

National Grid's Local Transmission Plan (LTP)

Peter Altenburger
Roy Pfeiderer

October 11, 2013

Transmission Facilities Studied

National Grid organizes its study reports by Transmission Planning Study Areas

Transmission Planning Study Areas

West

F – Frontier

G – Genesee

SW – Southwest

Central

SOC – Syracuse Oswego Cortland

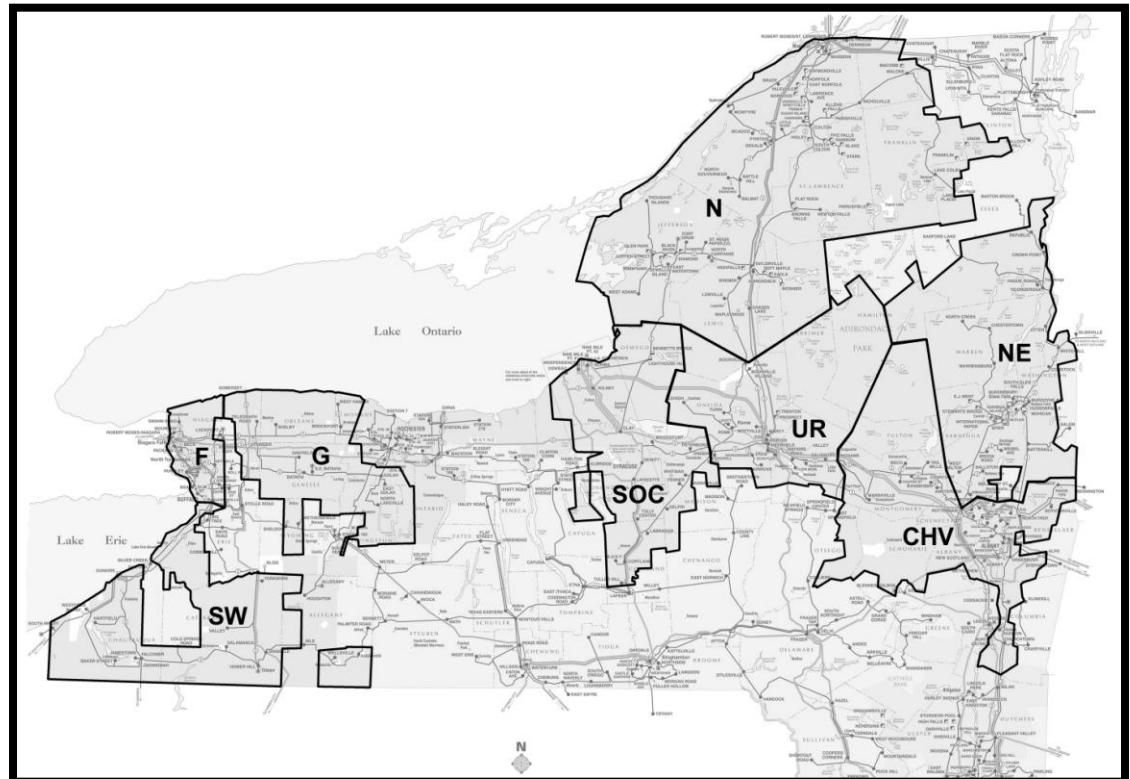
N – Northern

UR – Utica/Rome

East

CHV – Capital Hudson Valley

NE - Northeast



Note: Some National Grid transmission lines extend outside its retail service areas.
Some lines within National Grid's retail service areas are not owned by National Grid.

