



Transmission Planning

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2023 Local Transmission Plan

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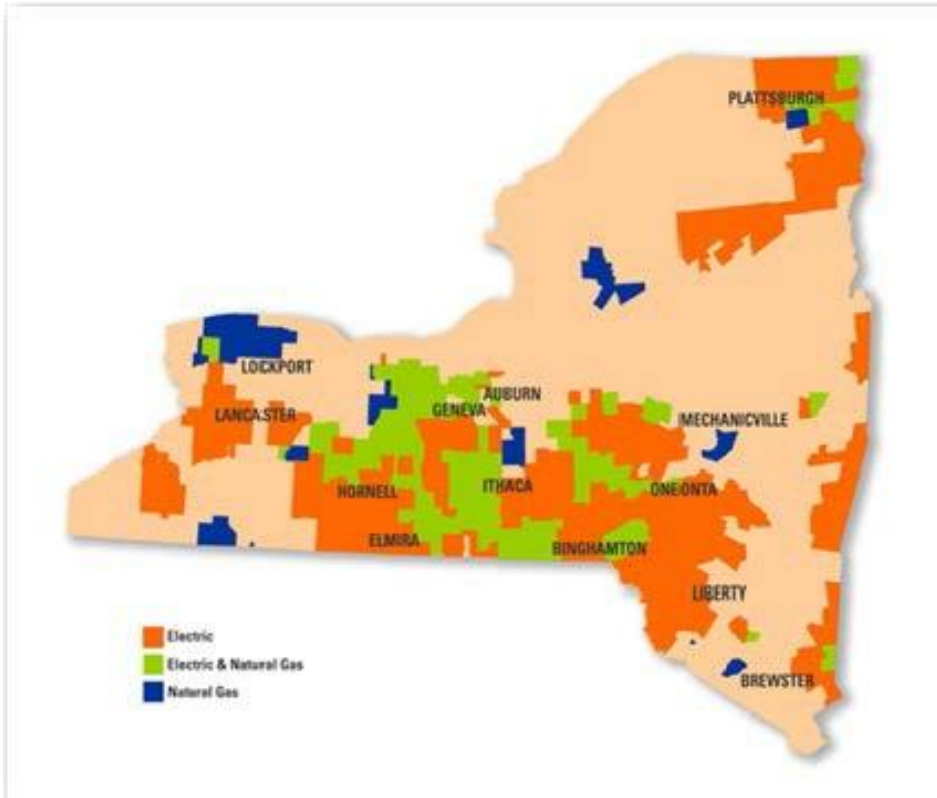
In this presentation

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 - Avangrid's service areas in New York
- Scope of the projects being presented today
- Criteria to determine “Firm” projects
- Local Transmission Plan (by division/area)
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 - Auburn
 - Ithaca
 - Hornell
 - Lancaster
 - Liberty / Oneonta
 - Rochester

Avangrid's service areas in New York

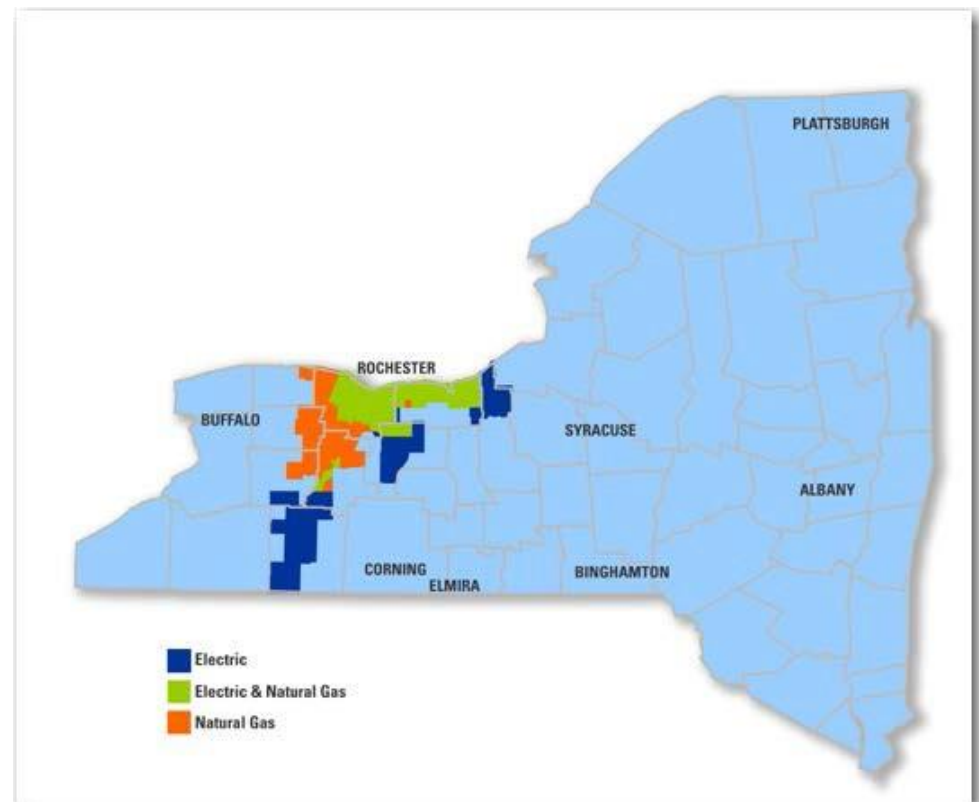
New York State Electric & Gas (NYSEG):

