Transition Cluster Study 2024 – Phase 1 Cost Estimates Summary Report

A Report by the New York Independent System Operator – Interconnection Projects

October 31, 2025

Draft Report

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1. Introduction

1.1 Background

Effective May 21, 2024, the new Standard Interconnection Procedures in Attachment HH of the NYISO's Open Access Transmission Tariff (OATT") replaced the NYISO's Standard Large Facility Interconnection Procedures and Small Generator Interconnection Procedures set forth in Attachments S, X, and Z to the NYISO OATT. The NYISO is implementing the Cluster Study Process in accordance with the applicable rules and requirements set forth in Attachments HH of the OATT. This is applicable to:

- All Generating Facilities
- Cluster Study Transmission Projects
- All facilities are larger than 2 MW requesting CRIS[1]

The Cluster Study Process includes a detailed study of the collective reliability impacts of a group of projects, as well as a deliverability evaluation for projects requesting CRIS, and identifies and provides binding cost estimates for required Connecting Transmission Owner Attachment Facilities, Distribution Upgrades, System Upgrade Facilities and System Deliverability Upgrades.

The Cluster Study Process consists of:

- Application Window: 45 Calendar Days (75 Calendar Days for the Transition Cluster Study)[2]
- Customer Engagement Window: 70 Calendar Days (90 Calendar Days for the Transition Cluster Study)
- Phase 1 Entry Decision Period: 5 Business Days
    - Interconnection Customers must elect whether or not to proceed to the Phase 1

[1] For a Facility with an established CRIS value, a request for up to 2 MW of CRIS during the operating life of a facility is not subject to a deliverability evaluation in a Cluster Study or Expedited Deliverability Study; provided, however, such request is subject to the limitations on permissible CRIS MW levels set forth in Section 40.5.6.5 of Attachment HH, and, for facilities comprised of multiple Generators, this CRIS request is permitted only at the facility level, not at the individual Generator level.

[2] Consistent with Section 40.9.2.2 of Attachment HH to the ISO OATT, the NYISO extended the deficiency identification and cure component of the Application Window for the Transition Cluster Study Process by 31 Calendar Days to work with Interconnection Customers to address deficiencies in their Interconnection Requests.

Study and if so, must satisfy the entry requirements, including Readiness Deposit 1.

- Cluster Study Phase 1: 190 Calendar Days
  - This study is performed individually for each project in Cluster Study (unless the project is CRIS-Only). This study identifies the required Connecting Transmission Owner's Attachment Facilities, Distribution Upgrades and Local System Upgrade Facilities involved in the direct connection of the Project. This study also includes design, preliminary engineering, and estimation of cost and time to construct these facilities
- Phase 2 Entry Decision Period: 10 Business Days
  - Interconnection Customers must elect whether or not to proceed with the Phase 2 Study and if so, must satisfy the entry requirements, including Readiness Deposit 2 requirements.
- Cluster Study Phase 2: 270 Calendar Days
  - This study is performed collectively for all the Cluster Study Projects. It involves an evaluation of the transmission system with and without the Cluster Study Projects to identify the System Upgrade Facilities and System Deliverability Upgrades[3] required by the Cluster Study Projects collectively. This study then involves design, preliminary engineering, and estimation of cost and time to construct each upgrade, together with an allocation of the upgrade costs among contributing projects.
- Final Decision Period: iterative decision rounds
  - Interconnection Customers must elect whether or not to accept the Project Cost Allocation for the attachment facilities and upgrades identified for their projects and to pay cash or post Security in this amount.

[3] As part of the Phase 2 Study, the NYISO will evaluate whether an Additional SDU Study for a new System Deliverability Upgrade is required. If a new Additional SDU Study is required, such study will be performed in parallel with the Cluster Study process in accordance with the requirements in Section 40.14.

1.2 Cluster Study Phase 1

In accordance with Attachment HH of the OATT, the Phase 1 Study, as set forth in OATT Section 40.10, is the first part of the Cluster Study in which the Connecting Transmission Owners and Affected Transmission Owners perform design and engineering studies to identify the Connecting Transmission Owner's Attachment Facilities, Distribution Upgrades, and Local System Upgrade Facilities required to reliably interconnect the Cluster Study Project with the New York State Transmission System or Distribution System in accordance with Applicable Reliability Requirements and to provide cost estimates and a preliminary schedule to construct the facilities.[4]

If NYISO determines, in consultation with the Connecting Transmission Owner or Affected Transmission Owner, that the proposed interconnection of a Cluster Study Project is Physically Infeasible as defined in OATT Section 40.7.3, the NYISO is required to withdraw the Interconnection Request for the project pursuant to OATT Sections 40.10.9.2 and 40.6.4.

An Interconnection Request shall be deemed Physically Infeasible, as defined in OATT Section 40.7.3.2, if:

(1) (i) the substation for the selected Point of Interconnection does not have any available bus positions and (ii) (a) is not expandable electrically or within the existing substation footprint, or (b) adjacent usable vacant land is not available, or (c) proposals by Interconnection Customer are inconsistent with Good Utility Practice or Applicable Reliability Requirements; or

(2) a viable tie line cable route(s) cannot be established from either the Point of Change of Ownership to the Point of Interconnection or, where these points are the same, a viable route cannot be established within or from the fence line; or

(3) (i) the project capacity exceeds the ratings of equipment at the substation selected for the Point of Interconnection, (ii) replacement equipment that would be adequately rated

[4] As part of a one-time exception for the Transition Cluster Study, NYISO is leading certain Phase 1 Studies for NYSEG, LIPA, and RG&E in accordance with Section 40.10.4.1 of Attachment HH.

for the project capacity is not commercially available[5] from an approved supplier and within applicable specifications set by the Transmission Owner, and (iii) an alternative upgrade is not physically feasible (e.g., higher voltage Point of Interconnection substation).

[5] "Commercially Available" equipment is defined by Section 40.7.3.2 is "equipment manufactured by an approved supplier of a particular Connecting Transmission Owner and conforming with engineering specifications and procedures of the Connecting Transmission Owner."

2. Phase 1 Report Summary

This section summarizes the Phase 1 Study results for all Cluster Study Projects in the Transition Cluster Study 2024 that propose to interconnect with the respective Transmission Owner's ("TO") systems. The Transmission Owners include Central Hudson Gas & Electric's ("CHGE"), Consolidated Edison of New York, Inc. ("Con Edison"), Long Island Power Authority ("PSEG LI"), National Grid ("NG"), New York State Electric and Gas or Rochester Gas & Electric ("NYSEG/RG&E"), New York Power Authority ("NYPA"), Orange & Rockland Utilities, Inc. ("O&R"), NY Transco, and LS Power Grid New York Corporation 1 ("LSPGNY").

2.1 CHGE Phase 1 Report Summary

In total, there are 19 Cluster Study Projects located in Zone G, 17 of which are energy storage projects, one (1) of which is solar project and one (1) of which is CSR project.

As summarized in Table 1, two (2) of these Cluster Study Projects are deemed physically infeasible according to OATT Section 40.7.3 and are subject to withdrawal in accordance with OATT Section 40.10.9.2 and 40.6.4. All 19 Projects have Phase 1 Study reports completed, and their applicable respective cost estimates provided in Table 2.

2.2 Con Edison Phase 1 Report Summary

In total, there are 14 Cluster Study Projects located in Zone G, H and J for which Con Edison is the Connecting Transmission Owner. Of these 14 Cluster Study Projects, 13 energy storage projects; and one (1) is an offshore wind project.

As summarized in Table 1, none of these 14 of these Cluster Study Projects are deemed physically infeasible according to OATT Section 40.7.3. All 14 Projects have Phase 1 Study reports completed, and their applicable respective cost estimates are provided in Table 4.

2.3 PSEG LI Phase 1 Report Summary

In total, there are 21 Cluster Study Projects located in Zone K for which PSEG-LI is the Connecting Transmission Owner, all of which are energy storage projects.

As summarized in Table 1, none of these 21 Cluster Study Projects are deemed physically infeasible according to OATT Section 40.7.3. All 21 Projects have Phase 1 Study reports completed, and their applicable respective cost estimates are provided in Table 6.

2.4 National Grid Phase 1 Report Summary

In total, there are 65 Cluster Study Projects located in Zones A to F for which National Grid is the

Connecting Transmission Owner. Of these 65 Cluster Study Projects, there are 27 energy storage projects, 18 solar projects, eight (8) land-based wind projects, and 12 CSR projects.

As summarized in Table 1, none of these Cluster Study Projects are deemed physically infeasible according to OATT Section 40.7.3. All 65 Projects have Phase 1 Study reports completed, and their applicable respective cost estimates are provided in Table 7.

2.5 NYSEG/RG&E Phase 1 Report Summary

In total, there are 50 Cluster Study Projects located in Zones A, C, D, E and F for which NYSEG/RG&E is the Connecting Transmission Owner. Of these 50 Cluster Study Projects, 12 are solar Projects, six (6) are land-based wind Projects, 25 are energy storage Projects, and seven (7) are Co-located Storage Resource (CSR) Projects.

As summarized in Table 1, one (1) of these Cluster Study Projects are deemed physically infeasible according to OATT Section 40.7.3 and are subject to withdrawal in accordance with OATT Section 40.10.9,2 and 40.6.4. All 50 Projects have Phase 1 Study reports completed, and their applicable respective cost estimates are provided in Table 9.

2.6 NYPA Phase 1 Report Summary

In total, there are 24 Cluster Study Projects located in Zones B, C, D, E, F, J, and K for which NYPA is the Connecting Transmission Owner. Of these 24 Cluster Study Projects, four (4) are solar Projects, four (4) are land-based wind Projects, nine (9) are energy storage Projects, and seven (7) are Co-located Storage Resource (CSR) Projects.

As summarized in Table 1, none of these 24 Cluster Study Projects are deemed physically infeasible according to OATT Section 40.7.3. All 24 Projects have Phase 1 Study reports completed, and their applicable respective cost estimates are provided in Table 11.

2.7 O&R Phase 1 Report Summary

In total, there are five (5) Cluster Study Projects located in Zone G for which O&R is the Connecting Transmission Owner, all of which are energy storage projects.

As summarized in Table 1, none of these Cluster Study Projects are deemed physically infeasible according to OATT Section 40.7.3 and is subject to withdrawal in accordance with OATT Section 40.10.9.2 and 40.6.4. All five (5) Projects have Phase 1 Study reports completed, and their applicable respective cost estimates are provided in Table 13.

2.8 NY Transco Phase 1 Report Summary

In total, there are three (3) Cluster Study Projects located in Zone F for which NY Transco is the Connecting Transmission Owner. Of these three (3) Cluster Study Projects, one (1) is a solar Project, and two (2) are energy storage Projects.

As summarized in Table 1, none of these three (3) Projects are deemed physically infeasible according to OATT Section 40.7.3 All three (3) Projects have Phase 1 Study reports completed, and their applicable respective cost estimates are provided in Table 15.

