New York ISO
Independent System Operator

Transition Cluster Study 2024 Preliminary Deliverability Study

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Agenda

- Cluster Study 24 – Background
- Process for Preliminary Deliverability Study and Additional SDU Studies
- C24 Preliminary Deliverability Findings
- Next Steps

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Background & Overview

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Cluster Study 24 (C24) – Background

- C24 commenced on August 1, 2024.
- C24 currently has 92 projects.
  - 89 projects requesting ERIS only or ERIS and CRIS
  - 3 CRIS-only projects
- The procedures applicable to the C24 Study are set forth in Attachment HH to the ISO OATT.

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C24 Member List

- Please refer to the appendix of this slide deck for the full C24 member list

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Summary of C24 Projects

- **Connecting Transmission Owners (CTOs)**
  - Total CRIS MW Request: 15711 MW

CTO	ERIS/CRIS	CRIS Only	Total
NM-NG	18	1	19
NYSEG	24	0	24
ConEd	9	1	10
CHGE	10	0	10
LIPA	11	1	12
NYPA	15	0	15
O&R	1	0	1
Transco	1	0	1
Total	89	3	92

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Process for Preliminary Deliverability Study and Additional SDU Studies

- NYISO identified SDUs not previously identified, and cost allocated in past Class Year (CY) studies and not substantially similar to SDUs previously identified and cost allocated in past CY studies, thereby triggering Additional SDU Studies, if requested
- NYISO presents preliminary Cluster Study Deliverability Study results to IPFSWG/TPAS for review and OC for approval

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Process for Preliminary Deliverability Study and Additional SDU Studies

- NYISO will issue a notice to C24 Interconnection Customers (ICs) affected by identified SDUs subject to Additional SDU Studies, if requested
- Each IC to which such notice is issued shall respond to the ISO within 10 Calendar Days to indicate whether it elects to:
  - Proceed or not proceed with an Additional SDU Study for the identified System Deliverability Upgrades to pursue System Deliverability Upgrade alternatives identified by the ISO.
- If the IC does not elect to pursue an Additional SDU Study for required SDUs, it may only accept or reject its Deliverable MW, if any, in the Cluster Study.

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Process for Preliminary Deliverability Study and Additional SDU Studies

- **If the NYISO does not receive the IC's election by the deadline, the IC will be deemed to have:**
  (1) notified the NYISO that it elects to not proceed with an Additional SDU Study for the identified SDUs; and
  (2) will only be permitted to accept or reject its Deliverable MW, if any, in the Cluster Study.

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C24 Preliminary Deliverability Findings

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C24 Preliminary Deliverability Findings

- **Deliverability Tests (using currently effective methodology)**
  - Highway Interface Transfer Capability “No Harm” Test
  - Highway Interface “Regular” Capacity Deliverability Test
  - Other Interface Transfer Capability “No Harm” Test
  - Byway “Regular” Capacity Deliverability Test
    - ROS
    - LHV
    - NYC
    - LI

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Highway Interfaces

- Highway Interface “No Harm” and “Regular” Capacity Test
  - Dysinger East
  - West Central
  - Volney East
  - Total East
  - Moses South
  - UPNY-ConEd
- The Highway Interface “No Harm” and “Regular” Capacity Tests indicate that the C24 CRIS Projects in ROS did not pass the Highway “No Harm” Test for Volney East interface and the Highway Interface Capacity Deliverability test for Volney East, and Total East interfaces.
- C24 CRIS projects in ROS require Highway SDUs to be fully deliverable.

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Highway Interfaces, cont.

- **Highway Test Identified SDU for Volney East and Total East Interfaces**

C24 Highway SDUs for Deliverability Assessment		Cost Estimate (±50%)
1	Ames Rd - Princetown 345 kV ckt 1 Rebuild (Total East Interface)	$94,020,000
2	Ames Rd - Q1089 POI 345 kV ckt 2 Rebuild (Total East Interface)	$35,000,000
3	Edic - Ames Rd 345 kV ckt 2 Rebuild (Total East Interface)	$260,000,000
4	Edic - Ames Rd 345 kV ckt 1 Rebuild (Total East Interface)	$340,000,000
5	Fraser - Gilboa 345 kV ckt 1 Rebuild (Total East Interface)	$290,000,000
6	Watercure - Oakdale 345 kV ckt 1 Terminal Upgrades (Volney East Interface)	$1,200,000
7	Oakdale - Fraser 345 kV ckt 1 Rebuild (Volney East Interface)	$87,626,000
Total		$ 1.107 Billion

- These SDUs are “new” and therefore require Additional SDU Studies if any of the projects elect to move forward with Additional SDU Studies. Such studies will include an evaluation of physical feasibility of the identified SDUs.

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Highway Interfaces, cont.

- Highway Test Identified SDU Cost Allocation% - Total East

Project	CRIS MW	SDU 1		SDU 2		SDU 3		SDU 4		SDU 5	
		Impact	% Allocation	Impact	% Allocation	Impact	% Allocation	Impact	% Allocation	Impact	% Allocation
C24-032	150	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	26.8	**5.80%**
C24-048	200	5.3	**4.38%**	5.7	**4.37%**	5.0	**4.07%**	5.0	**4.07%**	22.0	**4.77%**
C24-052-001	95	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C24-060	200	3.2	**2.67%**	3.6	**2.77%**	3.0	**2.45%**	3.0	**2.45%**	27.5	**5.96%**
C24-064	135	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	37.5	**8.13%**
C24-066	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13.9	**3.02%**
C24-072	100	4.2	**3.49%**	4.4	**3.41%**	4.3	**3.54%**	4.3	**3.54%**	6.7	**1.46%**
C24-074	250	8.0	**6.62%**	8.5	**6.54%**	8.1	**6.58%**	8.1	**6.58%**	23.7	**5.14%**
C24-079	162	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.1	**0.46%**
C24-097	170	5.3	**4.37%**	5.6	**4.32%**	5.3	**4.33%**	5.3	**4.33%**	16.6	**3.59%**
C24-108	200	4.3	**3.53%**	4.4	**3.40%**	4.5	**3.68%**	4.5	**3.68%**	N/A	N/A
C24-129	100	3.7	**3.08%**	3.9	**3.02%**	3.8	**3.10%**	3.8	**3.10%**	8.1	**1.75%**
C24-135	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.3	**0.50%**
C24-139	150	9.2	**7.56%**	9.4	**7.29%**	9.7	**7.88%**	9.7	**7.88%**	N/A	N/A
C24-175	325	3.9	**3.22%**	4.2	**3.24%**	3.8	**3.10%**	3.8	**3.10%**	20.1	**4.36%**
C24-176	325	3.9	**3.22%**	4.2	**3.24%**	3.8	**3.10%**	3.8	**3.10%**	20.1	**4.36%**
C24-182	200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	34.9	**7.56%**
C24-189	380	4.0	**3.34%**	4.2	**3.22%**	4.3	**3.48%**	4.3	**3.48%**	N/A	N/A
C24-190	380	4.0	**3.34%**	4.2	**3.22%**	4.3	**3.48%**	4.3	**3.48%**	N/A	N/A
C24-202	170	3.0	**2.47%**	3.1	**2.41%**	3.1	**2.50%**	3.1	**2.50%**	4.9	**1.05%**
C24-207	120	4.5	**3.74%**	4.8	**3.67%**	4.6	**3.75%**	4.6	**3.75%**	9.6	**2.07%**
C24-217	150	2.8	**2.35%**	2.9	**2.27%**	3.0	**2.41%**	3.0	**2.41%**	N/A	N/A
C24-224	130	2.5	2.08%	2.7	**2.09%**	2.4	1.98%	2.4	1.98%	13.2	**2.87%**
C24-233	400	6.8	**5.61%**	7.5	**5.79%**	6.4	**5.21%**	6.4	**5.21%**	54.1	**11.72%**
C24-238	100	2.5	**2.08%**	2.7	**2.08%**	2.5	**2.01%**	2.5	**2.01%**	11.3	**2.46%**
C24-253	40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.9	**1.06%**
C24-270	79.9	N/A	N/A	2.0	1.57%	N/A	N/A	N/A	N/A	9.4	**2.03%**
C24-300	175	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.3	**1.80%**
C24-301	250	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12.3	**2.67%**
C24-304-004	150	9.2	**7.56%**	9.4	**7.29%**	9.7	**7.88%**	9.7	**7.88%**	N/A	N/A
C24-317	75	4.6	**3.78%**	4.7	**3.64%**	4.8	**3.94%**	4.8	**3.94%**	N/A	N/A
C24-318	40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.8	**1.48%**
C24-321	100	2.1	**1.77%**	2.2	**1.70%**	2.3	**1.84%**	2.3	**1.84%**	N/A	N/A
C24-326	180	6.6	**5.43%**	6.9	**5.33%**	6.7	**5.45%**	6.7	**5.45%**	14.9	**3.23%**
C24-352	300	8.8	**7.24%**	9.3	**7.18%**	8.8	**7.14%**	8.8	**7.14%**	30.8	**6.66%**
C24-364	230	8.6	**7.07%**	9.0	**6.93%**	8.7	**7.11%**	8.7	**7.11%**	18.6	**4.04%**

