



Local System Plan 2023

Transmission Owner Planning Advisory Committee

November 15, 2023

Agenda

- ❖ LSP format updates for 2023
- ❖ LSP process overview
- ❖ Projects in each region
 - Transmission line projects
 - Substation projects
 - New substations
 - Substation expansions and reconfigurations
 - Transformer additions & replacements
 - DER group studies (Massachusetts only)

Enhancements to LSP materials for 2023

- To enhance the information provided to stakeholders, Eversource has revised its LSP materials for 2023
- LSP materials are now provided in two files:
 - LSP Presentation (this file)
 - LSP Project List (spreadsheet)
 - Both files are posted in draft form to the ISO-NE website, and will be posted to the Eversource website when final
- LSP Presentation will be reviewed with the TOPAC
 - Projects are grouped by geographic location and project type (rather than in-service date)
 - Additional information provided for more complex projects
 - Changes from last year marked in blue
- LSP Project List provides data in similar format to prior years but in sortable spreadsheet format
 - LSP projects are now assigned unique identifiers similar to ISO-NE RSP Project List and Asset Condition List

Update to Eversource LSP for 2023

- The Eversource Local System Plan (LSP) has been revised to incorporate the latest proposed changes to the Eversource Local transmission system for Connecticut, Massachusetts, and New Hampshire
- The LSP Project List is a cumulative listing of proposed transmission solutions intended to meet local needs
- This LSP-[2023](#) supersedes Eversource's LSP-[2022](#)

Purpose of the Local System Plan

Per Attachment K – Local, the LSP:

- Describes projected improvements to Non-PTF (Non-Pool Transmission Facilities) that are needed to maintain system reliability
- Reflects:
 - Local Needs Assessments
 - Public Policy Requirements (State, Federal, or Local)
 - Corresponding transmission system plans and future studies
 - Maps indicating project locations
- Identifies:
 - Local Planning Process
 - Criteria, Data, and Assumptions used in the Local System Planning Process

LSP Communication

- ISO-NE posts the materials on the PAC web page prior to the meeting.
- PAC, Transmission Customers, and other Stakeholders have 30 days after the meeting to provide any written comments for consideration by Eversource.
 - Comments to be directed to:

David Burnham

Director, Transmission Policy

Eversource

56 Prospect Street

Hartford, CT 06103

Phone: (860) 728-4506

email: david.burnham@eversource.com

LSP Communication (cont.)

- Each PTO (Participating Transmission Owner) is individually responsible for publicly posting and updating the status of its respective LSP and transmission project list on their website in a format similar to the ISO-NE Regional System Plan (RSP) Project List
- Eversource's project lists are located at:
 - <https://www.eversource.com/content/residential/about/transmission-distribution/projects>
 - After following the link, scroll to the section which states “Other projects are listed on our Local System Plan, which is updated annually.” (Red below)

Click on your state to see major projects



Connecticut



Massachusetts



New Hampshire

To ensure close collaboration with our stakeholders, we share information on upcoming projects with ISO New England's [Planning Advisory Committee](#), which is an open forum for stakeholder feedback. Most of our projects are listed on ISO New England's [Regional System Plan](#) and Asset Condition project lists. Other projects are listed on [our Local System Plan](#), which is updated annually.

Local System Planning Process

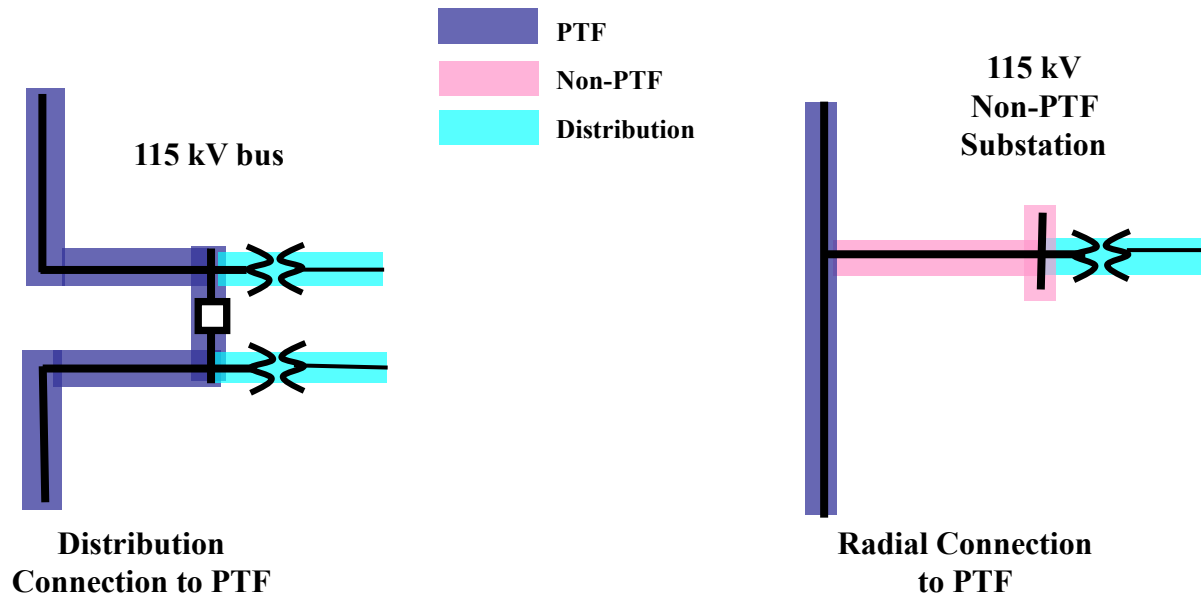
- Local studies can result from:
 - Load growth and/or point of delivery requests from customers
 - Local area reliability assessments
 - Public Policy Requirements (State, Federal, or Local)
 - Other efforts that may impact local facilities (*e.g.*, elective transmission upgrades, reliability transmission upgrades, generator interconnections, short-circuit or temporary overvoltage studies)
 - Distribution system modifications (including upgrades to integrate distributed energy resources)
- The Local System Plan:
 - Summarizes the needs
 - Summarizes the selection of preferred solution
 - Includes local projects that are related to projects listed in the RSP
- The Local System Plan also includes asset condition projects on non-PTF transmission facilities

Criteria and Assumptions

- All Eversource local transmission facilities (69-kV and above) are part of the interconnected Eversource system and shall be designed in accordance with criteria described in the Eversource transmission reliability guidelines as described in the “Transmission System Design and Analysis Guideline”
- Eversource complies with NERC, NPCC, and ISO-NE planning criteria
- Eversource uses the annual ISO-NE CELT Report forecasts for the New England area peak load. The effects of non-peak loads may be analyzed if those could cause a condition of concern
 - When local area loads peak at times that are different from the ISO-NE System Peak (basis of CELT Report forecast loads), local substation peak loads may be substituted for the ISO-NE CELT forecast loads
- Studies use ISO-NE power flow and short-circuit models which are modified to represent the specific conditions to be analyzed.

This Local System Plan includes the following types of Transmission System connections

(illustrative examples)



- Eversource has distribution connections and radial transmission connections

NH, MA, and CT Projects in Regional System Plan

Large-scale reliability assessments may ultimately have Local ramifications. Assessment studies are described in the ISO-NE RSP. Several longer-term assessments have been completed, and others are being conducted. Information about studies being conducted that may affect the local system can be found in the ISO-NE 2021 RSP:

- New Hampshire, RSP sections 5.3 and 5.4.7
- Connecticut, RSP sections 5.3, 5.4.1, 5.4.2, and 5.4.8
- Eastern Massachusetts, RSP sections 5.3, 5.4.4, and 5.4.5
- Western Massachusetts, RSP sections 5.3 and 5.4.3

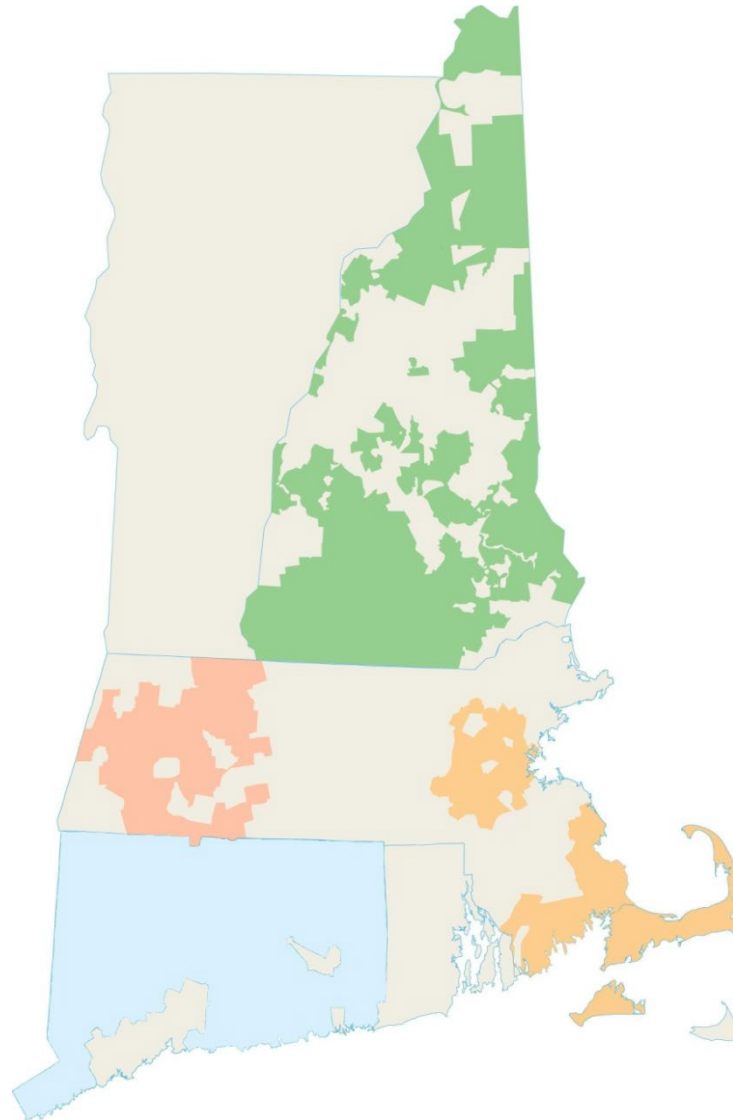
LSP Project List

- The LSP Project List is a cumulative listing of proposed transmission solutions intended to meet LSP needs
- The LSP Project List includes the status of each Local Pool Transmission Facility (PTF) project and Non-Pool Transmission Facility (Non-PTF) project. Costs are provided for Proposed, Planned, Under Construction, and In-Service categories of projects, using the same guidelines as the various stages of RSP projects. Some projects may have costs yet to be determined.
 - **Concept** - Project is under consideration as a possible solution to a need, for which there is little to no analysis complete
 - **Proposed** – Eversource has determined that the project is an appropriate solution to the need, but a Proposed Plan Application (PPA) is not yet approved by ISO-NE
 - **Planned** - PPA has been filed and approved by ISO-NE
 - **Under Construction** - Final engineering and internal approvals completed and project is being implemented
 - **In-Service** - Project completed

Eversource Service Territories

Local System Plan projects are grouped into four regions:

- *Eastern Massachusetts*
- *Western Massachusetts*
- *Connecticut*
- *New Hampshire*

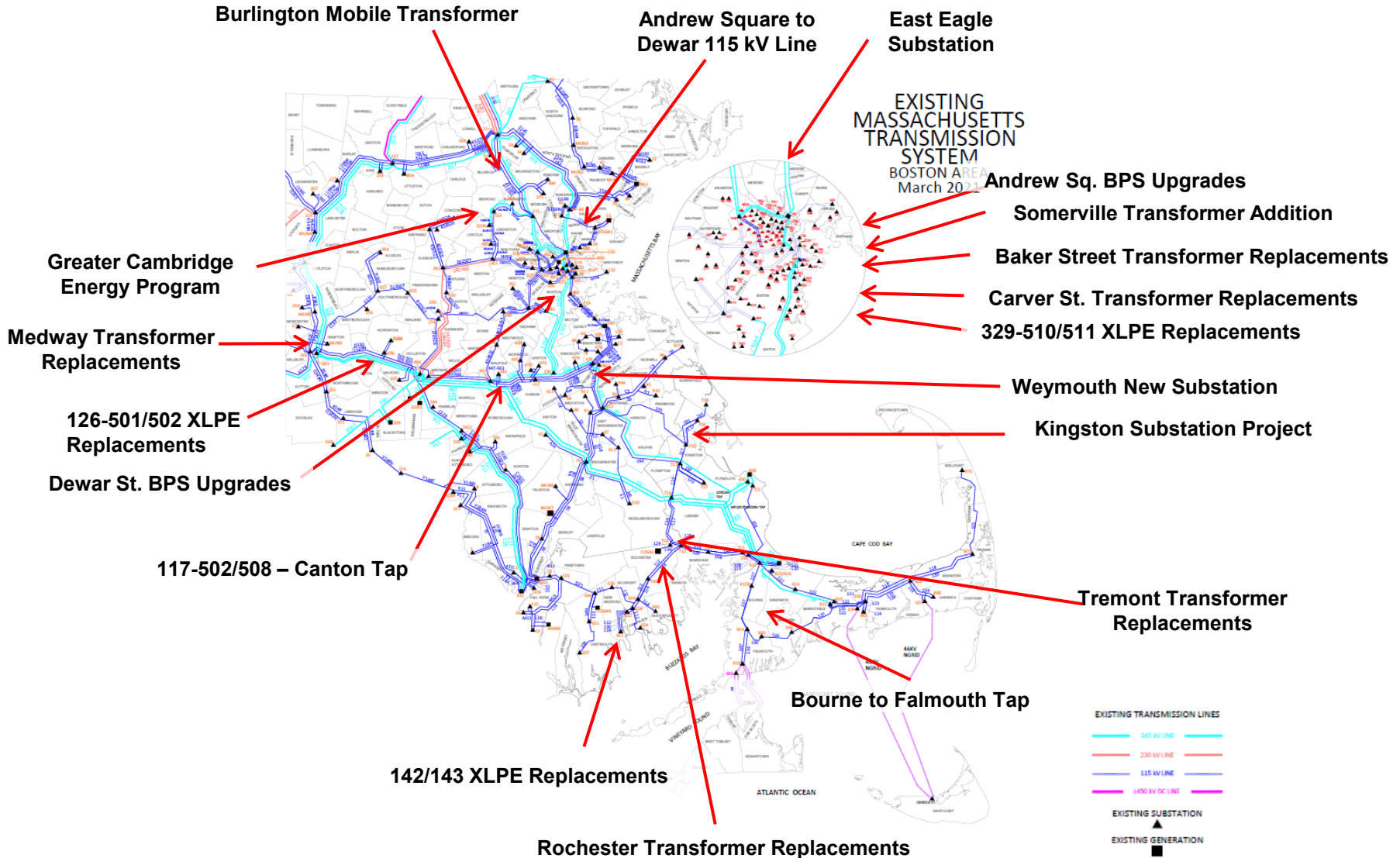


Organization of the Local System Plan

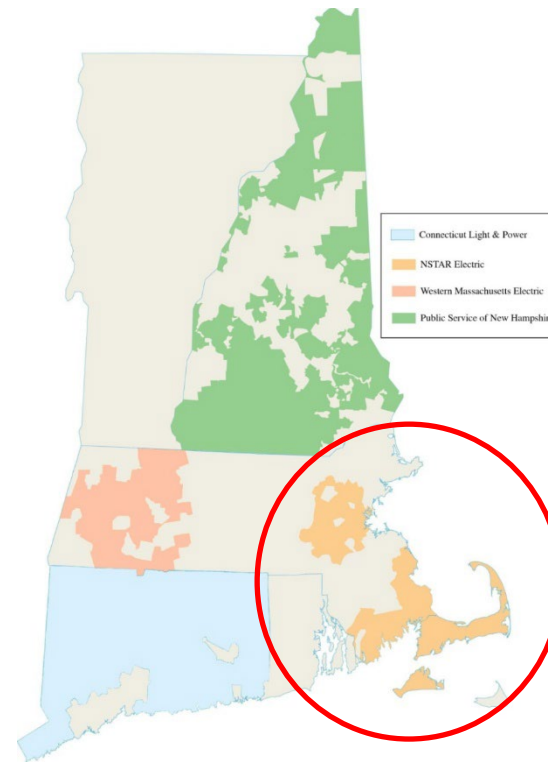
- For each region, projects are organized as follows:
 - Transmission line projects
 - Substation projects
 - New substations
 - Substation reconfiguration and/or expansion
 - Bulk distribution transformer additions or replacements (limited or no substation modifications)
 - DER Group Studies – Projects associated with MA Provisional Planning Process study groups
- New projects and projects with significant revisions are indicated
 - Presentation will focus on these projects

Eastern Massachusetts Projects

Proposed, Planned, Under Construction, and In-Service projects only*



*DER Group Study projects not reflected



Eastern MA

TRANSMISSION LINE PROJECTS

Underground Cable Modernization Program

Replacement of PTC with XLPE addresses equipment availability concerns, environmental concerns, better accommodates future system expandability, and provides the most reliable and least risk solution over the long-term

| ID | Project | Solution Description | ISD, Projected | Project Status | PPA ID | Transmission Cost, Estimated (\$M) | Changes From Last Year |
|---------------|---|--|----------------|----------------|-----------|------------------------------------|------------------------|
| ES-23-LSP-034 | 115kV Line 126-501/502 XLPE Replacement | Replace pipe-type cable (PTC) circuits between Hopkinton and Milford with solid dielectric cross-linked polyethylene (XLPE) technology | 2027 | Proposed | TBD | TBD | New |
| ES-23-LSP-041 | 115kV Line 142/143 XLPE Replacement | Replace pipe-type cable (PTC) circuits between Acushnet and Pine St with solid dielectric cross-linked polyethylene (XLPE) technology | 2028 | Planned | ES-23-T01 | \$198.4 | Yes |
| ES-23-LSP-047 | 115kV Line 329-510/511 XLPE Replacement | Replace pipe-type cable (PTC) circuits between Somerville and Mystic with solid dielectric cross-linked polyethylene (XLPE) technology | 2029 | Proposed | TBD | TBD | No Changes |
| ES-23-LSP-051 | 115kV Line 292-522/523 XLPE Replacement | Replace pipe-type cable (PTC) circuits between Baker St and Newton Highlands with solid dielectric cross-linked polyethylene (XLPE) technology | 2030 | Concept | TBD | TBD | New |
| ES-23-LSP-054 | 115kV Line 250-516/517 XLPE Replacement | Replace pipe-type cable (PTC) circuits between Mystic and Seafood Way with solid dielectric cross-linked polyethylene (XLPE) technology | 2031 | Concept | TBD | TBD | Yes |



