



**Transmission Owner Planning Advisory
Committee Meeting
Wednesday October 29, 2025**

Local System Plan Presentation

Presenter: Forrest Kugell, Lead Transmission Planning Engineer (AVANGRID)

Purpose of Local System Plan

Per Attachment K – Local, this LSP presentation:

- Describes projected improvements to non-PTF that are needed to maintain reliable customer service.
 - Reflects:
 - LSP Needs Assessments
 - Corresponding transmission system planning studies
 - LSP is communicated at the TOPAC meeting once a year.
 - PAC, Transmission Customers, and other Stakeholders have 30 days to provide written comments for consideration to AVANGRID.
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- AVANGRID Contact:
 - Forrest Kugell
 - Senior Engineer, Transmission Planning
 - Central Maine Power Company
 - 83 Edison Drive
 - Augusta, Maine 04336
 - (email: Forrest.Kugell@cmpco.com)

Avangrid LSP Communication

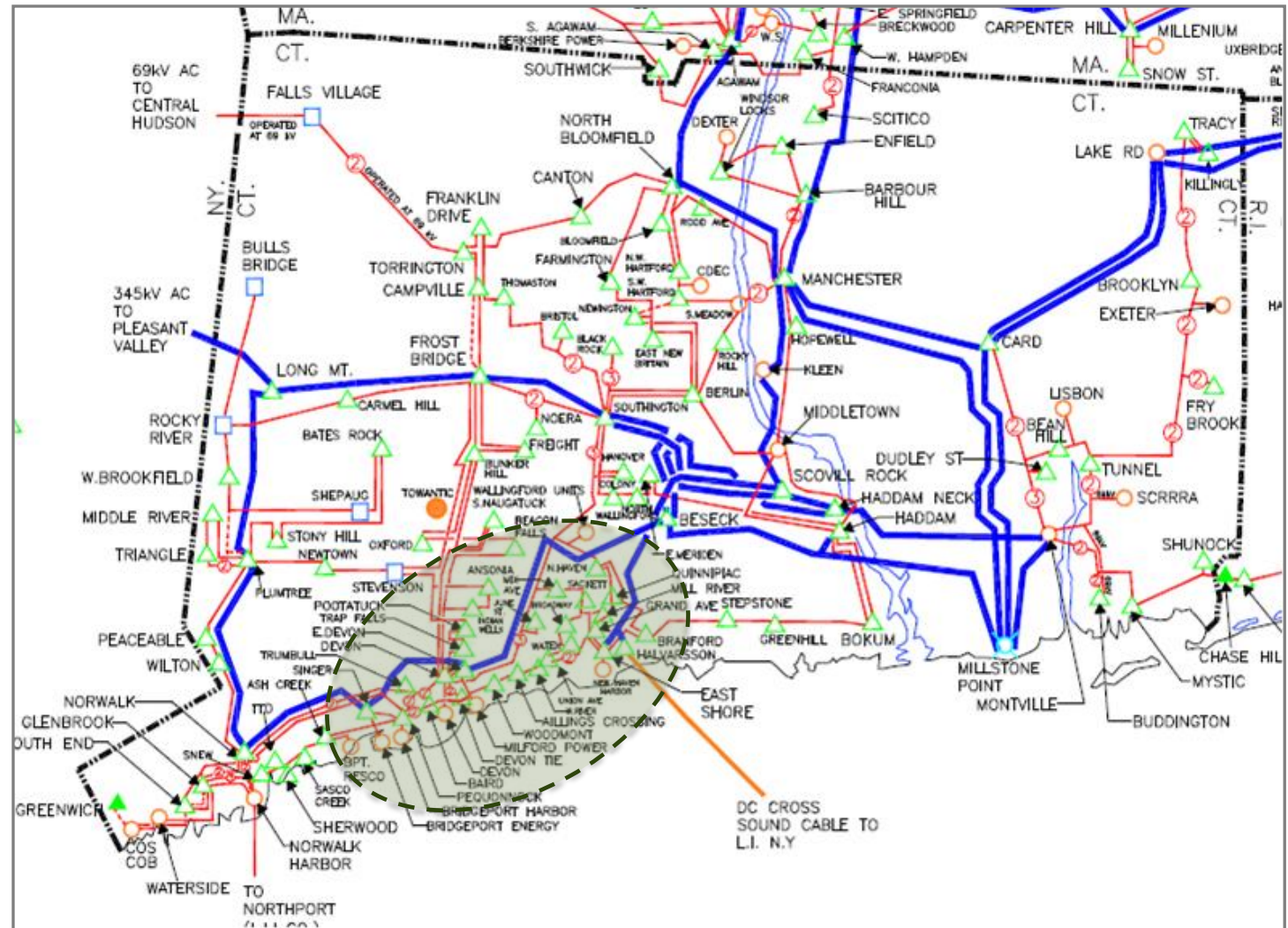
- Each TO is individually responsible for publicly posting and updating the status of its respective LSP and the transmission projects list on a website in a format similar to the RSP project list
- The ISO-NE RSP project list contains links to each individual TO's transmission project list and is located at:
[Link to ISO-NE's RSP project list](#)
- CMP's LSP project list is located at:
[Link to CMP's LSP](#)
- UI's LSP project list is located at:
[Link to UI's LSP](#)