LTP Information Available On Line

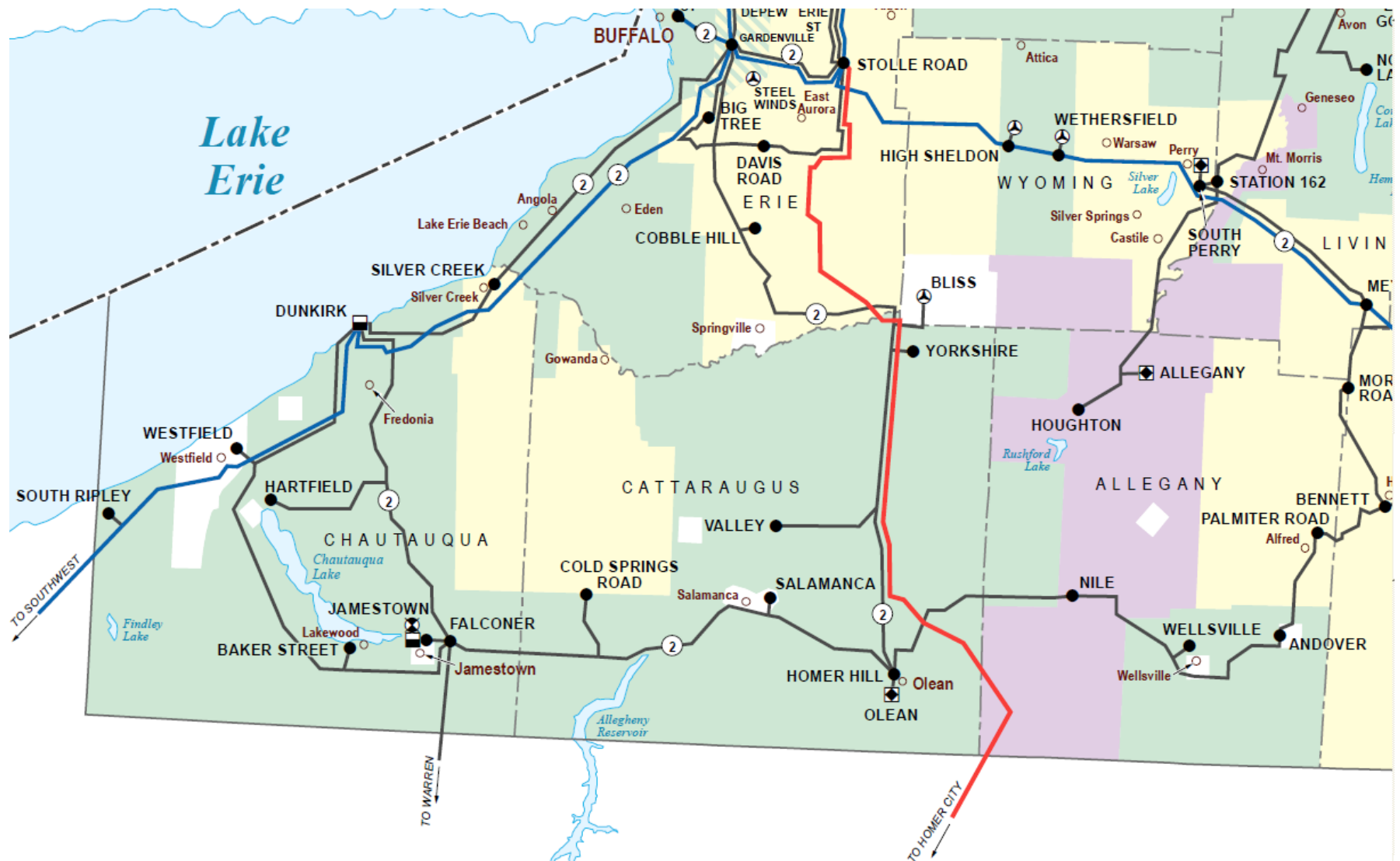
- The NYISO website provides a link to the National Grid project list:
 - Choose **Planning For The Future**
 - Then **NYISO Planning**
 - Select **Documents & Resources** in menu at left
 - Click link to **Local TO Planning Process**
- National Grid's project list can also be accessed directly at:
www.nationalgridus.com/oasis/filings_studies.asp
- The National Grid Transmission Planning Guide is posted on our website under:
 - www.nationalgridus.com/transmission/c3-8_standocs.asp
 - Click the link to: Transmission Planning Guide