2.9 LSPGNY Phase 1 Report Summary

In total, there is one (1) Cluster Study Projects located in Zone F for which LSPGNY is the Connecting Transmission Owner which is a solar project.

As summarized in Table 1, this Project is not deemed physically infeasible according to OATT Section 40.7.3. The Phase 1 Study report for this Project is completed, and its applicable cost estimates are provided in Table 17.

3. Physical Infeasibility Summary

The Phase 1 Study for the Transition Cluster Study 2024 assessed projects proposing interconnection with their respective Transmission Owners. As detailed in Table 1, no active Cluster Study Projects were deemed physically infeasible for Con Edison, PSEG LI, NYPA, National Grid, NY Transco, O&R or LSPGNY. One (1) Cluster Study Project proposing to interconnect to NYSEG/RG&E were identified as Physically Infeasible, and two (2) Cluster Study Projects proposing to interconnect to CHGE were identified as Physically Infeasible. The findings, however, are limited to reviewing the physical feasibility/constructability of the conceptual design of the proposed interconnection in accordance OATT Section 40.7.3.

The Projects listed in Table 1 cannot proceed to the Phase 2 Entry Decision Period and are subject to withdrawal from the Transition Cluster Study in accordance with OATT Section 40.6.4.

For purposes of Phase 1 Study, the Connecting Transmission Owner or Affected Transmission Owner shall perform a design and engineering study to identify the Connecting Transmission Owner's Attachment Facilities, Distribution Upgrades, and Local System Upgrade Facilities, along with the related metering, protection, and telecommunication facilities, required to reliably interconnect the Cluster Study Project with the New York State Transmission System or Distribution System in accordance with Applicable Reliability Requirements to the extent such upgrades are not Physically Infeasible pursuant to OATT Attachment HH Section 40.7.3. Additional studies will be conducted in the Cluster Study Process in accordance with NYISO OATT Attachment HH, and a Physical Infeasibility determination may be made at a later phase in this Cluster Study Process (*e.g.*, if a required upgrade identified in the Phase 2 Study is Physically Infeasible). Future changes to the system or interconnections made at or near the proposed Point of Interconnection can affect the physical feasibility/constructability of the proposed interconnection for a Cluster Study Project. Additionally, the Physical Infeasibility conclusion does not involve the physical feasibility/constructability of the proposed interconnection as it relates to obtaining necessary permits, approvals, and/or land acquisition for the Project itself or any modifications to the existing system that are required to accommodate the proposed interconnection (e.g., Connecting Transmission Owner's Attachment Facilities or System Upgrade Facilities). This could also potentially affect the feasibility/constructability of the conceptual design of the proposed interconnection.

Table 1 Physically Infeasible Projects

Queue Number	Project Name	Zone	CTO	ATO	POI Information	Basis for Physical Infeasibility Determination Provided by the CTO	Tariff Reference
C24-086	Arch 1	G	CHGE	Con Edison; O&R	Rock Tavern 345kV Substation	Physically infeasible because there are no available bus positions at the Rock Tavern 345kV Substation and the station is not expandable electrically or within the existing substation footprint.	OATT 40.7.3.2 (1)
C24-087	Arch 2	G	CHGE	Con Edison; O&R	Rock Tavern 345kV Substation	Physically infeasible because there are no available bus positions at the Rock Tavern 345kV Substation and the station is not expandable electrically or within the existing substation footprint.	OATT 40.7.3.2 (1)
C24-350	Hickling Storage, LLC	C	NYSEG / RG&E	-	Hickling 115kV Substation	There are no available bus positions at Hickling substation and the substation cannot be expanded at the current location due to existing flood plains.	OATT 40.7.3.2 (1)

4. Phase 1 Study Summary and Cost Estimates

Below is summary of the Phase 1 Study findings and cost estimates. For detailed information on the Phase 1 Study results, individuals with CEII approval may access the individual Phase 1 Study reports on the secure password-protected portion of the NYISO website by logging into their MYNYISO account and navigating to the "Studies – Secure" section on the following page: [Interconnection Process – NYISO].

4.1 CHGE CTO and ATO Study

4.1.1 CHGE CTO Study – CTO Phase 1 SUF and CTOAF Cost Estimates Summary

For 17 Cluster Study Projects in Transition Cluster Study 2024 that are proposing to interconnect to CHGE's system (CHGE as CTO), Table 2 summarizes the Local SUF and CTOAF cost allocation identified in Phase 1 and the TOs to which SUFs/CTOAFs Security payments should be made. All the related details are in the respective Phase 1 Study Reports.

Table 2 CHGE CTO Projects Phase 1 Cost Estimates (-15% to +30%)

<table>
<tr><th rowspan="2">Queue Number</th><th rowspan="2">Project Name</th><th colspan="2">CTO Local SUF Cost</th><th rowspan="2">CTOAF Cost</th><th rowspan="2">Local SUF+CTOAF</th><th colspan="2">ATO SUF Cost</th><th rowspan="2">TOTAL (CTO Local SUF + CTOAF + ATO SUF)</th></tr>
<tr><th>SUF</th><th>SASUF</th><th>ATO</th><th>SUF</th></tr>
<tr><td>C24-031</td><td>Crossbuck ES</td><td>$4,100,000</td><td>-</td><td>$1,750,000</td><td>$5,850,000</td><td>-</td><td>-</td><td>$5,850,000</td></tr>
<tr><td>C24-047</td><td>Lincoln park DG, LLC</td><td>$630,000</td><td>$3,940,000</td><td>$1,300,000</td><td>$5,870,000</td><td>-</td><td>-</td><td>$5,870,000</td></tr>
<tr><td rowspan="2">C24-049</td><td rowspan="2">North Catskill DG, LLC</td><td rowspan="2">$6,520,000</td><td rowspan="2">$3,955,000</td><td rowspan="2">$1,305,000</td><td rowspan="2">$11,780,000</td><td>NY Transco</td><td>$500,000</td><td rowspan="2">$14,620,000</td></tr>
<tr><td>NG</td><td>$2,340,000</td></tr>
<tr><td>C24-058</td><td>Slide Energy Center</td><td>$40,000</td><td>-</td><td>$3,440,000</td><td>$3,480,000</td><td>-</td><td>-</td><td>$3,480,000</td></tr>
<tr><td>C24-059</td><td>Orchard BESS</td><td>$2,455,000</td><td>-</td><td>$902,000</td><td>$3,357,000</td><td>-</td><td>-</td><td>$3,357,000</td></tr>
<tr><td>C24-062</td><td>Highbush ES</td><td>$90,000</td><td>-</td><td>$2,290,000</td><td>$2,380,000</td><td>-</td><td>-</td><td>$2,380,000</td></tr>
</table>

<table>
<tr><th rowspan="2">Queue Number</th><th rowspan="2">Project Name</th><th colspan="2">CTO Local SUF Cost</th><th rowspan="2">CTOAF Cost</th><th rowspan="2">Local SUF+CTOAF</th><th colspan="2">ATO SUF Cost</th><th rowspan="2">TOTAL (CTO Local SUF + CTOAF + ATO SUF)</th></tr>
<tr><th>SUF</th><th>SASUF</th><th>ATO</th><th>SUF</th></tr>
<tr><td rowspan="3">C24-085</td><td rowspan="3">Arch 4</td><td rowspan="3">$3,425,000</td><td rowspan="3">-</td><td rowspan="3">$1,350,000</td><td rowspan="3">$4,775,000</td><td>NYPA</td><td>$195,139</td><td rowspan="3">$5,320,761.67</td></tr>
<tr><td>ConED</td><td>$68,000</td></tr>
<tr><td>O&R</td><td>$282,622.67</td></tr>
<tr><td rowspan="3">C24-088</td><td rowspan="3">Arch 3</td><td rowspan="3">$3,425,000</td><td rowspan="3">-</td><td rowspan="3">$1,350,000</td><td rowspan="3">$4,775,000</td><td>NYPA</td><td>$195,139</td><td rowspan="3">$5,320,761.67</td></tr>
<tr><td>ConED</td><td>$68,000</td></tr>
<tr><td>O&R</td><td>$282,622.67</td></tr>
<tr><td>C24-093</td><td>Alcazar 1</td><td>$1,995,000</td><td>-</td><td>$1,925,000</td><td>$ 3,920,000</td><td>-</td><td>-</td><td>$ 3,920,000</td></tr>
<tr><td>C24-094</td><td>Alcazar 2</td><td>$1,995,000</td><td>-</td><td>$1,925,000</td><td>$ 3,920,000</td><td>-</td><td>-</td><td>$ 3,920,000</td></tr>
<tr><td>C24-095</td><td>Westerlo Solar</td><td>$524,000</td><td>$3,973,000</td><td>$2,698,000</td><td>$7,195,000</td><td>-</td><td>-</td><td>$7,195,000</td></tr>
<tr><td>C24-098</td><td>Farmhouse BESS</td><td>$16,510,000</td><td>-</td><td>$6,310,000</td><td>$22,820,000</td><td>NYPA</td><td>$11,603,071</td><td>$34,423,071</td></tr>
<tr><td>C24-173</td><td>KCE NY 34</td><td>$1,060,000</td><td>-</td><td>$4,500,000</td><td>$5,560,000</td><td>-</td><td>-</td><td>$5,560,000</td></tr>
<tr><td>C24-234</td><td>Zulu BESS</td><td>$741,000</td><td>-</td><td>$4,500,000</td><td>$5,241,000</td><td>-</td><td>-</td><td>$5,241,000</td></tr>
<tr><td>C24-279</td><td>Eastern Solar PV project</td><td>$3,830,000</td><td>$2,855,000</td><td>$1,540,000</td><td>$8,225,000</td><td>-</td><td>-</td><td>$8,225,000</td></tr>
<tr><td>C24-324</td><td>Overlook Storage</td><td>$420,000</td><td>$2,960,000</td><td>$1,540,000</td><td>$4,920,000</td><td>-</td><td>-</td><td>$4,920,000</td></tr>
<tr><td>C24-341</td><td>Malboro Storage</td><td>$650,000</td><td>-</td><td>$2,200,000</td><td>$2,850,000</td><td>-</td><td>-</td><td>$2,850,000</td></tr>
</table>

4.1.2 CHGE ATO Study – ATO Phase 1 SUF Cost Estimates Summary

There are two (2) Cluster Study Projects in Transition Cluster Study 2024 that are proposing to interconnect into NYSTS system where CHGE is the ATO. Table 3 summarizes the ATO SUF cost allocation identified in Phase 1 and the TOs to which SUFs Security payments should be made. All the related details are in the respective Phase 1 Study Reports.