Avangrid's Local System Planning Process

- All Avangrid local system upgrades are determined in accordance with ***Avangrid Transmission Planning Criteria***.
- LSP needs assessments can result from:
 - Periodic Assessment of Transmission Facilities
 - Load Growth
 - Retail or Wholesale Customer Request
 - Generator Interconnection Request
 - Asset Conditions
 - Public Policy Requirements
- Any new project or major project change since the 2024 LSP presentation will be highlighted using red text.

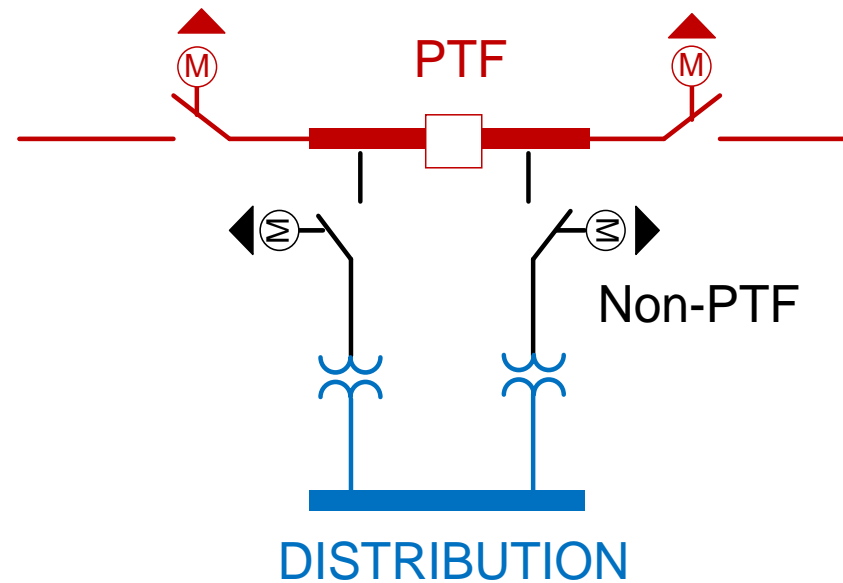
UI Local System Plan

There are currently no UI projects that qualify for the LSP



Characteristics of UI's Transmission System

Typical UI 115/13.8 kV Substation



- There are no radial 115 kV transmission lines on UI's system
- Nearly all of UI's transmission facilities are classified as PTF
- The only non-PTF on UI's system are the 115 kV taps to 115/13.8 kV transformers

In addition to the over 1,000 miles of 115 kV transmission lines pictured here, CMP has over 1,000 miles of 34.5 kV transmission lines which are considered non-ferrous.

- In addition to the over 500 miles of 345 kV transmission lines and over 1250 miles of 115 kV transmission lines pictured here, CMP has over 1000 miles of 34.5 kV transmission lines that are considered non-PTF.

LSP Projects – Southern Area

| Project Origin | Major Project | Project Description | Needs Assessment | Projected In-Service Date | Status |
|---------------------------------|---------------------------------|--|---|---------------------------|------------|
| Southern Area Reliability Study | Rebuild 34.5 kV Section 110 | Rebuild line with 795 ACSR from Sanford to South Sanford | N-1-1 thermal violations | 2025 | In Service |
| | Greenfield Bolt Hill Substation | Full rebuild 115kV AIS 4-BAY BAAH, 4-Line ups of 34.5kV GIS straight bus, and 2-Line ups of 15kV GIS straight bus. | Various thermal and voltage violations Asset condition, needs, Customer funded expansion | 2028 | Planned |
| | | Four new 115/34.5 kV 56 MVA Transformers | Thermal and Voltage Violations | 2028 | Planned |
| | | Two new 115/12.47 kV 37 MVA Transformers | Load shifts to new Bolt Hill substation | 2028 | Planned |