LTP Project List

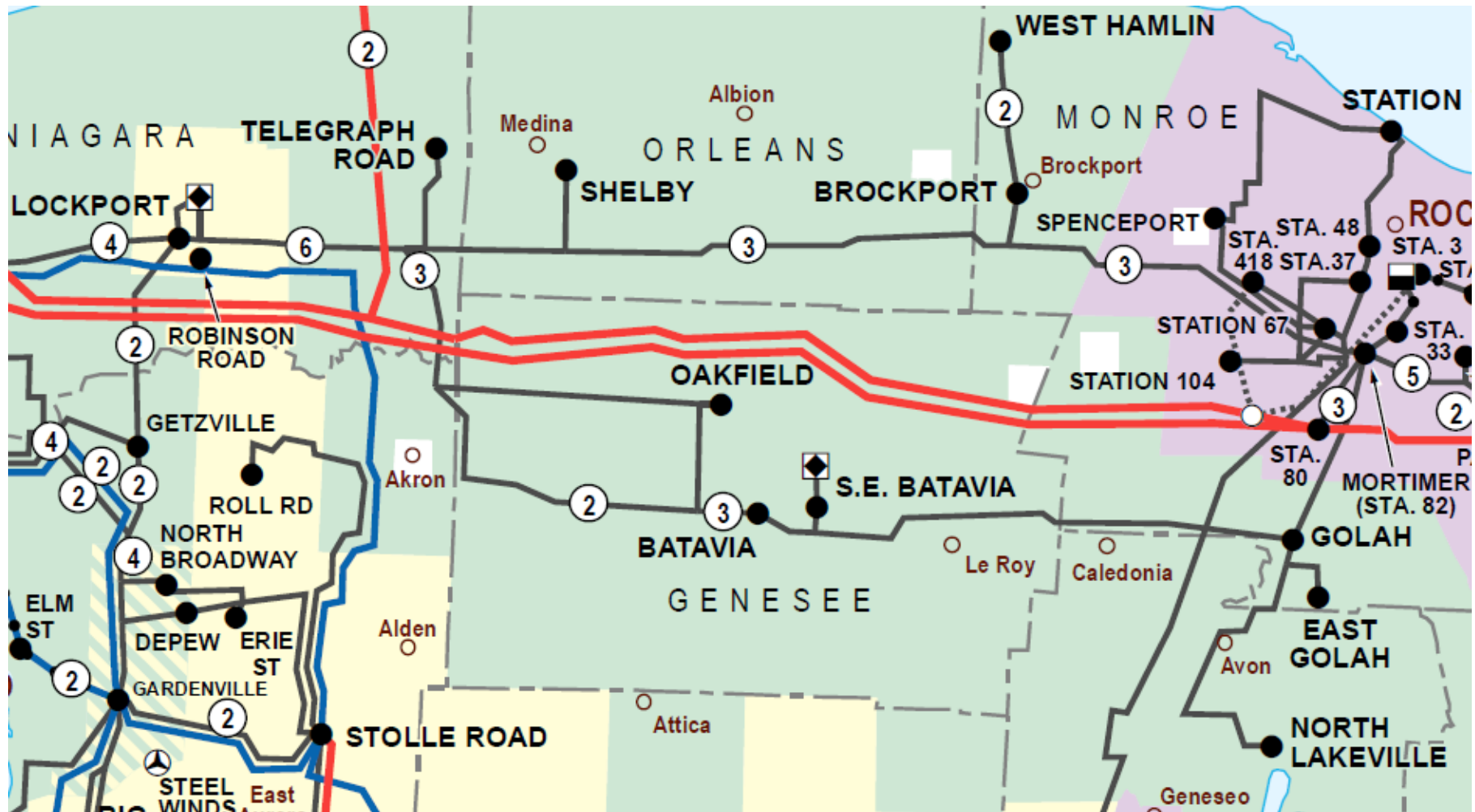
The LTP Project List is a cumulative listing of proposed regulated transmission solutions that may meet LTP needs.