Table 3 CHGE ATO Projects Phase 1 Cost Estimates (-15% to +30%) – ATO SUF Only*

Queue Number	Project Name	Zone	CTO	CHGE (ATO) SUF Cost
C24-057	Highland BESS	G	O&R	$7,500
C24-089	Braen ES Phase 1	G	ConEd	$7,500

Note: *For total SUF and CTOAF cost estimates (including ATO) for projects in Table 3, please refer to these projects' respective CTO Phase 1 Summary Tables.

4.2 Con Edison CTO and ATO Study

4.2.1 Con Edison CTO Study – CTO Phase 1 SUF and CTOAF Cost Estimates Summary

For 14 Cluster Study Projects in Transition Cluster Study 2024 that are proposing to interconnect to Con Edison's system (Con Edison as CTO), Table 4 summarizes the Local SUF and CTOAF cost allocation identified in Phase 1 and the TOs to which SUFs/CTOAFs payments should be made. All the related details are in the respective Phase 1 Study Reports.

Table 4 Con Edison CTO Projects Phase 1 Cost Estimates (-15% to +30%)

Queue Number	Project Name	CTO Local SUF Cost		CTOAF Cost	Local SUF+CTOAF	ATO SUF Cost		TOTAL (CTO Local SUF + CTOAF + ATO SUF)
		SUF	SASUF			ATO	SUF	
C24-005	Blue Spruce Storage	$1,013,000	-	$5,880,000	$6,893,000	-	-	$6,893,000
C24-013	Battery Park Storage	$53,760,000	-	$2,072,000	$55,832,000	-	-	$55,832,000
C24-014	Roma Storage	$34,610,000	-	$7,990,000	$42,600,000	-	-	$42,600,000
C24-021	Bluepoint Wind 1	$1,306,000	-	$19,410,000	$20,716,000	-	-	$20,716,000
C24-038	Long Island City Energy Storage	$38,740,000	-	$6,100,000	$44,840,000	-	-	$44,840,000
C24-089	Braen Energy Storage Phase 1	$24,110,000	-	$18,390,000	$42,500,000	CH	$7,500	$43,100,597.67
						O&R	$593,097.67	
C24-131	Elevate Arthur Kill II	$2,003,000	-	-	$2,003,000	-	-	$2,003,000
C24-178	Gowanus Energy Storage	$1,553,000	-	-	$1,553,000	-	-	$1,553,000

Queue Number	Project Name	CTO Local SUF Cost		CTOAF Cost	Local SUF+CTOAF	ATO SUF Cost		TOTAL (CTO Local SUF + CTOAF + ATO SUF)
		SUF	SASUF			ATO	SUF	
C24-237	SBMT Energy Center, LLC	$61,560,000	-	$16,120,000	$77,680,000	-	-	$77,680,000
C24-282	Millwood Energy Storage	$47,430,000	-	$8,560,000	$55,990,000	-	-	$55,990,000
C24-283	Resilient New York Energy Storage	$68,490,000	-	$8,580,000	$77,070,000	-	-	$77,070,000
C24-333	Pouch Energy Storage System	$1,517,000	-	$2,217,000	$3,734,000	-	-	$3,734,000
C24-337	Aria Storage 1	$11,545,000	-	$7,980,000	$19,525,000	-	-	$19,525,000
C24-338	Aria Storage 2	$11,545,000	-	$7,980,000	$19,525,000	-	-	$19,525,000

4.2.2 Con Edison ATO Study – ATO Phase 1 SUF Cost Estimates Summary

There are six (6) Cluster Study Projects in Transition Cluster Study 2024 that are proposing to interconnect into NYSTS system where Con Edison is the ATO. Table 5 summarizes the ATO SUF cost allocation identified in Phase 1 and the TOs to which SUFs Security payments should be made. All the related details are in the respective Phase 1 Study Reports.

Table 5 Con Edison ATO Projects Phase 1 Cost Estimates (-15% to +30%) – ATO SUF Only*

Queue Number	Project Name	Zone	CTO	Con Edison (ATO) SUF Cost
C24-004	Palladium Storage	J	NYPA	$ 765,000
C24-081	Port Morris Energy Storage	J	NYPA	$ 765,000
C24-085	Arch 4	G	CHGE	$ 68,000
C24-088	Arch 3	G	CHGE	$ 68,000

Queue Number	Project Name	Zone	CTO	Con Edison (ATO) SUF Cost
C24-284	South Bronx Energy Storage	J	NYPA	$ 765,000
C24-331	Hell Gate Energy Storage	J	NYPA	$ 765,000

Note: *For total SUF and CTOAF cost estimates (including ATO) for projects in Table 5, please refer to these projects' respective CTO Phase 1 Summary Tables.

4.3 PSEG LI CTO and ATO Study

4.3.1 PSEG LI CTO Study – CTO Phase 1 SUF and CTOAF Cost Estimates Summary

For 21 Cluster Study Projects in Transition Cluster Study 2024 that are proposing to interconnect to PSEG Long Island's system (PSEG LI as CTO), Table 6 summarizes the Local SUF and CTOAF cost allocation identified in Phase 1 and the TOs to which SUFs/CTOAFs Security payments should be made. All the related details are in the respective Phase 1 Study Reports.

Table 6 PSEG LI CTO Projects Phase 1 Cost Estimates (-15% to +30%)

Queue Number	Project Name	CTO Local SUF Cost		CTOAF Cost	Local SUF+CTOAF	ATO SUF Cost		TOTAL (CTO Local SUF + CTOAF + ATO SUF)
		SUF	SASUF			ATO	SUF	
C24-008	KCE NY 30	$ 5,792,675	-	$ 2,137,166	$7,929,841	-	-	$7,929,841
C24-010	KCE NY21	$ 6,056,108	-	$ 2,301,115	$8,357,223	-	-	$8,357,223
C24-023	KCE NY26	$ 3,777,887	$8,024,606	$ 2,600,231	$14,402,724	-	-	$14,402,724
C24-033	KCE NY 31	$16,741,914	-	$2,502,012	$19,243,926	-	-	$19,243,926
C24-034	Kalmia Storage, LLC	$8,240,078	-	$2,701,914	$10,941,992	-	-	$10,941,992
C24-061	Daphne Energy Storage	$11,667,135	-	$2,304,018	$13,971,153	-	-	$13,971,153

Queue Number	Project Name	CTO Local SUF Cost		CTOAF Cost	Local SUF+CTOAF	ATO SUF Cost		TOTAL (CTO Local SUF + CTOAF + ATO SUF)
		SUF	SASUF			ATO	SUF	
C24-067	Gala Grove BESS	$5,053,689	$8,719,916	$3,186,384	$16,959,989	-	-	$16,959,989
C24-104	Horseblock Energy Storage	-	-	$2,704,166	$2,704,166	-	-	$2,704,166
C24-138	Marathon BESS	$2,657,879	-	$2,592,117	$5,249,996	-	-	$5,249,996
C24-154	Sandlot IFB	$2,820,811	$7,511,438	$2,282,289	$12,614,538	-	-	$12,614,538
C24-158	KCE NY 27	$ 5,237,009	$7,408,681	$2,327,970	$14,973,660	-	-	$14,973,660
C24-162	Ramadi Utility Storage	$ 3,503,034	$ 7,584,164	$ 2,248,932	$13,336,130	-	-	$13,336,130
C24-164	KCE NY 28	$3,777,887	$8,135,594	$2,416,510	$14,329,991	-	-	$14,329,991
C24-167	KCE NY 37	$2,857,522	$8,664,987	$2,833,649	$14,356,158	-	-	$14,356,158
C24-169	Endurance	$5,381,272	$8,105,021	$2,696,314	$16,182,607	-	-	$16,182,607
C24-177	Commack(Jericho Power Station)	$10,785,791	-	$2,195,344	$12,981,135	-	-	$12,981,135
C24-183*	East Setauket Storage II	-	-	-	-	-	-	-
C24-218	Poplar Energy Center, LLC	$3,751,717	$8,061,015	$2,347,258	$14,159,990	-	-	$14,159,990
C24-255	Saltgrass Storage	$9,616,015	$11,713,945	$3,995,853	$ 25,325,813	-	-	$ 25,325,813
C24-265	Bethpage Battery Storage Project	$5,084,415	-	$1,225,739	$6,310,154	-	-	$6,310,154
C24-281	Brentwood Energy Storage	-	-	$948,080	$948,080	-	-	$948,080

Note: *C24-183 East Setauket Storage II is an uprate to the Class Year 2023 project Q971 East Setauket Storage.

4.3.2 PSEG LI ATO Study – ATO Phase 1 SUF Cost Estimates Summary

There are no ATO SUF cost for Cluster Study Projects in Transition Cluster Study 2024 that are proposing to interconnect into NYSTS system where PSEG LI is the ATO.

4.4 National Grid CTO and ATO Study

4.4.1 National Grid CTO Study – CTO Phase 1 SUF and CTOAF Cost Estimates Summary

For 65 Cluster Study Projects in Transition Cluster Study 2024 that are proposing to interconnect to National Grid's system (National Grid as **CTO**), Table 7 summarizes the Local SUF and CTOAF cost allocation identified in Phase 1 and the TOs to which SUFs/CTOAFs Security payments should be made. All the related details are in the respective Phase 1 Study Reports.

Table 7 National Grid CTO Projects Phase 1 Cost Estimates (-15% to +30%)

Queue Number	Project Name	CTO Local SUF Cost		CTOAF Cost	Local SUF+CTOAF	ATO SUF Cost		TOTAL (CTO Local SUF + CTOAF + ATO SUF)
		SUF	SASUF			ATO	SUF	
C24-037	Gunns Corners Solar	$10,364,600	-	$7,168,700	$17,533,300	-	-	$17,533,300
C24-039	Golden Knight Solar	$49,795,100	$17,759,900	$481,600	$68,036,600	-	-	$68,036,600
C24-042	Hoffman Falls Wind 2	-	-	$70,000	$70,000	-	-	$70,000
C24-044	Honey Bee Battery Storage, LLC	$15,091,700	$19,590,600	$481,600	$35,163,900	-	-	$35,163,900
C24-052-001	Hemlock Hollow Wind	$2,893,100	-	$7,077,100	$9,970,200	-	-	$9,970,200
C24-065	Maplehurst Energy Park	$14,404,500	$17,759,900	$481,600	$32,646,000	-	-	$32,646,000
C24-072	Eastwater Energy Storage	$3,539,200	$17,760,200	$513,800	$21,813,200	RG&E	$2,186,000	$23,999,200
C24-074	Lighthouse Energy Storage	$9,812,600	$23,808,700	$537,900	$34,159,200	-	-	$34,159,200
C24-076	Springbrooke solar	$27,345,200	$17,759,900	$481,600	$45,586,700	-	-	$45,586,700
C24-078	NY-MARKHAM HOLLOW RD	$5,392,800	$17,759,900	$481,700	$23,634,400	-	-	$23,634,400
C24-079	Maple Harvest Wind	$5,616,600	$17,759,900	$481,700	$23,858,200	-	-	$23,858,200