Other Transmission Line Projects

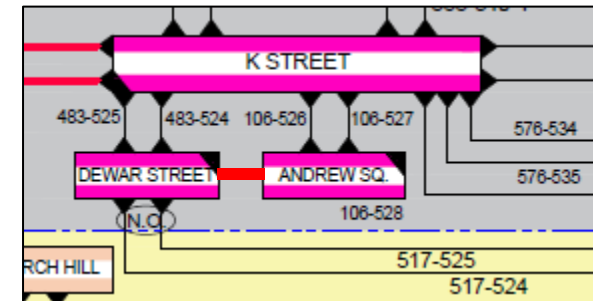
| ID | Need Category | Project | Solution Description | ISD, Projected | Project Status | PPA ID | Transmission Cost, Estimated (\$M) | Changes From Last Year |
|---------------|---------------------------------------|---|--|----------------|--------------------|-----------|------------------------------------|------------------------|
| ES-23-LSP-003 | Asset Condition/ Local Reliability | 115kV Line 117-502 and 117-508 structure replacements and OPGW - Canton Tap | Replace existing structures due to reliability concerns and asset condition | Jun-2024 | Under Construction | N/A | \$7.2 | Yes |
| ES-23-LSP-007 | Local Reliability | Andrew Square Sta #106 to Dewar Sta #483, new 115kV Line | Install new 115kV transmission line between Andrew Square and Dewar stations to provide alternative source to either station under N-1-1 contingencies | Dec-2024 | Under Construction | ES-19-T04 | \$96.3 | Yes |
| ES-23-LSP-043 | Local Reliability | New Bourne to Falmouth Tap 115kV Line | Install a new 115-kV transmission line between Bourne and Falmouth Tap substation to mitigate Consequential Load Loss violations under N-1-1 conditions. | 2028 | Proposed | TBD | TBD | Yes |
| ES-23-LSP-048 | Local Reliability | Newton Highlands #292 Substation Third Transmission Source | Add a third 115 kV line to Newton Highlands 292 substation | 2030 | Concept | TBD | TBD | New |
| ES-23-LSP-052 | Local Reliability | Partially Reconstruct 250-516/517 lines | The city of Boston is replacing the North Washington St. bridge. The existing 250-516/517 lines are attached to the bridge. Existing lines are HPFF PTC. Reconstruct 250-516/517 on the new bridge utilizing XLPE cable. | 2031 | Cancelled | ES-22-T09 | \$43.6 | Yes |



Andrew Square to Dewar Street 115kV Line

Project updates in blue

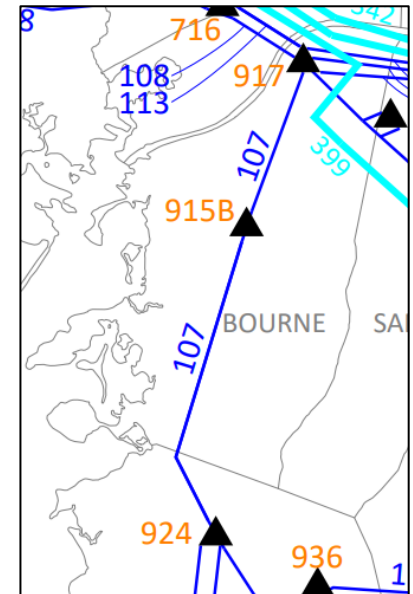
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| ID | ES-23-LSP-007 |
| Need Category | Local Reliability |
| Need Description | Potential loss of service to Andrew Square and/or Dewar Street stations for certain N-1-1 contingencies, which violates the Eversource local planning criteria SYS PLAN 015 |
| Solution Description | Install new 115-kV transmission line between Andrew Square and Dewar Street stations in Boston to provide alternative source to either station under N-1-1 contingencies. |
| Status | Under Construction |
| Cost | \$96.3 M |
| Projected In-Service | December 2024 |

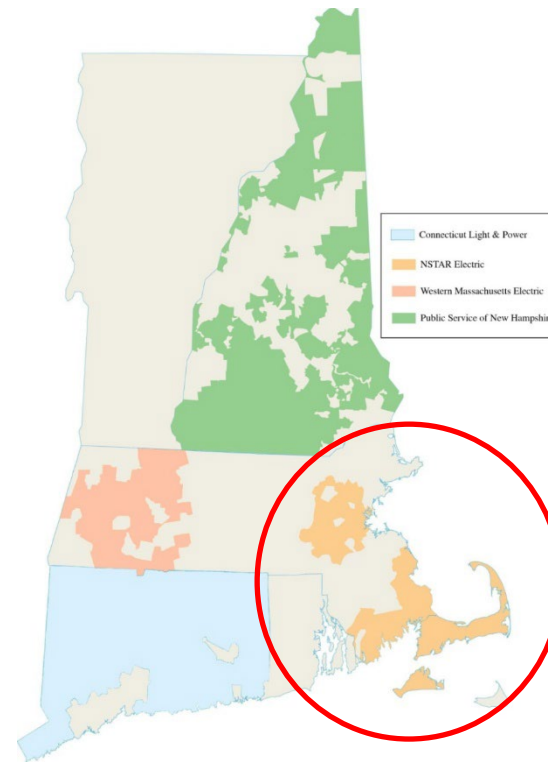


New Bourne to Falmouth Tap 115-kV Line

Project updates in blue

| | |
|----------------------|---|
| ID | ES-23-LSP-43 |
| Need Category | Local Reliability |
| Need Description | Multiple Transmission and Distribution needs for this project include: (1) N-1 transmission contingency outages the entire Falmouth Tap Substation resulting in a consequential loss of load that exceeds Eversource local planning criteria Transmission System Design and Analysis Guideline (TSDAG); (2) N-1-1 transmission contingencies will leave multiple stations without supply resulting in a consequential load loss that exceeds Eversource local planning criteria TSDAG; (3) N-1 transmission contingencies at Falmouth resulting in outages of multiple distribution transformers which violates the Eversource local planning criteria Distribution System Planning Guide (DSPG 2020); (4) under normal all-lines-in-service conditions, projected load at Hatchville and Falmouth Bulk will exceed capacity limits set in Eversource local planning criteria SYS PLAN 010. |
| Solution Description | Install a new 115-kV transmission line between Bourne and Falmouth Tap substation to mitigate Consequential Load Loss violations under N-1-1 conditions. |
| Status | Proposed |
| Cost | TBD |
| Projected In-Service | 2028 |





Eastern MA

SUBSTATION PROJECTS: NEW SUBSTATIONS

New Substations

| ID | Project | Solution Description | ISD, Projected | Project Status | PPA ID | Transmission Cost, Estimated (\$M) | Changes From Last Year |
|---------------|----------------------------------|---|----------------|----------------|----------------------|------------------------------------|------------------------|
| ES-23-LSP-033 | Weymouth Substation | Build a new 115 kV three-breaker ring substation Broad Street #624 in Weymouth, MA that will bisect line 478-502. Install a new radial 115 kV, 3.7-mile cable from the new station to provide a new supply to Hingham Municipal. | 2027 | Planned | ES-23-T53, ES-23-X02 | N/A (Reimbursable) | Yes |
| ES-23-LSP-045 | North Burlington Substation | Build a new 115/14kV station with two 62.5 MVA 115/14kV transformers. | 2028 | Concept | TBD | TBD | Yes |
| ES-23-LSP-038 | Hyde Park Substation | Build additional load service capacity in the project area. It is expected that a new transmission substation will be required. | 2029 | Concept | TBD | TBD | Yes |
| ES-23-LSP-046 | Greater Cambridge Energy Program | Install new substation with three (3) 90 MVA 115/14-kV transformers which will relieve East Cambridge #875, Putnam #831 and Prospect St #819 (distribution-only substation). New substation will be supplied via 329-510/511 lines from Brighton which will be replaced with XLPE cables and 329/510-511 lines from Somerville/Mystic, which will be replaced with XLPE as part of ES-23-LSP-047. The existing 831-538 and 875-539 lines will also interconnect with the new substation. Relocate 875-539 terminal to new substation. | 2029 | Proposed | TBD | TBD | Yes |
| ES-23-LSP-049 | Harwich/Orleans Substation | Install new distribution bulk substation with two (2) 115/23kV 75 MVA transformers. The proposed location is TBD and will most likely be installed at Harwich Tap Switching Station where the 118, 119, and 139 lines tap to Harwich Sub. Previously listed on the LSP as Dennis/Brewster. | 2030 | Concept | TBD | TBD | Yes |



New Substations - Continued

| ID | Project | Solution Description | ISD, Projected | Project Status | PPA ID | Transmission Cost, Estimated (\$M) | Changes From Last Year |
|---------------|--|---|----------------|----------------|--------|------------------------------------|------------------------|
| ES-23-LSP-053 | Natick Substation | Permanent 115/14kV Station either at Saxonville or Mill Street, Natick with two 65 MVA transformers. | 2031 | Concept | TBD | TBD | Yes |
| ES-23-LSP-056 | New Metro Boston Network Station | A new downtown Boston area substation to supply the secondary network systems | 2034 | Concept | TBD | TBD | New |
| ES-23-LSP-057 | New East Allston / Fenway/Brookline Substation | A new bulk distribution substation to supply the Allston / Fenway / Brookline areas of Metro Boston | 2034 | Concept | TBD | TBD | New |
| ES-23-LSP-058 | New Charlestown / Somerville Substation | A new bulk distribution substation to supply the Somerville/Charlestown areas of Metro Boston | 2034 | Concept | TBD | TBD | New |
| ES-23-LSP-059 | New Waltham Substation | A new bulk distribution substation in Waltham to relieve the existing North and West Waltham Substations. | 2034 | Concept | TBD | TBD | New |



New Substations - Continued

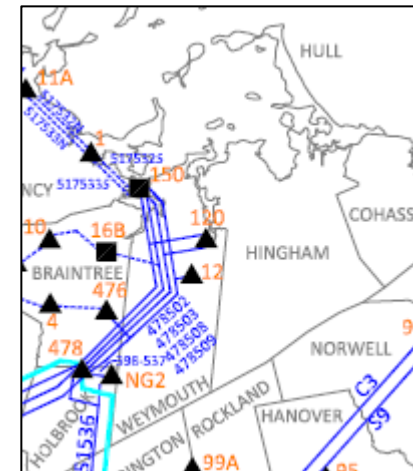
| ID | Project | Solution Description | ISD, Projected | Project Status | PPA ID | Transmission Cost, Estimated (\$M) | Changes From Last Year |
|---------------|-------------------------------|---|----------------|----------------|--------|------------------------------------|------------------------|
| ES-23-LSP-060 | New South End Substation | A new bulk distribution substation in South End/Andrew Square neighborhoods of Metro Boston | 2034 | Concept | TBD | TBD | New |
| ES-23-LSP-061 | Future North Acton Substation | Install new distribution bulk substation. The proposed location is in the vicinity of North Acton | 2034 | Concept | TBD | TBD | New |



Weymouth Substation

Project updates in blue

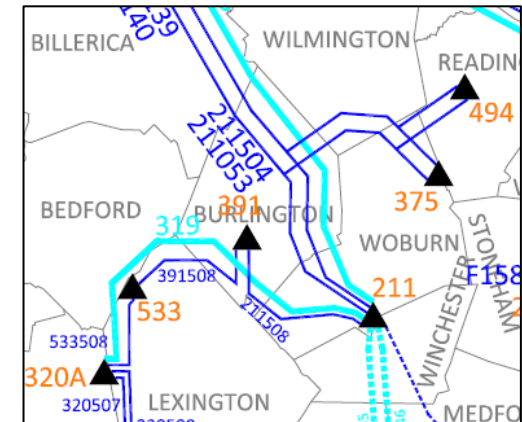
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| ID | ES-23-LSP-033 |
| Need Category | Local Reliability |
| Need Description | Provide third transmission supply at request of Hingham Municipal |
| Solution Description | Build a new 115 kV three-breaker ring substation Broad Street #624 in Weymouth, MA that will bisect line 478-502. Install a new radial 115 kV, 3.7-mile cable from the new station to provide a new supply to Hingham Municipal. |
| Status | Planned, ES-23-T53 & ES-23-X02 |
| Cost | TBD |
| Projected In-Service | 2027 |



North Burlington Substation

Project updates in blue

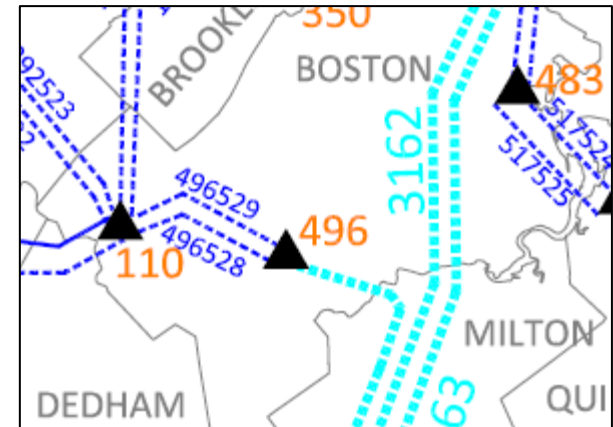
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| ID | ES-23-LSP-045 |
| Need Category | Local Reliability |
| Need Description | The Transmission and Distribution needs include: (1) N-1-1 consequential load loss of the Burlington-Woburn load pocket that exceeds the Eversource local planning criteria in Transmission System Design and Analysis Guideline. The affected substations involve NGRID's Billerica and Pinehurst substations, Eversource's North Woburn station, and the Town of Reading's station. (2) The capacity deficiency at the Burlington Station 391 exceeds the capacity limits set in Eversource local planning criteria SYS PLAN 010. |
| Solution Description | Build a new 115/14 kV station with two 62.5 MVA 115/14 kV transformers. Location TBD |
| Status | Concept |
| Cost | TBD |
| Projected In-Service | 2028 |



Hyde Park Substation

Project updates in blue

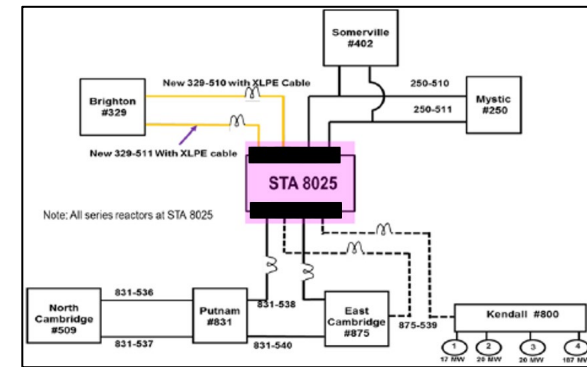
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| ID | ES-23-LSP-038 |
| Need Category | Local Reliability |
| Need Description | Several bulk distribution substations around the Hyde Park MA and Dorchester MA areas exceed or nearly exceed firm capacity limits. These stations include, Hyde Park Station #496, Andrew Square Station #106, Baker St. Station #110, Colburn Station #350, and Dewar St. Station #483. |
| Solution Description | Build additional load service capacity in the project area. It is expected that a new transmission substation will be required. |
| Status | Concept |
| Cost | TBD |
| Projected In-Service | 2029 |



Greater Cambridge Energy Program

Project updates in blue

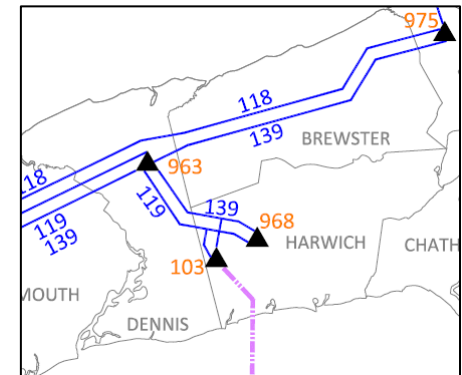
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| ID | ES-23-LSP-046 |
| Need Category | Local Reliability |
| Need Description | The Transmission and Distribution needs include: (1) N-1 and N-1-1 transmission line overloads; (2) Complete losses of load at Putnam and/or East Cambridge under N-1-1 conditions that exceed Eversource local planning criteria Transmission System Design and Analysis Guideline; (3) Rapid load growth exceed or nearly exceed the capacity of E Cambridge and Putnam substations; N-1 distribution transformer overload at East Cambridge. |
| Solution Description | Install new substation with three 90 MVA 115/14-kV transformers which will relieve East Cambridge #875, Putnam #831 and Prospect St #819 (distribution-only substation). New substation will be supplied via 329-510/511 lines from Brighton which will be replaced with XLPE cables and 329/510-511 lines from Somerville/Mystic, which will be replaced with XLPE as part of a separate project. The existing 831-538 and 875-539 lines will also interconnect with the new substation. Relocate 875-539 terminal to new substation. |
| Status | Proposed |
| Cost | TBD |
| Projected In-Service | 2029 |



Harwich/Orleans Substation

Project updates in blue

| | |
|-----------------------------|--|
| ID | ES-23-LSP-049 |
| Need Category | Local Reliability |
| Need Description | A need was identified for distribution substation capacity and reliability improvement in the lower-Cape Area between Harwich Substation #968 and Orleans Substation #975. Issues include violations of SYS PLAN 010 and the DPSG: A transformer bank exceeding 75% of rating N-0 (all facilities in) (2 violations), single contingency outage of a substation transformer exceeding station firm capacity (4 violations), single contingency outage of a substation transformer resulting in a transformer exceeding LTE rating (6 violations), single contingency outage of a distribution supply line resulting in an element exceeding LTE rating (9 violations), post contingency volage violations below ANSI C84 minimum (multiple violations), distribution circuit reliability in “penalty region” of annual SQI (Service Quality Index) filing to Mass DPU. |
| Solution Description | Install new distribution bulk substation with two (2) 115/23kV 75 MVA transformers. The proposed location is TBD and will most likely be installed at Harwich Tap Switching Station where the 118, 119, and 139 lines tap to Harwich Sub. Previously listed on the LSP as Dennis/Brewster. |
| Status | Concept |
| Cost | TBD |
| Projected In-Service | 2030 |