Project Status Descriptions	
Concept	Project is under consideration as possible solution to a need, but little or no analysis is available.
Proposed	National Grid has internally determined that the project is an appropriate solution to a need, but has not yet obtained System Impact Study (SIS) approval through the NYISO (if required).
Planned	SIS has been approved (if required) and National Grid has management commitment to proceed with the project.
Under Construction	Project has siting approval, as required, and is under construction.
In Service	Project is complete and in commercial operation.
Cancelled	Project has been removed from the National Grid business plan and is no longer being considered as a viable option.

Western NY – Southwest area



Western NY – Genesee area



LTP List – Western NY (1 of 4)

Primary Driver	Primary Equipment Owner	Other Equipment Owner(s)	Projected In-Service Month/Year	Major Project	Project	Updated Status	CSPP Status	NYSO System Impact Study Status	Comments
Western New York									
Reliability	National Grid, USA		6/2015	Western NY Reinforcement Project	Reconductor part of Gardenville - Erie 115 kV circuit #54	Proposed	Too Early	TPAS Approved	
Reliability	National Grid, USA		12/2015		Reconductor Falconer - Warren 115 kV circuit #171 (795 ACSR)	Proposed	Too Early	TPAS Approved	
Reliability	National Grid, USA		6/2018		Add a second 115 kV bus tie in series with existing Dunkirk 115 kV bus tie breaker	Proposed	Too Early	TPAS Approved	
Reliability	National Grid, USA		6/2015		Closure of Normally Open switch at Andover station following completion of Five Mile Rd.	Proposed	Too Early	TPAS Approved	
Reliability	National Grid, USA		6/2015		Reinstallation of previously removed fuses to return output of 2 Homer Hill capacitor banks to designed 32 MVar and 33 MVar after completion of Five Mile Rd.	Proposed	Too Early	TPAS Approved	
Reliability	National Grid, USA		6/2015		Construct Five Mile Rd 345/115 kV station connecting 345 kV Homer City-Stolle #37 circuit and 115 kV Gardenville-Homer Hill #151/152 circuits with single 345/115 kV 448 MVA transformer and single 25 MVar capacitor bank	Planned	TO Update	TPAS Approved	
Reliability	National Grid, USA		6/2015		Reinstallation of previously removed fuses to return output of Andover capacitor bank to designed 15 MVar after completion of Five Mile Rd.	Proposed	Too Early	TPAS Approved	
Reliability	National Grid, USA		6/2015		Addition of second 75 MVar capacitor bank Huntley 115 kV switchyard	Proposed	Too Early	TPAS Approved	
Reliability	National Grid, USA		05/2016		Add a second 115 kV bus tie in series with existing Lockport bus tie breaker	Proposed	Too Early	TPAS Approved	

LTP List – Western NY (2 of 4)

Primary Driver	Primary Equipment Owner	Other Equipment Owner(s)	Projected In-Service Month/Year	Major Project	Project	Updated Status	CSPP Status	NYISO System Impact Study Status	Comments
Western New York									
Reliability	National Grid, USA		05/2013	Dunkirk Related	Install 4-75 MVAR capacitor banks at Gardenville (115 kV)	Complete	TO Update	Approved	
Reliability	National Grid, USA		5/2013		Addition of a 230 kV breaker at Huntley which creates new bus section	Complete	TO Update	Approved	
Reliability	National Grid, USA		5/2014		Addition of a 230 kV breaker at Packard which creates new bus section	Complete	TO Update	Approved	
Reliability	National Grid, USA		6/2015		Add two 33.3 MVAR capacitor banks on two Dunkirk 115 kV bus sections	Planned	Too Early	Approved	
Reliability	National Grid, USA		6/2016		Reconductoring of two 115 kV lines between Five Mile Rd and Homer Hill, each approx. 7.4 miles long	Concept	Too Early	Approved	
Reliability	National Grid, USA		6/2016		Reconductor one mile of Niagara-Gardenville #180 & 2.3 miles of #182 line	Concept	Too Early	N/R	
Reliability	National Grid, USA		05/17	Gardenville Subst.	Replace Gardenville 230:115 kV transformers TB#3 and TB#4	Planned	TO Update	Approved	
	National Grid, USA		05/17		Complete rebuild of Gardenville 115 kV station	Planned	TO Update	Approved	
Reliability	National Grid, USA		06/2015	Niagara-Packard #195	Niagara-Packard #195 115 kV line rebuild	Proposed	TO Update	Scoped	
Reliability	National Grid, USA		12/2017	Reconductor of #181 Line	Reconductor 14 miles of Packard-Erie #181 line	Concept	Too Early	Required	
Reliability	National Grid, USA		12/2017	Rebuild Gardenville - Dunkirk 141/142	Rebuild Gardenville - Dunkirk 141/142	Concept	Too Early	N/R	
Reliability	National Grid, USA		TBD	Addition of breakers to #2 and #4 circuits	Loop Mortimer - Elbridge #2 and Pannell - Geneva #4 into Farmington	On Hold	Too Early	N/R	