Serves ~881,000 electricity customers across ~18,400 square miles of upstate New York. It operates and maintains an electricity delivery system that consists of 4,500 miles of transmission lines and 34,000 miles of distribution lines.

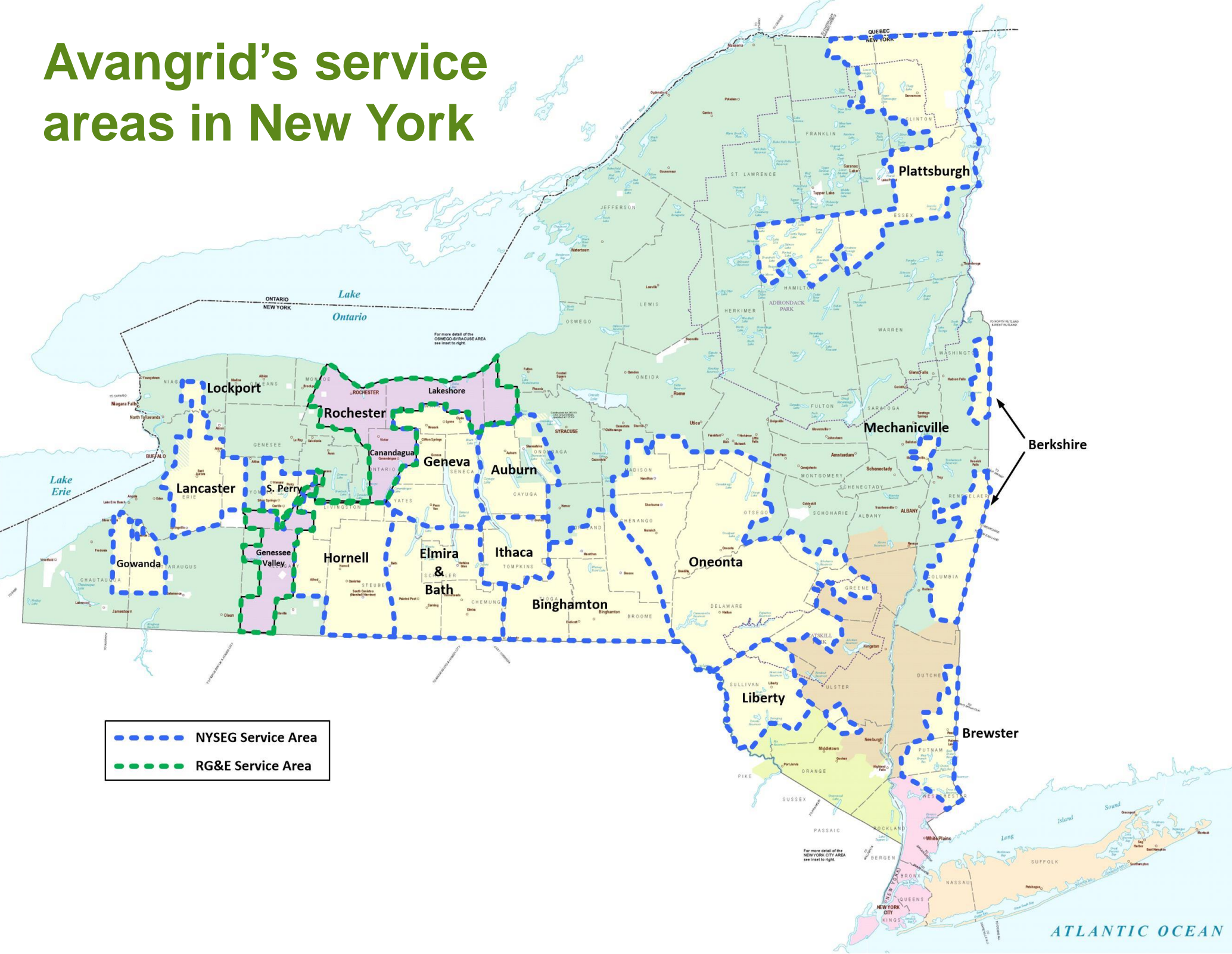


Rochester Gas and Electric (RG&E):

serves ~371,000 electricity customers in the metropolitan Rochester area and surrounding region, covering an area of ~2,700 square miles