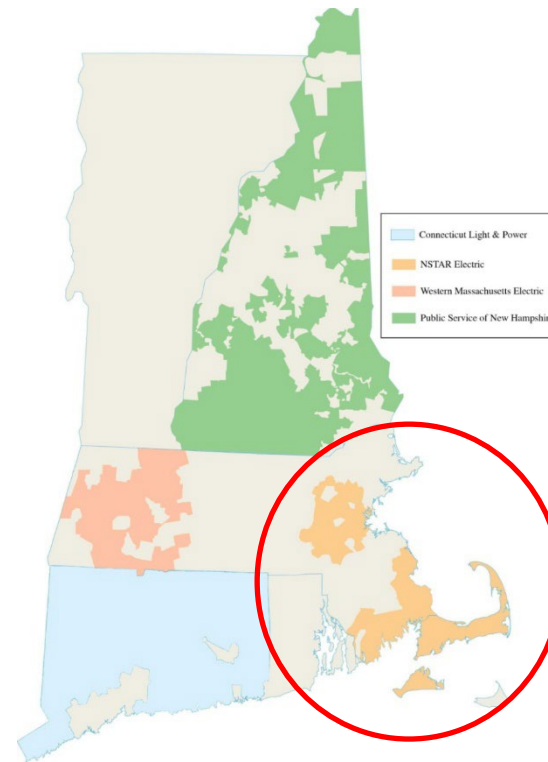


Natick Substation

Project updates in blue

| | |
|----------------------|---|
| ID | ES-23-LSP-053 |
| Need Category | Local Reliability |
| Need Description | Retire and remove temporary mobile substation installations at Holliston Station 130 and Saxonville Station 278 |
| Solution Description | Permanent 115/14kV Station either at Saxonville or Mill Street, Natick with two 65 MVA transformers. |
| Status | Concept |
| Cost | TBD |
| Projected In-Service | 2031 |





Eastern MA

SUBSTATION PROJECTS: STATION EXPANSIONS & RECONFIGURATIONS

Station Expansion & Reconfigurations

| ID | Need Category | Project | Solution Description | ISD, Projected | Project Status | PPA ID | Transmission Cost, Estimated (\$M) | Changes From Last Year |
|---------------|---------------------------------------|--|---|----------------|--------------------|------------------------|------------------------------------|------------------------|
| ES-23-LSP-002 | Asset Condition/ Local Reliability | Kingston Substation #735 | Station rebuild and redesign. This project listing includes the non-PTF and distribution components of ACL 27. | Dec-2023 | Under Construction | ES-23-T02 ES-23-T03 | \$33.4 | Yes |
| ES-23-LSP-008 | Asset Condition/ Local Reliability | Andrew Square Substation #106 | Build new control house and upgrade substation to Bulk Power Station standards | Dec-2024 | Under Construction | ES-19-X01 | \$26.7 | No Changes |
| ES-23-LSP-009 | Asset Condition/ Local Reliability | Dewar St. Substation #483 | Build new control house and upgrade substation to Bulk Power Station standards | Dec-2024 | Under Construction | ES-19-X02 | \$24.8 | No Changes |
| ES-23-LSP-031 | Local Reliability | Industrial Park #636 Battery Storage / STATCOM | Interconnect a 5 MW / 10 MWhr BESS with a 25 MVAR STATCOM for power quality improvement for customers out of Industrial Park Substation #636. The interconnection will be made the 13.2kV side of the substation. | 2026 | Concept | TBD | TBD | New |
| ES-23-LSP-032 | Local Reliability | Hyde Park #496 BESS | Interconnect a 15 MW / 20 MWhr Battery Storage System as a non-wires capacity deferral on the 24kV and 13.8kV sides of Hyde Park Substation #496 | 2026 | Concept | TBD | TBD | New |



Station Expansion & Reconfigurations

- Continued

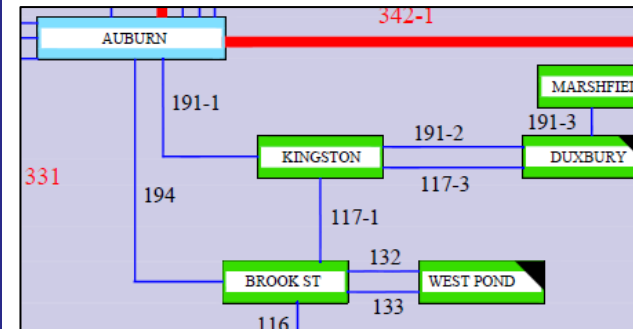
| ID | Need Category | Project | Solution Description | ISD, Projected | Project Status | PPA ID | Transmission Cost, Estimated (\$M) | Changes From Last Year |
|---------------|-------------------|--|---|----------------|----------------|--------|------------------------------------|------------------------|
| ES-23-LSP-039 | Local Reliability | Holbrook #478 - Ring Bus Upgrade | Add two breakers at the Holbrook 345kV station to close the ring bus | 2027 | Concept | TBD | TBD | No Changes |
| ES-23-LSP-040 | Local Reliability | Alewife Substation #829 Expansion | Install a 4th 62.5 MVA transformer | 2027 | Concept | TBD | TBD | New |
| ES-23-LSP-044 | Local Reliability | Falmouth Tap Switching Station Upgrade | Upgrade Falmouth Tap Switching Station from a 1-breaker series bus arrangement to a 115kV breaker and a half scheme. Install a 115/23kV bulk distribution station with one 45/50/75 MVA transformer to address area load growth | 2028 | Concept | TBD | TBD | Yes |
| ES-23-LSP-050 | Local Reliability | Electric Ave Substation #315 Expansion | Install a 4th 62.5 MVA transformer | 2030 | Concept | TBD | TBD | New |
| ES-23-LSP-055 | Local Reliability | Seafood Way Substation #99 Expansion | Install a 4th 62.5 MVA transformer | 2033 | Concept | TBD | TBD | New |



Kingston #735

Project updates in blue

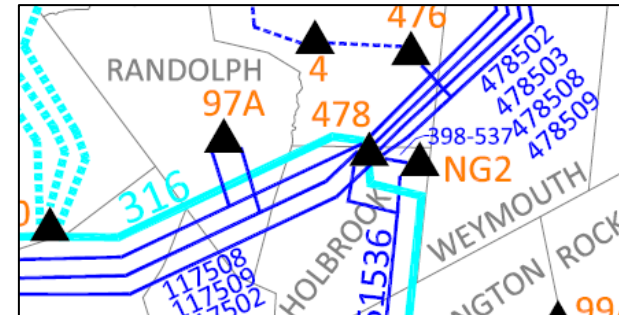
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| ID | ES-23-LSP-002 |
| Need Category | Local Reliability/Asset Condition |
| Need Description | The project needs include: (1) The existing equipment at Kingston Substation has reached the end of its useful life and exhibited issues such as age-related degradation, obsolete parts, and corrosion; (2) N-1 transmission contingency outages five distribution transformers which violates the Eversource local planning criteria Distribution System Planning Guide (DSPG). |
| Solution Description | Station rebuild and redesign. This project listing includes the non-PTF and distribution components of ACL 27. |
| Status | Under Construction |
| Cost | \$33.4 M (non-PTF only. PTF components on ACL) |
| Projected In-Service | December 2023 |

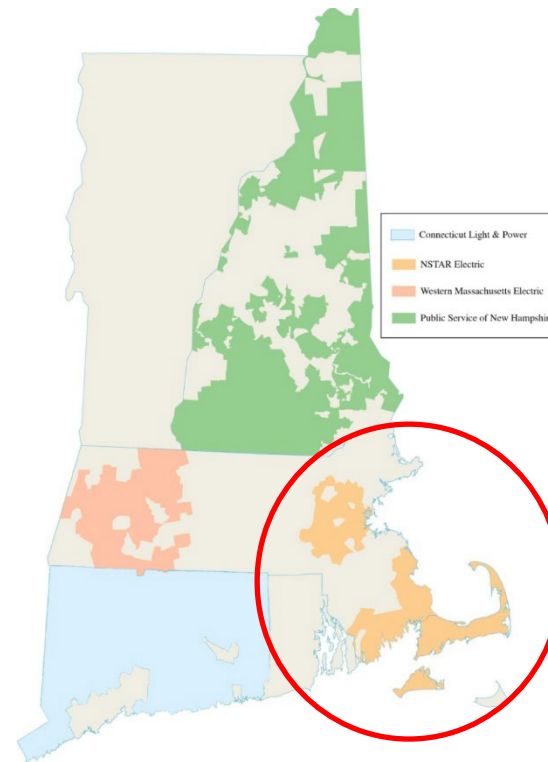


Holbrook #478 - Ring Bus Upgrade

No changes from 2022

| | |
|-----------------------------|---|
| ID | ES-23-LSP-039 |
| Need Category | Local Reliability |
| Need Description | 345 kV N-1 contingencies or maintenance conditions at Holbrook Station #478 result in line-end open situations of single or multiple 345 kV lines and leave Stoughton and/or Auburn Street substations with a single 345 kV supply. |
| Solution Description | Add two breakers at the Holbrook 345 kV station to close the ring bus |
| Status | Concept |
| Cost | TBD |
| Projected In-Service | 2027 |





Eastern MA

SUBSTATION PROJECTS: TRANSFORMER ADDITIONS & REPLACEMENTS

Transformer Additions & Replacements

| ID | Station | Need Category | Old Transformer | New Transformer | Project Status | ISD, Projected | PPA ID | Transmission Cost, Estimated (\$M) | Changes From Last Year |
|---------------|--|------------------------------------|------------------------------------|-----------------------|--------------------|----------------|-----------|------------------------------------|------------------------|
| ES-23-LSP-001 | Burlington #391 Substation | Local Reliability | New addition - Mobile | 115/14kV 50 MVA | Under Construction | Nov-2023 | ES-22-T16 | N/A | Yes |
| ES-23-LSP-004 | Somerville #402 Substation | Local Reliability | New addition | 115/14KV 62.5 MVA | Under Construction | Dec-2024 | TBD | N/A | Yes |
| ES-23-LSP-005 | Medway #65 Substation | Local Reliability | 115/13.8kV 40 MVA, 110A | 62.5 MVA | Under Construction | Dec-2024 | ES-22-T19 | N/A | No Changes |
| ES-23-LSP-006 | Medway #65 Substation | Local Reliability | 115/13.8kV 40 MVA, 110B | 62.5 MVA | Under Construction | Dec-2024 | ES-22-T20 | N/A | No Changes |
| ES-23-LSP-010 | Carver St. #71 Substation | Local Reliability | Two 115/13.8kV 85 MVA, 110A & 110B | Two 90 MVA | Under Construction | 2025 | TBD | \$9.3 | No Changes |
| ES-23-LSP-011 | East Eagle #131 Substation | Local Reliability | New additions | Two 115/13kV 62.5 MVA | Under Construction | 2025 | ES-16-T13 | N/A | No Changes |
| ES-23-LSP-018 | Baker Street (West Roxbury) Substation | Asset Condition/ Local Reliability | 115/23kV 75 MVA, 110A | 90 MVA | Proposed | 2025 | TBD | N/A | New |
| ES-23-LSP-019 | Mystic #250 Substation | Local Reliability | 115/24kV 60 MVA, 110C | 115/13.8kV 62.5 MVA | Concept | 2025 | TBD | N/A | No Changes |

Primarily Distribution, the Transmission cost is less than \$5M



Transformer Additions & Replacements - Continued

| ID | Station | Need Category | Old Transformer | New Transformer | Project Status | ISD, Projected | PPA ID | Changes From Last Year |
|---------------|------------------------------|---------------------------------------|------------------------------|-----------------|----------------|----------------|-----------|------------------------|
| ES-23-LSP-020 | Rochester #745 Substation | Local Reliability | 115/13.2kV 12.5 MVA, #114 | 62.5 MVA | Planned | 2026 | ES-21-T76 | No Changes |
| ES-23-LSP-025 | Tremont #713 Substation | Local Reliability | 115/23kV 20 MVA, #1 | 75 MVA | Planned | 2026 | ES-21-T73 | No Changes |
| ES-23-LSP-029 | Maynard #416 Substation | Local Reliability | 115/13.8kV 50 MVA, 110A | 62.5 MVA | Concept | 2026 | TBD | No Changes |
| ES-23-LSP-030 | Waltham Substation | Asset Condition/ Local Reliability | 115/13.8kV 90 MVA, 110B | 90 MVA | Concept | 2026 | TBD | New |
| ES-23-LSP-035 | Maynard #416 Substation | Local Reliability | 115/13.8kV 50 MVA, 110B | 62.5 MVA | Concept | 2027 | TBD | No Changes |
| ES-23-LSP-036 | Hawkins Street #2 Substation | Asset Condition/ Local Reliability | 115/13.8kV 62.5 MVA, 110A | 90 MVA | Concept | 2027 | TBD | Yes |
| ES-23-LSP-037 | Hawkins Street #2 Substation | Asset Condition/ Local Reliability | 115/13.8kV 62.5 MVA, 110B | 90 MVA | Concept | 2027 | TBD | Yes |

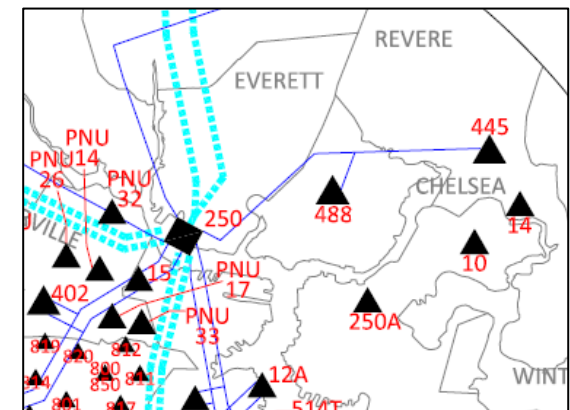
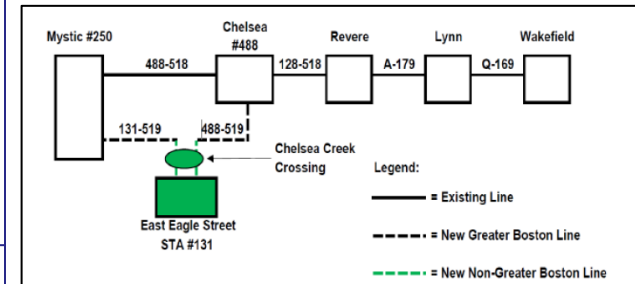
Primarily Distribution, the Transmission cost is less than \$5M

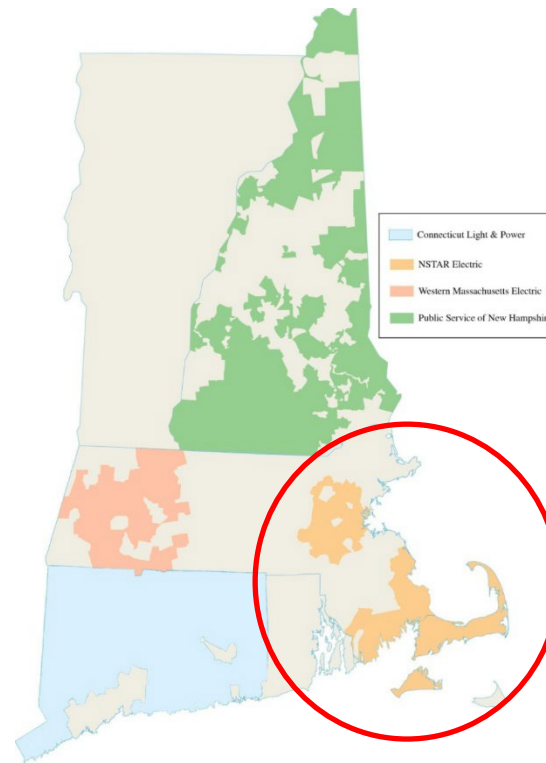


East Eagle Substation #131

Project updates in blue

| | |
|----------------------|--|
| ID | ES-23-LSP-011 |
| Need Category | Local Reliability |
| Need Description | Relieves Chelsea Sta #488 under N-1 transformer outage conditions the load could exceed the station's firm capacity. In addition, local area load continues to grow, including redevelopment of Suffolk Downs. |
| Solution Description | Install two 115/13.8-kV 62.5 MVA transformers at new substation. PTF components of substation are listed under RSP 1745. Substation will be served by bifurcating the Mystic-Chelsea 115 kV that was listed as RSP 1354 and placed in service 10/2020. |
| Status | Under Construction |
| Cost | N/A (Distribution-only. Transmission components listed on RSP) |
| Projected In-Service | 2025 |





Eastern MA

DER GROUP STUDIES

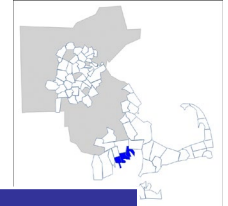
Massachusetts DER Group Studies

- Eversource is studying Distributed Energy Resources in group studies
 - Additional information:
<https://www.mass.gov/guides/provisional-system-planning-program-guide>
- Eversource has filed Capital Investment Projects (“CIP”) for six DER Group Studies with the MA DPU
 - One has been approved (DPU 22-47)
 - Five are awaiting approval (DPU 22-51, 22-52, 22-53, 22-54 and 22-55)
- Transmission upgrades associated with the DER group studies are listed on the following slides
- A seventh group study at New Bedford’s Industrial Park substation does not have a CIP filing with the Massachusetts DPU, but is expected to require a transmission upgrade