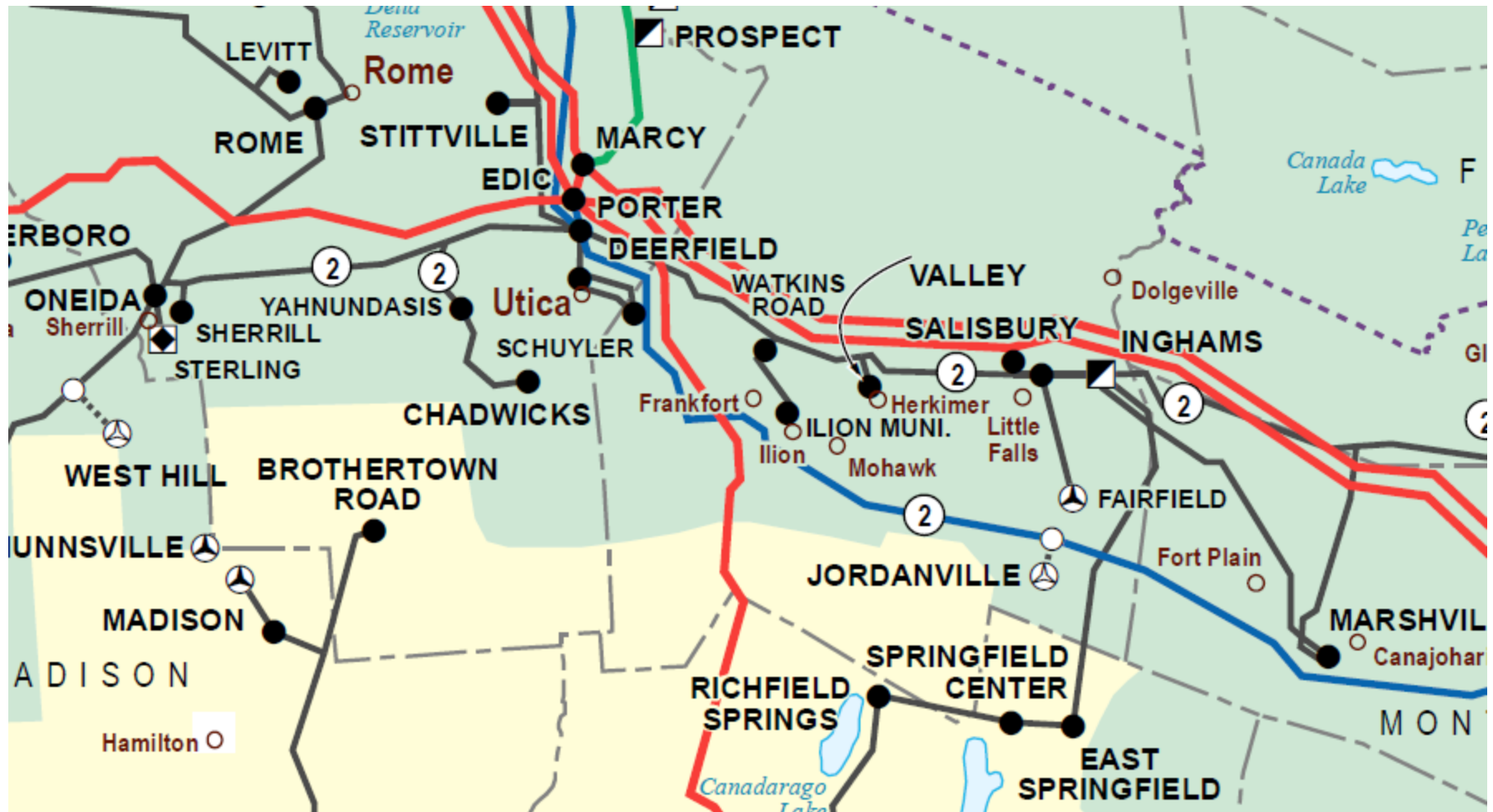
LTP List – Western NY (3 of 4)