Avangrid's service areas in New York



- NYSEG Service Area
- RG&E Service Area

Scope of the LTP

- Address reliability issues on “local system”
 - NYSEG – include 115kV, 69kV, 46kV, and 34.5kV Some 34.5kV is dedicated to serving customer load and is considered distribution; some is dual purpose.
 - RG&E – include facilities between 115kV and 34.5kV, as well as 11kV facilities that are operated in parallel with the 115kV and 34.5kV systems and are thus considered an extension of the transmission system.
- Use Avangrid’s Local Planning Criteria as the reference
- Focus on projects with the In-Service Date (ISD) within 5 years

Determination of “Firm” projects

- Criteria
 - Internal management approval
 - Budget authorization
 - Has approved System Impact Study (if applicable)
- Status of a project can be one of the following categories

Status	Definition
Planned	Projects that have internal approval and budget, detailed engineering/procurement has commenced, and SIS and Article VII approval are being sought if applicable.
In Construction	Projects that have all necessary approvals and are under construction.
Complete	Projects that are in service.
On Hold	Projects that were reported in previous LTP revisions but are no longer considered Firm.

LTP: NYSEG – Binghamton / Brewster Divisions

Project	Summary	Status	In-Service Date
Oakdale 345kV Reconfiguration and 3 rd 345/115kV Transformer	(1) Rebuild Oakdale 115 kV as a 6-Bay BAAH (Breaker-And-A-Half). (2) Expand existing 345 kV to 3-bay BAAH and add one additional 345/115/34 kV Transformer (3) Retire 115 kV Westover Substation (4) Rebuild Westover 34 kV out of flood zone	Planned	2028
Langdon Rd 115/34.5/12 kV Rebuild	Full AIS BAAH rebuild of 115 kV and 34 kV GIS	On Hold	N/A
Wood Street New 3 rd 345/115kV Transformer	Install a third 345/115kV transformer	In Construction	2024

LTP: NYSEG – Auburn / Ithaca Divisions

Project	Summary	Status	In-Service Date
Wright Avenue 115/34.5/12.5 kV Substation Rebuild	Full station rebuild with 115 kV GIS Ring Bus, 34.5 kV & 12.5 kV GIS, two new 50 MVA 115/34.5 kV transformers, two new 37 MVA 34.5/12.5 kV transformers and a new Control Building	On Hold	N/A
Line 981 Upgrade	Upgrade 115kV Line 981 and install OPGW from Etna to Coddington (BES)	On Hold	N/A

LTP: NYSEG – Hornell Division

Project	Summary	Status	In-Service Date
South Perry Rebuild	<ul style="list-style-type: none"> (1) Add a second 115/34.5kV transformer (2) 115 kV bus rebuild as BAAH (3) 34 kV bus expansion with tie breaker 	Planned	2028
Meyer New 2 nd 115/34.5kV Transformer	<ul style="list-style-type: none"> (1) New 230/115 kV transformer (2) Add a second 115/34.5kV transformer (3) 115 kV bus rebuild as BAAH (4) 34 kV bus expansion with tie breaker 	Planned	2028

LTP: NYSEG – Lancaster Division

Project	Summary	Status	In-Service Date
New Gardenville Upgrades	<ul style="list-style-type: none"> (1) 2 new 115/34 KV transformers (2) Replace 230/115/34 KV transformer (3) New 230 kV ring bus. 115 kV 6 bay BAAH. 34 KV straight bus with 2 tie breakers 	Planned	2030
Erie Street Rebuild	<ul style="list-style-type: none"> (1) Rebuild the 115kV as a 3-bay BAAH (2) 2 new 115 kV capacitors (3) Replace 2 115/34 kV transformers 	On Hold	N/A
Big Tree Rebuild	<ul style="list-style-type: none"> (1) Rebuild the 115 kV as a BAAH (2) Route Line 151 into and out of the substation 	Complete	2022