Marion-Fairhaven Group 2022

- Arsene St, Crystal Spring, Rochester and Wing Lane stations
 - [MA DPU 22-47](#)
 - <https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/14819617>



| ID | Solution | Est. ISD | Project Status | PPA ID | Transmission Cost, Est (\$M) | Change From Last Year? |
|---------------|---|----------|----------------|----------------------|------------------------------|------------------------|
| ES-23-LSP-012 | Extend the 115 kV 112 Line from Crystal Spring Junction to Crystal Spring station for the transformer addition at Crystal Spring | 2025 | Planned | ES-21-T70 | \$25.0 | No Changes |
| ES-23-LSP-013 | Replace the Crystal Spring transformer #1 with a new 37/50/62.5 MVA, 115/13.2 kV transformer. Install a new 37/50/62.5 MVA, 115/13.2 kV transformer #2. | 2025 | Planned | ES-21-T71, ES-21-T72 | \$14.0 | No Changes |
| ES-23-LSP-014 | Replace the Rochester transformer #112 with a new 37/50/62.5 MVA, 115/13.2 kV transformer | 2025 | Planned | ES-21-T77 | \$12.0 | No Changes |
| ES-23-LSP-015 | Replace the Wing Lane transformer#1 and #2 with new 37/50/62.5 MVA, 115/13.2 kV transformers | 2025 | Planned | ES-21-T78, ES-21-T79 | \$5.0 | No Changes |

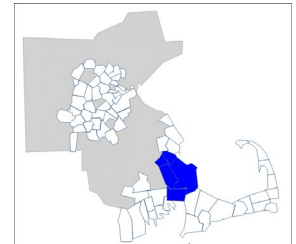


Plymouth Group 2022

- Tremont, Wareham, West Pond, Valley, Manomet, Kingston and Brook St stations

– [MA DPU 22-54](#)

<https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/14895146>



| ID | Solution | Est. ISD | Project Status | PPA ID | Transmission Cost, Est (\$M) | Change From Last Year? |
|---------------|--|----------|----------------|--|------------------------------|------------------------|
| ES-23-LSP-021 | Replace Wareham transformer #1 with a 45/60/75 MVA, 115/23 kV transformer. | 2026 | Planned | ES-21-T63 | N/A | No Changes |
| ES-23-LSP-022 | Upgrade the West Pond station to a six-breaker ring bus configuration. Replace transformers #1 and #2 with 45/60/75 MVA, 115/23 kV transformers and install a new 45/60/75 MVA transformer #3. | 2026 | Planned | ES-21-T66, ES-21-T67, ES-21-T68, ES-21-T69 | \$25.0 | No Changes |
| ES-23-LSP-023 | Reconductor the 115 kV 132 Line between Brook Street and West Pond with 795 ACSR | 2026 | Planned | ES-21-T65 | \$23.0 | No Changes |
| ES-23-LSP-024 | Replace the Tremont transformer #2 with a new 45/60/75 MVA, 115/23 kV transformer. Install a new 45/60/75 MVA, 115/23 kV transformer #3. | 2026 | Planned | ES-21-T74, ES-21-T75 | N/A | No Changes |



Freetown Group 2022

- Assonet station

- [MA DPU 22-51](#)

- <https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/14895134>

| ID | Solution | Est. ISD | Project Status | PPA ID | Transmission Cost, Est (\$M) | Change From Last Year? |
|---------------|---|----------|----------------|---|------------------------------|------------------------|
| ES-23-LSP-029 | Build a new 115kV line from Bell Rock to supply new Assonet four (4) breaker ring configuration for DER Group Study. | 2026 | Planned | ES-21-T52 | \$82.0 | No Changes |
| ES-23-LSP-031 | Build a new 115/13.2kV Assonet station with four-breaker ring configuration. Install two new 37/50/62.5 MVA, 115/13.2kV transformers | 2026 | Planned | ES-21-T54, ES-23-T59 | \$38.0 | Yes |
| ES-23-LSP-036 | Second 115kV line to the new 115kV Assonet Substation | 2026 | Planned | ES-23-T58 | TBD | Yes |
| ES-23-LSP-042 | Upgrade the Industrial Park station to a six-breaker ring bus configuration. Replace transformers #1 and #2 with new 37/50/62.5 MVA, 115/13.2kV transformers and install a new 37/50/62.5 MVA transformer #3. | 2028 | Planned | ES-21-T58, ES-21-T59, ES-21-T60, ES-21-T61 | TBD | No Changes |



DER Group Study - Other

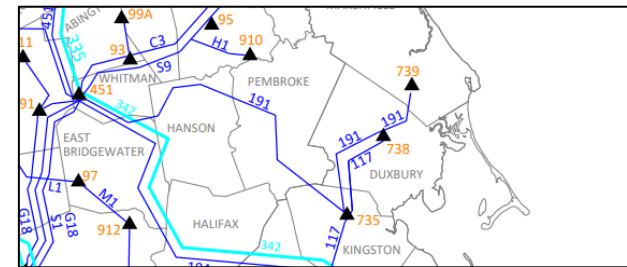
| ID | Solution | Est. ISD | Project Status | PPA ID | Transmission Cost, Est (\$M) | Change From Last Year? |
|---------------|---|----------|----------------|----------------------|------------------------------|------------------------|
| ES-23-LSP-016 | <p><u>Dartmouth-Westport Group</u></p> <p>Replace the Fisher Road transformer #1 and #2 with new 37/50/62.5 MVA, 115/13.2kV transformers</p> | 2025 | Planned | ES-21-T80, ES-21-T81 | \$13.0 | No Changes |
| ES-23-LSP-017 | <p><u>Common Upgrade for Multiple Groups</u></p> <p>Reconductor the 115kV 191 Line between Auburn Street and Kingston Street with 1590 ACSS.</p> | 2025 | Planned | ES-21-T51-Rev1 | \$27.0 | No Changes |

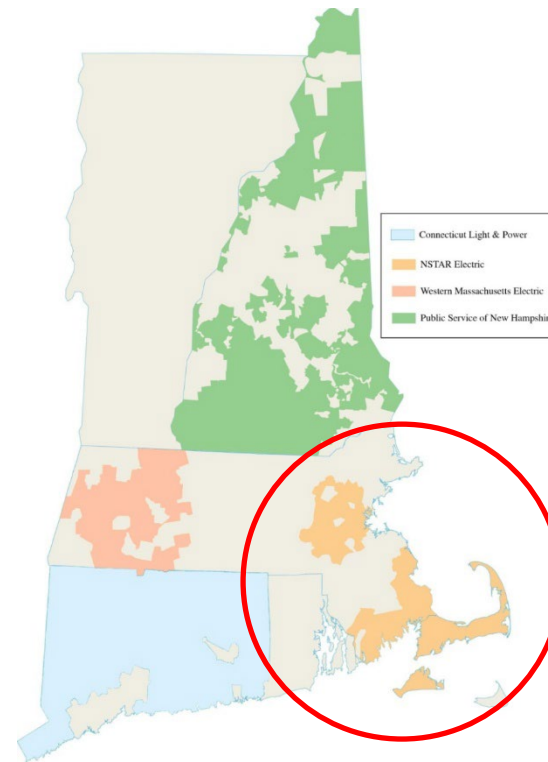


Common Upgrade for Multiple Groups: 191 Line

No changes from 2022

| | |
|-----------------------------|---|
| ID | ES-23-LSP-017 |
| Need Category | DER Group Study |
| Need Description | Eversource Affected System Operator (ASO) study completed in August 2021 identified thermal overload of the 191 line under N-1-1 conditions, as a result of the interconnections of the DER projects in the SEMA and Cape region. |
| Solution Description | Reconductor the 115 kV 191 Line between Auburn Street and Kingston with 1590 ACSS |
| Status | Planned, ES-21-T51-Rev1 |
| Cost | \$27M |
| Projected In-Service | 2025 |





Eastern MA

ELECTRIC SECTOR MODERNIZATION PROJECTS (ESMP)

Massachusetts 2035 to 2050

Electric Sector Modernization Plan¹ Projection

EMA – North

- 2 bulk distribution substations are proposed on the metro west area
 - **Future West Framingham Substation:** This project solution is proposing to increase bulk distribution substation capacity in the Framingham and Ashland areas where the existing substation is expected to be at capacity in the 20-year planning horizon. Proposed solution is to establish a new 115/13.8kV substation.
 - **Future Newton Substation:** This project solution is proposing to increase bulk distribution substation capacity in the Newton, Waltham, and Needham areas where the existing substations are expected to be at capacity in the 20-year planning horizon. Proposed solution is to establish a new 115/13.8kV substation.
- 2 bulk distribution substations are proposed in the metro area
 - **Future South Boston Substation:** This project solution is to increase bulk distribution substation capacity in the South Boston neighborhood of the City of Boston. Proposed solution is to establish a new 115/13.8kV substation.
 - **Future Somerville Supply Initiatives:** This project solution is proposing to increase bulk distribution substation capacity in the City of Somerville where the existing substations are expected to be at capacity in the 20-year planning horizon. Proposed solution is to establish a new 115/13.8kV substation.

¹[Eversource Electric Sector Modernization Plan download \(mass.gov\)](https://www.mass.gov/info-details/eversource-electric-sector-modernization-plan-download)

DER Groups, Pending DPU Approval

Electric Sector Modernization Plan¹ Projection

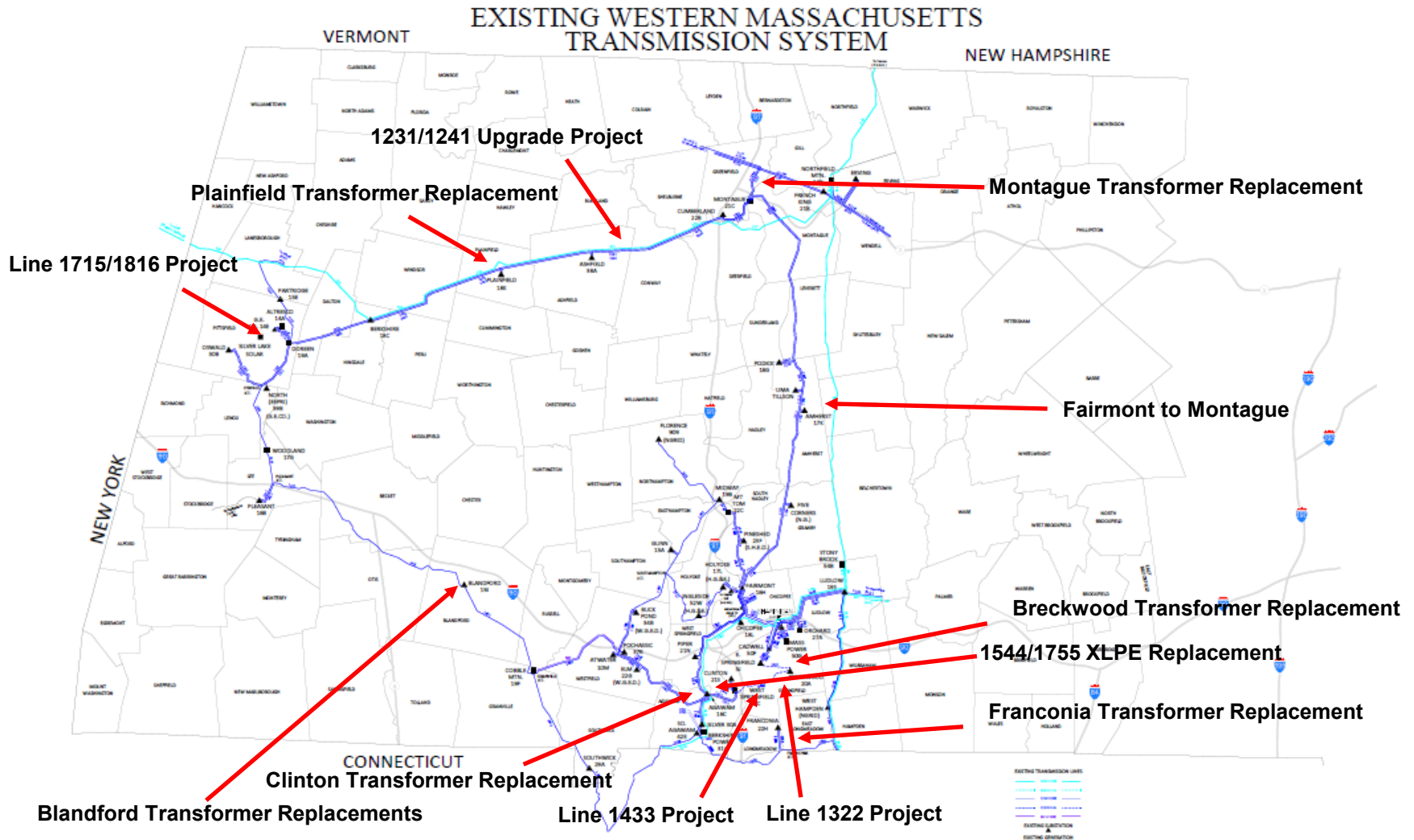
Total of three (3) Distribution Study Groups identified in Eastern MA

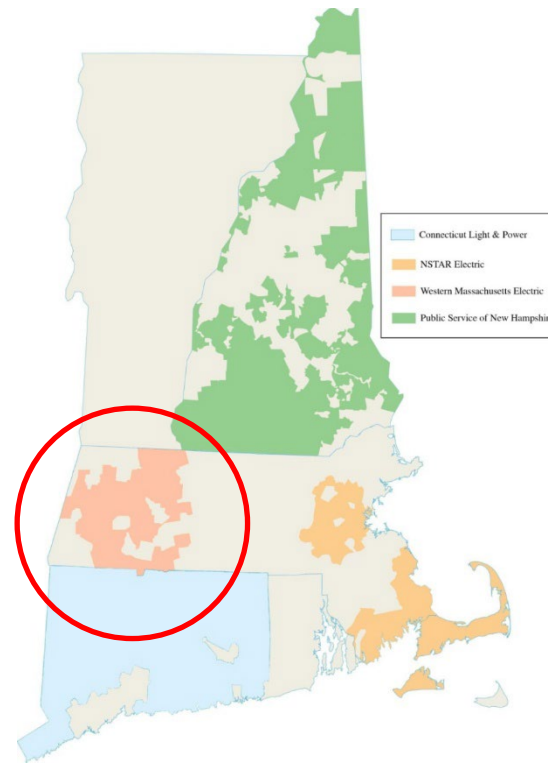
- Detailed engineering studies will be performed once the group studies are initiated
- The following indicates a high level of system upgrades required as part of the analysis. These sites are noted on an informational basis and will be formally added to the LSP once approved as part of the ESMP
- Groups:
 - **East Freetown:** This study is reviewing the needs at the Industrial Park and for a New East Freetown #690 substation with 3 62.5 MVA transformers
 - **Maynard-Action:** This study is reviewing the needs at Maynard #416, no additional transformer upgrades have been identified
 - **Walpole-Sharon:** This study is reviewing the needs at Walpole #146, no additional transformer upgrades have been identified

¹[Eversource Electric Sector Modernization Plan download \(mass.gov\)](#)

Western Massachusetts Projects

Proposed, Planned, Under Construction, and In-Service projects only





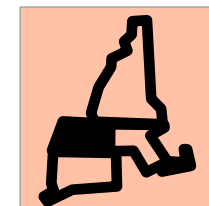
Western MA

TRANSMISSION LINE PROJECTS

Underground Cable Modernization Program

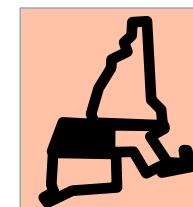
Replacement of PTC with XLPE addresses equipment availability concerns, environmental concerns, better accommodates future system expandability, and provides the most reliable and least risk solution over the long-term

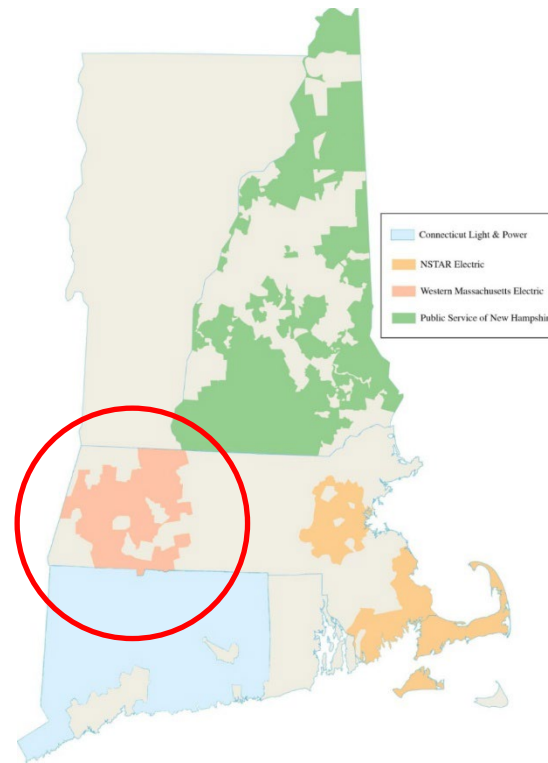
| ID | Project | Solution Description | ISD, Projected | Project Status | PPA ID | Transmission Cost, Estimated (\$M) | Changes From Last Year |
|---------------|---------------------------------------|--|----------------|----------------|----------------------|------------------------------------|------------------------|
| ES-23-LSP-070 | 115kV Line 1544/1755 XLPE Replacement | Replace pipe-type (PTC) circuits between Clinton and West Springfield with solid dielectric cross-linked polyethylene (XLPE) technology. | 2026 | Planned | ES-22-T45, ES-22-T46 | TBD | Yes |
| ES-23-LSP-081 | 115kV Line 1322 XLPE Replacement | Rebuild the existing 1322 Line HPFF between Breckwood SS (Springfield) and East Springfield SS cable system with solid dielectric cross-linked polyethylene (XLPE) technology. | 2028 | Proposed | TBD | TBD | Yes |
| ES-23-LSP-085 | 115kV Line 1433 XLPE Replacement | Rebuild the existing 1433 Line HPFF between Breckwood SS (Springfield) and West Springfield SS cable system with solid dielectric cross-linked polyethylene (XLPE) technology. | 2029 | Proposed | TBD | TBD | Yes |