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Highway Interfaces, cont.

- Highway Test Identified SDU Cost Allocation% - Volney East

Project	CRIS MW	SDU (6)		SDU (7)	
		Impact	% Allocation	Impact	% Allocation
C24-032	150	N/A	N/A	43.3	**7.09%**
C24-048	200	N/A	N/A	29.4	**4.82%**
C24-052-001	95	2.9	**0.41%**	2.5	**0.41%**
C24-060	200	58.7	**8.41%**	43.5	**7.12%**
C24-066	100	25.8	**3.70%**	22	**3.60%**
C24-072	100	3.9	**0.55%**	6.6	**1.08%**
C24-074	250	33.8	**4.85%**	31.3	**5.13%**
C24-079	162	N/A	N/A	2.2	**0.35%**
C24-097	170	24.4	**3.50%**	22.2	**3.64%**
C24-129	100	8.7	**1.25%**	9.5	**1.55%**
C24-135	60	N/A	N/A	3.1	**0.51%**
C24-175	325	37.4	**5.36%**	30	**4.91%**
C24-176	325	37.4	**5.36%**	30	**4.91%**
C24-182	200	145.6	**20.86%**	62	**10.14%**
C24-202	170	3.2	**0.46%**	4.8	**0.79%**
C24-207	120	6.8	**0.98%**	11	**1.79%**
C24-224	130	21.2	**3.04%**	19.6	**3.21%**
C24-233	400	120.2	**17.22%**	85.5	**13.99%**
C24-238	100	18.6	**2.67%**	16.5	**2.69%**
C24-253	40	N/A	N/A	7	**1.14%**
C24-270	79.9	15.1	**2.17%**	13.8	**2.25%**
C24-300	175	18.4	**2.64%**	13.1	**2.14%**
C24-301	250	30	**4.30%**	19.9	**3.25%**
C24-326	180	17	**2.43%**	17.9	**2.93%**
C24-352	300	48.6	**6.96%**	42.5	**6.96%**
C24-364	230	20.2	**2.89%**	21.9	**3.59%**

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ROS and LHV Byways

- **ROS and LHV Byway "Regular" Capacity Test**
  - ROS
    - 54 Projects
    - 8287 MW total CRIS request
  - LHV
    - 13 Projects
    - 1949 MW total CRIS requests

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ROS and LHV Byways, cont.

- **ROS and LHV Byway "Regular" Capacity Test**
  - ROS and LHV Byway "Regular" Capacity Tests indicate that the following projects located in the ROS Capacity Region are not deliverable and require Byway SDUs to be fully deliverable:

- C24-052-001 Hemlock Hollow Wind
- C24-060 Gemma Energy Storage
- C24-066 Coral Energy Storage
- C24-074 Lighthouse Energy Storage
- C24-097 Basecamp BESS
- C24-175 Stargazer I
- C24-176 Stargazer II
- C24-182 Southern Tier Energy Center
- C24-207 Trelina Energy Storage
- C24-224 Cohocton
- C24-225 Goldenrod Wind
- C24-229 Buttercup Wind
- C24-230 Dewdrop Wind
- C24-233 Shallow Seam BESS
- C24-238 Zenobe Burns LLC
- C24-253 Troy Heights Energy Storage
- C24-270 Bassett Energy Storage
- C24-300 Kimberlite Solar
- C24-301 Moonlight Flats Solar
- C24-326 Lockport Storage
- C24-352 Swiss Valley Energy Storage
- C24-364 Erie Canal BESS
- C24-366 Azalea Wind 1d
- C24-370 Azalea Wind 2

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ROS and LHV Byways, cont.

- ROS and LHV Byway Test Identified SDUs

C24 ROS Byway SDUs for Deliverability Assessment		Cost Estimate (±50%)
8	Stagecoach - S. Owego 115 kV ckt 1 Rebuild	$5,299,000
9	Harrison Radiator - Hinman Rd 115 kV ckt 1 Rebuild	$1,996,000
10	Sta. 162 - Sta. 158 115 kV ckt 1 Rebuild	$6,983,049
11	Robinson Rd - Allegheny Ludlum Tap 115 kV ckt 1 Rebuild	$2,369,000
12	Allegheny Ludlum Tap - Harrison Radiator 115 kV ckt 1 Rebuild	$1,781,000
13	Hinman Rd - Lockport 115 kV ckt 1 Rebuild	$2,462,000
14	Lounsberry - Stagecoach 115 kV ckt 1 Rebuild	$5,885,000
15	Moraine Rd - Meyer 115 kV ckt 1 Rebuild	$8,839,373
16	N. Waverly - Lounsberry 115 kV ckt 1 Rebuild	$9,766,000
Total		$45 M

- These SDUs are “new” and therefore require Additional SDU Studies if any of the projects elect to move forward with Additional SDU Studies. Such studies will include an evaluation of physical feasibility of the identified SDUs.

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ROS and LHV Byways, cont.

