge on the average electric plant in service balances would otherwise be deferred for customer benefit under the Company's rate plan,[33] such carrying charge would be applied as a credit against the surcharge recovery. To the extent a carrying charge on the average electric plant in service balances that would otherwise be deferred for customer benefit under the Company's rate plan is higher than the surcharge recovery calculation, the net difference will be deferred for the benefit of customers.

B. Cost Allocation

The Company proposes to recover its reasonable and prudent costs incurred in connection with the TRACE Projects from its own customers, pursuant to the surcharge mechanism described above, until such time as such costs can be reflected in base rates. Recognizing that Con Edison is proposing the TRACE Projects to meet local system reliability needs, their costs are appropriate to be charged, in the first instance, to Con Edison's customers. But, consistent with the policy recommendations of the Utility T&D Investment Report, which had also identified the TRACE Projects as projects that facilitate achievement of the CLCPA goals (they are categorized as Phase 1 projects), Con Edison requests that the costs incurred by its customers for these projects be tracked by the Commission in an accounting framework it may develop, for the purpose of balancing CLCPA-related costs incurred by the utilities statewide.

Specifically, as described herein and in the Utility T&D Investment Report, the TRACE Projects are multi-value projects that not only provide reliability and resilience benefits but enable

[33] Commonly referred to as "net plant reconciliation" in utility rate plans.

the retirement of older polluting fossil-fueled generation and provide necessary off-ramps from the 345 kV to 138 kV system critical to deliver otherwise blocked renewable generation to New York City. These projects will therefore facilitate renewable development and improve the environment for all New Yorkers. Because these CLCPA-related benefits accrue to all New Yorkers, the Utility T&D Investment Report recommended that the Commission allocate such costs throughout the State on a load ratio share basis. Con Edison thus requests that, while such costs shall be recovered from its own customers, they be credited to Con Edison's account in a CLCPA accounting framework so that Con Edison's customer's cost share of CLCPA projects is equitable and consistent with a load ratio share cost allocation.

C. Halting Mechanism

The Company requests that if one or more of the TRACE Projects commence design or construction and are subsequently halted by the Commission following their commencement, the Commission approve recovery of the costs incurred by the Company (whether prior to or after such halting) because of such suspension, using the same cost recovery mechanism as was originally approved for the costs of such Projects, including costs that may be owing to third parties.[34]

Con Edison recognizes that the Commission may seek to consider halting one or more of the TRACE Projects if, for example, one or more of the existing fossil generation units whose compliance plans indicated it would retire or not operate during the ozone season instead successfully repowers, eliminating or reducing the reliability needs. For example, a fully operational, 437 MW Berrians East Repowering Project in the Astoria East / Corona 138 kV TLA,

[34] This could include costs owing to contractors, suppliers, or third-party developers whose projects rely on these projects in terms of their cost to interconnect with the Con Edison system pursuant to the NYISO's interconnection process. *See* NYISO OATT, Attachment S, §§ 25.1.1 and 25.5.5.

as noted in the NYISO's RNA, would obviate the need, from a local reliability perspective, for the Rainey to Corona Project. Similarly, Eastern Generation Company's 549 MW Gowanus Barge Repowering Project in the Greenwood / Fox Hills 138 kV TLA, if successful and capable of year-round operation, would obviate the local system reliability need for both the Gowanus to Greenwood Project and Goethals to Fox Hills Project.

And while, as demonstrated herein, the TRACE Projects are also justified because they are necessary to the achievement of the State's CLCPA clean energy goals (and halting them may not be feasible once undertaken), the Company requests that the Commission adopt a halting mechanism notwithstanding, to confirm the Company's right to cost recovery should the projects nevertheless be halted for any reason.

VI. NEED FOR EXPEDITED REVIEW

The Company seeks the Commission's expedited review and approval of this petition by its April 15th session for two reasons. First, because the local system reliability needs arise in the near-term, immediate commencement of engineering, design and construction work is required and the Company needs approval with assurance of cost recovery as soon as possible as it commences this design work and begins placing orders for equipment.

Second, as discussed above, the NYISO has noted the existence of Con Edison service area local needs starting in 2023 in its STAR/RNA and the resolution of those needs will affect how the NYISO resolves the bulk power system needs that also result from the unavailability of the peakers. Con Edison is informing the NYISO how Con Edison plans to resolve the local needs

through this filing[35] and the NYISO will be monitoring whether Con Edison will resolve these local needs through the TRACE Projects. In other words, for NYISO to conduct an efficient process for resolving the bulk system needs, it needs to know as soon as practical how the Con Edison local needs will be resolved. Unquestionably, the Commission would be acting consistent with State policy goals if it granted Con Edison approval by April at the latest[36] so that the NYISO would be able to conduct the most cost-effective process for resolving the bulk power system reliability needs.