Queue Number	Project Name	CTO Local SUF Cost		CTOAF Cost	Local SUF+CTOAF	ATO SUF Cost		TOTAL (CTO Local SUF + CTOAF + ATO SUF)
		SUF	SASUF			ATO	SUF	
C24-090	Cuba Solar Facility	$14,033,900	$17,759,900	$481,600	$32,275,400	-	-	$32,275,400
C24-092	Scio Solar Facility	$13,682,900	$17,759,900	$481,600	$31,924,400	-	-	$31,924,400
C24-097	Basecamp BESS	$2,786,500	-	$836,300	$3,622,800	-	-	$3,622,800
C24-099	Crown Point Solar	$1,354,800	-	$5,745,900	$7,100,700	NYSEG	$862,000	$7,962,700
C24-102	ELP Rotterdam Solar	$4,539,400	$17,759,900	$481,600	$22,780,900	-	-	$22,780,900
C24-105	ELP Clay Storage	$1,850,600	$17,759,900	$513,800	$20,124,300	-	-	$20,124,300
C24-111	Fort Edward Solar Farm (NY53)	$30,094,000	$17,759,900	$481,600	$48,335,500	-	-	$48,335,500
C24-115	Iris Bloom Solar	$13,480,850	-	$3,055,200	$16,536,050	-	-	$16,536,050
C24-120	Field Day Solar	$47,096,800	$17,759,900	$481,600	$65,338,300	-	-	$65,338,300
C24-121	Beacon Harbor Solar	$10,461,300	-	$6,926,500	$17,387,800	-	-	$17,387,800
C24-122-002	Capital Energy Storage	$24,708,400	$26,720,700	$948,900	$52,378,000	NYPA	$195,139	$52,573,139
C24-124	Dunkirk Energy Storage	$12,548,100	$23,189,900	$481,600	$36,219,600	-	-	$36,219,600
C24-126	Pine Grove Energy Storage	$8,721,500	-	$1,048,400	$9,769,900	-	-	$9,769,900
C24-129	Buffalo Road Energy Storage	$1,254,900	-	$5,904,000	$7,158,900	-	-	$7,158,900
C24-130	Elevate Bethlehem BESS	$386,100	-	$1,356,000	$1,742,100	-	-	$1,742,100
C24-148	Willard Storage	$4,016,400	-	$6,757,100	$10,773,500	-	-	$10,773,500
C24-149	Manchester Solar	$7,954,400	$17,759,900	$481,600	$26,195,900	NYSEG	$914,000	$27,109,900
C24-150	Kingbird Solar	$4,947,200	$17,759,900	$481,600	$23,188,700	-	-	$23,188,700
C24-155	Zenobe Stockton LLC	$13,480,850	-	$4,121,100	$17,601,950	-	-	$17,601,950

Queue Number	Project Name	CTO Local SUF Cost		CTOAF Cost	Local SUF+CTOAF	ATO SUF Cost		**TOTAL (CTO Local SUF + CTOAF + ATO SUF)**
		SUF	SASUF			ATO	SUF	
C24-156	Grass River Solar	$35,515,300	$17,759,900	$481,600	$53,756,800	-	-	$53,756,800
C24-163	Porter Energy Storage	$1,996,900	-	$5,246,500	$7,243,400	-	-	$7,243,400
C24-168	Ball Hill BESS	$3,563,700	-	$994,100	$4,557,800	-	-	$4,557,800
C24-184	Tabletop Solar	$5,587,400	$17,759,900	$481,600	$23,828,900	-	-	$23,828,900
C24-191	Zenobe Rotterdam LLC	-	-	$3,972,300	$3,972,300	LS Power	$92,235	$4,064,535
C24-208	Independence BESS	$16,357,400	-	$3,557,700	$19,915,100	-	-	$19,915,100
C24-214	Mulberry Energy Storage	$6,800,800	$17,759,900	$481,600	$25,042,300	-	-	$25,042,300
C24-217	Bay Breeze solar	$16,731,100	$10,453,700	$481,600	$27,666,400	-	-	$27,666,400
C24-225	Goldenrod Wind	$1,672,500	-	$5,151,500	$6,824,000	-	-	$6,824,000
C24-229	Buttercup Wind	$31,590,200	$17,759,900	$481,600	$49,831,700	-	-	$49,831,700
C24-230	Dewdrop Wind	$16,775,100	$23,808,700	$538,000	$41,121,800	-	-	$41,121,800
C24-235	Champlain Solar Uprate	$27,549,400	$8,879,950	$240,800	$36,670,150	-	-	$36,670,150
C24-236	Champlain Solar	$27,549,400	$8,879,950	$240,800	$36,670,150	-	-	$36,670,150
C24-249	Empire	$16,879,500	$23,808,700	$538,000	$41,226,200	-	-	$41,226,200
C24-250	Honey Ridge Solar	$2,384,800	$17,759,900	$481,700	$20,626,400	-	-	$20,626,400
C24-256	Springer Storage	$54,915,700	$17,759,900	$481,600	$73,157,200	-	-	$73,157,200
C24-257	Grapevine Storage	$11,601,300	$23,808,700	$537,900	$35,947,900	-	-	$35,947,900
C24-263	Jefferson Energy Storage	$7,508,400	$26,720,700	$948,900	$35,178,000	-	-	$35,178,000
C24-264	Berry Farm Storage	$22,165,700	-	$481,600	$22,647,300	-	-	$22,647,300
C24-268	Arnold Energy Storage	$45,891,500	$17,759,900	$481,600	$64,133,000	-	-	$64,133,000

Queue Number	Project Name	CTO Local SUF Cost		CTOAF Cost	Local SUF+CTOAF	ATO SUF Cost		TOTAL (CTO Local SUF + CTOAF + ATO SUF)
		SUF	SASUF			ATO	SUF	
C24-292	Loganberry Energy Storage, LLC	$22,165,700	-	$481,600	$22,647,300	-	-	$22,647,300
C24-293	Oswego Clean Energy	-	-	$2,020,200	$2,020,200	-	-	$2,020,200
C24-297	Deer River Wind	$3,716,800	$17,759,900	$481,600	$21,958,300	-	-	$21,958,300
C24-302	NY Oswego 200 Erie St Storage	$4,019,500	$17,759,900	$481,600	$22,261,000	-	-	$22,261,000
C24-312	St. Regis	$31,353,000	$17,759,900	$481,600	$49,594,500	-	-	$49,594,500
C24-320	Boonville Stand alone storage	$2,786,500	-	$806,700	$3,593,200	-	-	$3,593,200
C24-323	Echo Lake	$31,005,000	$17,759,900	$481,600	$49,246,500	-	-	$49,246,500
C24-325	Van Buren Storage	$22,165,700	-	$481,600	$22,647,300	-	-	$22,647,300
C24-327	North Creek	$13,971,400	$26,720,700	$1,013,400	$41,705,500	LS Power	$114,595	$41,820,095
C24-332	Stoner Trail Storage	$6,136,500	$23,189,900	$481,600	$29,808,000	-	-	$29,808,000
C24-336	Mill Point Solar II	-	-	$70,000	$70,000	NYPA	$195,139	$265,139
C24-347	Little Falls Solar	$14,738,700	$17,759,900	$481,600	$32,980,200	-	-	$32,980,200
C24-349-005	Richland III Solar	$2,768,500	$17,759,900	$481,600	$21,010,000	-	-	$21,010,000
C24-362	Amsterdam Solar	$12,181,000	$26,720,800	$1,013,400	$39,915,200	LS Power	$337,480	$40,352,680
						NYPA	$100,000	
C24-367	Lewis Wind	$6,418,800	$26,720,700	$948,900	$34,088,400	NYPA	$1,227,038	$35,315,438

4.4.2 National Grid ATO Study – ATO Phase 1 SUF Cost Estimates Summary

There are 16 Cluster Study Projects in Transition Cluster Study 2024 that are proposing to interconnect into NYSTS system where National Grid is the ATO. Table 8 summarizes the ATO SUF cost allocation identified in Phase 1 and the TOs to which SUFs Security payments should be made. All the related details are in the respective Phase 1 Study Reports.

Table 8 National Grid ATO Projects Phase 1 Cost Estimates (-15% to +30%) – ATO SUF Only*

Queue Number	Project Name	Zone	CTO	National Grid (ATO) SUF Cost
C24-024	Verona Solar I	F	NYPA	$743,000
C24-026	Taproot Solar	F	LSPower	$150,000
C24-043	Rosalen Solar Energy Center	B	NYPA	$75,000
C24-049	North Catskill DG LLC	G	CHGE	$2,340,000
C24-152	Antelope Energy Storage Center	E	NYPA	$75,000
C24-186	THOR SOLAR	F	Transco	$26,124,500
C24-188	Wheelhouse Solar Energy Center	F	NYPA	$296,950
C24-204	Declaration Energy Center	B	NYPA	$533,000
C24-205	Wheelhouse Energy Storage	F	NYPA	$296,950
C24-207	Trelina Energy Storage	C	NYSEG	$75,000
C24-222	Knickerbocker Energy Storage	F	Transco	$100,000
C24-252	Maple City Energy Storage	C	NYSEG	$75,000
C24-294	Birch-Whistler	E	NYPA	$75,000
C24-306	Lock 26 BESS	C	RG&E	$2,790,900
C24-319	Ditch Creek	C	NYPA	$743,000
C24-361	Cherry Valley Solar	F	NYPA	$593,900

Note: *For total SUF and CTOAF cost estimates (including ATO) for projects in Table 8, please refer to these projects' respective CTO Phase 1 Summary Tables.

4.5 NYSEG/RG&E CTO and ATO Study

4.5.1 NYSEG/RG&E CTO Study – CTO Phase 1 SUF and CTOAF Cost Estimates Summary

For 49 Cluster Study Projects in Transition Cluster Study 2024 that are proposing to interconnect to NYSEG/RG&E's system (NYSEG/RG&E as CTO), Table 9 summarizes the Local SUF and CTOAF cost allocation identified in Phase 1 and the TOs to which

SUFs/CTOAFs Security payments should be made. All the related details are in the respective Phase 1 Study Reports.