- ROS & LHV Identified SDUs Cost Allocation% - SDU (8) – (12)

Project	CRIS MW	SDU (8)		SDU (9)		SDU (10)		SDU (11)		SDU (12)	
		Impact	% Allocation	Impact	% Allocation	Impact	% Allocation	Impact	% Allocation	Impact	% Allocation
C24-060	200	15.2	**9.05%**	6.3	**2.18%**	15.4	**13.66%**	8.6	**2.64%**	8.6	**2.64%**
C24-066	100	10.3	**6.12%**	N/A	N/A	5.2	**4.64%**	2.9	**0.90%**	2.9	**0.90%**
C24-074	250	10.3	**6.12%**	10.5	**3.61%**	N/A	N/A	13.3	**4.10%**	13.3	**4.10%**
C24-097	170	7.4	**4.42%**	6.0	**2.06%**	N/A	N/A	7.9	**2.43%**	7.9	**2.43%**
C24-175	325	11.2	**6.66%**	3.9	**1.34%**	2.1	**1.89%**	5.8	**1.79%**	5.8	**1.79%**
C24-176	325	11.2	**6.66%**	3.9	**1.34%**	2.1	**1.89%**	5.8	**1.79%**	5.8	**1.79%**
C24-182	200	13.5	**8.08%**	N/A	N/A	4.0	**3.58%**	3.3	**1.02%**	3.3	**1.02%**
C24-207	120	2.7	**1.60%**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C24-224	130	7.5	**4.46%**	2.9	**1.01%**	10.8	**9.54%**	4.2	**1.28%**	4.2	**1.28%**
C24-233	400	30.8	**18.38%**	7.7	**2.66%**	8.0	**7.06%**	12.3	**3.77%**	12.3	**3.77%**
C24-238	100	5.8	**3.48%**	3.6	**1.26%**	15.3	**13.50%**	4.8	**1.47%**	4.8	**1.47%**
C24-270	79.9	5.1	**3.05%**	2.3	**0.81%**	8.7	**7.73%**	3.3	**1.00%**	3.3	**1.00%**
C24-300	175	4.7	**2.82%**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C24-301	250	6.8	**4.05%**	N/A	N/A	2.0	**1.77%**	2.5	**0.78%**	2.5	**0.78%**
C24-326	180	5.1	**3.06%**	67.5	**23.34%**	N/A	N/A	69.6	**21.41%**	69.6	**21.41%**
C24-352	300	13.9	**8.32%**	29.7	**10.25%**	39.3	**34.74%**	33.1	**10.18%**	33.1	**10.18%**
C24-364	230	6.1	**3.66%**	145.1	**50.15%**	N/A	N/A	147.7	**45.44%**	147.7	**45.44%**

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ROS and LHV Byways, cont.

- ROS & LHV Identified SDUs Cost Allocation% - SDU (13) – (16)

Project	CRIS MW	SDU (13)		SDU (14)		SDU (15)		SDU (16)	
		Impact	% Allocation	Impact	% Allocation	Impact	% Allocation	Impact	% Allocation
C24-052-001	95	N/A	N/A	N/A	N/A	N/A	N/A	0.9	N/A
C24-060	200	6.5	**2.19%**	15.2	**9.05%**	N/A	N/A	15.2	**9.05%**
C24-066	100	N/A	N/A	10.3	**6.12%**	N/A	N/A	10.3	**6.12%**
C24-074	250	10.8	**3.62%**	10.3	**6.12%**	4.5	**2.00%**	10.3	**6.12%**
C24-097	170	6.1	**2.06%**	7.4	**4.42%**	7.0	**3.12%**	7.4	**4.42%**
C24-175	325	4.0	**1.35%**	11.2	**6.66%**	5.6	**2.49%**	11.2	**6.66%**
C24-176	325	4.0	**1.35%**	11.2	**6.66%**	5.6	**2.49%**	11.2	**6.66%**
C24-182	200	N/A	N/A	13.5	**8.08%**	N/A	N/A	13.5	**8.08%**
C24-207	120	N/A	N/A	2.7	**1.60%**	N/A	N/A	2.7	**1.60%**
C24-224	130	3.0	**1.01%**	7.5	**4.46%**	70.0	**31.18%**	7.5	**4.46%**
C24-225	39	N/A	N/A	N/A	N/A	N/A	N/A	0.3	N/A
C24-229	49.9	N/A	N/A	N/A	N/A	N/A	N/A	0.4	N/A
C24-230	62	N/A	N/A	N/A	N/A	N/A	N/A	0.5	N/A
C24-233	400	8.0	**2.68%**	30.8	**18.38%**	5.9	**2.61%**	30.8	**18.38%**
C24-238	100	3.7	**1.26%**	5.8	**3.48%**	75.3	**33.56%**	5.8	**3.48%**
C24-253	40	N/A	N/A	N/A	N/A	N/A	N/A	0.8	N/A
C24-270	79.9	2.4	**0.81%**	5.1	**3.05%**	50.6	**22.55%**	5.1	**3.05%**
C24-300	175	N/A	N/A	4.7	**2.82%**	N/A	N/A	4.7	**2.82%**
C24-301	250	N/A	N/A	6.8	**4.05%**	N/A	N/A	6.8	**4.05%**
C24-326	180	69.2	**23.31%**	5.1	**3.06%**	N/A	N/A	5.1	**3.06%**
C24-352	300	30.4	**10.25%**	13.9	**8.32%**	N/A	N/A	13.9	**8.32%**
C24-364	230	148.8	**50.11%**	6.1	**3.66%**	N/A	N/A	6.1	**3.66%**
C24-366	50	N/A	N/A	N/A	N/A	N/A	N/A	0.5	N/A
C24-370	50	N/A	N/A	N/A	N/A	N/A	N/A	0.5	N/A

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Other Interfaces

- Other Interface “No Harm” Test
  - UPNY-SENY
  - LHV-J
  - LHV-K
  - PJM-NYISO
  - NE-NYISO
  - HQ-NYISO
  - NNC
- The Other Interface “No Harm” Tests indicate that C24 CRIS ROS and LHV Projects did not pass the Other Interface “No Harm” test for UPNY-SENY, and PJM to NY interfaces.

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Other Interfaces, cont.

- **Other Interface Test Identified SDUs for PJM-NY and UPNY-SENY Interface**

	C24 Other Interface SDUs for Deliverability Assessment	Cost Estimate (±50%)
17	Coopers Corners - Dolson Ave. 345 kV ckt 2 Terminal Upgrades (UPNY-SENY Interface)	$350,000
18	Add a 115 kV Series Reactor of 8% to Line 956 at North Waverly (PJM-NY Interface)	$8,839,373
19	Laurel Lake – Oakdale 115 kV line Rebuild (PJM-NY Interface)	$12,969,000
Total		$22 M

- These SDUs are “new” and therefore requires Additional SDU Studies if any of the projects elect to move forward with Additional SDU Studies. Such studies will include an evaluation of physical feasibility of the identified SDUs.

New York ISO

Other Interfaces, cont.