Other Transmission Line Projects

| ID | Need Category | Project | Solution Description | ISD, Projected | Project Status | PPA ID | Transmission Cost, Estimated (\$M) | Changes From Last Year |
|---------------|-----------------------------------|---|--|----------------|----------------|--|------------------------------------|------------------------|
| ES-23-LSP-062 | Local Reliability | Fairmont-Montague corridor transmission supply upgrade | Rebuild the 115kV transmission lines supplying the Amherst, Tilson, Podick, and Five Corners load pocket. Remove existing Type III Special Protection System | Nov-2022 | In-Service | ES-20-T08, ES-20-T09, ES-20-T10, ES-20-T11 | \$136.4 | Yes |
| ES-23-LSP-065 | Asset Condition | 115kV Line 1715/1816 Copper Conductor Replacement Rebuild | Replace deteriorating structures, obsolete conductor, and shield wire. Remove existing Type III Special Protection System. | Aug-2023 | In-Service | ES-22-T43, ES-22-T44 | \$17.3 | Yes |
| ES-23-LSP-068 | Asset Condition/Local Reliability | Line 1231/1242 Upgrade Project - Associated Upgrades | Terminal structure replacements and ADSS installation at line terminal substations, Ashfield and Plainfield. NonPTF work associated with ACL 250. | Nov-2024 | Planned | N/A | \$13.1 | New |



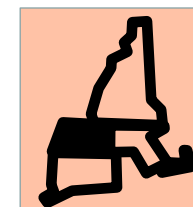


Western MA

SUBSTATION PROJECTS: NEW SUBSTATIONS

New Substation Projects

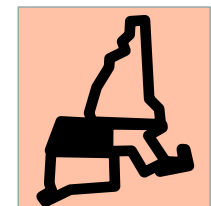
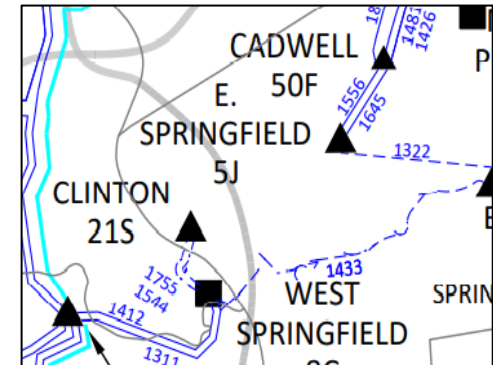
| ID | Need Category | Title | Solution Description | ISD, Projected | Project Status | PPA ID | Transmission Cost, Estimated (\$M) | Changes From Last Year |
|---------------|-------------------|-------------------------------|---|----------------|----------------|--------|------------------------------------|------------------------|
| ES-23-LSP-086 | Local Reliability | Worthington Street Substation | Build a new 115/13 kV station (Worthington St. Substation) in Springfield with two 62.5MVA 115/13.8kV transformers. Add 115kV transmission circuit from Clinton and a 115kV transmission circuit from East Springfield with some terminal work at both stations. Reconfigure Cadwell Station with the addition of a single circuit breaker. | 2030 | Concept | TBD | TBD | Yes |
| ES-23-LSP-087 | Local Reliability | Whately/Hatfield Substation | Build a new 115/13.8kV substation (Whately-Hatfield Substation) in Whately-Hatfield area with two 62.5 MVA 115/13.8-kV transformers. Add two 115-kV transmission circuits connecting the new substation to the transmission system with possibly one from Cumberland and one from Podick with terminal work at same stations. | 2030 | Concept | TBD | TBD | Yes |
| ES-23-LSP-088 | Local Reliability | Hilltown Substation | Build a new 115/23kV substation (Hilltown Substation) in Worthington/Chester area with two 62.5 MVA 115/23-kV transformers. Add two 115-kV transmission circuits connecting the new substation to the transmission system with possibly one from Plainfield 18K and one from Blandford with terminal work at same stations. | 2030 | Concept | TBD | TBD | New |



Worthington Street Substation

Project updates in blue

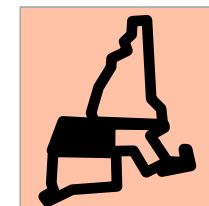
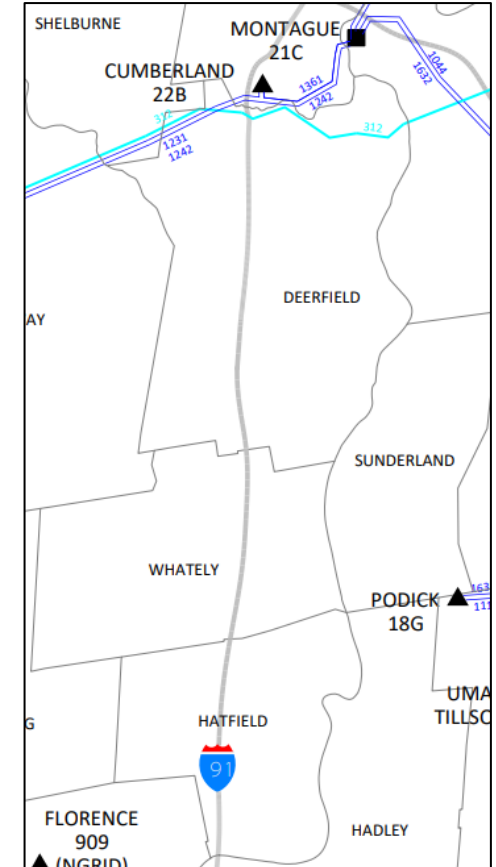
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|-----------------------------|--|
| ID | ES-23-LSP-086 |
| Need Category | Local Reliability |
| Need Description | The load in the City of Springfield, MA is served by the following six (6) substations: Clinton, West Springfield, East Springfield, Franconia, Breckwood, and Orchard. These provide back up to each other by distribution field ties. However, even with the field ties, not all load can be backed-up if the primary substation transmission sources suffer an outage. Loss of the 1544 and 1755 Lines will cause 10,134 customers, over 40-MW, to remain permanently out of power which violates Eversource consequential loss of load criteria (Transmission System Design & Analysis Guideline; Section 3.5; "The threshold for the Residual Load Loss resulting from the loss of two underground transmission cables supplying radial load is 0-MW."). Likewise, loss of the 1322 and 1433 lines will cause approximately 10,500 customers, over 25-MW, to remain without power following the loss of the two cable circuits. The customers impacted include critical customers such as hospitals and universities. |
| Solution Description | Build a new 115/13 kV station (Worthington St. Substation) in Springfield with two 62.5MVA 115/13.8-kV transformers. Add 115-kV transmission circuit from Clinton 21S and a 115-kV transmission circuit from East Springfield 5J with some terminal work at both stations. Reconfigure Cadwell 50F Station with the addition of a single circuit breaker. |
| Status | Concept |
| Cost | TBD |
| Projected In-Service | 2030 |



Whately/Hatfield Substation

Project updates in blue

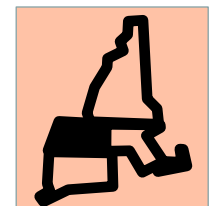
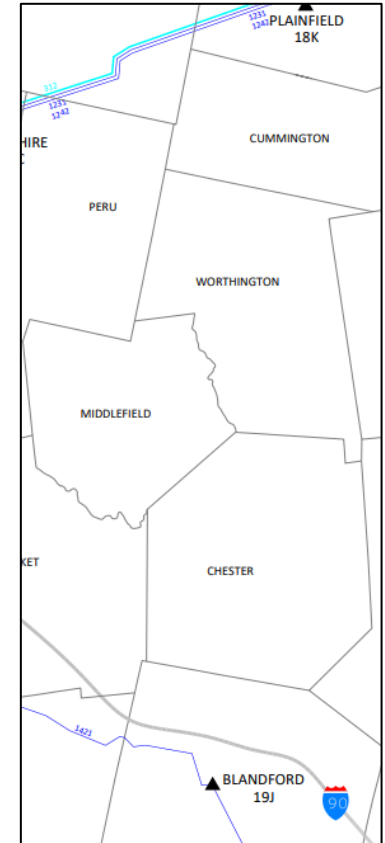
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|-----------------------------|---|
| ID | ES-23-LSP-087 |
| Need Category | Local Reliability |
| Need Description | To address substation capacity and distribution line reliability needs in the Whately/South Deerfield/Hatfield area of Western Massachusetts. In addition, this project will resolve future needs due to requested load interconnections in the area resulting from the expansion of controlled-agriculture and commercial sectors. |
| Solution Description | Build a new 115/13.8kV substation (Whately-Hatfield Substation) in Whately-Hatfield area with two 62.5 MVA 115/13.8-kV transformers. Add two 115-kV transmission circuits connecting the new substation to the transmission system with possibly one from Cumberland 22B and one from Podick 18G with terminal work at same stations. |
| Status | Concept |
| Cost | TBD |
| Projected In-Service | 2030 |

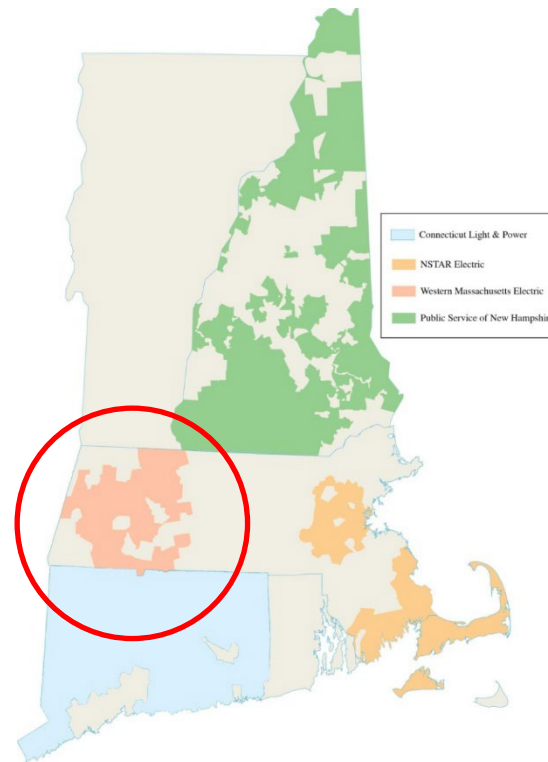


Hilltown Substation

New Project

| | |
|-----------------------------|---|
| ID | ES-23-LSP-088 |
| Need Category | Local Reliability |
| Need Description | To address substation capacity and distribution line reliability needs in the Worthington/Chester area of Western Massachusetts. In addition, this project will resolve future needs due to increasing levels of DER interconnections in the area. |
| Solution Description | Build a new 115/23kV substation (Hilltown Substation) in Worthington/Chester area with two 62.5 MVA 115/23-kV transformers. Add two 115-kV transmission circuits connecting the new substation to the transmission system with possibly one from Plainfield and one from Blandford with terminal work at the same stations. |
| Status | Concept |
| Cost | TBD |
| Projected In-Service | 2030 |





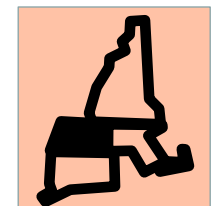
Western MA

SUBSTATION PROJECTS: TRANSFORMER ADDITIONS & REPLACEMENTS

Transformer Additions & Replacements

| ID | Title | Need Category | Old Transformer | New Transformer | Project Status | ISD, Projected | PPA ID | Changes From Last Year |
|---------------|------------------------------------|---------------------------------------|--------------------------|----------------------------|----------------|----------------|-----------|------------------------|
| ES-23-LSP-063 | Clinton Substation | Local Reliability | 115/13.8kV 50 MVA, 3X | 62.5 MVA | In-Service | Jun-2023 | ES-21-T97 | Yes |
| ES-23-LSP-064 | Breckwood (Springfield) Substation | Local Reliability | 115/13.8kV 30 MVA, 1X | 62.5 MVA | In-Service | Jun-2023 | ES-21-T94 | Yes |
| ES-23-LSP-066 | Montague Substation | Asset Condition/ Local Reliability | 115/13.8kV 30 MVA, 3X | 62.5 MVA | Proposed | Mar-2024 | TBD | No Changes |
| ES-23-LSP-067 | Franconia Substation | Local Reliability | 115/13.8kV 47 MVA, 2X | 62.5 MVA | Planned | Oct-2024 | ES-21-T98 | Yes |
| ES-23-LSP-069 | Clinton Substation | Local Reliability | 115/13.8kV 30 MVA, 2X | 62.5 MVA | Planned | 2025 | ES-21-T99 | Yes |
| ES-23-LSP-072 | Plainfield Substation | Local Reliability | 115/13.8kV 30 MVA, 1X | 62.5 MVA | Proposed | 2025 | TBD | Yes |
| ES-23-LSP-073 | Clinton Substation | Asset Condition/ Local Reliability | 115/13.8kV 30 MVA, 1X | 62.5 MVA | Concept | 2026 | TBD | Yes |
| ES-23-LSP-074 | Pleasant Substation | Asset Condition/ Local Reliability | 115/13.8kV 30 MVA, 2X | 62.5 MVA | Concept | 2026 | TBD | Yes |
| ES-23-LSP-075 | Ludlow Substation | Local Reliability | New addition | 115/13.8kV 62.5 MVA, 2X | Concept | 2026 | TBD | Yes |
| ES-23-LSP-076 | West Springfield Substation | Local Reliability | 115/13.8kV 30 MVA, 1X | 62.5 MVA | Concept | 2026 | TBD | Yes |

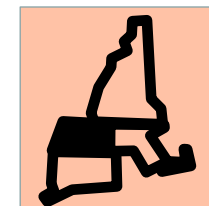
Primarily Distribution, the Transmission cost is less than \$5M

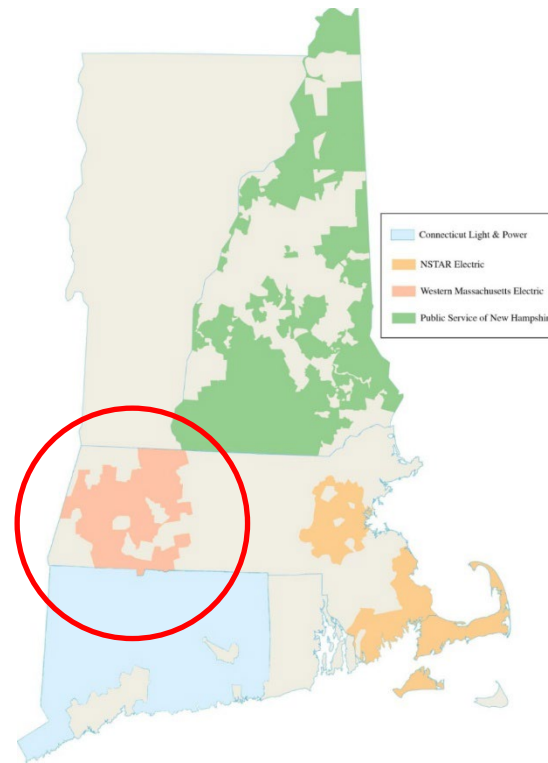


Transformer Additions & Replacements - Continued

| ID | Title | Need Category | Old Transformer | New Transformer | Project Status | ISD, Projected | PPA ID | Changes From Last Year |
|---------------|-----------------------------|---------------------------------------|--|-----------------------------|----------------|----------------|--------|------------------------|
| ES-23-LSP-077 | West Springfield Substation | Asset Condition/ Local Reliability | 115/13.8kV 30 MVA, 2X | 62.5 MVA | Concept | 2026 | TBD | No Changes |
| ES-23-LSP-078 | Partridge Substation | Local Reliability | New addition | 115/23kV 62.5 MVA, 2X | Concept | 2026 | TBD | New |
| ES-23-LSP-079 | Silver (Agawam) Substation | Local Reliability | 115/13.8kV 47 MVA, 1X | 62.5 MVA | Concept | 2027 | TBD | Yes |
| ES-23-LSP-080 | Silver (Agawam) Substation | Local Reliability | 115/13.8kV 47 MVA, 2X | 62.5 MVA | Concept | 2027 | TBD | New |
| ES-23-LSP-082 | Franconia Substation | Local Reliability | 115/13.8kV 47 MVA, 3X | 62.5 MVA | Concept | 2028 | TBD | Yes |
| ES-23-LSP-083 | Woodland Substation | Asset Condition/ Local Reliability | 115/23kV 25 MVA, 1X | 62.5 MVA | Concept | 2028 | TBD | No Changes |
| ES-23-LSP-084 | Midway Substation | Asset Condition/ Local Reliability | 115/13.8kV 47 MVA, 1X, 2X, and 3XY-D | 62.5 MVA D-Y Transformer | Concept | 2028 | TBD | No Changes |

Primarily Distribution, the Transmission cost is less than \$5M



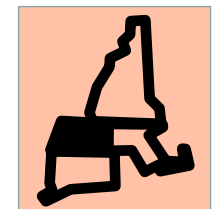


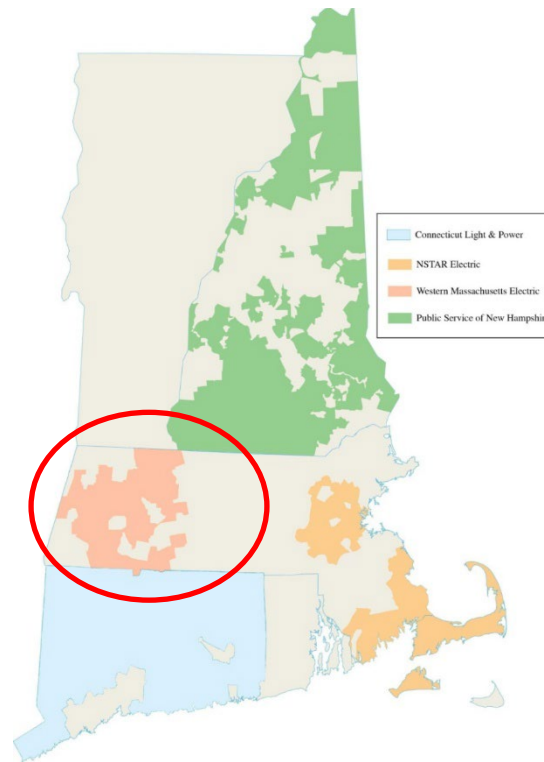
Western MA

DER GROUP STUDIES

DER Group Studies

| ID | Project Type | Project | Solution Description | ISD, Projected | Project Status | Transmission Cost, Estimated (\$M) | PPA ID | Changes From Last Year |
|---------------|--------------------------------------|----------------------|--|----------------|----------------|------------------------------------|--------|------------------------|
| ES-23-LSP-071 | Substation Reconfiguration/Expansion | Blandford Substation | Replace existing 115/23kV 1X (30 MVA) and 2X (25 MVA) transformers with 62.5 MVA transformers. | 2025 | Proposed | N/A | TBD | No Changes |