Table 9 NYSEG/RG&E CTO Projects Phase 1 Cost Estimates (-15% to +30%)

Queue Number	Project Name	CTO Local SUF Cost		CTOAF Cost	Local SUF+CTOAF	ATO SUF Cost		TOTAL (CTO Local SUF + CTOAF + ATO SUF)
		SUF	SASUF			ATO	SUF	
C24-015	Seventy Seven Project	$4,385,000	-	$7,586,000	$11,971,000	-	-	$11,971,000
C24-016	Salt Rush Wind Energy	$5,290,000	-	$5,109,000	$10,399,000	-	-	$10,399,000
C24-032	Oakdale Battery Storage LLC	-	-	$8,883,000	$8,883,000	-	-	$8,883,000
C24-048	BPP NY Lansing BESS I	$701,000	-	$6,967,000	$7,668,000	-	-	$7,668,000
C24-056	Naples Energy Storage	$12,964,000	-	$5,261,000	$18,225,000	-	-	$18,225,000
C24-060	Gemma Energy Storage	$5,039,000	-	$5,740,000	$10,779,000	-	-	$10,779,000
C24-064	Fraser Energy Storage	$291,000	-	$3,797,000	$4,088,000	-	-	$4,088,000
C24-066	Coral Energy Storage	$2,119,000	-	$6,053,000	$8,172,000	-	-	$8,172,000
C24-077	NY-5632 Turnpike Rd	$16,640,000	$26,437,000	$5,441,000	$48,518,000	-	-	$48,518,000
C24-101	Halo Energy Storage	$3,906,000	-	$5,659,000	$9,565,000	-	-	$9,565,000
C24-103	Bath Solar	$19,316,000	$38,034,000	$7,446,000	$64,796,000	-	-	$64,796,000
C24-109	Falls Park Energy Storage	$9,377,000	-	$3,579,000	$12,956,000	Transco	$100,000	$13,056,000
C24-128	Winner Solar	$9,118,000	$47,289,000	$8,308,000	$64,715,000	-	-	$64,715,000
C24-135	Cayuga Solar	$701,000	-	$6,966,000	$7,667,000	-	-	$7,667,000
C24-175	Stargazer I	$5,882,000	$23,370,000	$9,844,000	$39,096,000	-	-	$39,096,000

Queue Number	Project Name	CTO Local SUF Cost		CTOAF Cost	Local SUF+CTOAF	ATO SUF Cost		TOTAL (CTO Local SUF + CTOAF + ATO SUF)
		SUF	SASUF			ATO	SUF	
C24-176	Stargazer II	$5,882,000	$23,370,000	$9,844,000	$39,096,000	-	-	$39,096,000
C24-179	Silverline Energy Center	$26,990,000	$26,805,000	$5,256,000	$59,051,000	-	-	$59,051,000
C24-182	Southern Tier Energy Center	$11,502,000	$49,972,000	$8,411,000	$69,885,000	-	-	$69,885,000
C24-207	Trelina Energy Storage	$4,385,000	-	$5,639,000	$10,024,000	NM-NG	$75,000	$10,099,000
C24-209	Sidecar	$8,581,000	$27,966,000	$5,824,000	$42,371,000	-	-	$42,371,000
C24-213	Zenobe Lancaster LLC	$23,475,000	$28,606,000	$5,156,000	$57,237,000	-	-	$57,237,000
C24-224	Cohocton	$13,739,000	$27,375,000	$5,360,000	$46,474,000	-	-	$46,474,000
C24-233	Shallow Seam BESS	$655,000	$8,475,000	$8,522,000	$17,652,000	-	-	$17,652,000
C24-238	Zenobe Burns LLC	$1,325,000	-	$6,640,000	$7,965,000	-	-	$7,965,000
C24-245	PA-Hockenberry LLC	$9,955,000	$46,567,000	$7,687,000	$64,209,000	-	-	$64,209,000
C24-247	Jerry Smith Energy Storage	$3,034,000	$16,296,000	$2,603,000	$21,933,000	-	-	$21,933,000
C24-252	Maple City Energy Storage	$694,000	-	$6,577,000	$7,271,000	NM-NG	$75,000	$7,346,000
C24-253	Troy Heights Energy Storage	-	-	$3,165,000	$3,165,000	-	-	$3,165,000
C24-259	Christmas Tree	$2,386,000	$16,156,000	$3,626,000	$22,168,000	-	-	$22,168,000
C24-269	Stonewall Solar	$29,065,000	$28,509,000	$5,685,000	$63,259,000	-	-	$63,259,000
C24-270	Bassett Energy Storage	$1,601,000	-	$5,047,000	$6,648,000	-	-	$6,648,000

Queue Number	Project Name	CTO Local SUF Cost		CTOAF Cost	Local SUF+CTOAF	ATO SUF Cost		TOTAL (CTO Local SUF + CTOAF + ATO SUF)
		SUF	SASUF			ATO	SUF	
C24-278	Sullivan-Woodbourne Solar Project	$11,766,000	$28,120,000	$5,420,000	$45,306,000	-	-	$45,306,000
C24-298	Black Cherry Wind 1	$5,817,000	$27,994,000	$8,928,000	$42,739,000	-	-	$42,739,000
C24-299	Black Cherry Wind 2	$5,817,000	$27,994,000	$8,928,000	$42,739,000	-	-	$42,739,000
C24-300	Kimberlite Solar	$655,000	$8,475,000	$8,522,000	$17,652,000	-	-	$17,652,000
C24-301	Moonlight Flats Solar	$14,598,000	$44,953,000	$8,074,000	$67,625,000	-	-	$67,625,000
C24-306	Lock 26 BESS	$4,606,000	$28,246,000	$5,195,000	$38,047,000	NG	$2,790,900	$40,837,900
C24-309	Black Cherry BESS	$5,817,000	$27,994,000	$8,928,000	$42,739,000	-	-	$42,739,000
C24-313	Southport Solar PV Project	$5,604,000	-	$5,187,000	$10,791,000	-	-	$10,791,000
C24-317	Leo Energy Storage	$1,068,000	$11,323,000	$5,022,000	$17,413,000	NYPA	$3,917,578	$21,330,578
C24-318	Sherburne Storage	$1,368,000	-	$4,073,000	$5,441,000	-	-	$5,441,000
C24-322	Rolling Upland Wind Farm	$16,238,000	$27,275,000	$5,069,000	$48,582,000	-	-	$48,582,000
C24-326	Lockport Storage	$3,944,000	-	$5,281,000	$9,225,000	-	-	$9,225,000
C24-335	PA-Fritz Kiln LLC	$11,967,000	$46,464,000	$7,879,000	$66,310,000	-	-	$66,310,000
C24-348	Harvest Hills Solar	$17,718,000	$26,112,000	$5,793,000	$49,623,000	-	-	$49,623,000
C24-352	Swiss Valley Energy Storage	$4,900,000	-	$8,471,000	$13,371,000	-	-	$13,371,000
C24-364	Erie Canal BESS	$6,767,000	-	$2,928,000	$9,695,000	-	-	$9,695,000
C24-366	Azalea Wind 1	$7,480,000	$14,712,000	$2,834,500	$25,026,500	-	-	$25,026,500

Queue Number	Project Name	CTO Local SUF Cost		CTOAF Cost	Local SUF+CTOAF	ATO SUF Cost		**TOTAL (CTO Local SUF + CTOAF + ATO SUF)**
		SUF	SASUF			ATO	SUF	
C24-370	Azalea Wind 2	$7,480,000	$14,712,000	$2,834,500	$25,026,500	-	-	$25,026,500

4.5.2 NYSEG/RG&E ATO Study - Phase 1 SUF Cost Estimates Summary

For ten (10) Cluster Study Projects in Transition Cluster Study 2024 that are proposing to interconnect to NYSTS system (NYSEG/RG&E as **ATO**), Table 10 summarizes the ATO SUF cost allocation identified in Phase 1 and the TOs to which SUFs Security payments should be made. All the related details are in the respective Phase 1 Study Reports.

Table 10 NYSEG/RG&E ATO Projects Phase 1 Cost Estimates (-15% to +30%) – ATO SUF Only*

Queue Number	Project Name	Zone	CTO	NYSEG/RG&E (ATO) SUF Cost
C24-043	Rosalen Solar Energy Center	B	NYPA	$785,000
C24-072	Eastwater Energy Storage	B	NM-NG	$2,186,000
C24-099	Crown Point Solar	F	NM-NG	$862,000
C24-125	Town Line Solar Phase II	E	NYPA	$465,000
C24-149	Manchester Solar	C	NM-NG	$914,000
C24-186	THOR SOLAR	F	Transco	$848,000
C24-202	Brusselville Solar Energy Center	B	NYPA	$785,000
C24-204	Declaration Energy Center	B	NYPA	$789,000
C24-294	Birch-Whistler	E	NYPA	$1,346,000
C24-363	Town Line Solar CSR Phase I	E	NYPA	$465,000

Note: *For total SUF and CTOAF cost estimates (including ATO) for projects in Table 10, please refer to these projects' respective CTO Phase 1 Summary Tables.

4.6 NYPA CTO and ATO Study

4.6.1 NYPA CTO Study – CTO Phase 1 SUF and CTOAF Cost Estimates Summary

For 24 Cluster Study Projects in Transition Cluster Study 2024 that are proposing to interconnect to NYPA's system (NYPA as **CTO**), Table 11 summarizes the Local SUF and CTOAF cost allocation identified in Phase 1 and the TOs to which SUFs/CTOAFs Security payments should be made. All the related details are in the respective Phase 1 Study Reports.

Table 11 NYPA CTO Projects Phase 1 Cost Estimates (-15% to +30%)

Queue Number	Project Name	CTO Local SUF Cost		CTOAF Cost	Local SUF+CTOAF	ATO SUF Cost		TOTAL (CTO Local SUF + CTOAF + ATO SUF)
		SUF	SASUF			ATO	SUF	
C24-003	Vineyard Mid-Atlantic West	$1,193,924	-	$10,668,740	$11,862,664	Transco	$100,000	$11,962,664
C24-004	Palladium Storage	$12,970,202	-	$2,593,743	$15,563,945	ConEd	$765,000	$16,328,945
C24-024	Verona Solar I	$3,633,795	$36,259,520	$3,814,561	$43,707,876	NM-NG	$743,000	$44,450,876
C24-043	Rosalen Solar Energy Center	$5,923,741	$32,969,777	$4,475,064	$43,368,582	RG&E	$785,000	$44,228,582
						NM-NG	$75,000	
C24-081	Port Morris Energy Storage	$1,605,432	-	$908,815	$2,514,247	ConEd	$765,000	$3,279,247
C24-108	NY125C - Little Salmon Solar	$379,967	-	$4,612,626	$4,992,593	-	-	$4,992,593
C24-125	Town Line Solar Phase II	$4,584,893	$19,271,076	$3,604,433	$27,460,402	NYSEG	$465,000	$28,286,946
						O&R	$361,544	
C24-139	Valcour Storage	$5,456,418	-	$4,088,098	$9,544,516	-	-	$9,544,516
C24-152	Antelope Energy Storage Center	$4,577,920	-	$11,954,612	$16,532,532	NM-NG	$75,000	$16,607,532
C24-188	Wheelhouse Solar Energy Center	$2,083,273	$19,279,605	$5,293,643	$26,656,521	NM-NG	$296,950	$26,953,471