- Other Interfaces Test Identified SDU Cost Allocation% - PJM-NY & UPNY-SENY

Project	CRIS MW	SDU (17)		SDU (18)		SDU (19)	
		Impact	% Allocation	Impact	% Allocation	Impact	% Allocation
C24-032	150	6.6	**2.91%**	N/A	N/A	N/A	N/A
C24-047	150	11.9	**5.23%**	N/A	N/A	N/A	N/A
C24-048	200	6.3	**2.78%**	N/A	N/A	N/A	N/A
C24-060	200	7.3	**3.23%**	N/A	N/A	N/A	N/A
C24-064	135	8.3	**3.63%**	N/A	N/A	N/A	N/A
C24-066	100	3.7	**1.63%**	N/A	N/A	N/A	N/A
C24-072	100	2.4	**1.05%**	N/A	N/A	N/A	N/A
C24-074	250	7.2	**3.18%**	11.6	**8.10%**	6.6	**9.52%**
C24-093	100	12.5	**5.50%**	N/A	N/A	N/A	N/A
C24-094	150	18.8	**8.27%**	N/A	N/A	N/A	N/A
C24-097	170	5.0	**2.20%**	8.4	**5.89%**	4.8	**6.85%**
C24-125	60	5.3	**2.34%**	N/A	N/A	N/A	N/A
C24-129	100	2.6	**1.16%**	2.3	**1.59%**	N/A	N/A
C24-139	150	2.1	**0.94%**	N/A	N/A	N/A	N/A
C24-148	300	4.1	**1.80%**	N/A	N/A	N/A	N/A
C24-173	100	10.5	**4.62%**	N/A	N/A	N/A	N/A
C24-175	325	5.6	**2.48%**	18.5	**12.96%**	8.9	**12.83%**
C24-176	325	5.6	**2.48%**	18.5	**12.96%**	8.9	**12.83%**
C24-182	200	8.7	**3.83%**	N/A	N/A	N/A	N/A
C24-207	120	3.1	**1.38%**	N/A	N/A	N/A	N/A
C24-224	130	3.7	**1.63%**	N/A	N/A	N/A	N/A
C24-233	400	14.5	**6.39%**	53.0	**37.04%**	22.4	**32.18%**
C24-238	100	3.2	**1.42%**	N/A	N/A	N/A	N/A
C24-270	79.9	2.6	**1.16%**	N/A	N/A	N/A	N/A
C24-300	175	2.2	**0.98%**	8.1	**5.67%**	3.4	**4.93%**
C24-301	250	3.3	**1.44%**	11.0	**7.67%**	4.0	**5.69%**
C24-304-004	150	2.1	**0.94%**	N/A	N/A	N/A	N/A
C24-326	180	4.8	**2.12%**	3.9	**2.71%**	2.7	**3.81%**
C24-352	300	9.1	**4.00%**	2.9	**2.02%**	4.7	**6.70%**
C24-363	240	37.8	**16.62%**	N/A	N/A	N/A	N/A
C24-364	230	6.1	**2.67%**	4.9	**3.40%**	3.3	**4.67%**

New York ISO

NYC Byways

- **NYC Byway "Regular" Capacity Test**
  - 12 Projects
  - 2998 MW total CRIS request
- **NYC Byway "Regular" Capacity Tests indicate that the following projects located in the NYC Capacity Region are not deliverable and require Byway SDUs to be fully deliverable:**
  - C24-131 Elevate Arthur Kill II, C24-283 Resilient New York Energy Storage, CR24-1004 Arthur Kill Unit 2 Uprate, C24-004 Palladium Storage, C24-081 Port Morris Energy Storage, and C24-284 South Bronx Energy Storage
- **The rest of the C24 CRIS Projects located in the NYC Capacity Regions passed the NYC Byway tests and are therefore fully deliverable.**

New York ISO

NYC Byways, cont.

- ## NYC Byway Test Identified SDUs

C24 NYC Byway SDUs for Deliverability Assessment		Cost Estimate (±50%)
20	Hell Gate 1 - Hell Gate 1 Tap 138 kV ckt 1 Rebuild	$1,200,000
21	a new PAR-controlled line from Fresh Kills 345 kV substation to BCEH 345 kV substation with two shunt reactors on the Fresh Kills 345 kV substation	$616,626,314
Total		$618 M

- These SDUs are “new” and therefore require Additional SDU Studies if any of the projects elect to move forward with Additional SDU Studies. Such studies will include an evaluation of physical feasibility of the identified SDUs.

New York ISO

NYC Byways, cont.

- NYC Byway Test Identified SDU Cost Allocation%

Project	CRIS MW	SDU (20)		SDU (21)	
		Impact	% Allocation	Impact	% Allocation
C24-004	140	128.1	50.2%	N/A	N/A
C24-081	130	35.4	13.9%	N/A	N/A
C24-284	100	91.5	35.9%	N/A	N/A
C24-131	180	N/A	N/A	71.2	33.8%
C24-283	349	N/A	N/A	139.2	66.2%
CR24-1004	12.2	N/A	N/A	1.9	N/A

New York ISO

LI Byways

- **LI Byway "Regular" Capacity Test**
  - 13 Projects
  - 2477 MW total CRIS request
- **LI Byway "Regular" Capacity Tests indicate that the following projects located in the LI Capacity Region are not deliverable and require Byway SDUs to be fully deliverable:**
  - C24-033 KCE NY 31, C24-061 Daphne Energy Storage, C24-104 Horseblock Energy Storage, C24-162 Ramadi Utility Storage, C24-167 KCE NY 37, and C24-183 East Setauket Storage II
- **The rest of the C24 CRIS Projects located in the LI Capacity Regions passed the LI Byway tests and are therefore fully deliverable.**

New York ISO

LI Byways, cont.

- ## LI Byway Test Identified SDUs

C24 LI Byway SDUs for Deliverability Assessment		Cost Estimate (±50%)
22	A PAR (392/520/600) MVA plus UG circuit 138 kV (2 cables per phase) between Pilgrim - West Bus 138 kV, together with Holbrook - Q971 POI 138 kV & Medford – Holbrook 69 kV Rebuild	$334,247,988
23	Bayport - Great River 69 kV Rebuild to Underground Cable	$80,479,927
24	W. Yaphank - Holtsville 69 kV Rebuild	$5,023,619
Total		$419 M

- These SDUs are “new” and therefore require Additional SDU Studies if any of the projects elect to move forward with Additional SDU Studies. Such studies will include an evaluation of physical feasibility of the identified SDU.

New York ISO

LI Byways, cont.

- LI Byway Test Identified SDU Cost Allocation%

Project	CRIS MW	SDU (22)		SDU (23)		SDU (24)	
		Impact	% Allocation	Impact	% Allocation	Impact	% Allocation
C24-033	50	15.3	6.70%	2.7	5.60%	10.2	8.00%
C24-061	75	22.4	9.80%	4.7	9.80%	12.6	9.90%
C24-104	100	27.9	12.30%	8.2	17.10%	40.8	32.20%
C24-162	140	39.5	17.30%	11.1	23.20%	51.3	40.40%
C24-167	150	46	20.20%	8.2	17.10%	2.6	2.00%
C24-183	248	76.6	33.60%	13	27.10%	9.4	7.40%

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Impact of Deliverability Methodology Changes

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Impact of Deliverability Methodology Changes

- **The current deliverability methodology identifies significant SDUs required to address deliverability issues**
  - Total non-binding SDU cost estimates of $2.256 Billion
  - 7 Highway SDUs, 3 Other Interface SDUs, 9 ROS Byway SDUs, 2 NYC Byway SDUs and 3 LI Byway SDUs
  - 60 C24 Projects require SDUs to be fully deliverable.
- **ICs subject to SDUs requiring Additional SDU Studies will make the election to proceed with Additional SDU Studies based on these preliminary deliverability results using the current methodology.**

New York ISO

Impact of Deliverability Methodology Changes

- **Upon implementation of the new methodology, deliverability analyses may:**
  - Result in fewer SDUs
  - Result in different deliverable CRIS MW
  - Identify a different set of SDUs
    - Under the revised deliverability methodology, only a subset of the SDUs identified in this Preliminary Deliverability Study would be required.
    - See slides 48 and 49 for details.