Western MA

ELECTRIC SECTOR MODERNIZATION PROJECTS (ESMP)

DER Groups, Pending DPU Approval

Electric Sector Modernization Plan¹ Projection

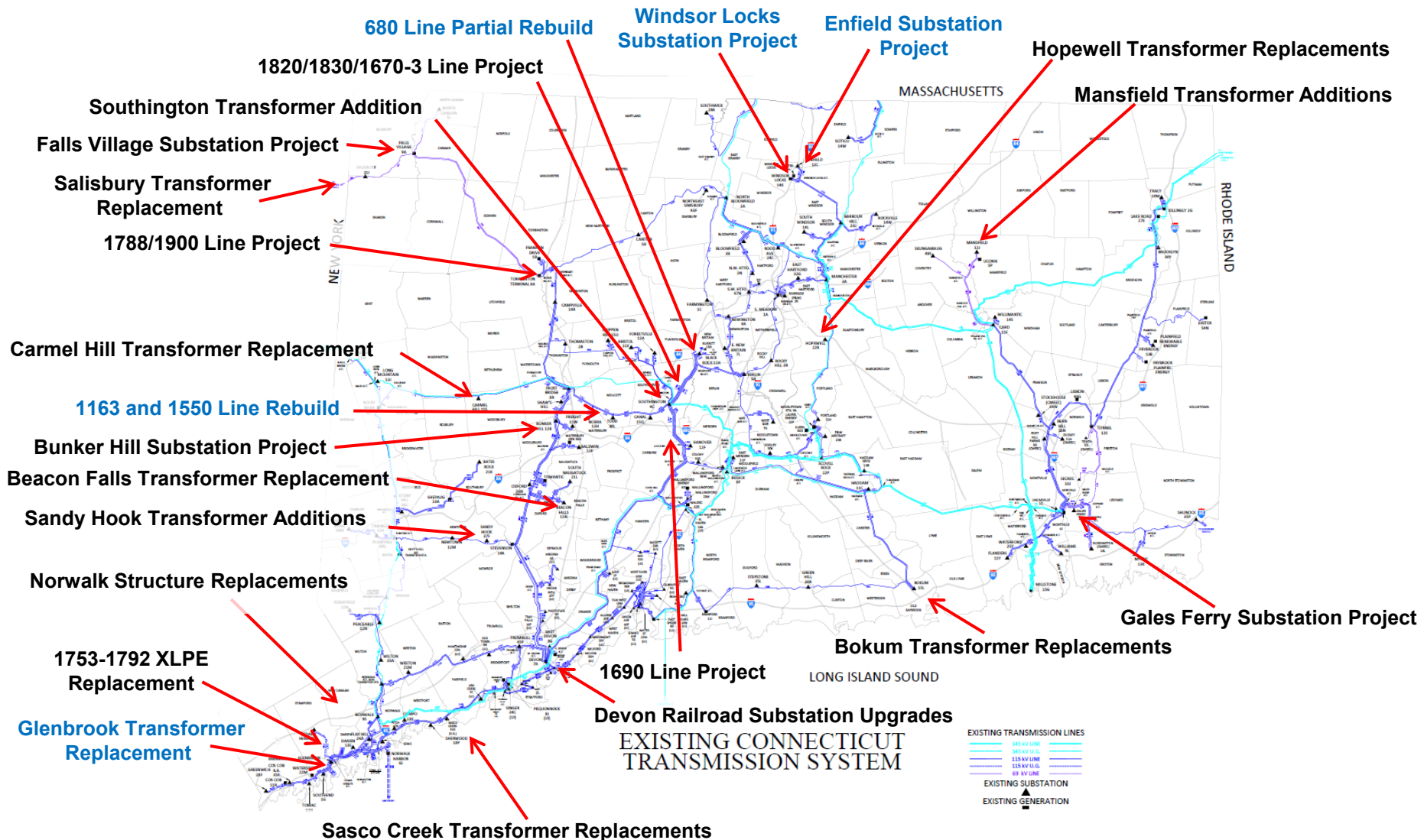
Total of four (4) Distribution Study Groups identified in Western MA

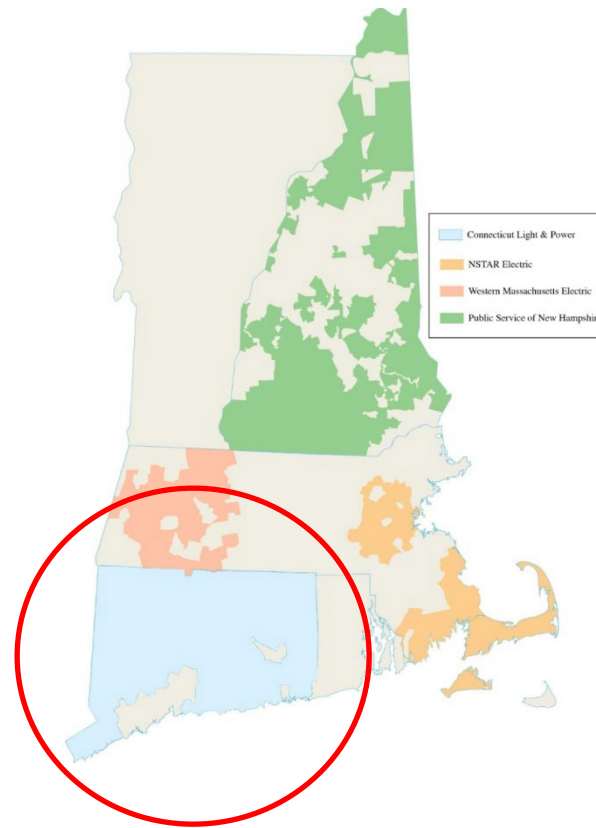
- Detailed engineering studies will be performed once the group studies are initiated
- The following indicates a high level of system upgrades required as part of the analysis; These sites are noted on an informational basis and will be formally added to the LSP once approved as part of the ESMP
- Groups:
 - **Agawam-Feeding Hills:** This study is reviewing the needs at the Silver substation and has identified a need to upgrade both existing transformers to 62.5 MVA transformers
 - **Dalton-Hinsdale:** This study is reviewing the needs at the Berkshire substation and has identified a need to upgrade the existing transformer to 62.5 MVA and to install two additional 62.5 MVA transformers.
 - **Southwick-Granville:** This study is reviewing the needs at the Southwick substation and has identified a need to upgrade both (2) of the existing transformers to 62.5 MVA and to install a third additional 62.5 MVA transformer
 - **Whately-Deerfield:** This study is reviewing the needs of the Whately-Deerfield region. It has identified a need to upgrade the Cumberland substation transformer to 62.5 MVA, at French King upgrade the exiting transformer to 62.5 MVA and install an additional 62.5 MVA transformer, and a need for two 62.5 MVA transformers at the new Whately Substation (ES-23-LSP-087)

¹[Eversource Electric Sector Modernization Plan download \(mass.gov\)](#)

Connecticut Projects

Proposed, Planned, and Under Construction projects only





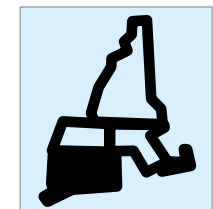
Connecticut

TRANSMISSION LINE PROJECTS

Underground Cable Modernization Program

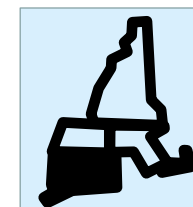
Replacement of PTC with XLPE addresses equipment availability concerns, environmental concerns, better accommodates future system expandability, and provides the most reliable and least risk solution over the long-term

| ID | Project | Solution Description | ISD, Projected | Project Status | PPA ID | Transmission Cost, Estimated (\$M) | Changes From Last Year |
|---------------|--|---|----------------|----------------|-------------------------|------------------------------------|------------------------|
| ES-23-LSP-118 | 115kV Line 1753-1792 XLPE Replacement | Replace pipe-type cable (PTC) circuits between Glenbrook and Cedar Heights with solid dielectric cross-linked polyethylene (XLPE) technology. | 2027 | Planned | ES-22-T47, ES-22-T48 | TBD | Yes |
| ES-23-LSP-122 | 115kV Line 1270-1337 XLPE Replacement | Replace pipe-type cable (PTC) circuits between Triangle and Middle River with solid dielectric cross-linked polyethylene (XLPE) technology. | 2028 | Concept | TBD | TBD | Yes |



Other Transmission Line Projects

| ID | Need Category | Project | Solution Description | ISD, Projected | Project Status | PPA ID | Transmission Cost, Estimated (\$M) | Changes From Last Year |
|---------------|------------------------------------|---|---|----------------|----------------|----------------------|------------------------------------|------------------------|
| ES-23-LSP-089 | Asset Condition | 1210 and 1220 115kV Line Structure Replacements and Optical Ground Wire (OPGW) Installation | Replace existing structures due to Asset Condition and install OPGW | Nov-2022 | In-Service | N/A | \$6.4 | Yes |
| ES-23-LSP-092 | Asset Condition/ Local Reliability | 115kV Lines 1100/1200/1300 - OPGW and Reconductor CT River Crossing | Replace deteriorating copper and alumoweld shieldwire with OPGW as well as deteriorating copper conductor with 1590 ACSS conductor | Apr-2023 | In-Service | N/A | \$15.0 | Yes |
| ES-23-LSP-094 | Asset Condition/ Local Reliability | 115kV Line 500 Copper Retirement | Replace deteriorating copper materials with ACSS conductor and OPGW shieldwire | Jun-2023 | In-Service | ES-23-T38 | \$24.3 | Yes |
| ES-23-LSP-100 | Asset Condition/ Reliability | 1163 and 1550 - Tap Project | The project is a rebuild of Line 1163-3 and 1550-2 replacing 3 miles (1.5-miles per circuit) of existing 4/0 copper conductor with 1272-kcmil ACSS conductor. | Apr-2024 | Planned | ES-23-T12, ES-23-T14 | \$13.3 | New Project |
| ES-23-LSP-102 | Local Reliability | Campville 14R - Circuit Breaker and 1788-1900 Single DCT Split | Install 115-kV series circuit breaker 4TA and split the single 1788/1900 double circuit tower (DCT). | Dec-2024 | Planned | ES-23-T29 | TBD | Yes |



Other Transmission Line Projects - Continued

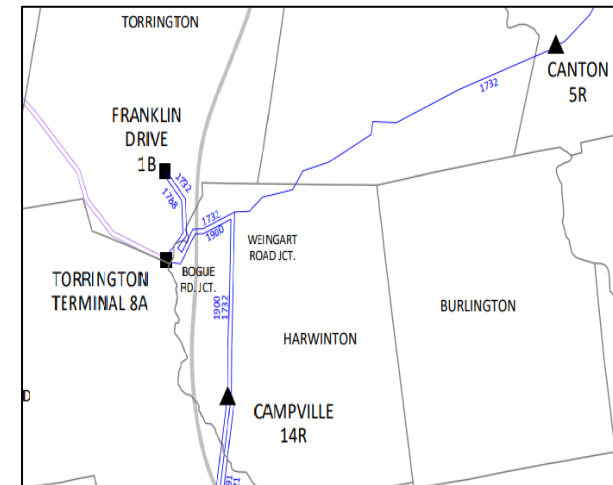
| ID | Need Category | Project | Solution Description | ISD, Projected | Project Status | PPA ID | Transmission Cost, Estimated (\$M) | Changes From Last Year |
|---------------|---------------------------------------|---|---|----------------|--------------------|-----------|---|------------------------|
| ES-23-LSP-103 | Local Reliability | Norwalk-CDOT replace structures at Norwalk River crossing (Norwalk) | The project consists of relocating two existing 115-kV transmission lines from an overhead portion of the railroad corridor to underground. The new underground sections will, for both circuits, consist of approximately 1,200 feet of trenched duct bank on the West side of the Norwalk River, approximately 1,100 feet of HDD underneath the Norwalk River, and approximately 2,200 feet of trenched duct bank on the East side of the Norwalk River. Also, two short overhead railroad crossings of approximately 177 feet and 108 feet, respectively, are required on the 1028 line. | 2025 | Under Construction | TBD | \$46.4 (Approximately 50% reimbursable) | Yes |
| ES-23-LSP-105 | Asset Condition/ Local Reliability | 115kV Line 1690 Copper Retirement | Replace deteriorating copper materials with ACSS conductor and OPGW shield wire | 2025 | Planned | ES-23-T35 | \$24.7 | Yes |
| ES-23-LSP-109 | Asset Condition/ Local Reliability | 115kV Line 1820/1830/1670-3 - Copper Conductor Replacement/Rebuild | Replace deteriorating structures and obsolete conductor from Southington substation to Blackrock substation | 2025 | Proposed | TBD | TBD | Yes |
| ES-23-LSP-115 | Asset Condition | Line 680 Partial Rebuild | Replace deteriorating copper shield wire with OPGW as well as deteriorating copper conductor with 1590 ACSS conductor | 2026 | Proposed | TBD | TBD | New Project |

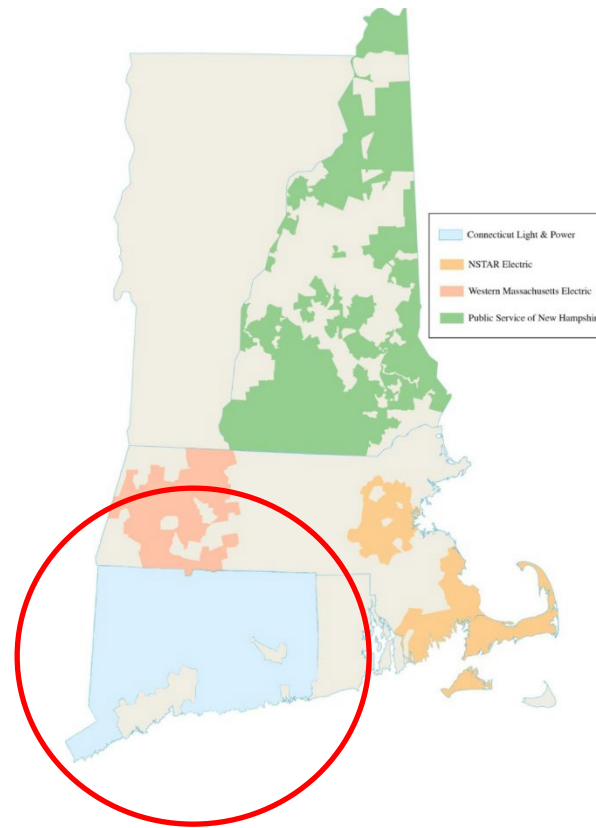


Campville 14R - Circuit Breaker & 1788/1900 Double Circuit Tower (DCT) Separation

Project updates in blue

| | |
|-----------------------------|--|
| ID | ES-23-LSP-102 |
| Need Category | Local Reliability |
| Need Description | To address Eversource's Transmission System Design and Analysis Guideline Rev. 0 criteria violation of not allowing a single transmission event to cause the loss of supply to more than one distribution transformer serving customer load. A single transmission contingency (N-1) involving the Campville 4T breaker failure or the 1788/1900 DCT fault will result in the loss of 5 distribution transformers serving load at Campville 14R, Canton 5R, Franklin Drive 1B, and Torrington Terminal 8A. |
| Solution Description | Install 115-kV series circuit breaker 4TA and split the single 1788/1900 double circuit tower (DCT) |
| Status | Planned, ES-23-T29 |
| Cost | TBD |
| Projected In-Service | Dec-2024 |





Connecticut

SUBSTATION PROJECTS: NEW SUBSTATIONS

New Substation Projects

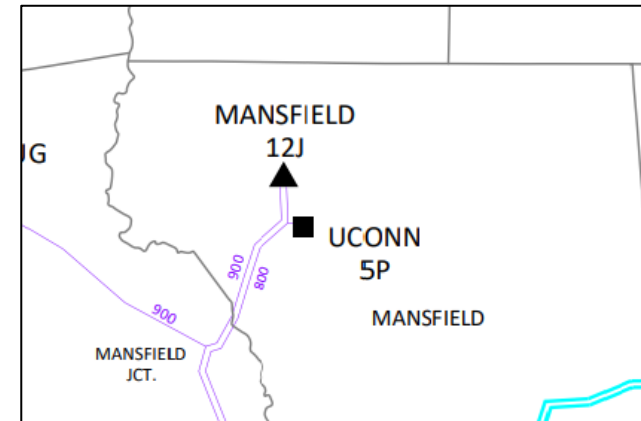
| ID | Need Category | Project | Solution Description | ISD, Projected | Project Status | PPA ID | Transmission Cost, Estimated (\$M) | Changes From Last Year |
|---------------|-------------------|--------------------------------|---|----------------|----------------|--------|------------------------------------|------------------------|
| ES-23-LSP-117 | Local Reliability | Mansfield Area Substation | Conversion of the Card to Mansfield corridor from 69-kV to 115-kV, expansion of the existing Mansfield to a ring bus by the addition of 4 circuit breakers, addition of a tie to a new UConn substation and associated upgrades | 2026 | Concept | TBD | TBD | Yes |
| ES-23-LSP-123 | Local Reliability | Burrville 29J New Bulk Station | New 115 kV bulk substation in Torrington, CT with two 62.5 MVA transformers supplied via two 115 kV transmission circuits from the existing transmission circuits at Weingart Road Junction in Harwinton, CT | 2031 | Concept | TBD | TBD | No Changes |