Queue Number	Project Name	CTO Local SUF Cost		CTOAF Cost	Local SUF+CTOAF	ATO SUF Cost		TOTAL (CTO Local SUF + CTOAF + ATO SUF)
		SUF	SASUF			ATO	SUF	
C24-189	North Country Wind	$4,143,416	-	$3,363,486	$7,506,902	-	-	$7,506,902
C24-190	North Country Wind II	$4,390,538	$35,069,651	$3,745,111	$43,205,300	-	-	$43,205,300
C24-202	Brusselville Solar Energy Center	$6,258,737	-	$4,222,755	$10,481,492	NYSEG, RG&E	$785,000	$11,266,492
C24-204	Declaration Energy Center	$7,389,697	$40,157,303	$4,877,928	$52,424,928	NM-NG RG&E	$533,000 $789,000	$53,746,928
C24-205	Wheelhouse Energy Storage	$2,083,273	$19,279,605	$4,024,315	$25,387,193	NM-NG	$296,950	$25,684,143
C24-284	South Bronx Energy Storage	$12,970,202	-	$2,464,587	$15,434,789	ConEd	$765,000	$16,199,789
C24-289	Genovia Storage	$6,847,490	$35,385,176	$4,031,317	$46,263,983	-	-	$46,263,983
C24-294	Birch-Whistler	$6,282,935	$35,909,601	$3,927,222	$46,119,758	NM-NG NYSEG	$75,000 $1,346,000	$47,540,758
C24-304-004	NY Chateaugay 0 Willis Rd Storage	$3,775,322	-	$2,745,996	$6,521,318	-	-	$6,521,318
C24-319	Ditch Creek	$7,048,227	$36,372,663	$4,907,765	$48,328,655	NM-NG	$743,000	$49,071,655
C24-321	Jericho Solar	$344,063	-	$971,117	$1,315,180	-	-	$1,315,180
C24-331	Hell Gate Energy Storage	$1,540,965	-	$456,532	$1,997,497	ConEd	$765,000	$2,762,497
C24-361	Cherry Valley Solar	$14,376,151	$36,243,718	$4,063,979	$54,683,848	NM-NG	$593,900	$55,277,748
C24-363	Town Line Solar CSR Phase I	$4,584,893	$19,271,076	$3,604,433	$27,460,402	NYSEG O&R	$465,000 $361,544	$28,286,946

4.6.2 NYPA ATO Study - Phase 1 SUF Cost Estimates Summary

For nine (9) Cluster Study Projects in Transition Cluster Study 2024 that are proposing to interconnect to NYSTS system (NYPA as **ATO**), Table 12 summarizes the ATO SUF cost allocation identified in Phase 1 and the TOs to which SUFs Security payments should be made. All the related details are in the respective Phase 1 Study Reports.

Table 12 NYPA ATO Projects Phase 1 Cost Estimates (-15% to +30%) – ATO SUF Only*

Queue Number	Project Name	Zone	CTO	NYPA (ATO) SUF Cost
C24-026	Taproot Solar	F	LSPower	$100,000
C24-085	Arch 4	G	CHGE	$195,139
C24-088	Arch 3	G	CHGE	$195,139
C24-098	Farmhouse BESS	G	CHGE	$11,603,071
C24-122-002	Capital Energy Storage	E	NM-NG	$195,139
C24-317	Leo Energy Storage	D	NYSEG	$3,917,578
C24-336	Mill Point Solar II	E	NM-NG	$195,139
C24-362	Amsterdam Solar	E	NM-NG	$100,000
C24-367	Lewis Wind	E	NM-NG	$1,227,038

Note: *For total SUF and CTOAF cost estimates (including ATO) for projects in Table 12, please refer to these projects' respective CTO Phase 1 Summary Tables.

4.7 O&R CTO and ATO Study

4.7.1 O&R CTO Study – CTO Phase 1 SUF and CTOAF Cost Estimates Summary

For five (5) Cluster Study Projects in Transition Cluster Study 2024 that are proposing to interconnect to O&R's system (O&R as CTO), Table 13 summarizes the Local SUF and CTOAF cost allocation identified in Phase 1 and the TOs to which SUFs/CTOAFs Security payments should be made. All the related details are in the respective Phase 1 Study Reports.

Table 13 O&R CTO Projects Phase 1 Cost Estimates (-15% to +30%)

Queue Number	Project Name	CTO Local SUF Cost		CTOAF Cost	Local SUF + CTOAF	ATO SUF Cost		TOTAL (CTO Local SUF + CTOAF + ATO SUF)
		SUF	SASUF			ATO	SUF	
C24-057	Highland BESS	$5,700,319	-	-	$5,700,319	Transco	$100,000	$5,807,819
						CHGE	$7,500	
C24-063	Heritage BESS	$13,858,858	$27,435,545	-	$41,294,403	-	-	$41,294,403
C24-344	Deerpark Energy Storage	$30,808,624	-	-	$30,808,624	-	-	$30,808,624
C24-358	Sugar Loaf Energy Storage I	$5,006,609	-	-	$5,006,609	Transco	$100,000	$5,106,609
C24-359	Sugar Loaf Energy Storage II	$5,006,609	-	-	$5,006,609	Transco	$100,000	$5,106,609

4.7.2 O&R ATO Study – ATO Phase 1 SUF Cost Estimates Summary

There are five (5) Cluster Study Projects in Transition Cluster Study 2024 that are proposing to interconnect into NYSTS system where O&R is the ATO. Table 14 summarizes the ATO SUF cost allocation identified in Phase 1 and the TOs to which SUFs Security payments should be made. All the related details are in the respective Phase 1 Study Reports.

Table 14 O&R ATO Projects Phase 1 Cost Estimates (-15% to +30%) – ATO SUF Only*

Queue Number	Project Name	Zone	CTO	O&R (ATO) SUF Cost
C24-085	Arch 4	G	CHGE	$282,622.67
C24-088	Arch 3	G	CHGE	$282,622.67
C24-089	Braen ES Phase 1	G	ConEd	$593,097.67
C24-125	Town Line Solar CSR Phase II	E	NYPA	$361,544
C24-363	Town Line Solar CSR Phase I	E	NYPA	$361,544

Note: *For total SUF and CTOAF cost estimates (including ATO) for projects in Table 14, please refer to these projects' respective CTO

Phase 1 Summary Tables.

4.8 NY Transco CTO and ATO Study

4.8.1 NY Transco CTO Study – CTO Phase 1 SUF and CTOAF Cost Estimates Summary

For three (3) Cluster Study Projects in Transition Cluster Study 2024 that are proposing to interconnect to NY Transco's system (NY Transco as CTO), Table 15 summarizes the Local SUF and CTOAF cost allocation identified in Phase 1 and the TOs to which SUFs/CTOAFs Security payments should be made. All the related details are in the respective Phase 1 Study Reports.

Table 15 NY Transco CTO Projects Phase 1 Cost Estimates (-15% to +30%)

Queue Number	Project Name	CTO Local SUF Cost		CTOAF Cost	Local SUF+CTOAF	ATO SUF Cost		TOTAL (CTO Local SUF + CTOAF + ATO SUF)
		SUF	SASUF			ATO	SUF	
C24-165	KCE NY 38	$1,406,349	-	$1,911,667	$3,318,016	-	-	$3,318,016
C24-186	Thor Solar	$15,253,608	-	$5,572,098	$20,825,706	NYSEG	$848,000	$47,798,206
						NG	$26,124,500	
C24-222	Knickerbocker Energy Storage	$2,148,759	-	$3,488,375	$5,637,134	NG	$100,000	$5,737,134

4.8.2 NY Transco ATO Study - Phase 1 SUF Cost Estimates Summary

For six (6) Cluster Study Projects in Transition Cluster Study 2024 that are proposing to interconnect to NYSTS system (NY Transco as **ATO**), Table 16 summarizes the ATO SUF cost allocation identified in Phase 1 and the TOs to which SUFs Security payments should be made. All the related details are in the respective Phase 1 Study Reports.

Table 16 NY Transco ATO Projects Phase 1 Cost Estimates (-15% to +30%) – ATO SUF Only*

Queue Number	Project Name	Zone	CTO	NY Transco (ATO) SUF Cost
C24-003	Vineyard Mid-Atlantic West	K	NYPA	$ 100,000
C24-049	North Catskill DG LLC	G	CHGE	$ 500,000
C24-057	Highland BESS	G	O&R	$ 100,000
C24-109	Falls Park Energy Storage	F	NYSEG	$ 100,000
C24-358	Sugar Loaf Energy Storage I	G	O&R	$ 100,000
C24-359	Sugar Loaf Energy Storage II	G	O&R	$ 100,000

Note: *For total SUF and CTOAF cost estimates (including ATO) for projects in Table 16 please refer to these projects' respective CTO Phase 1 Summary Tables

4.9 LSPGNY CTO and ATO Study

4.9.1 LSPGNY CTO Study – CTO Phase 1 SUF and CTOAF Cost Estimates Summary

One (1) Cluster Study Project in Transition Cluster Study 2024 that are proposing to interconnect to LS Power Grid New York Corporation 1's system (LSPGNY as **CTO**), Table 17 summarizes the Local SUF and CTOAF cost allocation identified in Phase 1 and the TOs to which SUFs/CTOAFs Security payments should be made. All the related details are in the respective Phase 1 Study Reports.

Table 17 LSPGNY CTO Projects Phase 1 Cost Estimates (-15% to +30%)

<table>
<tr><th rowspan="2">Queue Number</th><th rowspan="2">Project Name</th><th colspan="2">CTO Local SUF Cost</th><th rowspan="2">CTOAF Cost</th><th rowspan="2">Local SUF+CTOAF</th><th colspan="2">ATO SUF Cost</th><th rowspan="2">TOTAL (CTO Local SUF + CTOAF + ATO SUF)</th></tr>
<tr><th>SUF</th><th>SASUF</th><th>ATO</th><th>SUF</th></tr>
<tr><td rowspan="2">C24-026</td><td rowspan="2">Taproot Solar</td><td rowspan="2">$ 2,418,845</td><td rowspan="2">$ 31,694,715</td><td rowspan="2">$ 1,517,295</td><td rowspan="2">$ 35,630,855</td><td>NG</td><td>$ 150,000</td><td rowspan="2">$ 35,880,855</td></tr>
<tr><td>NYPA</td><td>$ 100,000</td></tr>
</table>

4.9.2 LSPGNY ATO Study – ATO Phase 1 SUF Cost Estimates Summary

There are three (3) Cluster Study Projects in Transition Cluster Study 2024 that are proposing to interconnect into NYSTS system where LSPGNY is the ATO. Table 18 summarizes the ATO SUF cost allocation identified in Phase 1 and the TOs to which SUFs Security payments should be made. All the related details are in the respective Phase 1 Study Reports.