New York ISO

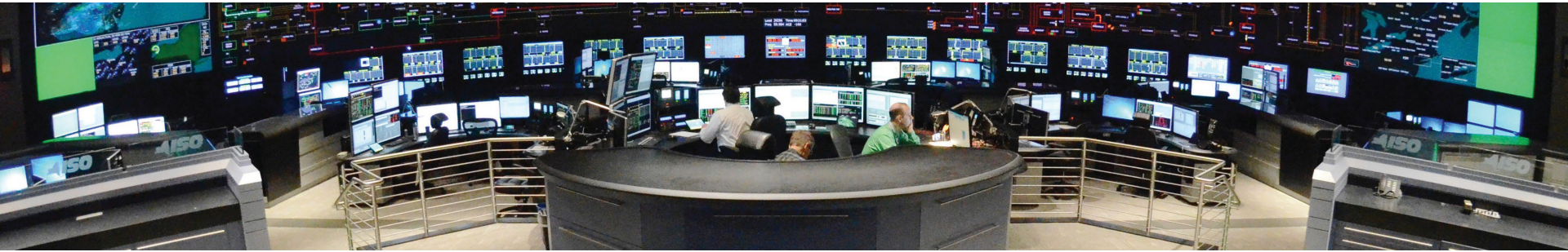
Our Mission and Vision

Mission

Ensure power system reliability and competitive markets for New York in a clean energy future

Vision

Working together with stakeholders to build the cleanest, most reliable electric system in the nation



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Questions?

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Appendix

New York ISO

C24 Member List

Projects in the Full Cluster Study (ERIS and CRIS)

#	QUEUE POS.	PROJECT	ZONE	Point of Interconnection	Proposed COD	Requested Summer ERIS MW	Requested Summer CRIS MW	UNIT TYPE	CTO
1	C24-003	Vineyard Mid-Atlantic West	K	East Garden City 345kV	03-2032	1321	1321	W=Wind	NYPA
2	C24-004	Palladium Storage	J	Hell Gate Annex 138KV Substation	08-2028	140	140	ES=Energy Storage	NYPA
3	C24-005	Blue Spruce Storage	J	Mott Haven 138KV Bus	08-2028	300	300	ES=Energy Storage	ConEd
4	C24-008	KCE NY 30	K	West Babylon 69 kV	10-2028	50	50	ES=Energy Storage	LIPA
5	C24-010	KCE NY 21	K	Pulaski 69kV Substation	12-2029	60	60	ES=Energy Storage	LIPA
6	C24-013	Battery Park Storage	J	Greenwood 138KV	08-2028	190	190	ES=Energy Storage	ConEd
7	C24-021	Bluepoint Wind 1	J	Brooklyn Clean Energy Hub 345kV Substation	12-2033	1310	1310	W=Wind	CONED
8	C24-032	Oakdale Battery Storage LLC	C	Oakdale 115 kV	08-2030	150	150	ES=Energy Storage	NYSEG
9	C24-033	KCE NY 31	K	Shoreham 138kV	12-2027	50	50	ES=Energy Storage	LIPA
10	C24-042	Hoffman Falls Wind 2	C	Fenner - Shippy Rd Line 3 115 kV	12-2027	29.8	29.8	W=Wind	NM-NG
11	C24-047	Lincoln Park DG, LLC	G	Lincoln Park - East Kingston 115 kV	12-2030	150	150	ES=Energy Storage	CHGE
12	C24-048	BPP NY Lansing BESS I	C	Milliken 115kV (aka Cayuga 115kV)	07-2028	200	200	ES=Energy Storage	NYSEG
13	C24-052-001	Hemlock Hollow Wind	A	Dugan - Homer Hill 115kV, Line #155	09-2029	95	95	W=Wind	NM-NG
14	C24-060	Gemma Energy Storage	C	Stony Ridge 230kV	12-2027	200	200	ES=Energy Storage	NYSEG
15	C24-061	Daphne Energy Storage	K	Moriches 69kV	12-2027	75	75	ES=Energy Storage	LIPA
16	C24-062	Highbush Energy Storage	G	Manchester 115 kV	12-2027	200	200	ES=Energy Storage	CHGE
17	C24-064	Fraser Energy Storage	E	Fraser substation 115 kV	11-2029	135	135	ES=Energy Storage	NYSEG
18	C24-066	Coral Energy Storage	C	Yawger 115kV Substation	12-2027	100	100	ES=Energy Storage	NYSEG

New York ISO

C24 Member List, cont.

Projects in the Full Cluster Study (ERIS and CRIS)

#	QUEUE POS.	PROJECT	ZONE	Point of Interconnection	Proposed COD	Requested Summer ERIS MW	Requested Summer CRIS MW	UNIT TYPE	CTO
19	C24-072	Eastwater Energy Storage	B	Station 82 - Station 121 Line 23 115kV	06-2027	100	100	ES=Energy Storage	NM-NG
20	C24-074	Lighthouse Energy Storage	A	Gardenville - Dunkirk Line 74 230 kV	06-2027	250	250	ES=Energy Storage	NM-NG
21	C24-079	Maple Harvest Wind	C	Tilden-Cortland Line 18.	12-2028	162	162	W=Wind	NM-NG
22	C24-081	Port Morris Energy Storage	J	Hell Gate Annex 138kV	12-2028	130	130	ES=Energy Storage	NYPA
23	C24-085	Arch 4	G	Rock Tavern 345kV Substation	12-2028	150	150	ES=Energy Storage	CHGE
24	C24-088	Arch 3	G	Rock Tavern 345kV Substation	12-2028	100	100	ES=Energy Storage	CHGE
25	C24-093	Alcazar 1	G	Hurley 345kV Substation	12-2028	100	100	ES=Energy Storage	CHGE
26	C24-094	Alcazar 2	G	Hurley 345kV Substation	12-2028	150	150	ES=Energy Storage	CHGE
27	C24-097	Basecamp BESS	A	Laona Station 115kV	02-2029	170	170	ES=Energy Storage	NM-NG
28	C24-098	Farmhouse BESS	G	Roseton 345 kV Substation	06-2029	150	150	ES=Energy Storage	CHGE
29	C24-104	Horseblock Energy Storage	K	West Yaphank 69kV Substation	06-2028	100	100	ES=Energy Storage	LIPA
30	C24-108	NY125C - Little Salmon Solar	D	345kV Line HW1 Haverstock - WIllis	12-2028	200	200	S=Solar	NYPA
31	C24-111	Fort Edward Solar Farm (NY53)	F	Mohican to Battenkill 115 kV Line #15	12-2027	100	100	S=Solar	NM-NG
32	C24-125	Town Line Solar Phase II	E	Coopers Corner to Middletown Tap 345 kV Line	05-2030	60	60	S=Solar	NYPA
33	C24-129	Buffalo Road Energy Storage	A	Dupont to Packard 115 kV Line #184	12-2028	100	100	ES=Energy Storage	NM-NG
34	C24-130	Elevate Bethlehem	F	Albany Steam 115 kV Substation	06-2028	120	120	ES=Energy Storage	NM-NG
35	C24-131	Elevate Arthur Kill II	J	Fresh Kills 345 kV substation	06-2028	180	180	ES=Energy Storage	ConEd
36	C24-135	Cayuga Solar	C	Milliken 115 kV Substation	12-2028	60	60	S=Solar	NYSEG

New York ISO

C24 Member List, cont.