Primary Driver	Primary Equipment Owner	Other Equipment Owner(s)	Projected In-Service Month/Year	Major Project	Project	Updated Status	CSPP Status	NYISO System Impact Study Status	Comments
Western New York									
Reliability	National Grid, USA		06/2017	Mortimer-Golah area 115 kV reinforcements	Install new West Golah 115 kV substation	Concept	Too Early	N/R	
Reliability	National Grid, USA		06/2015		Install mobile 115kV 20 MVAR cap bank at Golah substation	Concept	Too Early	N/R	
Reliability	National Grid, USA		06/2017		Add second 115 kV breaker in series with the existing bus tie breaker at Mortimer	Concept	Too Early	N/R	
Load Growth	National Grid, USA		10/2014	New Distribution Stations	Addition of new Frankhauser 115/13.2 kV station	Planned	TO Update	N/R	
Load Growth	National Grid, USA		12/2017		Addition of new North Lakeville 115/13.2 kV station	Planned	TO Update	N/R	
Load Growth	National Grid, USA		06/2017		Addition of new New Tonawanda 115/13.2 kV station	Planned	TO Update	N/R	
Load Growth	National Grid, USA		06/2017		Addition of new Abbey Street 115/13.2 kV station	Planned	TO Update	N/R	
Load Growth	National Grid, USA		12/2015	Addition of 4th Elm Street 230-23 kV station	Addition of 4th Elm Street 230-23 kV station	Planned	Too Early	N/R	
Reliability	National Grid, USA		3/2013	Homer Hill Cap Banks	Install 1-25 MVAR capacitor bank at Homer Hill (115 kV)	Complete	TO Update	N/R	
Reliability	National Grid, USA		1/2013	Lockport - Mortimer #111 rebuild	Rebuild Lockport - Mortimer 115 kV circuit #111	Complete	TO Update	N/R	
Reliability	National Grid, USA		5/2013	Dunkirk Mobile Capacitor Bank	Installation of mobile capacitor bank at Dunkirk (removed from Huntley)	Complete	TO Update	N/R	
Reliability	National Grid, USA		05/2013	Swann Rd Transformer	Replace 115-13.2 kV transformer	In-Service	TO Update	N/R	

LTP List – Western NY (4 of 4)

Primary Driver	Primary Equipment Owner	Other Equipment Owner(s)	Projected In-Service Month/Year	Major Project	Project	Updated Status	CSPP Status	NYISO System Impact Study Status	Comments
Western New York									
Reliability	National Grid, USA		05/2013	Upgrade of #107	Replace limiting terminal equipment on Lockport - Batavia 115 kV circuit #107	In-Service	TO Update	N/R	
Reliability	National Grid, USA		06/2018	Batavia Cap Bank and Bus upgrade	Install 1-27 MVAR capacitor bank at Batavia and increase size of bus conductor (115 kV)	Cancelled	N/R	N/R	
Reliability	National Grid, USA		06/2018	Mortimer-Golah area 115 kV reinforcements	Conversion of line #109 from 69 kV to 115 kV	Cancelled	N/R	N/R	
Reliability	National Grid, USA		06/2018	Mortimer-Golah area 115 kV reinforcements	Split the Golah bus into two sections	Cancelled	N/R	N/R	