VII. CONCLUSION

For the reasons set forth herein, Con Edison respectfully requests that the Commission review this petition on an expedited basis, and issue an Order no later than April 15, 2021 that:

1. Authorizes cost recovery for the Transmission Reliability and Clean Energy Projects, *i.e.,* the Rainey to Corona Project, the Gowanus to Greenwood Project, and the Goethals to Fox Hills Project, including authorization of a surcharge mechanism if any such project is in service prior to the effective date of the Company's next rate plan;
2. Approves and authorizes cost recovery for the TRACE Projects because they are necessary to: (a) meet specific reliability needs that occur in 2023 and 2025; and/or (b) achieve CLCPA goals, and, as such, these projects are approved, and cost recovery is

[35] Con Edison, notes, however, that there are other steps that it will need to take, such as updating its Local Transmission Plan, which will confirm its right to substation bus positions needed for the TRACE Projects. An expedited Commission decision would provide additional clarity here for Con Edison and for merchant developers who are seeking to develop their own projects.

[36] As noted in fn. 2, *infra,* it is possible that the Commission issues an order in the Accelerated Renewable Energy Transmission Implementation Proceeding prior to April 2021 that will approve these projects, which would make Commission action on this petition unnecessary. Con Edison urges the Commission to act in the Accelerated Renewable Energy Transmission Implementation Proceeding prior to April 2021 if feasible. Con Edison has made this additional filing, after consultation with Department Staff, because of the possibility that there may not be prompt action in that other proceeding.

authorized, for achieving the CLCPA goals if meeting the reliability need is no longer necessary;

3. Authorizes the costs of the TRACE Projects, while recovered initially from Con Edison's customers, to be included the CLCPA cost tracker as described herein; and
4. Adopt a halting mechanism that would authorize the Company to recover all costs incurred for the TRACE Projects, if any of the projects is halted for any reason, whether such costs are incurred prior to or following the suspension of construction, including but not limited to the Company's financial obligations to third parties.

Dated: December 30, 2020

Respectfully submitted,

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Exhibit A

Detailed Description of the Rainey to Corona PAR-Controlled Feeder Project

Exhibit A to
Consolidated Edison Company of New York, Inc. Petition

Detailed Description of the Rainey to Corona PAR-Controlled Feeder Project

I. Project Description.

The Rainey to Corona Project will establish a second transmission tie between Con Edison's Rainey 345kV substation and its Corona 138kV substation via a new Phase Angle Regulator (PAR)-controlled 138kV solid dielectric feeder. The feeder will have a nominal capability of approximately 300 MW, which will address the identified constraints on the Astoria East/Corona 138 kV TLA boundary feeders (which are exacerbated by the unavailability of local peaking units driven by the DEC's NOx Peaker Rule), and additionally allow renewable resources to access the load on CECONY's 138 kV system, eliminating the dependency on local fossil fuel power plants to maintain local reliability and creating the first of three "off ramps" necessary to support a clean energy future.

The route for the underground feeder will be approximately 6 miles and will be installed via a trench and conduit system. The connections for a new transmission feeder will require new bus sections in both the Rainey and Corona substations. The new bus section at the Rainey Substation will require the addition of 345kV circuit breakers, a 345kV to 138kV auto-transformer, relay protection and a termination stand for the new feeder. A 138kV PAR will also be installed in series with the line at the Rainey Substation, for the purpose of regulating the power transfer across the line under all conditions within rated limits. The bus section at the Corona Substation will require the addition of 138kV circuit breakers, relay protection and a terminal stand for the new feeder. All new equipment will have ratings consistent with Con Edison design specifications.

II. Real Estate

The project is expected to be constructed within Con Edison's franchise areas between the Rainey and Corona substations. No additional land rights are required to construct the substation upgrades at either the Rainey Substation or the Corona Substation to connect the new 138 kV feeder.

III. Permitting

Construction of the project is expected to be within New York City streets, which requires street opening permits from the New York City Department of Transportation and may require additional state or local permits or approvals. The grant of discretionary permits by any governmental authority may also trigger environmental impact review under New York State Environmental Quality Review Act ("SEQRA"), which could require the filing of an environmental impact statement.

IV. Estimated In-Service Date

The new Rainey to Corona feeder will be placed in service by May 1, 2023 to meet the reliability needs arising by that date (coinciding with the first deadline by which the peaking units must comply with the DEC NOx Rule's new emissions standards), as identified in the RNA and STAR.