LTP: NYSEG – Liberty / Oneonta Divisions

Project	Summary	Status	In-Service Date
Coopers Corners Transformer Additions	<ul style="list-style-type: none"> (1) New 3rd 345/115kV transformer (2) New 2nd 115/34.5kV transformer 	On Hold	N/A
Fraser Expansion and Delhi removal	<ul style="list-style-type: none"> (1) New 115 kV 4-bay BAAH Fraser bus (2) New 2nd 345/115/46 kV transformer (3) Replace existing 345/115 kV transformer (4) Remove Delhi's 115 kV bus and move all 115 lines to Fraser 	In Construction	2027

LTP: RG&E

Project	Summary	Status	In-Service Date
Rochester Transmission Project Enhancement (RTPE) (Line 949)	Build a new 115kV line (6.7 miles) from Station 48 to Station 418	Planned	2027
Station 127 – New 2 nd 115/34.5kV Transformer	<ul style="list-style-type: none"> (1) Add second 115/34 kV transformer (2) Expand the 115KV bus with 2 breakers on either side of 115 kV cap banks (3) Sectionalize National Grid TR 2 with new 115 kV terminal at Station 127. 	In Construction	2024
115 Line 901/902 Upgrade	Upgrade Line 901 (Mortimer-Station 251) and Line 902 (Station 251 - Station 82)	Planned	2028
115 Line 942/943 Upgrade	Upgrade Line 942 and Line 943	Planned	2030
Monroe County Reliability Project (MCRP)	Rebuild line 947 from Station 418 to Station 70 and reconductor, Rebuild line 946, 945, and 917 from Station 70 to Station 7 and reconductor.	Planned	2030
Station 168 Area Reinforcement	Sectionalize National Grid Trunks #2 and #4 at Station 168 with 115kV circuit breakers and install 34.5kV capacitor banks	Planned	2024
Station 56	Add 115 kV breaker terminals on Trunk 24 at Station 56	Planned	2024

LTP Addendum: CLCPA Projects

NYSEG – Liberty / Oneonta / Plattsburgh

CLCPA

Projects	Description	ISD
Jennison Rebuild	(1) Rebuild Jennison Substation “off-site” as a 4 bay BAAH 0.75 miles away. (2) Bring line 919 in and out.	2027
Line 946 Rebuild	(1) Rebuild the existing 20-mile 115 kV line with 1192 ACSR	2030
Line 949 Rebuild	(1) Rebuild the existing 25-mile 115 kV line with 1192 ACSR	2029
Line 910 Rebuild	(1) Rebuild the existing 11-mile 115 kV line with 795 ACSR.	2030

NYSEG – Binghamton / Geneva / Ithaca

CLCPA

Projects	Description	ISD
Oakdale	(1) Rebuild Oakdale 115 kV as a 6-Bay BAAH (GIS). (2) Expand existing 345 kV (3-bay BAAH) and add one additional 345/115/34.5 kV Transformer (3) Retire 115 kV Westover Substation (4) Rebuild Westover 34.5 kV out of flood zone	2028
Lounsberry Rebuild	(1) New 115 kV four position Ring bus. (2) Install new 22.4 MVA 115/12.5 kV transformer with LTC. (3) Install new 12.5 kV MV GIS and Control Building.	2028
Line 962 Rebuild (Hillside - S. Owego)	(1) Rebuild the existing 35-mile 115 kV line with 1192 ACSR conductor. (2) Modify terminal bay at South Owego. (3) Modify terminal bay at Hillside	2029
Line 982 Rebuild (Montour Falls - Coddington)	(1) Rebuild the existing 21-mile 115 kV line with 1192 Bunting ACSR conductor on the existing centerline with light duty steel monopole structures	2028
Line 961 (S. Owego - Oakdale)	(1) Rebuild the existing 18-mile 115 kV line with 1192 ACSR conductor. (2) Modify terminal bay at South Owego.	2028
Clarks Corners Upgrades	(1) 2 Bay 115 kV Expansion to the north. (2) Two (2) new power transformer positions.	2027
Greenidge Capacitor	One (1) new 115 kV circuit breaker for Line 968, Line 968 terminal work, and a new 30 MVAR capacitor bank (with 115 kV circuit breaker).	2026

NYSEG – Elmira / Bath (1/2)