LSP Projects – Southern Area

| Project Origin | Major Project | Project Description | Needs Assessment | Projected In-Service Date | Status |
|---------------------------------|---------------------------------|---|--------------------------------|---------------------------|---------|
| Southern Area Reliability Study | Greenfield Bolt Hill Substation | New 34.5 kV Section 136 and Rebuild 176 to PNSY | Customer Need | 2028 | Planned |
| | | Removal of 34.5/12.47 kV Eliot Substation and move load to Bolt Hill | Distribution Reconfiguration | 2028 | Planned |
| | | Re-rating 115 kV N133A and N133B | Thermal Violations | 2028 | Planned |
| | | Relocate and configure 115 kV switch 133J9 as Normally Open between line sections N133A and N133B | Thermal and Voltage Violations | 2028 | Planned |

LSP Projects – Greater Portland Area

| Project Origin | Major Project | Project Description | Needs Assessment | Projected In-Service Date | Status |
|---|-------------------------|--|---|---------------------------|---------|
| Greater Portland Reliability Area Study | Raven Farms Substation | Bring 34.5kV Elm Street Substation into new 115 kV Raven Farms Substation | N-1 and N-1-1 violations | 2030 | Concept |
| | | Second 115/34.5 Transformer at New Raven Farms Substation | N-1 and N-1-1 violations | 2030 | Concept |
| | East Deering Substation | New 115/34.5 kV Transformer at East Deering | N-1 and N-1-1 violations | 2030 | Concept |
| | Bayside Substation | New 115/12.47 kV Substation fed from 115 kV Raven Farms & 115 Sewall Substations | N-1 and N-1-1 violations due to load growth | 2030 | Concept |
| | Line Work | Rebuild 34.5 kV Section 180A | N-1 and N-1-1 violations | 2030 | Concept |
| | Line Work | Rebuild 34.5 kV Section 188 | N-1 and N-1-1 violations | 2030 | Concept |

LSP Projects – Detroit Guilford Area

| Project Origin | Major Project | Project Description | Needs Assessment | Projected In-Service Date | Status |
|---|------------------------------|---|---|---------------------------|---------|
| Detroit Guilford Reliability Area Study | Guilford Substation | Install Two 34.5 kV 12 MVAR DRDs at Guilford Substation | High & Low Voltage | 2027 | Planned |
| | Detroit Substation | 2nd 115/34.5 kV Transformer at Detroit | Thermal Violations / Voltage Violations & LOL | 2026 | Planned |
| | Sections 5 & 35 | Bifurcation of 34.5 kV Sections 5 and 35 | Thermal and Low Voltage Violations & LOL | 2027 | Planned |
| | Carmel Rebuild 34.5/12.47 kV | Rebuild Carmel and add 16 MVAR of DRD at 34.5 kV | Increased load / Voltage Violations | 2029 | Planned |

LSP Projects – Asset Condition

| Project Origin | Major Project | Project Description | Needs Assessment | Projected In-Service Date | Status |
|-----------------|-----------------------------------|--|---|---------------------------|--------------------|
| Asset Condition | Great Falls 34.5 kV Substation | Partial Rebuild of Great Falls Substation | Asset condition, reliability, and maintenance concerns | Q4 2025 | Under Construction |
| | Butlers Corner 34.5 kV Substation | Partial Rebuild of Butlers Corner Substation | Asset condition, and several safety concerns | 2026 | Planned |
| | Deer Rips 34.5 kV Substation | Greenfield rebuild of Deer Rips Substation | Asset condition, and problems with joint ownership of facilities within hydro station | 2028 | Planned |
| | Warren 34.5 kV Substation | New Warren Substation at a new location | Asset condition, maintenance, reliability, and safety concerns | 2025 | In Service |
| | South Berwick 34.5 kV Substation | New South Berwick Substation at a new location | Asset condition, reliability, and safety concerns | 2026 | Planned |

LSP Projects – Asset Condition

| Project Origin | Major Project | Project Description | Needs Assessment | Projected In-Service Date | Status |
|-----------------|--------------------------------------|--|---|---------------------------|----------------------------|
| Asset Condition | Upgrade 34.5 kV Section 151A | New Underground Cable and Duct Bank | Asset Condition of the underground line | 2026 | Planned |
| | Partial Rebuild of 34.5 kV Section 1 | 34.5 kV Rebuild from Augusta Eastside to McCoy's | Asset condition, and several safety concerns | Q1 2026 | Under Construction |
| | 34.5 kV Section 53 | Structure Replacements | 138 "Reject" Structures, making up 23% of the line | 2026 | Under Construction |
| | 34.5 kV Structure Replacements | Remove the woodpecker damaged poles and replace them with steel structures | Reliability Risk and Asset (Pole) Condition Replacement | 2024-2026 | Under Construction/Planned |