Table 18 LSPGNY ATO Projects Phase 1 Cost Estimates (-15% to +30%) – ATO SUF Only*

Queue Number	Project Name	Zone	CTO	LSPGNY (ATO) SUF Cost
C24-191	Zenobe Rotterdam	F	NG	$ 92,235
C24-327	North Creek	E	NG	$ 114,595
C24-362	Amsterdam Solar	E	NG	$ 337,480

Note: *For total SUF and CTOAF cost estimates (including ATO) for projects in Table 18, please refer to these projects' respective CTO Phase 1 Summary Tables.

4.10 Phase 2 Entry Decision

In accordance with Section 40.10.8 of Attachment HH, the Phase 2 Entry Decision Period for the Transition Cluster Study shall mean the period following the conclusion of the Phase 1 Study during which an Interconnection Customer must satisfy the requirements for its Cluster Study Project to enter the Phase 2 Study or be withdrawn. The Phase 2 Entry Decision Period shall commence on the first Business Day after the Operating Committee's approval of the Phase 1 Cost Estimates Summary Report and will be a ten (10) Business Day period. A Project will be included in the Phase 2 Study if, during the Phase 2 Entry Decision Period, the Interconnection Customer for the Cluster Study Project satisfies the following requirements:

- Notifies the ISO of its election for its Project to proceed to the Phase 2 Study.
- Satisfies the Readiness Deposit 2 requirements for its Cluster Study Project as determined in accordance with Section 40.10.8.4; provided, however, that a CRIS-Only Cluster Study Project is not required to provide Readiness Deposit 2 to proceed to the Phase 2 Study; and

- Satisfies the Site Control requirements in Section 40.5.5.4 (only applicable if Interconnection Customer submitted a Site Control Deposit with its Interconnection Request in lieu of demonstrating Site Control in accordance with Section 40.5.5.1.5.1).

5. Special Studies

As required by local planning criteria applicable to the Cluster Study Projects in Transition Cluster Study 2024, each CTO, ATO or Affected System has the opportunity to provide or request specific assessments, as related with identification of the current Cluster Study projects' impacts. If the assessments are of a different kind than what is usually performed under the Transition Cluster Study 2024, the results and conclusion will be summarized under this section. If the study types are similar and in addition to the general NYISO studies, there will be references under the applicable sections in this report.

5.1 Affected System Studies - Other Upgrade Facilities (OUF)

Other Upgrade Facilities (OUFs) are upgrades identified by Affected System and/or upgrades required on facilities other than the NYSTS. Cluster Study Projects with identified OUFs are required to coordinate with the Affected System or other entity that owns the transmission facilities on which the OUFs will be constructed for applicable facilities study. engineering and/or construction, if they decide to move forward. The following are the results of Affected System studies evaluating potential reliability impacts on facilities other than NYSTS.

As part of Phase 1 Study findings, Table 19 summarizes Cluster Study Projects in Transition Cluster Study 2024 that are proposing to interconnect to NYSEG/RG&E's system (NYSEG/RG&E as CTO) that has OUFs identified.

5.1.1 NYSEG/RG&E Projects Phase 1 Findings – OUF Needs

Table 19 Projects Phase 1 Findings – OUF Needs

Queue Number	Project Name	Zone	CTO	ATO	OUF Description
C24-322	Rolling Upland Wind Farm	E	NYSEG	-	The existing Madison Wind Farm POI is a radial tap off NYSEG 115 kV line L918. With the addition of C24-322 the existing Madison Wind tap will need to be part of a new three-terminal Line Differential scheme with C24-322 POI and Brothertown Road.

5.2 Analog Telemetry Requirement

Analog Telemetering enables the NYISO to coordinate operation of the NYS Power System when the NYISO computer system is out of service, or when any of the computer-to-computer data links between the NYISO and Market Participant are not functioning.

1. MW telemetering will be required:

a. On each interconnection to adjacent areas outside the NYCA. These should be from the end used by the Meter Authority to the NYISO independent of the Transmission Owner Control Center.

b. On all circuits that are part of an internal NYISO interface for which transfer limits are observed, from one end to the NYISO independent of the Transmission Owner Control Center.

c. For generation units of 500 MW or above, or intermittent generation of 200MW or above.

d. For complexes where (a) the total generation is 500 MW or more, or there is 200 MW or more of intermittent generation connected to a single transmission station, and (b) where loss of the complex is determined by the NYISO Staff to have a significant impact on NYS Power System security.

2. Voltage: Voltage telemetering shall be required on buses 230 kV and above when the need is indicated by a review of transmission configuration changes or operating practices.

3. Frequency: Frequency telemetering shall be required when the need is indicated by a review of transmission configuration or operating practices.

Based on the requirements set forth in the NYISO Control Center Requirements Manual No. 21, the Projects discussed in this section are required to have Direct Telemetering ("Phase I Telemetry"). Phase I Telemetry equipment is required on Interconnection Customer's side of the PCO as set forth in the NYISO Control Center Requirements Manual No. 21. The specific equipment and requirements will be finalized during detailed design, such equipment to be installed and maintained at the Interconnection Customer's cost. Interconnection Customer shall cooperate with the NYISO in good faith in to provide required site access and information necessary to accomplish the installation and maintenance of such equipment.

Table 20 – Table 24 summarize Cluster Study Projects in Transition Cluster Study 2024 that need to satisfy this requirement.

5.2.1 CHGE Phase 1 Findings – Analog Telemetering

There is no Cluster Study Project interconnecting to CHGE that requires Analog Telemetry.

5.2.2 Con Edison Phase 1 Findings – Analog Telemetering

Table 20 Con Edison Phase 1 Findings – Analog Telemetering

Queue Number	Project Name	Zone	CTO	Type/Fuel	ERIS MW
C24-021	Bluepoint Wind 1	J	Con Edison	W=Wind	1310
C24-089	Braen Energy Storage Phase 1	G	Con Edison	ES=Energy Storage	500

5.2.3 PSEG LI Phase 1 Findings – Analog Telemetering

No Cluster Study Project interconnecting to PSEG LI requires Analog Telemetry.

5.2.4 National Grid Phase 1 Findings – Analog Telemetering

Table 21 National Grid Phase 1 Findings – Analog Telemetering

Queue Number	Project Name	Zone	CTO	Type/Fuel	ERIS MW
C24-120	Field Day Solar	E	National Grid	CR=CSR (ES + Solar)	300MW (200MW Solar + 100MW ES)

5.2.5 NYSEG/RG&E Phase 1 Findings – Analog Telemetering

Table 22 NYSEG/RG&E Phase 1 Findings – Analog Telemetering

Queue Number	Project Name	Zone	CTO	Type/Fuel	ERIS MW
C24-175	Stargazer I	A	NYSEG	CR=CSR (ES + Solar)	325 (240 MW of ERIS for the solar portion and 85 MW of ERIS for the BESS portion)
C24-176	Stargazer II	A	NYSEG	CR=CSR (ES + Solar)	325 (240 MW of ERIS for the solar portion and 85 MW of ERIS for the BESS portion)
C24-245	PA-Hockenberry LLC	A	NYSEG	S=Solar	400
C24-298	Black Cherry Wind 1	A	NYSEG	S=Solar	350
C24-301	Moonlight Flats Solar	C	NYSEG	S= Solar	250
C24-335	PA-Fritz Kiln LLC	A	NYSEG	S= Solar	300
C24-348	Harvest Hills Solar	C	NYSEG	S=Solar	200

5.2.6 NYPA Phase 1 Findings – Analog Telemetering

Table 23 NYPA Phase 1 Findings – Analog Telemetering

Queue Number	Project Name	Zone	CTO	Type/Fuel	ERIS MW
C24-003	Vineyard Mid-Atlantic West	K	NYPA	W=Wind	1321
C24-043	Rosalen Solar Energy Center	B	NYPA	CR=CSR - ES + Solar	200
C24-108	NY125C - Little Salmon Solar	D	NYPA	S=Solar	200
C24-125	Town Line Solar Phase II	E	NYPA	CR=CSR - ES + Solar	300 (Combined)
C24-363	Town Line Solar CSR Phase I	E	NYPA	CR=CSR - ES + Solar	
C24-152	Antelope Energy Storage Center	E	NYPA	ES=Energy Storage	500

Queue Number	Project Name	Zone	CTO	Type/Fuel	ERIS MW
C24-188	Wheelhouse Solar Energy Center	F	NYPA	CR=CSR - ES + Solar	350
C24-189	North Country Wind	D	NYPA	W=Wind	380
C24-190	North Country Wind II	D	NYPA	W=Wind	380
C24-204	Declaration Energy Center	B	NYPA	CR=CSR - ES + Solar	550

5.2.7 O&R Phase 1 Findings – Analog Telemetering

Table 24 O&R Phase 1 Findings – Analog Telemetering

Queue Number	Project Name	Zone	CTO	Type/Fuel	ERIS MW
C24-358	Sugarloaf Energy Storage I	G	O&R	ES=Energy Storage	600(Combined)
C24-359	Sugarloaf Energy Storage II	G	O&R	ES=Energy Storage	

5.2.8 Transco Phase 1 Findings – Analog Telemetering

No Cluster Study Project interconnecting to NY Transco requires Analog Telemetry.

5.2.9 LSPGNY Phase 1 Findings – Analog Telemetering

No Cluster Study Project interconnecting to LSPGNY requires Analog Telemetry.

5.3 Phase Measurement Units (PMU)s Requirement

Phasor Measurement Units (PMU)s shall be installed on the Facility on the low side of the generator step-up transformer, unless it is a non-synchronous generation facility, in which case the PMUs shall be installed on the Interconnection Customer side of the Point of Interconnection. The PMUs must be capable of performing phasor measurements at a minimum of 60 samples per second which are synchronized via a high-accuracy satellite clock. To the extent Interconnection Customer installs similar quality equipment, such as relays or digital fault recorders, that can collect data at least at the same rate as PMUs and which data is synchronized via a high-accuracy satellite clock, such equipment would satisfy this requirement.

Interconnection Customer shall be required to install and maintain, at its expense, PMU equipment which includes the communication circuit capable of carrying the PMU data to a local data concentrator and then transporting the information continuously to the Connecting Transmission Owner and the NYISO; as well as store the PMU data locally for thirty (30) Calendar Days. Interconnection Customer shall provide to Connecting Transmission Owner and the NYISO all necessary and requested information through the Connecting Transmission Owner's and the NYISO's synchro phasor system, including the following: (a) gross MW and MVAR measured at the Interconnection Customer side of the generator step-up transformer (or, for a non-synchronous generation facility, to be measured at the Interconnection Customer side of the Point of Interconnection); (b) generator terminal voltage and current magnitudes and angles; (c) generator terminal frequency and frequency rate of change; and (d) generator field voltage and current, where available; and (e) breaker status, if available. The Connecting Transmission Owner will provide for the ongoing support and maintenance of the network communications linking the data concentrator to the Connecting Transmission Owner and the NYISO, consistent with ISO Procedures detailing the obligations related to SCADA data.