Projects in the Full Cluster Study (ERIS and CRIS)

#	QUEUE POS.	PROJECT	ZONE	Point of Interconnection	Proposed COD	Requested Summer ERIS MW	Requested Summer CRIS MW	UNIT TYPE	CTO
37	C24-138	Marathon BESS	K	Greenlawn 138kV	02-2028	135	135	ES=Energy Storage	LIPA
38	C24-139	Valcour Storage	D	Patnode 230 kV substation	12-2028	150	150	ES=Energy Storage	NYPA
39	C24-148	Willard Storage	F	Eastover 115kV	12-2028	300	300	ES=Energy Storage	NM-NG
40	C24-154	Sandlot IFB	K	Deposit - Indian Head 69 kV Line	02-2028	50	50	ES=Energy Storage	LIPA
41	C24-162	Ramadi Utility Storage	K	William Floyd to West Yaphank 69kV	04-2028	140	140	ES=Energy Storage	LIPA
42	C24-163	Porter Energy Storage	F	Hague Road to Ticonderoga 115 kV line 4	12-2028	50	50	ES=Energy Storage	NM-NG
43	C24-165	KCE NY 38	F	Churchtown 115 kV Substation	12-2029	250	250	ES=Energy Storage	Transco
44	C24-167	KCE NY 37	K	Sills Rd - Brookhaven 138 kV line	12-2029	150	150	ES=Energy Storage	LIPA
45	C24-173	KCE NY 34	G	Saugerties 69 kV	12-2029	100	100	ES=Energy Storage	CHGE
46	C24-175	Stargazer I	A	Homer City to Pierce Brook 345 kV Line	07-2029	325	325	S=Solar	NYSEG
47	C24-176	Stargazer II	A	Homer City to Pierce Brook 345 kV Line	07-2029	325	325	S=Solar	NYSEG
48	C24-178	Gowanus Energy Storage	J	Gowanus 138kV Substation	06-2028	150	150	ES=Energy Storage	ConEd
49	C24-182	Southern Tier Energy Center	C	Oakdale 130755 - Watercure 130757 345 kV line	12-2029	200.0	200	ES=Energy Storage	NYSEG
50	C24-183	East Setauket Storage II	K	Holbrook - North Shore Beach 138kV	12-2029	248	248	ES=Energy Storage	LIPA
51	C24-189	North Country Wind	D	Willis 230kV substation	06-2029	380	380	W=Wind	NYPA
52	C24-190	North Country Wind II	D	Willis-Haverstock 345kV HW1	06-2029	380	380	W=Wind	NYPA
53	C24-202	Brusselville Solar Energy Center	B	Dysinger-New Rochester 345kV Line (DH2)	12-2030	170	170	S=Solar	NYPA
54	C24-205	Wheelhouse Energy Storage	F	Edic - Princetown Line #352	12-2030	200	200	ES=Energy Storage	NYPA

New York ISO

C24 Member List, cont.

Projects in the Full Cluster Study (ERIS and CRIS)

#	QUEUE POS.	PROJECT	ZONE	Point of Interconnection	Proposed COD	Requested Summer ERIS MW	Requested Summer CRIS MW	UNIT TYPE	CTO
55	C24-207	Trelina Energy Storage	C	Border City to Station 168 115 kV	12-2030	120	120	ES=Energy Storage	NYSEG
56	C24-217	Bay Breeze solar	E	North Watertown (Lyme Junction)-Lyme Line 13 115 kV	12-2029	150	150	S=Solar	NM-NG
57	C24-224	Cohocton	C	Bath - Spencer Hill (Howard) 115 kV	10-2029	130	130	S=Solar	NYSEG
58	C24-225	Goldenrod Wind	A	Moon Road-Hartfield 115kV Line159	12-2029	39	39	W=Wind	NM-NG
59	C24-229	Buttercup Wind	A	Dunkirk-Falconer Line 160 115kV	12-2029	49.9	49.9	W=Wind	NM-NG
60	C24-230	Dewdrop Wind	A	South Ripley Substation -Dunkirk Substation 230kV	12-2029	62	62	W=Wind	NM-NG
61	C24-233	Shallow Seam BESS	C	Homer City - Mainesburg 345kV Line (L47)	03-2029	400	400	ES=Energy Storage	NYSEG
62	C24-238	Zenobe Burns LLC	C	Moraine Rd 115kV Substation	07-2028	100	100	ES=Energy Storage	NYSEG
63	C24-253	Troy Heights Energy Storage	C	Coddington Substation 34.5 kV	12-2028	40	40	ES=Energy Storage	NYSEG
64	C24-270	Bassett Energy Storage	C	Spencer Hill 115 kV Substation	07-2028	79.9	79.9	ES=Energy Storage	NYSEG
65	C24-281	Brentwood Energy Storage	K	Brentwood 69 kV Substation	08-2028	49.1	49.1	ES=Energy Storage	LIPA
66	C24-283	Resilient New York Energy Storage	J	Goethals 345 kV	12-2028	349	349	ES=Energy Storage	ConEd
67	C24-284	South Bronx Energy Storage	J	Hell Gate 138 kV Substation	12-2030	100	100	ES=Energy Storage	NYPA
68	C24-293	Oswego Clean Energy	C	Oswego 115 kV Substation	12-2026	24.9	24.9	S=Solar	NM-NG
69	C24-300	Kimberlite Solar	C	Homer City - Mainesburg 345kV Line (L47)	03-2029	175	175	S=Solar	NYSEG
70	C24-301	Moonlight Flats Solar	C	Homer City 345 kV to Mainesburg 345 kV L47	03-2029	250	250	S=Solar	NYSEG
71	C24-304-004	NY Chateaugay 0 Willis Rd Storage	D	Willis 230kV substation	04-2028	150	150	ES=Energy Storage	NYPA
72	C24-317	Leo Energy Storage	D	Lyon Mountain 115 kV Substation	12-2028	75	75	ES=Energy Storage	NYSEG

New York ISO

C24 Members, cont.