LSP Projects – Distribution Projects

| Project Origin | Major Project | Project Description | Needs Assessment | In-Service Date | Status |
|--------------------------|--|---|--|-----------------|--------------------|
| Distribution Reliability | Rock Row 34.5 kV Substation | New greenfield 34.5kV Substation with line breakers | Upgrade needed to support load growth | 2025 | Under Construction |
| | Hinckley Pond 115 kV Substation | Brownfield Rebuild Hinckley Pond Substation and add a Parallel 115/12.47 kV Transformer | Distribution Criteria Violations and Asset Condition | 2026 | Planned |
| | Brighton Ave 34.5 kV Substation | Rebuild the 34.5 kV bus with to GIS and add auto-sectionalizing schemes | Asset Condition | 2028 | Proposed |
| | McCoy's 34.5 kV T1 Replacement | Replace existing T1 with a 2.5/3.125MVA unit. | Upgrade needed to support load growth | 2025 | Planned |
| | Stickney's Corner 34.5 kV T1 Replacement | Emergency replacement of existing T1 with a 5/7MVA unit. | Unplanned Equipment Change: Transformer | 2025 | In Service |

LSP Projects – Transmission Projects

| Project Origin | Major Project | Project Description | Needs Assessment | In-Service Date | Status |
|--------------------------|---------------------------------|---------------------------------|--------------------|-----------------|---------|
| Transmission Reliability | 34.5 kV Transmission Automation | Add motor operators to switches | Reliability | 2024-2026 | Planned |
| Relay Limitations | 34.5 kV Relay Limitations | Upgrade Relays | Thermal Violations | 2026 | Planned |



LSP Projects - FERC Projects

| Project Origin | Major Project | Project Description | Needs Assessment | Projected In-Service Date | Status |
|---------------------------|---------------------|---|-------------------------|---------------------------|------------|
| Generator Interconnection | QP910 (20 MW Solar) | New 34.5kV breaker and bay position at Sanford | Interconnection Request | 2025 | In Service |
| | QP786 (20 MW Solar) | New 34.5 kV three breaker ring bus on section 185A | Interconnection Request | 2026 | Canceled |
| | | Rebuild 1.88-miles of 34.5 kV Section 185 | Interconnection Request | 2026 | Canceled |
| | QP953 (20 MW Solar) | New 34.5kV breaker and bay position at Augusta East | Interconnection Request | 2027 | Planned |

LSP Projects - FERC Projects

| Project Origin | Major Project | Project Description | Needs Assessment | Projected In-Service Date | Status |
|---------------------------|--------------------------|--|-------------------------|---------------------------|----------|
| Generator Interconnection | QP1013 (20 MW Solar) | New 34.5 kV three breaker ring bus | Interconnection Request | 2028 | Canceled |
| | | Upgrade 34.5 kV Section 43 | Interconnection Request | 2028 | Canceled |
| | QP1021 (16.425 MW Solar) | Rerate 34.5 kV Section 182 | Interconnection Request | 2026 | Planned |
| | | New 34.5 kV three breaker ring bus | Interconnection Request | 2026 | Planned |
| | QP1087 (18.1 MW Solar) | New 34.5 kV Breaker at County Road | Interconnection Request | 2026 | Planned |
| | | Upgrade 34.5 kV Section 56 between Winslow and County Road | Interconnection Request | 2026 | Planned |
| | QP1139 (19.1 MW Solar) | New 34.5 kV Three beaker ring bus | Interconnection Request | 2026 | Planned |

LSP Projects - FERC Projects

| Project Origin | Major Project | Project Description | Needs Assessment | Projected In-Service Date | Status |
|---------------------------|---|--|---|---------------------------|----------|
| Generator Interconnection | QP935 (17 MW Solar) | New 34.5 kV Three breaker straight bus | Interconnection Request | 2028 | Planned |
| | | Rebuild 34.5 kV Section 92 | Interconnection Request (CMP Funded) | 2028 | Planned |
| | QP1241 (Sanford/Quaker Hill Cluster) | 115/34.5 kV Transformer LTC Adjustments | Interconnection Request (CMP Funded) | 2025 | Canceled |
| | QP1242 (Lewiston Cluster) | Re-rate 34.5 kV Section 76 | Interconnection Request (Customer Funded) | 2027 | Canceled |
| | | 115/34.5 kV Transformer LTC Adjustments | Interconnection Request (CMP Funded) | 2025 | Canceled |
| | QP1255 (Detroit/Guilford/Belfast Cluster) | Add 10 MVAR Capacitor to 115 kV Dogtown Road | Interconnection Request (Customer Funded) | 2026 | Canceled |