V. Estimated Project Schedule

Engineering and long lead equipment procurement will begin in 2021 for this project, with construction expected to begin in early 2022. The anticipated schedule to complete the Rainey to Corona Project by its need date is set forth in the chart below.

Rainey – Corona – 138kV			2021				2022				2023	
Milestone Description	Start	End	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q
Project Initiation	1/4/21	2/28/21										
Design & Engineering	2/28/21	8/31/21										
Construction Contract Procurement	2/1/21	4/30/21										
Permit Acquisition	8/31/21	11/30/21										
Equipment Procurement	8/31/21	11/30/22										
Construction Execution	5/1/21	5/15/23										
In Service	5/15/23	5/15/23										

VI. Preliminary Cost Estimate: $275 million.

Exhibit B

Detailed Description of the Gowanus to Greenwood PAR-Controlled Feeder Project

Exhibit B to
Consolidated Edison Company of New York, Inc. Petition

Detailed Description of the Gowanus to Greenwood PAR-Controlled Feeder Project

I. Project Description.

The Gowanus to Greenwood Project will establish a third transmission tie between the Company's Gowanus 345kV Substation and its Greenwood 138kV Substation via a new Phase Angle Regulator (PAR)-controlled 138kV solid dielectric feeder. The feeder will have a nominal capability of approximately 300 MW, which, together with the Goethals to Fox Hills Project described in Exhibit C, will address the identified constraints on the Greenwood/Fox Hills 138 kV TLA boundary feeders. These constraints, and additional constraints on the neighboring Staten Island 138 kV TLA, are exacerbated by the seasonal unavailability or retirement of local peaking units driven by the DEC's NOx Peaker Rule. Due to the size of the constraint (estimated at approximately 370 MW), two new feeders are required to satisfy the local transmission security deficiency. Additionally, by electrically connecting Con Edison's 345 kV Gowanus Substation with its 138 kV Greenwood Substation, the project creates a second "off ramp," allowing up to 300 MW of renewable supplies to reach the load on the Company's 138 kV system and eliminating dependency on local fossil fuel power plants to maintain local system reliability.

The route for the underground feeder will be approximately 1 mile and will be installed via a trench and conduit system. The connections for a new transmission feeder will require new bus sections in both the Gowanus and Greenwood substations. The new bus section at the Gowanus Substation will require the addition of 345kV circuit breakers, a 345kV to 138kV auto-transformer, relay protection and a termination stand for the new feeder. A 138kV PAR will also

be installed in series with the line at the Gowanus Substation, for the purpose of regulating the power transfer across the line under all conditions within rated limits. The bus section at the Greenwood Substation will require the addition of 138kV circuit breakers, relay protection and a terminal stand for the new feeder. All new equipment will have ratings consistent with Con Edison design specifications.

II. Real Estate

The project is expected to be constructed under public roadways within Con Edison's franchise areas between the Gowanus and Greenwood Substations. No additional land rights are required to construct the substation upgrades at either the Gowanus Substation or the Greenwood Substation to connect the new 138 kV feeder.

III. Permitting

Construction of the project is expected to be within New York City streets, which requires street opening permits from the New York City Department of Transportation and may require additional state or local permits or approvals. The grant of discretionary permits by any governmental authority may also trigger environmental impact review under New York State Environmental Quality Review Act ("SEQRA"), which could require the filing of an environmental impact statement.

IV. Estimated In-Service Date

The new feeder will be placed in service by May 1, 2025 to meet the reliability needs arising by that date (coinciding with the second deadline by which the peaking units must comply with the DEC NOx Rule's second set of new emissions standards), as identified in the RNA and STAR.

V. Estimated Project Schedule

Engineering will begin in 2021 for this project, with long lead equipment procurement and construction expected to begin in 2022. The anticipated schedule to complete the Gowanus to Greenwood Project by its need date is set forth in the chart below.

Gowanus - Greenwood - 138kV			2021				2022				2023				2024				2025	
Milestone Description	Start	End	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q
Project Initiation	3/1/21	4/30/21																		
Design & Engineering	5/3/21	5/2/22																		
Permit Acquisition	5/3/22	9/30/22																		
Equipment Procurement	5/3/22	4/30/24																		
Construction Contract Procurement	5/16/22	9/30/22																		
Construction Execution	10/3/22	5/15/25																		
In Service	5/15/25	5/15/25																		