CLCPA

Projects	Description	ISD
Bath Rebuild	Full rebuild of substation as 115 kV three-bay breaker-and-a-half (BAAH) air insulated substation (AIS) with two (2) new 115/34.5 kV 50 MVA transformers, a +150/-150 MVAR dynamic VAR compensation unit (STATCOM or SVC)	2028
Line 723 (Bath - Spencer Hill)	Rebuild the existing 15-mile 115 kV line with bundled 795 Drake ACSR conductor.	2030
Line 965 (Bath - Montour Falls)	Rebuild the existing 22-mile 115 kV line with bundled 795 Drake ACSR conductor.	2030
Line 978 Rebuild (Montour - Hillside)	Rebuild the existing 16-mile double circuit line with 1192 ACSR from Montour Falls to Ridge Road and from Ridge Road to Hillside.	2030
Watercure Expansion	Expand the 345 kV two-bay BAAH with one (1) empty bay position, adding a three-bay 115 kV BAAH. Reroute 115 kV lines to new 115 kV BAAH, Add one (1) new 345/115 kV three winding 448 MVA transformer.	2028
Hillside Upgrades	Re-route the 115 kV lines to new 115 kV station at Watercure, replace two 230 kV breakers, separating the 34.5 kV breaker positions of Bank 3 and 4.	2026
Montour Falls Rebuild	Full rebuild as a four-bay BAAH AIS, two (2) new 115/34.5 kV 50 MVA transformers, two (2) new 115 kV 30 MVAR capacitor banks. Additional sub-transmission and distribution upgrades.	2028

NYSEG – Elmira / Bath (2/2)

CLCPA

Projects	Description	ISD
Line 935 (Hickling - Caton)	Rebuild the existing 9-mile 115 kV line with 2156 Bluebird ACSR conductor.	2027
Line 68 (Canandaigua - Stoney Ridge)	Rebuild the existing 24-mile 230 kV line with bundled 1192 Bunting ACSR conductor.	2030
Line 69 (Hillside - Watercure)	Rebuild the existing 1-mile 230 kV line with 2156 Bluebird ACSR conductor.	2030
Line 72 (Stoney Ridge - Hillside)	Rebuild the existing 27-mile 230 kV line with 2156 Bluebird ACSR conductor.	2030
Line 711 (West Erie - Sullivan Pk)	Rebuild the existing 3-mile 115 kV line with 2156 Bluebird ACSR conductor.	2027
Line 712 (Sullivan Pk - Stoney Ridge)	Rebuild the existing 6-mile 115 kV line with 2156 Bluebird ACSR conductor.	2027
Hickling Rebuild	Full rebuild of the substation as a 115 kV four-bay BAAH AIS design, two (2) new 115/34.5 kV 50 MVA transformers. Additional sub-transmission and distribution upgrades.	2028

NYSEG – Hornell (1/2)

CLCPA

Projects	Description	ISD
Bennett Rebuild	Partial rebuild with 115kV bus expansion, and terminal work on L725.	2028
Eelpot Expansion	Addition of a new 115 kV circuit breaker, a +100/-100 MVAR new dynamic VAR compensation unit (STATCOM or SVC), and 115 kV line terminal work.	2027
Line 932 (Bennett - Andover)	Install a Power Flow Control Device at Bennett Substation and perform in-kind structure replacements where required to address all asset condition issues.	2030
Line 953 (Bennett - Spencer Hill)	Rebuild the existing 5-mile 115 kV line with 2156 Bluebird ACSR conductor.	2027
Line 722 Rebuild (Eel Pot - Flat Street)	Rebuild the existing 23-mile 115 kV line with 1590 Falcon ACSR conductor.	2030
Line 724 Rebuild (Meyer - Eel Pot)	Rebuild the existing 15-mile 115 kV line with 1590 Falcon ACSR conductor.	2030
Line 968 Rebuild (Flat Street - Greenidge)	Rebuild the existing 5-mile 115 kV line with 1590 Falcon ACSR conductor.	2027

NYSEG – Hornell (2/2)

CLCPA

Projects	Description	ISD
Line 963 Rebuild (Montour Falls - Hillside)	Rebuild the existing 16-mile double circuit line with 1590 Falcon ACSR.	2030
Line 67 Rebuild (Stolle Rd - High Sheldon)	Rebuild the existing 11-mile 230 kV line with bundled 1192 Bunting ACSR conductor on an offset with steel monopole structures.	2030
Line 906 Rebuild (Station 82 - Station 128)	Rebuild the existing 30-mile 115 kV line with 1590 Falcon ACSR conductor on an offset with light duty steel monopole structures.	2030
Line 934 Rebuild (South Perry - Meyer)	Rebuild the existing 19-mile 115 kV line with 795 Drake ACSR conductor on an offset with light duty steel monopole structures.	2030