Central NY – Utica/Rome area





LTP List – Central NY (1 of 2)

Primary Driver	Primary Equipment Owner	Other Equipment Owner(s)	Projected In-Service Month/Year	Major Project	Project	Updated Status	CSPP Status	NYSO System Impact Study Status	Comments
Central New York									
Reliability	National Grid, USA		06/2016	Cayuga Station Reliability Study	Reconnect 345-115 kV bank 2 at Clay substation	Proposed	Too Early	Uncertain	
Reliability	National Grid, USA		01/2017		Reconductor Clay-GE #14	Proposed	Too Early	Uncertain	
Reliability	National Grid, USA		06/2016		Add line position at Elbridge. NYSEG to construct new 115kV line. Bus together existing Line5/15 to create new 5 line.	Planned	Too Early	Uncertain	
Reliability	National Grid, USA		12/2017	Central Division Reconductoring	Reconductor Clay - Dewitt #3	Proposed	Too Early	N/R	
Reliability	National Grid, USA		12/2016		GE - Geres Lock #8 Reconductor	Proposed	Too Early	N/R	
Reliability	National Grid, USA		12/2017		Reconductor Clay - Teall #10	Proposed	Too Early	N/R	
Reliability	National Grid, USA		6/2017	Porter Station Bulk Power Upgrades	Porter 115 and 230kV substation bulk power upgrades	Proposed	Too Early	Uncertain	
Reliability	National Grid, USA		03/2014	Porter 230kV Breaker Overduty Mitigation	Install relays to add two cycle delay to the fault clearing times of nine 230 kV breakers	Proposed	Too Early	N/R	-
Reliability	National Grid, USA		06/2014	Clay Station Bulk Power Upgrades	Clay 115 kV substation bulk power upgrades	Under Construction	TO Update	Approved	
Reliability	National Grid, USA		11/2017	Edic 345-230kV TB2 Reconnect	Create a new bay by adding two new 345 kV breakers, then reconnect the TB2 to the newly created position.	Concept	Too Early	Uncertain	-
Reliability	National Grid, USA		12/2017	DeWitt 345 kV Breaker Addition	Dewitt 345 kV breaker addition	Concept	Too Early	N/R	
Reliability	National Grid, USA		12/2019	Inghams Substation Rebuild	Replace 115 kV breakers; adding a new phase shifter	Concept	Too Early	Uncertain	

LTP List – Central NY (2 of 2)

Primary Driver	Primary Equipment Owner	Other Equipment Owner(s)	Projected In-Service Month/Year	Major Project	Project	Updated Status	CSPP Status	NYSO System Impact Study Status	Comments
Central New York									
Reliability	National Grid, USA		7/31/2014	Rome Capacitor Bank Installation	New 115kV 28.8 MVar capacitor bank installation on the north bus at Rome to support the 115 kV system	Under Construction	N/A	N/R	
Reliability	National Grid, USA		06/2014	Northern Area Projects	Replace three 115 kV circuit breakers at ALCOA substation	Under Construction	N/A	N/R	
Reliability	National Grid, USA		04/2014	Wetzel Road Substation	Install new distribution substation in north Syracuse area	Planned	Too Early	N/R	
Load Growth	National Grid, USA		06/2017	Maple Ave Substation	Install new distribution substation in north Syracuse area	Planned	Too Early	N/R	
Load Growth	National Grid, USA		06/2017	Watertown Substation	Install new distribution substation in Watertown area	Planned	Too Early	N/R	
Reliability	National Grid, USA		12/2017	Central Division Reconductoring	Reconductor Oneida - Yahundasis #3	Concept	Too Early	N/R	
			12/2018	Central Division Reconductoring	Reconductor Oneida - Yahundasis #6	Concept	Too Early	N/R	
Reliability	National Grid, USA		12/2018	McBride Substation	Connect Distribution Substation in Syracuse area	Cancelled	N/R	N/R	
Reliability	National Grid, USA		12/2018	Automate 115 kV Switches at Lowville	Installing two new 115 kV motor operated disconnect switches and two (2) Cuts to implement the automatic control scheme at Lowville.	Concept	Too Early	N/R	
Reliability	National Grid, USA		06/2012	Replace 345 kV Breakers at Scriba and Volney Substations	Replace two 345 kV breakers at Volney and replace eight breakers at Scriba	Complete	Too Early	N/R	
Reliability	National Grid, USA		12/2018	Colton-Brownfalls 1 Load Break Attachment	Colton-Brownfalls 1 Load Break Attachment	Concept	Too Early	N/R	