LSP Projects - FERC Projects

| Project Origin | Major Project | Project Description | Needs Assessment | Projected In-Service Date | Status |
|---------------------------|-----------------------------|---|---|---------------------------|----------|
| Generator Interconnection | Raymond Cluster | 115/34.5 kV Transformer LTC Adjustments | Interconnection Request (CMP Funded) | 2025 | Proposed |
| | | Upgrade switch on 34.5 kV Section 157 | N-1-1 Thermal Violation (Customer Funded) | 2027 | Proposed |
| | | Upgrade Switch and Relay on 34.5 kV Section 168 | N-1-1 Thermal Violation (Customer Funded) | 2027 | Proposed |
| | QP1244 (Sturtevant Cluster) | Add a 10 MVAR Capacitor to 115 kV Dogtown Road | Voltage Violations (Customer Funded) | 2026 | Canceled |
| | QP1099 (Midcoast Cluster) | Split of 4 MVAR DRD at 34.5 kV Bristol Substation into 2x2 MVAR devices | Voltage Violations (Customer Funded) | 2028 | Proposed |
| | | 2x2 MVAR DRD at 34.5 kV Bristol Substation | Voltage Violations (CMP Funded) | 2028 | Proposed |
| | | 115/34.5 kV Transformer LTC Adjustments | Interconnection Request (CMP Funded) | 2025 | Proposed |

LSP Projects - FERC Projects

| Project Origin | Major Project | Project Description | Needs Assessment | Projected In-Service Date | Status |
|---------------------------|-----------------------|--|---|---------------------------|----------|
| Generator Interconnection | QP1254 (Kimball Road) | Upgrade 34.5 kV Section 91 | N-1 Overloads (Customer Funded) | 2029 | Canceled |
| | | Rebuild 34.5 kV Section 143 | N-0/N-1 Overloads (Customer Funded) | 2029 | Canceled |
| | | 115/34.5 kV Transformer LTC Adjustments | N-1/N-1-1 Voltage Violations (CMP Funded) | 2025 | Canceled |
| | | Adjust Hiram Hydro Voltage Setpoint at 34.5 kV | N-1/N-1-1 Voltage Violations (CMP Funded) | 2025 | Canceled |
| | | Adjust QP1021 Voltage Setpoint at 34.5 kV | N-1/N-1-1 Voltage Violations (CMP Funded) | 2025 | Canceled |
| | | Relay Upgrade on 34.5 kV Section 157 | N-1/N-1-1 Thermal Violations (CMP Funded) | 2025 | Canceled |
| | | Relay Upgrade on 34.5 kV Section 168 | N-1/N-1-1 Thermal Violations (CMP Funded) | 2025 | Canceled |
| | | Relay Upgrade on 34.5 kV Section 183 | N-1/N-1-1 Thermal Violations (CMP Funded) | 2025 | Canceled |

LSP Projects - FERC Projects

| Project Origin | Major Project | Project Description | Needs Assessment | Projected In-Service Date | Status |
|---------------------------|------------------------|---|---|---------------------------|---------|
| Generator Interconnection | QP 1171 Twin Energy | Upgrade 115/34kV Transformer at Roxbury | N-1/N-1-1 Thermal Violations (CMP Funded) | 2026 | Planned |
| | QP 1100 Hartland Solar | New 115kV 3 breaker ring bus S/S | N-1/N-1-1 Thermal Violations (CMP Funded) | 2028 | Planned |
| | | Rerate 115kV S.82 | | 2028 | Planned |
| | | (2) 10MVAR Cap Banks at Dogtown Rd S/S | | 2028 | Planned |
| | QP 1086 Warren Meadow | New 115kV 3 breaker ring bus S/S | N-1/N-1-1 Thermal Violations (CMP Funded) | 2028 | Planned |
| | QP896 HEP Solar | New breaker at Loudon S/S | N-1/N-1-1 Thermal Violations (CMP Funded) | 2027 | Planned |

Discussion / Q&A