Mansfield Area Substation

Project updates in blue

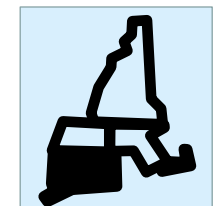
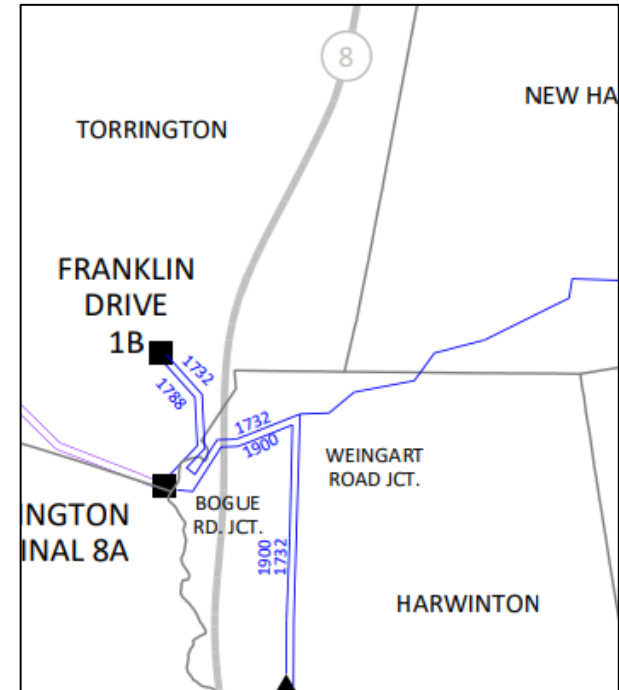
| | |
|-----------------------------|---|
| ID | ES-23-LSP-117 |
| Need Category | Local Reliability |
| Need Description | To serve significant projected load increase (35MW to 75MW) around UConn Storrs, CT campus. |
| Solution Description | Conversion of the Card to Mansfield corridor from 69-kV to 115-kV, expansion of the existing Mansfield 12J to a ring bus by the addition of 4 circuit breakers, addition of a tie to a new UConn substation and associated upgrades |
| Status | Concept |
| Cost | TBD |
| Projected In-Service | 2026 |

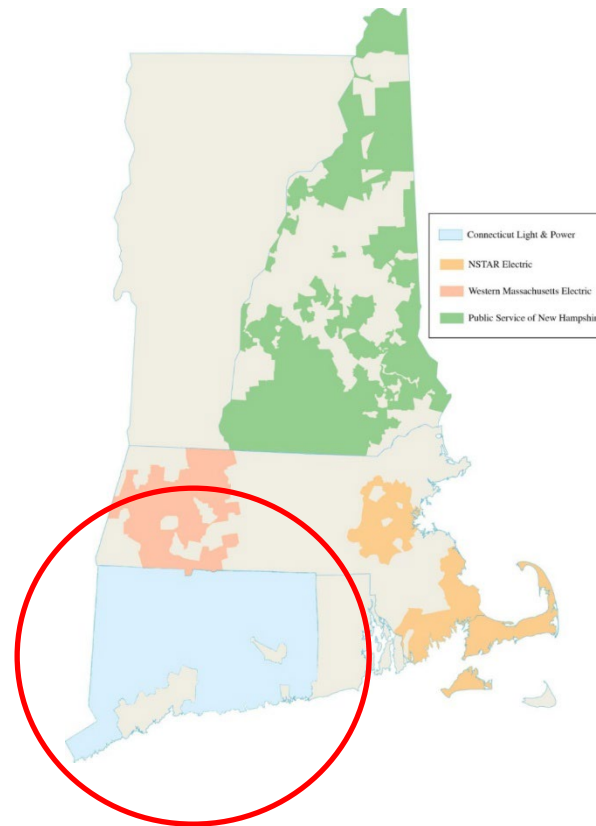


Burrville 29J New Bulk Substation

No changes from 2022

| | |
|-----------------------------|---|
| ID | ES-23-LSP-123 |
| Need Category | Local Reliability |
| Need Description | This project has multiple drivers including flood mitigation, reliability, load-serving capacity requirements, distribution station consolidation, PV/EV hosting, voltage regulation, and asset condition under SYS PLAN 010 and the DSPG. Burrville 29J was included in the Substation Flooding Mitigation Plan under System Resiliency's Docket 12-07-06RE01 as part of a group of substations in need of flood mitigation. |
| Solution Description | New 115 kV bulk substation in Torrington, CT with two 62.5 MVA transformers supplied via two 115 kV transmission circuits from the existing transmission circuits at Weingart Road Junction in Harwinton, CT |
| Status | Concept |
| Cost | TBD |
| Projected In-Service | 2031 |





Connecticut

SUBSTATION PROJECTS: STATION EXPANSIONS & RECONFIGURATIONS

Station Expansions & Reconfigurations

| ID | Need Category | Project | Solution Description | ISD, Projected | Project Status | PPA ID | Transmission Cost, Estimated (\$M) | Changes From Last Year |
|---------------|-------------------|--|--|----------------|--------------------|-----------|---|------------------------|
| ES-23-LSP-097 | Local Reliability | Gales Ferry Substation - Rebuild substation and add transformers | Convert substation from 69 kV to 115 kV. Replace existing transformers with two new 62.5 MVA transformers. This project listing includes the non-PTF and distribution components of RSP 1856-1859 and 1864 | Dec-2023 | Under Construction | ES-21-T33 | N/A (Transmission costs listed on RSP) | No Changes |
| ES-23-LSP-104 | Local Reliability | Bunker Hill Substation Reconfiguration (Waterbury) | Addition of three (3) new 115-kV circuit breakers and reconfigure the Bunker Hill 115 kV substation into a six-breaker ring bus including substation modifications. | 2025 | Planned | ES-21-T18 | \$19.4 | Yes |
| ES-23-LSP-113 | Local Reliability | Falls Village Substation - Reconfiguration | Replace 69/13.2kV 25 MVA transformer with 40 MVA transformer. Reconfigure existing switchyard by replacing 2 existing and adding 6 new circuit breakers. | 2026 | Planned | ES-22-T01 | TBD | Yes |



Station Expansions & Reconfigurations - Continued

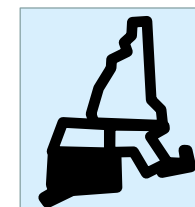
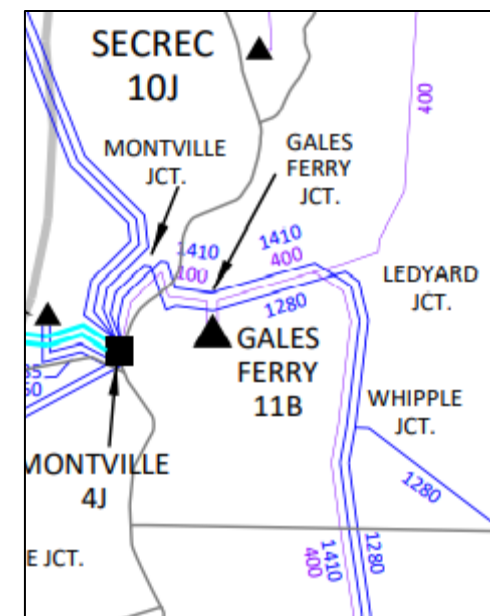
| ID | Need Category | Title | Solution Description | ISD, Projected | Project Status | PPA ID | Transmission Cost, Estimated (\$M) | Changes From Last Year |
|---------------|---------------------------------------|---|--|----------------|----------------|--------|------------------------------------|------------------------|
| ES-23-LSP-119 | Asset Condition/ Local Reliability | Windsor Locks Substation - Expansion | Replace the existing tie breaker with two series breakers to improve load serving reliability. | 2027 | Proposed | TBD | TBD | New Project |
| ES-23-LSP-120 | Asset Condition/ Local Reliability | Enfield Substation - Expansion | Replace the existing tie breaker with a PASS-MO breaker to improve load serving reliability. | 2027 | Proposed | TBD | TBD | New Project |
| ES-23-LSP-121 | Local Reliability | Rocky Hill Substation Capacity Increase | Upgrade the substation to increase the substation load carrying capacity and to address transmission N-1 reliability violations. | 2027 | Concept | TBD | TBD | New Project |



Gales Ferry Substation - Rebuild substation and add transformers

No changes from 2022

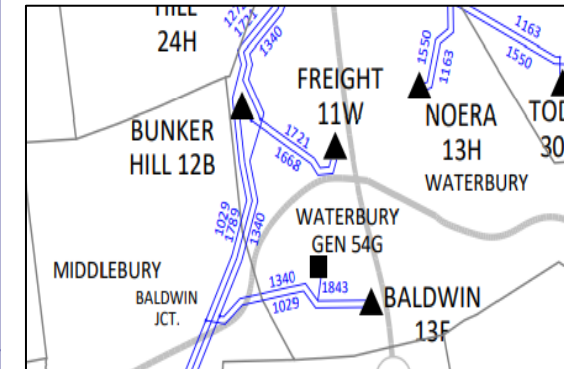
| | |
|-----------------------------|--|
| ID | ES-23-LSP-097 |
| Need Category | Local Reliability |
| Need Description | 100 and 400 lines are being converted from 69 kV to 115 kV as part of the Eastern Connecticut Solution, see RSP1856-1859 and 1864 |
| Solution Description | <p>Convert substation from 69 kV to 115 kV. Replace existing transformers with two new 62.5 MVA transformers.</p> <p>This project listing includes the non-PTF and distribution components of RSP 1856-1859 and 1864</p> |
| Status | Under Construction |
| Cost | N/A (Transmission costs listed on RSP) |
| Projected In-Service | Dec-23 |

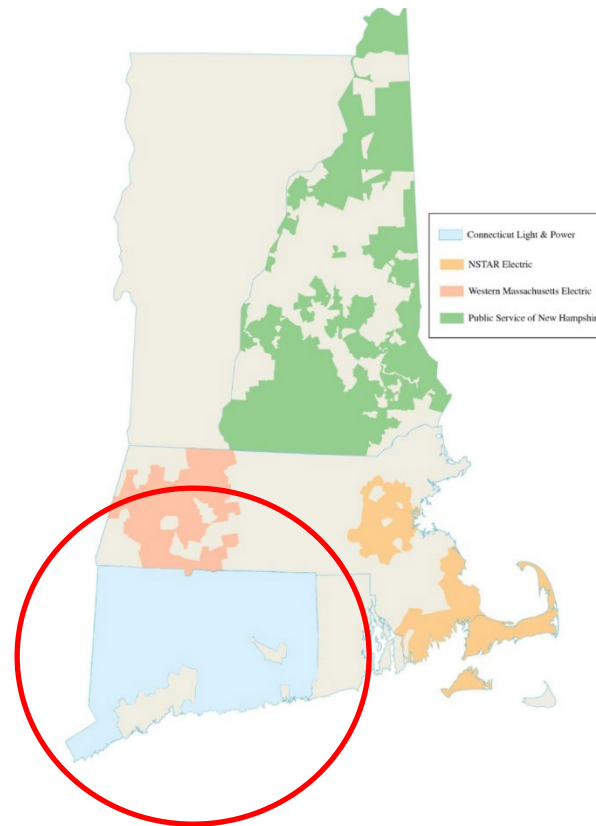


Bunker Hill Substation reconfiguration (Waterbury)

Project updates in blue

| | |
|-----------------------------|--|
| ID | ES-23-LSP-104 |
| Need Category | Local Reliability |
| Need Description | <p>This project is required to address single transmission event resulting in the loss of the entire substation feeding approximately 13,000 customers in Southwest Connecticut and 60MW of load which violates Transmission System Design and Analysis Guideline Rev. 0 (old SYSPLAN010 Appendix A). Also, the substation design violates the Transmission System Design and Analysis Guideline Rev. 0 substation design criteria (old SYSPLAN010 Appendix D.3)</p> <p>This project will address Eversource Planning criteria violation of not allowing a single transmission event to cause the loss of supply to more than one distribution transformer serving customer load. Also, this project will address the Eversource substation design criteria violation by upgrading the substation to a ring bus configuration from a straight bus configuration.</p> |
| Solution Description | Addition of three (3) new 115-kV circuit breakers and reconfigure the Bunker Hill 115 kV substation into a six-breaker ring bus including substation modifications. |
| Status | Planned |
| Cost | \$19.4M |
| Projected In-Service | 2025 |





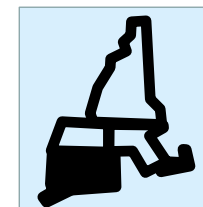
Connecticut

SUBSTATION PROJECTS: TRANSFORMER ADDITIONS & REPLACEMENTS

Transformer Additions & Replacements

| ID | Station | Need Category | Old Transformer | New Transformer | Project Status | ISD, Projected | PPA ID | Transmission Cost, Estimated (\$M) | Changes From Last Year |
|---------------|---------------------------------|---------------------------------------|--|---------------------------|--------------------|----------------|------------------------|------------------------------------|------------------------|
| ES-23-LSP-090 | East Meriden Substation | Local Reliability | 115/13.8kV 46.7 MVA, 1X | 62.5 MVA | In-Service | Dec-2022 | ES-22-T26 | N/A | Yes |
| ES-23-LSP-091 | Montville 69kV Backup Supply | Local Reliability | New addition | 115/69kV auto transformer | In-Service | Mar-2023 | ES-22-T41 | \$11.5 | Yes |
| ES-23-LSP-093 | Ridgefield Substation | Local Reliability | Two 115/13.8kV 46.7 MVA | Two 62.5 MVA | In-Service | May-2023 | ES-22-T13 ES-22-T14 | N/A | Yes |
| ES-23-LSP-095 | Carmel Hill Substation | Local Reliability | New addition | 115/23kV 62.5 MVA | In-Service | Oct-2023 | ES-21-T01 | \$6.8 | Yes |
| ES-23-LSP-096 | Mansfield Substation | Local Reliability | Two new additions and Eliminate single 115/27.6kV, 30 MVA | Two 115/23kV 62.5 MVA | Under Construction | Dec-2023 | ES-20-T02 | \$14.6 | Yes |
| ES-23-LSP-098 | Sandy Hook (Newtown) Substation | Local Reliability | New addition | 115/23kV 62.5 MVA, 2X | Under Construction | Dec-2023 | ES-21-T101 | N/A | Yes |
| ES-23-LSP-099 | Sasco Creek Substation | Local Reliability | Two 115/27.6kV 15 MVA, 1X and 2X | Two 115/26.4kV 30 MVA | Proposed | Mar-2024 | N/A | N/A | Yes |
| ES-23-LSP-101 | Salisbury Substation | Local Reliability | 69/13.2kV 13 MVA | 62.5 MVA | Proposed | Aug-2024 | TBD | N/A | Yes |
| ES-23-LSP-106 | Hopewell Substation | Asset Condition/ Local Reliability | Two 115/23kV 46.7 MVA | Two 62.5 MVA | Planned | 2025 | ES-22-T30 ES-22-T31 | N/A | Yes |
| ES-23-LSP-107 | Bokum Substation | Local Reliability | Two 115/27.6kV 50 MVA | Two 62.5 MVA | Planned | 2025 | ES-21-T90 | N/A | No Changes |

Primarily Distribution, the Transmission cost is less than \$5M



Transformer Additions & Replacements

| ID | Station | Need Category | Old Transformer | New Transformer | Project Status | ISD, Projected | PPA ID | Transmission Cost, Estimated (\$M) | Changes From Last Year |
|---------------|---------------------------|------------------------------------|------------------------------|-----------------------|----------------|----------------|----------------------|------------------------------------|------------------------|
| ES-23-LSP-108 | Beacon Falls Substation | Asset Condition/ Local Reliability | Two 115/13.8kV 46.7 MVA | Two 62.5 MVA | Planned | 2025 | ES-22-T24, ES-22-T25 | N/A | Yes |
| ES-23-LSP-110 | Southington Substation | Local Reliability | New addition | 115/13.8kV 62.5 MVA | Proposed | 2025 | TBD | N/A | Yes |
| ES-23-LSP-111 | Franklin Drive Substation | Local Reliability | 115/13.2kV 25 MVA, 4X and 5X | 62.5 MVA | Concept | 2025 | TBD | N/A | No Changes |
| ES-23-LSP-112 | North Canaan Substation | Asset Condition/ Reliability | Wye-wye | Delta-wye | Concept | 2025 | TBD | TBD | No Changes |
| ES-23-LSP-114 | Devon Railroad Substation | Local Reliability | Two 115/27.6kV 25 MVA | Two 115/26.4kV 50 MVA | Proposed | 2026 | TBD | N/A (Reimbursable) | Yes |
| ES-23-LSP-116 | Glenbrook Substation | Asset Condition/ Local Reliability | 115/13.2kV 46.7 MVA, 2X | 62.5 MVA | Proposed | 2026 | TBD | N/A | New Project |