Eastern NY – Northeast area



LTP List – Eastern NY

Primary Driver	Primary Equipment Owner	Other Equipment Owner(s)	Projected In-Service Month/Year	Major Project	Project	Updated Status	CSPP Status	NYSO System Impact Study Status	Comments
Eastern New York									
Reliability	National Grid, USA		06/2018	Northeast Region Reinforcement Project	Reconductor Eastover Rd-Luther Forest #3 115 kV (10.4 miles), Ballston #2 115 kV Tap (Ballston-Malta; 5.1 miles), and Mohican-Butler # 18 (3.5 miles).	Proposed	Too Early	Approved	
Reliability	National Grid, USA		12/2014		230-115 kV station at Eastover Road in Schaghticoke, supplied by the Rotterdam-Bear Swamp #E205 230 kV	Planned	Too Early	Approved	
Reliability	National Grid, USA		06/2016		Reconductor Mohican-Battenkill #15 115 kV (14.2 miles)	Planned	TO Update	N/R	
Reliability	National Grid, USA		6/2013		Spier-Rotterdam #1/#2 115 kV reconductoring, reconfiguration, and addition of new Spier-Rotterdam #3 115 kV	Under Construction	TO Update	Approved	
Reliability	National Grid, USA		06/2017	New Distribution substations and Banks	Build a 115-13.2 kV substation @ Sodeman Road	Planned	TO Update	N/R	
Load Growth	National Grid, USA		06/2015		Addition of two new 115/13.2 kV banks at Riverside station	Planned	TO Update	N/R	
Load Growth	National Grid, USA		06/2017		New Randall Rd 115-13.2kV sub outside Ballston, NY	Planned	TO Update	N/R	
Load Growth	National Grid, USA		06/2017		New Van Dyke 115-13.2kV sub Bethlehem, NY	Planned	TO Update	N/R	
Reliability	National Grid, USA		12/2017		Convert Ephratah sub from 69 to 115kV	Concept	Too Early	N/R	
Reliability	National Grid, USA		04/2013	Replace Maplewood R15 Circuit Breaker	Replace one 115 kV circuit breaker at Maplewood	Complete	N/A	N/R	
Reliability	National Grid, USA		TBD	Northeast Region Reinforcement Project	Add fourth Rotterdam 230-115 kV transformer	Cancelled	Too Early	N/R	
Reliability	National Grid, USA		06/2014	Northeast Region Reinforcement Project	Replace five 115kV Circuit Breakers at North Troy.	Proposed	Too Early	N/R	
Reliability	National Grid, USA		2015-2019	Northeast Region Reinforcement Project	Addition of 250MVAR of reactive compensation (capacitors) to Northeast Region T/D System.	Proposed	Too Early	N/R	
Reliability	National Grid, USA		07/2012	Inman Rd Substation load relief	Install second transformer bank and two new feeders.	In-Service	Too Early	N/R	
Reliability	National Grid, USA		12/2012	Sycaway transformer	Add new 115-13.2 kV transformer	In-Service	Too Early	N/R	

LTP Communication

- Interested parties may submit written comments on National Grid's LTP within 30 days (by November 3, 2011) to:

Peter Altenburger

Director, Transmission Planning - NY

National Grid

1125 Broadway

Albany, NY 12204

- Comments will be posted on the NYISO website.
- Modifications to the LTP discussed at the next LTP meeting.

Questions?