Table 25 – Table 33 summarizes Cluster Study Projects in Transition Cluster Study 2024 that need to satisfy this requirement. The cost for PMU equipment and associated communication circuit equipment is not included in Phase 1 Study.

5.3.1 CHGE Phase 1 Findings – PMU Requirement

Table 25 CHGE Phase 1 Findings – PMU Requirement

Queue Number	Project Name	Zone	CTO	ERIS MW
C24-031	Crossbuck ES	G	CHGE	100
C24-047	Lincoln park DG, LLC	G	CHGE	150
C24-049	North Catskill DG, LLC	G	CHGE	100
C24-059	Orchard BESS	G	CHGE	100
C24-062	Highbush ES	G	CHGE	200
C24-085	Arch 4	G	CHGE	150
C24-088	Arch 3	G	CHGE	100
C24-093	Alcazar 1	G	CHGE	100
C24-094	Alcazar 2	G	CHGE	150
C24-098	Farmhouse BESS	G	CHGE	150
C24-173	KCE NY 34	G	CHGE	100
C24-324	Overlook Storage	G	CHGE	199
C24-341	Malboro Storage	G	CHGE	100

5.3.2 Con Edison Phase 1 Findings – PMU Requirement

Table 26 Con Edison Phase 1 Findings – PMU Requirement

Queue Number	Project Name	Zone	CTO	ERIS MW
C24-005	Blue Spruce Storage	J	Con Edison	300

Queue Number	Project Name	Zone	CTO	ERIS MW
C24-013	Battery Park Storage	J	Con Edison	190
C24-014	Roma Storage	J	Con Edison	150
C24-021	Bluepoint Wind 1	J	Con Edison	1310
C24-089	Braen Energy Storage Phase 1	G	Con Edison	500
C24-131	Elevate Arthur Kill II	J	Con Edison	180
C24-178	Gowanus Energy Storage	J	Con Edison	150
C24-237	SBMT Energy Center, LLC	J	Con Edison	160
C24-282	Millwood Energy Storage	H	Con Edison	273.5
C24-283	Resilient New York Energy Storage	J	Con Edison	349
C24-337	Aria Storage 1	H	Con Edison	100
C24-338	Aria Storage 2	H	Con Edison	150

5.3.3 PSEG LI Phase 1 Findings – PMU Requirement

Table 27 PSEG LI Phase 1 Findings – PMU Requirement

Queue Number	Project Name	Zone	CTO	ERIS MW
C24-067	Gala Grove BESS	K	PSEG LI	125
C24-104	Horseblock Energy Storage	K	PSEG LI	100
C24-138	Marathon BESS	K	PSEG LI	135
C24-162	Ramadi Utility Storage	K	PSEG LI	140
C24-167	KCE NY 37	K	PSEG LI	150
C24-183	East Setauket Storage II	K	PSEG LI	248

5.3.4 National Grid Phase 1 Findings – PMU Requirement

Table 28 National Grid Phase 1 Findings – PMU Requirement

Project Number	Project Name	Zone	CTO	ERIS MW
C24-037	Gunns Corners Solar	E	National Grid	140
C24-039	Golden Knight Solar	D	National Grid	140
C24-044	Honey Bee Battery Storage, LLC	F	National Grid	199
C24-072	Eastwater Energy Storage	B	National Grid	100
C24-074	Lighthouse Energy Storage	A	National Grid	250
C24-079	Maple Harvest Wind	C	National Grid	162
C24-097	Basecamp BESS	A	National Grid	170
C24-105	ELP Clay Storage	C	National Grid	199
C24-111	Fort Edward Solar Farm (NY53)	F	National Grid	100
C24-115	Iris Bloom Solar	A	National Grid	150

Project Number	Project Name	Zone	CTO	ERIS MW
C24-120	Field Day Solar	E	National Grid	300
C24-121	Beacon Harbor Solar	E	National Grid	195
C24-122-002	Capital Energy Storage	E	National Grid	190
C24-124	Dunkirk Energy Storage	A	National Grid	100
C24-126	Pine Grove Energy Storage	E	National Grid	150
C24-129	Buffalo Road Energy Storage	A	National Grid	100
C24-130	Elevate Bethlehem	F	National Grid	120
C24-148	Willard Storage	F	National Grid	300
C24-155	Zenobe Stockton LLC	A	National Grid	100
C24-168	Ball Hill BESS	A	National Grid	250
C24-191	Zenobe Rotterdam LLC	F	National Grid	100
C24-208	Independence BESS	C	National Grid	200
C24-214	Mulberry Energy Storage	F	National Grid	130
C24-217	Bay Breeze solar	E	National Grid	150
C24-230	Dewdrop Wind	A	National Grid	62
C24-249	Empire	A	National Grid	60
C24-250	Honey Ridge Solar	E	National Grid	100
C24-257	Grapevine Storage	A	National Grid	200
C24-263	Jefferson Energy Storage	E	National Grid	100
C24-264	Berry Farm Storage	A	National Grid	120
C24-292	Loganberry Energy Storage, LLC	A	National Grid	150
C24-297	Deer River Wind	E	National Grid	100
C24-302	NY Oswego 200 Erie St Storage	C	National Grid	142
C24-325	Van Buren Storage	A	National Grid	150
C24-327	North Creek	E	National Grid	199.5
C24-332	Stoner Trail Storage	F	National Grid	100
C24-336	Mill Point Solar II	E	National Grid	100
C24-362	Amsterdam Solar	E	National Grid	150
C24-367	Lewis Wind	E	National Grid	100

5.3.5 NYSEG/RG&E Phase 1 Findings – PMU Requirement

Table 29 NYSEG/RG&E Phase 1 Findings – PMU Requirement

Queue Number	Project Name	Zone	CTO	ERIS MW
C24-015	Seventy Seven Project	C	NYSEG	100
C24-016	Salt Rush Wind Energy	C	NYSEG	150
C24-032	Oakdale Battery Storage LLC	C	NYSEG	150
C24-048	BPP NY Lansing BESS I	C	NYSEG	200
C24-056	Naples Energy Storage	C	NYSEG	120
C24-060	Gemma Energy Storage	C	NYSEG	200
C24-064	Fraser Energy Storage	E	NYSEG	135
C24-066	Coral Energy Storage	C	NYSEG	100
C24-101	Halo Energy Storage	C	NYSEG	100
C24-103	Bath Solar	C	NYSEG	185
C24-109	Falls Park Energy Storage	F	NYSEG	100
C24-128	Winner Solar	C	NYSEG	120
C24-175	Stargazer I	A	NYSEG	325
C24-176	Stargazer II	A	NYSEG	325
C24-179	Silverline Energy Center	C	NYSEG	150
C24-182	Southern Tier Energy Center	C	NYSEG	200
C24-207	Trelina Energy Storage	C	NYSEG	120
C24-213	Zenobe Lancaster LLC	A	NYSEG	100
C24-224	Cohocton	C	NYSEG	130
C24-233	Shallow Seam BESS	C	NYSEG	400
C24-238	Zenobe Burns LLC	C	NYSEG	100
C24-245	PA-Hockenberry LLC	A	NYSEG	400
C24-269	Stonewall Solar	E	NYSEG	145
C24-278	Sullivan-Woodbourne Solar Project	E	NYSEG	100
C24-298	Black Cherry Wind 1	A	NYSEG	350
C24-299	Black Cherry Wind 2	A	NYSEG	150
C24-300	Kimberlite Solar	C	NYSEG	175
C24-301	Moonlight Flats Solar	C	NYSEG	250
C24-309	Black Cherry BESS	A	NYSEG	400
C24-326	Lockport Storage	A	NYSEG	180
C24-335	PA-Fritz Kiln LLC	A	NYSEG	300
C24-348	Harvest Hills Solar	C	NYSEG	200
C24-352	Swiss Valley Energy Storage	C	NYSEG	300
C24-364	Erie Canal BESS	A	NYSEG	230
C24-366 & 370	Azalea Wind 1&2	C	NYSEG	100 (Combined)

5.3.6 NYPA Phase 1 Findings – PMU Requirement

Table 30 NYPA Phase 1 Findings – PMU Requirement

Queue Number	Project Name	Zone	CTO	ERIS MW
C24-003	Vineyard Mid-Atlantic West	K	NYPA	1321
C24-004	Palladium Storage	J	NYPA	140
C24-024	Verona Solar I	C	NYPA	199
C24-043	Rosalen Solar Energy Center	B	NYPA	200
C24-081	Port Morris Energy Storage	J	NYPA	130
C24-108	NY125C - Little Salmon Solar	D	NYPA	200
C24-125	Town Line Solar Phase II	E	NYPA	60
C24-139	Valcour Storage	D	NYPA	150
C24-152	Antelope Energy Storage Center	E	NYPA	500
C24-188	Wheelhouse Solar Energy Center	F	NYPA	350
C24-189	North Country Wind	D	NYPA	380
C24-190	North Country Wind II	D	NYPA	380
C24-202	Brusselville Solar Energy Center	B	NYPA	170
C24-204	Declaration Energy Center	B	NYPA	550
C24-205	Wheelhouse Energy Storage	F	NYPA	200
C24-284	South Bronx Energy Storage	J	NYPA	100
C24-289	Genovia Storage	B	NYPA	300
C24-294	Birch-Whistler	E	NYPA	100
C24-304-004	NY Chateaugay 0 Willis Rd Storage	D	NYPA	150
C24-319	Ditch Creek	C	NYPA	199.5
C24-321	Jericho Solar	D	NYPA	100
C24-361	Cherry Valley Solar	F	NYPA	125
C24-363	Town Line Solar CSR Phase I	E	NYPA	240

5.3.7 O&R Phase 1 Findings – PMU Requirement

Table 31 O&R Phase 1 Findings – PMU Requirement

Queue Number	Project Name	Zone	CTO	ERIS MW
C24-063	Heritage BESS	G	O&R	125
C24-358	Sugarloaf ES I	G	O&R	300
C24-359	Sugarloaf ES II	G	O&R	300

5.3.8 Transco Phase 1 Findings – PMU Requirement

Table 32 NY Transco Phase 1 Findings – PMU Requirement

Queue Number	Project Name	Zone	CTO	ERIS MW
C24-165	KCE NY 38	F	NY Transco	250
C24-222	Knickerbocker Energy Storage	F	NY Transco	300

5.3.9 LSPGNY Phase 1 Findings – PMU Requirement

Table 33 LSPGNY Phase 1 Findings – PMU Requirement

Queue Number	Project Name	Zone	CTO	ERIS MW
C24-026	Taproot Solar	F	TO	185

5.4 System Restoration Path

For the following Transition Cluster 24 projects with proposed POIs 230 kV and above, the need for special studies to identify potential additional SUFs for system restoration paths was identified in Table 34 in Appendix A.

These projects may be subject to special studies that will be performed after the completion of current Transition Cluster 24.