Projects in the Full Cluster Study (ERIS and CRIS)

#	QUEUE POS.	PROJECT	ZONE	Point of Interconnection	Proposed COD	Requested Summer ERIS MW	Requested Summer CRIS MW	UNIT TYPE	CTO
73	C24-318	Sherburne Storage	E	County Line 46 kV Substation	12-2028	40	40	ES=Energy Storage	NYSEG
74	C24-321	Jericho Solar	D	NYPA's Willis Sub @115kV	10-2029	100	100	S=Solar	NYPA
75	C24-324	Overlook Storage	G	Pleasant Valley - Todd Hill 115 kV	12-2028	199	199	ES=Energy Storage	CHGE
76	C24-326	Lockport Storage	A	Robinson Road 230 kV	12-2028	180	180	ES=Energy Storage	NYSEG
77	C24-331	Hell Gate Energy Storage	J	Hell Gate 138kV	12-2028	90	90	ES=Energy Storage	NYPA
78	C24-333	Pouch Energy Storage System	J	Fox Hills 138kV Substation	12-2028	47.1	47.1	ES=Energy Storage	ConEd
79	C24-336	Mill Point Solar II	E	Marcy - New Scotland 345kV, Line 18	12-2028	100	100	S=Solar	NM-NG
80	C24-337	Aria Storage 1	H	East Fishkill 345 kV substation	12-2028	100	100	ES=Energy Storage	ConEd
81	C24-338	Aria Storage 2	H	East Fishkill 345 kV	12-2028	150	150	ES=Energy Storage	ConEd
82	C24-341	Marlboro Storage	G	Marlboro 115kV Substation	12-2028	100	100	ES=Energy Storage	CHGE
83	C24-352	Swiss Valley Energy Storage	C	Wethersfield 230 kV Substation	12-2029	300	300	ES=Energy Storage	NYSEG
84	C24-358	Sugar Loaf Energy Storage I	G	Sugarloaf 138 kV Substation	12-2029	300	300	ES=Energy Storage	O&R
85	C24-362	Amsterdam Solar	E	Edic - Gordon Road 345 kV, Line 14	07-2028	150	150	S=Solar	NM-NG
86	C24-363	Town Line Solar CSR Phase I	E	Coopers Corner to Middletown Tap 345 kV Line	05-2030	240	240	S=Solar	NYPA
87	C24-364	Erie Canal BESS	A	Robinson Road 115 kV	02-2029	230	230	ES=Energy Storage	NYSEG
88	C24-366	Azalea Wind 1	C	Montour Falls to Coddington Road 115kV	12-2029	50	50	W=Wind	NYSEG
89	C24-370	Azalea Wind 2	C	Montour Falls to Coddington Road 115kV	12-2029	50	50	W=Wind	NYSEG

New York ISO

C24 Members, cont.

Projects in the Full Cluster Study (ERIS and CRIS)

C24-125 Town Line Solar Phase II is an uprate of C24-363 Town Line Solar CSR Phase I project (a proposed Co-located Storage Resource (CSR)). C24-125 Town Line Solar Phase II is requesting 60 MW CRIS of solar, and 0 MW CRIS of BESS uprate (a total of 60 MW CRIS uprate request). In total, C24-125 Town Line Solar Phase II and C24-363 Town Line Solar CSR Phase I are requesting 300 MW CRIS and 300 MW ERIS.

C24-175 Stargazer I is a proposed CSR requesting 240 MW CRIS of solar and 85 MW CRIS of BESS (a total of 325 MW CRIS request).

C24-176 Stargazer II is a proposed CSR requesting 240 MW CRIS of solar and 85 MW CRIS of BESS (a total of 325 MW CRIS request).

C24-202 Brusselville Solar Energy Center is a proposed CSR requesting 150 MW CRIS of solar and 20 MW CRIS of BESS (a total of 170 MW CRIS request).

C24-224 Cohocton is a proposed CSR requesting 30 MW CRIS of solar and 100 MW CRIS of BESS (a total of 130 MW CRIS request).

C24-336 Mill Point Solar II is an uprate of Q1031 Mill Point Solar (a proposed CSR). C24-336 Mill Point Solar II is requesting 100 MW CRIS of solar uprate and 0 MW CRIS of BESS uprate (a total of 100 MW CRIS uprate request).

C24-363 Town Line Solar CSR Phase I is a proposed CSR requesting 140 MW CRIS of solar and 100 MW CRIS of BESS (a total of 240 MW CRIS request).

C24-081 Port Morris Energy Storage is a repowering project that proposes to retire Harlem River GT# 1, and 2 (PTIDs 24160 through 24161). The C24-081 Port Morris Energy Storage, as proposed, will have a total ERIS capability of 130 MW (Summer) and 130 MW (Winter) and CRIS (Summer) of 130 MW (38.8 MW Summer CRIS increase).

C24-281 Brentwood Energy Storage is a repowering project that proposes to retire Brentwood GT (PTID 24164). The C24-281 Brentwood Energy Storage, as proposed, will have a total ERIS capability of 49.1 MW (Summer) and 49.1 MW (Winter) and CRIS (Summer) of 49.1 MW (2 MW Summer CRIS increase).

C24-331 Hell Gate Energy Storage is a repowering project that proposes to retire Hellgate GT# 1, and 2 (PTIDs 24158 through 24159). The C24-331 Hell Gate Energy Storage, as proposed, will have a total ERIS capability of 90 MW (Summer) and 90 MW (Winter) and CRIS (Summer) of 90 MW (same location CRIS transfer).

C24-333 Pouch Energy Storage System is a repowering project that proposes to retire Pouch GT (PTID 24155). The C24-333 Pouch Energy Storage System, as proposed, will have a total ERIS capability of 47.1 MW (Summer) and 47.1 MW (Winter) and CRIS (Summer) of 47.1 MW (same location CRIS transfer).

New York ISO

C24 Members, cont.

CRIS-Only Projects (Deliverability Study Only)

#	QUEUE POS.	PROJECT	ZONE	Point of Interconnection	Proposed COD	Requested Summer ERIS MW	Requested Summer CRIS MW	UNIT TYPE	CTO
90	CR24-1002	West Babylon Internal Combustion (IC), Unit 4	K	West Babylon 13.8 kV	05-2025	N/A	49	O=Oil	LIPA
91	CR24-1003	Bethlehem Energy Center Uprate	F	Albany Steam 115 kV	06-2026	N/A	40	NG=Natural Gas	NM-NG
92	CR24-1004	Arthur Kill Unit 2 Uprate	J	Freshkills 138kV	05-2025	N/A	12.2	NG=Natural Gas	ConEd

New York ISO

C24 Highway Result Comparison

C24 Highways Interfaces "No Harm" Test									
Interface	Reference RNA Limit	Current Method				New Proposal			
		CBA-D Transfer Limit	CPA-D Transfer Limit	(CPA-D) Minus (CBA-D)	Negative Impact	CBA-D Transfer Limit	CPA-D Transfer Limit	(CPA-D) Minus (CBA-D)	Negative Impact
Dysinger East	2000	2223	2059	-164	59	2258	2182	-76	182
West Central	1500	2922	2758	-164	1258	2685	2849	164	N/A
Volney East	5650	6751	1750	-5001	-3900	6772	4388	-2384	-1262
Moses South	3500	4524	4484	-40	984	3758	3929	171	N/A
Total East	5650	9809	9034	-775	3384	9139	9203	64	N/A
UPNY-ConEd	7050	9104	9053	-51	2003	8086	8134	48	N/A

New York ISO

C24 Highway Result Comparison

C24 Highways Capacity Deliverability Test					
Capacity Region	Interface	Source	Sink	Deliverable (+) or Bottled (-) Generation Capacity	
				Current Method	New Proposal
CBA-D					
ROS	Dysinger East	A	BCDEF	1619	1616
	West Central	AB	CDEF	3323	3026
	Moses South	D	ABCEF	2851	2084
	Volney East	ABC	DEF	2933	2918
	Total East	ABCDE	F	3818	3398
LHV	UPNY-ConEd	G	HI	1591	2372
CPA-D					
ROS	Dysinger East	A	BCDEF	120	836
	West Central	AB	CDEF	1720	2457
	Moses South	D	ABCEF	2244	1824
	Volney East	ABC	DEF	-5465	-1524
	Total East	ABCDE	F	-1206	3295
LHV	UPNY-ConEd	G	HI	72	1829