VI. Preliminary Cost Estimate: $120 million.

Exhibit C

Detailed Description of Goethals to Fox Hills PAR-Controlled Feeder Project

Exhibit C to

Consolidated Edison Company of New York, Inc. Petition

Detailed Description of Goethals to Fox Hills PAR-Controlled Feeder Project

I. Project Description.

The Goethals to Fox Hills Project will establish a transmission tie between the Company's Goethals 345 kV Substation and its Fox Hills 138 kV Substation via a new Phase Angle Regulator (PAR)-controlled 138 kV solid dielectric feeder. The feeder will have a nominal capability of approximately 300 MW, which, together with the Gowanus to Greenwood Project described in Exhibit B, will address the identified constraints on the Greenwood/Fox Hills 138 kV TLA and neighboring Staten Island 138 kV TLA boundary feeders, and which are exacerbated by the seasonal unavailability or retirement of local peaking units driven by the DEC's NOx Peaker Rule. Due to the size of the constraint (estimated at approximately 370 MW), two new feeders are required to satisfy the local transmission security reliability need. Additionally, the project will likely address a portion of the bulk system reliability needs identified in the RNA and, by electrically connecting Con Edison's 345 kV Goethals Substation with its 138 kV Fox Hills Substation, establish a third "off ramp" on the Con Edison transmission system to carry clean energy to load centers in and around New York City.

The route for the underground feeder will be approximately 8 miles and will be installed via a trench and conduit system.[1] The connections for a new transmission feeder will require new bus sections in both the Goethals and Fox Hills substations. The new bus section at the Goethals

[1] The Company has not studied the feasibility or benefits associated with a future installation of a second conduit along the same path. If determined to provide additional CLCPA benefits to unbottle future renewable generation in Staten Island, it may be cost effective for the Company to perform additional trenching during the construction of this project (beyond its current scope) to prepare for a potential future installation.

Substation will require the addition of 345 kV circuit breakers, a 345 kV to 138 kV auto-transformer, relay protection and a termination stand for the new feeder. A 138 kV PAR will also be installed in series with the line at the Goethals Substation for the purpose of regulating the power transfer across the line under all conditions within rated limits. The bus section at Fox Hills Substation will be reconfigured as a 138 kV ring bus and require the addition of 138 kV circuit breakers, relay protection and a terminal stand for the new feeder. This will not only ensure compliance with the latest applicable specifications, procedures and guidelines but will also alleviate many of the restrictions imposed by the current straight bus design that limits transfer capability between substations, imposes constraints on planned outages, results in the loss of multiple facilities for a single outage and could require curtailment of renewable resources during planned or unscheduled transmission facility outages. All new equipment will have ratings consistent with Con Edison design specifications.

Together, the Gowanus to Greenwood Project and the Goethals to Fox Hills Project will enable up to 600 MW of renewable supply to access the load on the Company's 138 kV system, decreasing dependency on local fossil fuel generation to maintain local system reliability and addressing identified constraints on the Greenwood / Fox Hills 138 kV TLA and neighboring Staten Island 138 kV boundary feeders. Further, the Goethals to Fox Hills feeder is expected to unbottle some of the existing (and future) resources connected to Staten Island's 345 kV and 138 kV system.

II. Real Estate

The project is expected to be constructed under public roadways within Con Edison's franchise areas between the Goethals and Fox Hills substations. No additional land rights are

required to construct the substation upgrades at either the Goethals Substation or the Fox Hills Substation to connect the new 138 kV feeder.

III. Permitting

Construction of the project is expected to be within New York City streets, which requires street opening permits from the New York City Department of Transportation and may require additional state or local permits or approvals. The grant of discretionary permits by any governmental authority may also trigger environmental impact review under New York State Environmental Quality Review Act ("SEQRA"), which could require the filing of an environmental impact statement.

IV. Estimated In-Service Date

The new feeder will be placed in service by May 1, 2025 to meet the reliability needs arising by that date (coinciding with the second deadline by which the peaking units must comply with the DEC NOx Rule's new emissions standards), as identified in the RNA and STAR.

V. Estimated Project Schedule

Engineering will begin in 2021 for this project, with long lead equipment procurement and construction expected to begin in 2022. The anticipated schedule to complete the Gowanus to Greenwood Project by its need date is set forth in the chart below.

Goethals - Foxhills - 138kV			2021				2022				2023				2024				2025	
Milestone Description	Start	End	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q
Project Initiation	3/1/21	4/30/21																		
Design & Engineering	5/3/21	5/2/22																		
Permit Acquistion	5/3/22	9/30/22																		
Construction Contract Procurement	5/16/22	9/30/22																		
Equipment Procurement	5/3/22	4/30/24																		
Construction Execution	10/3/22	5/15/25																		
In Service	5/15/25	5/15/25																		

VI. Preliminary Cost Estimate: $385 million.