Primarily Distribution, the Transmission cost is less than \$5M



New Hampshire Projects

Proposed, Planned, Under Construction, and In-Service projects only

O154 Line Project

D142 Line Project

W179 Line Project

S136 Line Rebuild

White Lake Transformer Replacements

E115 Tap Project

F190 Line Rebuild

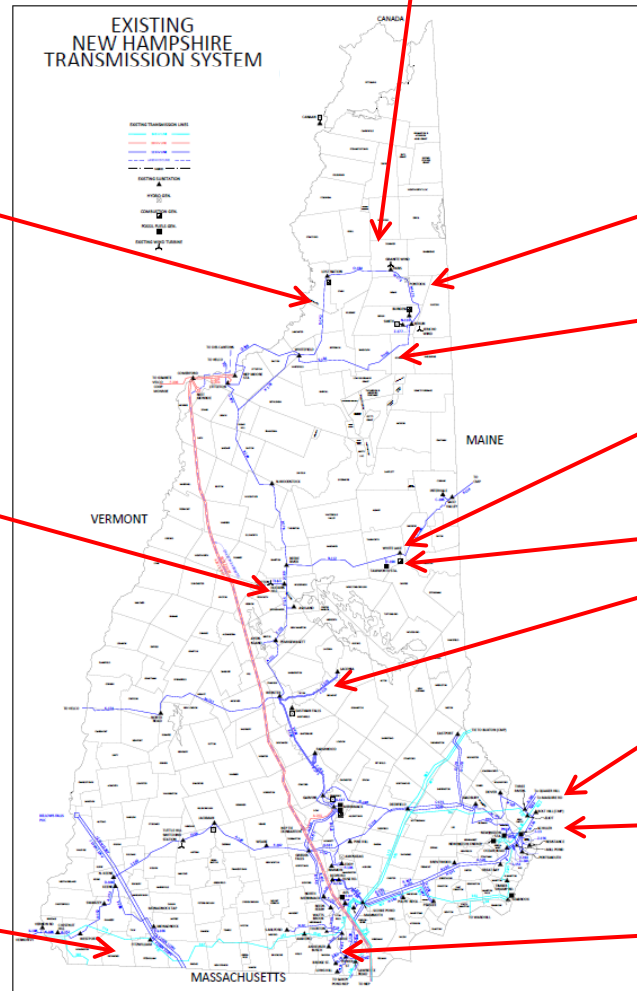
J125 Line Structure Replacements

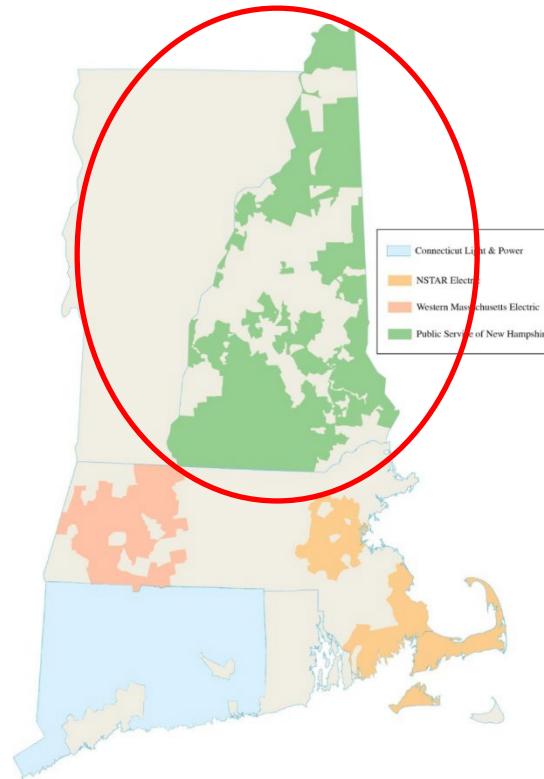
Dover Transformer Replacements

Resistance Substation Retirement

Monadnock Transformer Replacements

W157 Line Project





New Hampshire

TRANSMISSION LINE PROJECTS

Transmission Line Projects

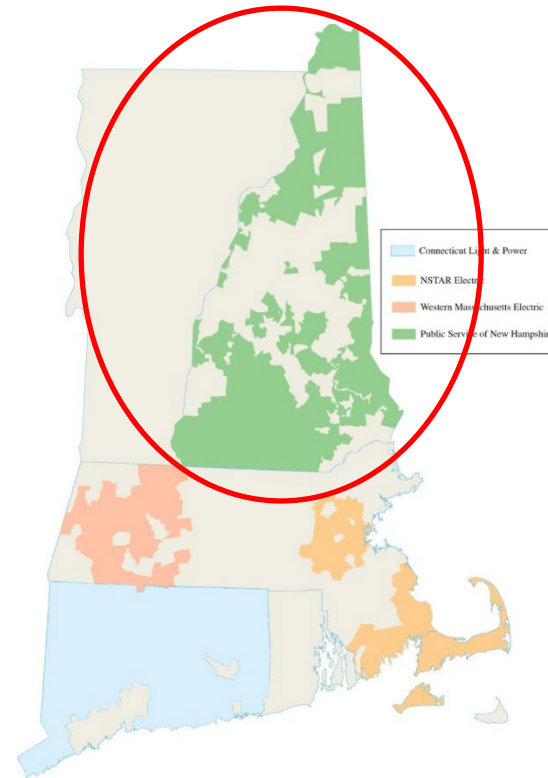
| ID | Need Category | Project | Solution Description | ISD, Projected | Project Status | PPA ID | Transmission Cost, Estimated (\$M) | Changes From Last Year |
|---------------|-----------------|---|--|----------------|--------------------|-----------|------------------------------------|------------------------|
| ES-23-LSP-124 | Asset Condition | D142 115kV Line Rebuild and Asset Condition Project | Rebuild the aging 115kV line with larger conductor | Dec-2022 | In-Service | ES-21-T40 | \$52.9 | Yes |
| ES-23-LSP-125 | Asset Condition | E115 Tap 115kV Line Rebuild and Asset Condition Project | Rebuild the aging 115kV line with larger conductor and OPGW | May-2023 | In-Service | ES-21-T44 | \$5.7 | Yes |
| ES-23-LSP-126 | Asset Condition | O154 115kV Line Rebuild and Asset Condition Project | Rebuild the aging 115kV line with larger conductor and OPGW | Dec-2023 | Under Construction | ES-21-T41 | \$51.0 | No Changes |
| ES-23-LSP-127 | Asset Condition | W157 115kV Line Asset Condition Project | Replace deteriorating Alumoweld shieldwire with OPGW as well as deteriorating structures | Sep-2024 | Under Construction | N/A | \$16.5 | New |



Transmission Line Projects - Continued

| ID | Need Category | Project | Solution Description | ISD, Projected | Project Status | PPA ID | Transmission Cost, Estimated (\$M) | Changes From Last Year |
|---------------|-----------------|---|--|----------------|--------------------|----------------------|------------------------------------|------------------------|
| ES-23-LSP-128 | Asset Condition | W179 115kV Line Rebuild and Asset Condition Project | Rebuild the aging 115kV line with larger conductor and OPGW | Dec-2024 | Under Construction | ES-21-T42, ES-23-T57 | \$81.5 | Yes |
| ES-23-LSP-129 | Asset Condition | F190 115kV Line Rebuild and Asset Condition Project | Replace 0.15 miles of conductor and 2 deteriorating structures | Dec-2024 | Planned | ES-23-T48 | N/A | New |
| ES-23-LSP-131 | Asset Condition | J125 115kV Line Asset Condition Project | Replace deteriorated Laminated Wood Structures | Dec-2024 | Proposed | N/A | TBD | New |
| ES-23-LSP-134 | Asset Condition | S136 115kV Line Rebuild and Asset Condition Project | Rebuild the aging 115kV line with larger conductor and OPGW | 2026 | Proposed | TBD | \$139.8 | New |





New Hampshire

SUBSTATION PROJECTS: STATION EXPANSIONS & RECONFIGURATIONS

Station Expansion & Reconfigurations

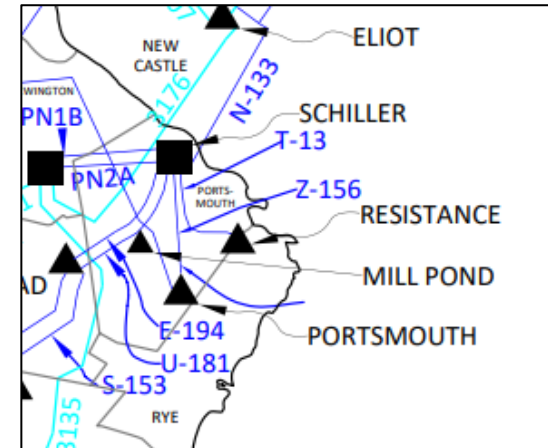
| ID | Need Category | Project | Solution Description | ISD, Projected | Project Status | PPA ID | Transmission Cost, Estimated (\$M) | Changes From Last Year |
|---------------|-----------------------------|---|--|----------------|----------------|-----------|------------------------------------|------------------------|
| ES-23-LSP-130 | Asset Condition | Resistance Substation - Retirement | Resistance substation will be retired because all the equipment at the substation have reached the end of their useful life. All Resistance substation load will be transferred to the Portsmouth 115 kV substation. | Dec-2024 | Planned | ES-23-T49 | TBD | New |
| ES-23-LSP-132 | Asset Condition/Reliability | Monadnock Substation - Transformer replacements (Troy) | Replace the existing 115/34.5kV, 20 & 28 MVA transformers at Monadnock substation with two new 115/34.5kV, 62.5 MVA transformers. Add 5 breakers to have a ring bus configuration. | 2025 | Planned | ES-23-T47 | TBD | Yes |
| ES-23-LSP-133 | Asset Condition/Reliability | White Lake Substation - Transformer replacements (Tamworth) | Replace the existing two 115/34.5kV, 28 MVA transformers at White Lake Substation with two new 115/34.5kV, 62.5 MVA transformers. Add two 115kV bus tie breakers. | 2025 | Proposed | TBD | TBD | No Changes |
| ES-23-LSP-135 | Asset Condition/Reliability | Dover (Cocheco St.) Substation - Transformer replacements (Dover) | Replace the existing two 115/34.5kV, 44.8 MVA transformers at Dover (Cocheco Street) substation with two new 115/34.5kV, 62.5 MVA transformers. Add 4 breakers to have a ring bus configuration. | 2027 | Proposed | TBD | TBD | Yes |
| ES-23-LSP-136 | Load Growth and Reliability | Laconia Substation - Transformer replacements (Laconia) | Replace the existing two 115/34.5kV, 44.8 MVA transformers at Laconia substation with two new 115/34.5kV, 62.5 MVA transformers. | 2027 | Concept | TBD | TBD | New |



Retire the Resistance Substation

New Project

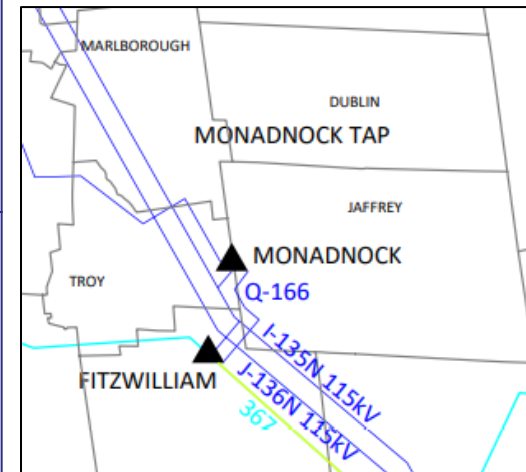
| | |
|-----------------------------|---|
| ID | ES-23-LSP-130 |
| Need Category | Asset Condition |
| Need Description | <p>The existing substation equipment includes deteriorating infrastructure with some equipment 50 to 67 years old. Severe deterioration has been identified on equipment, foundations, steel, conduit, grounding, as well as other facilitates at their end of useful life.</p> <p>The recent upgrades at Portsmouth SS, located a ½ mile away, can support the area load requirements.</p> |
| Solution Description | Resistance substation will be retired because all the equipment at the substation have reached the end of their useful life. All Resistance substation load will be transferred to the Portsmouth 115 kV substation. |
| Status | Planned, ES-23-T49 |
| Cost | TBD |
| Projected In-Service | December 2024 |



Monadnock Substation - Transformer Replacements (Troy)

Project updates in blue

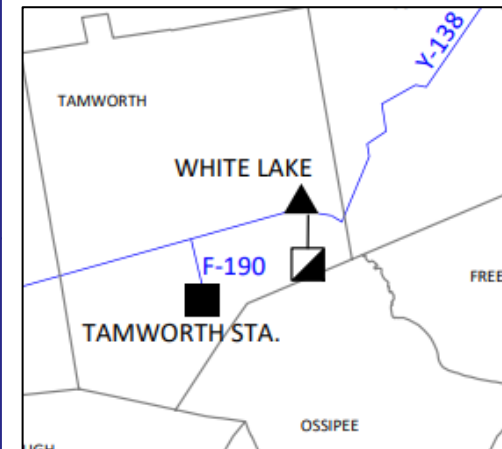
| | |
|----------------------|--|
| ID | ES-23-LSP-132 |
| Need Category | Asset Condition / Reliability |
| Need Description | The projects needs include: (1) N-1 transmission contingency at Monadnock results in outage of the entire station and two distribution transformers which violates the Eversource local system planning criteria Distribution System Planning Guide (DSPG); (2) under N-1 conditions capacity deficiencies of existing transformers will result in customer outages which violates the Eversource local system planning criteria DSPG; (3) Asset condition issues of the existing transformers |
| Solution Description | Replace the existing 115/34.5-kV, 20 & 28 MVA transformers at Monadnock substation with two new 115/34.5 kV, 62.5 MVA transformers. Add 5 breakers to have a ring bus configuration. |
| Status | Planned, ES-23-T47 |
| Cost | TBD |
| Projected In-Service | 2025 |



White Lake Substation - Transformer Replacements (Tamworth)

No changes from 2022

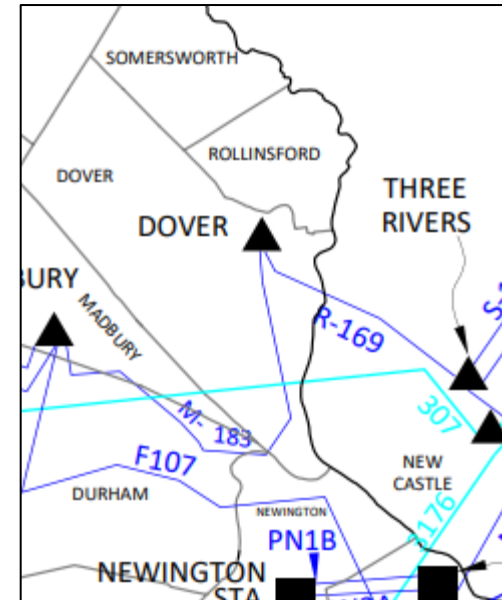
| | |
|-----------------------------|---|
| ID | ES-23-LSP-133 |
| Need Category | Asset Condition / Reliability |
| Need Description | The projects needs include: (1) N-1 transmission contingency at White Lake results in outage of the entire station and two distribution transformers which violates the Eversource local system planning criteria Distribution System Planning Guide (DSPG); (2) under N-1 conditions capacity deficiencies of existing transformers will result in customer outages which violates the Eversource local system planning criteria DSPG; (3) Asset condition issues of the existing transformers, oil circuit breakers, and distribution strain bus structure. |
| Solution Description | Replace the existing two 115/34.5-kV, 28 MVA transformers at White Lake substation with two new 115/34.5 kV, 62.5 MVA transformers. Add two 115 kV bus tie breakers. |
| Status | Proposed |
| Cost | TBD |
| Projected In-Service | 2025 |

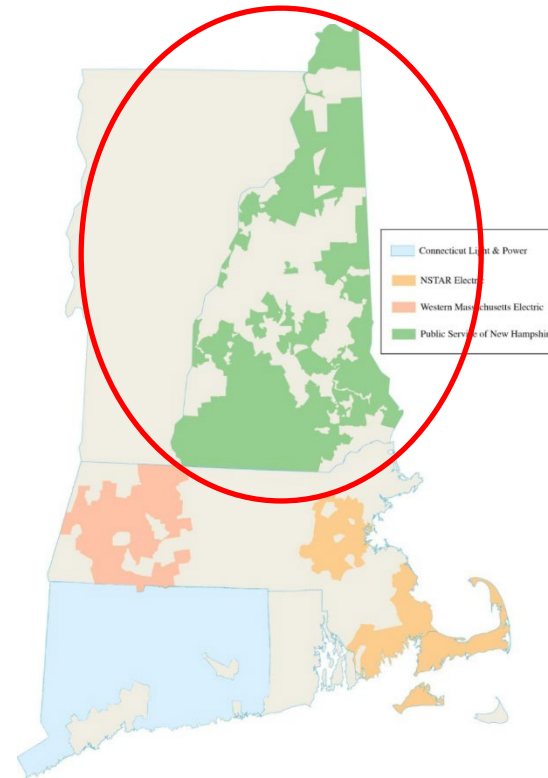


Dover (Cocheco St.) Substation - Transformer Replacements (Dover)

Project updates in blue

| | |
|-----------------------------|---|
| ID | ES-23-LSP-135 |
| Need Category | Asset Condition / Reliability |
| Need Description | The projects needs include: (1) N-1 transmission contingency at Dover results in outage of the entire station and two distribution transformers which violates the Eversource local system planning criteria Distribution System Planning Guide (DSPG); (2) peak load demand is forecast to exceed 95% nameplate capacity which violates the Eversource local system planning criteria DSPG; (3) under N-1 conditions capacity deficiencies of existing transformers will result in customer outages which violates the Eversource local system planning criteria DSPG. |
| Solution Description | Replace the existing two 115/34.5-kV, 44.8 MVA transformers at Dover (Cocheco Street) Substation with two new 115/34.5 kV, 62.5 MVA transformers. Add 4 breakers to have a ring bus configuration. |
| Status | Proposed |
| Cost | TBD |
| Projected In-Service | 2027 |





New Hampshire

SUBSTATION PROJECTS: TRANSFORMER ADDITIONS & REPLACEMENTS

Substation projects: Transformer Additions & Replacements

| ID | Station | Need Category | Old Transformer | New Transformer | Project Status | ISD, Projected | PPA ID | Changes From Last Year |
|---------------|--------------------------|-----------------------------|-----------------|------------------------|----------------|----------------|--------|------------------------|
| ES-23-LSP-137 | South Milford Substation | Load Growth and Reliability | New addition | 115/34.5kV 62.5 MVA | Concept | 2028 | TBD | No Changes |

Primarily Distribution, the Transmission cost is less than \$5M



*Thank you for participating in the
Eversource LSP Presentation.*

Questions?

Appendix

Public Policy Requirements

- On April 28, 2023, NESCOE communicated its decision not to request that ISO-NE initiate a Public Policy Transmission Study in the current planning cycle and determined that, at this time, there are no State or Federal Public Policy Requirements “driving transmission needs relating to the New England Transmission System.”
- On June 15, 2023, ISO-NE communicated that it reviewed and agreed with NESCOE’s position. ISO-NE also communicated that it was not aware of any local Public Policy Requirements driving the need for transmission and thus will not be conducting a Public Policy Transmission Study.
- On July 17, 2023, Eversource communicated that it has reviewed ISO-NE’s and NESCOE’s responses and determined that there are no Public Policy Requirements identified in the ISO-NE Public Policy Transmission Upgrade process that are potentially driving transmission needs on Eversource’s Non-PTF systems.