New York ISO

C24 Other Interface Result Comparison

C24 Other Interfaces "No Harm" Test								
Interface	Current Method			New Proposal				
	CBA-D Transfer Limit	CPA-D Transfer Limit	(CPA-D) Minus (CBA-D)	Reference RNA Limit	CBA-D Transfer Limit	CPA-D Transfer Limit	(CPA-D) Minus (CBA-D)	Negative Impact
UPNY-SENY	8952	8275	-677	7150	8809	8520	-289	1370
LHV to J	4140	4138*	-2	4400	4144	4140*	-3.4	N/A
LHV to K	1101	1101*	0	1293	840	840*	0	N/A
PJM to NYISO	1437	988	-449	N/A	1933	1730	-203	N/A
ISO-NE to NYISO	1807	1790	-17	N/A	1842	1867	25	N/A
HQ to NYISO (MSC-7040)	1500	1500	0	N/A	1500	1500	0	N/A
NNC	459	459	0	N/A	459	459	0	N/A

*Applicable system adjustments were applied

New York ISO

C24 NYC Byway Result Comparison

Queue Number	Exporting Zone	Importing Zone	Current Method				New Proposal			
			C24 CPA Net Available Capacity (MW) a	FCITC (Export Limit) (MW) b	Additional Transmission Capacity (+) or Bottled Generation Capacity (-) *c = b-a	Impact *c-c1	C24 CPA Net Available Capacity (MW) a	FCITC (Export Limit) (MW) b	Additional Transmission Capacity (+) or Bottled Generation Capacity (-) *c = b-a	Impact *c-c1
C24-131, 283, 333, 1004	Gowanus, Goethal, Linden, Fresh Kills, Fox Hills	Rest of NYC	1059.9	765.9	-294	-294	879	437	-442	-442
C24-021	Farragut, BCEH	Rest of NYC	3.1	3.1	0	0	158	158	0	0
C24-013, 178, 333	Greenwood, Fox Hills	Rest of NYC	289.8	289.8	0	0	270	270	0	0
C24-004, 081, 284, 331	Astoria East, Corona	Rest of NYC	412.8	412.8	0	0	344	344	0	0
C24-005	Mott Haven	Rest of NYC	0	0	0	0	51	51	0	0
C24-004, 081, 284, 331	Astoria East, Corona, Jamaica, Eastern Queens	Rest of NYC	458.5	458.5	0	0	378	378	0	0

New York ISO

C24 LI Byway Result Comparison

Queue Number	Exporting Zone	Importing Zone	Current Method				New Proposal			
			C24 CPA Net Available Capacity (MW) a	FCITC (Export Limit) (MW) b	Additional Transmission Capacity (+) or Bottled Generation Capacity (-) *c = b-a	Impact *c-c1	C24 CPA Net Available Capacity (MW) a	FCITC (Export Limit) (MW) b	Additional Transmission Capacity (+) or Bottled Generation Capacity (-) *c = b-a	Impact *c-c1
C24-033, 061, 104, 162, 167, 183	LI-East	Rest of LI	1322.7	884.0	-438.7	-438.7	965	935	-31	-31
C24-008, 010, 138, 154, 281, 1002	LI-Central	Rest of LI	1231.4	1231.4	0	0	735	735	0	0
C24-003	LI-West	Rest of LI	536.4	536.4	0	0	561	561	0	0

New York ISO

C24 Highway and Other Interface SDUs Comparison

Limiting Element (SDU Needs)	SDU Solution	Interface	Current Methodology Need	New Proposal Need
Fraser - Gilboa 345 kV ckt 1	Line Rebuild	Highway Capacity - Total East	Yes	No
Ames Rd - Q1089 POI 345 kV ckt 2	Line Rebuild	Highway Capacity - Total East	Yes	No
Edic - Ames Rd 345 kV ckt 2	Line Rebuild	Highway Capacity - Total East	Yes	No
Ames Rd - Princetown 345 kV ckt 1	Line Rebuild	Highway Capacity - Total East	Yes	No
Edic - Ames Rd 345 kV ckt 1	Line Rebuild	Highway Capacity - Total East	Yes	No
Oakdale - Fraser 345 kV ckt 1	Line Rebuild	Highway Capacity - Volney East	Yes	No
Watercure - Oakdale 345 kV ckt 1	Upgrades at Terminal	Highway No Harm & Capacity - Volney East	Yes	Yes
N. Waverly - E. Sayre 115 kV ckt 1	8% Series Reactor	Other Interface - PJM to NY	Yes	No
Laurel Lake - Oakdale 115 kV ckt 1	Line Rebuild	Other Interface - PJM to NY	Yes	No
Coopers Corners - Dolson Ave. 345 kV ckt 2	Upgrades at Terminal	Other Interface - UPNY SENY	Yes	No

New York ISO

C24 Byway SDUs Comparison

Limiting Element (SDU Needs)	SDU Solution	Interface	Current Methodology Need	New Proposal Need
N. Waverly - Lounsberry 115 kV ckt 1	Line Rebuild	ROS Byway	Yes	No
Lounsberry - Stagecoach 115 kV ckt 1	Line Rebuild	ROS Byway	Yes	No
Stagecoach - S. Owego 115 kV ckt 1	Line Rebuild	ROS Byway	Yes	No
Harrison Radiator - Hinman Rd 115 kV ckt 1	Line Rebuild	ROS Byway	Yes	No
Robinson Rd - Allegheny Ludlum Tap 115 kV ckt 1	Line Rebuild	ROS Byway	Yes	No
Allegheny Ludlum Tap - Harrison Radiator 115 kV ckt 1	Line Rebuild	ROS Byway	Yes	No
Moraine Rd - Meyer 115 kV ckt 1	Line Rebuild	ROS Byway	Yes	No
Sta. 162 - Sta. 158 115 kV ckt 1	Line Rebuild	ROS Byway	Yes	No
Hinman Rd - Lockport 115 kV ckt 1	Line Rebuild	ROS Byway	Yes	No
Hell Gate 1 - Hell Gate 1 Tap 138 kV ckt 1	Line Rebuild	NYC Byway	Yes	No
Case 1 subzone	A PAR-controlled line from Fresh Kills 345 kV substation BCEH 345 kV substation with two shunt reactors on the Fresh Kills 345 kV	NYC Byway	Yes	Yes
Bayport - Great River 69 kV ckt 1	Rebuild to Underground cable	LI Byway	Yes	No
Holtsville - W. Yaphank 69 kV ckt 1	Line Rebuild	LI Byway	Yes	No
LI East subzone	A PAR (392/520/600) MVA plus UG circuit 138 kV (2 cables per phase) between Pilgrim - West Bus 138 kV, together with Holbrook – Q971 POI 138 kV & Medford – Holbrook 69 kV Rebuild	LI Byway	Yes	Yes

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