ISO New England Inc.
2022 Prior Year List of Projects Designated to the PTOs
Attachment K, Section 4.1(j)(iii)
Changes from the 2021 list are indicated in red

Solutions Study	Project ID	Solution Component (Project)	Transmission Owner Responsible for the Project	Need-By-Date	Actual In-service Date
Southeastern Massachusetts and Rhode Island 2026[1]	1714	New Grand Army 115 kV GIS switching station built to BPS standards, remote terminal station work (Brayton Point and Somerset) & loop E-183E, F-184, X3 and W4 lines (associated with RSP 1742)[2]	National Grid	Prior to 2016	October 2020
Southeastern Massachusetts and Rhode Island 2026	1742	Remote terminal station work (Wampanoag and Pawtucket 115 kV) for new 115 kV Grand Army GIS switching station to tie the E-183E, F-184, X3 and W4 lines (Associated with RSP 1714)	National Grid	Prior to 2016	October 2020
Southeastern Massachusetts and Rhode Island 2026	1715	Upgrades at Brayton Point (new 115 kV breaker, new 345/115 kV transformer and upgrades to E183E, F184 station equipment)	National Grid	Prior to 2016	October 2020
Southeastern Massachusetts and Rhode Island 2026	1716	Increase clearances on E-183E & F-184 lines between Brayton Point & Grand Army (~1.5 miles each)	National Grid	Prior to 2016	November 2019
Southeastern Massachusetts and Rhode Island 2026	1717	Separate X3/W4 DCT and reconductor X3, W4 lines between Somerset and Grand Army (~2.7 miles each). Reconfigure Y2 and Z1	National Grid	Prior to 2016	November 2019
Southeastern Massachusetts and Rhode Island 2026	1718	Robinson Ave 115 kV circuit breaker addition and re-terminate Q10 line	National Grid	Prior to 2016	March 2022
~~Southeastern Massachusetts and Rhode Island 2026~~	~~1719~~	~~Install 45.0 MVAR capacitor bank at Berry Street~~	~~National Grid~~	~~Prior to 2016~~	Project Cancelled[3]

[1] This column header was changed from "Key Study Area" to "Solutions Study" in 2020 to identify the specific study rather than the geographical area.
[2] Project descriptions (formerly names) are listed as they appear in the ISO New England Regional System Project List.
[3] Project cancelled as a result of the Revised SEMA/RI 2029 Needs Assessment Update.

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Southeastern Massachusetts and Rhode Island 2026	1720	Separate N12/M13 DCT & reconductor N12 & M13 between Somerset and Bell Rock (~3.5 miles)	National Grid	Prior to 2016[4]	TBD[5]
Southeastern Massachusetts and Rhode Island 2026	1721	Reconfigure Bell Rock to breaker and a half station, split M13 line at Bell Rock and terminate 114 line at Bell Rock. Install new breaker in series with N12/D21 tie breaker, upgrade D21 line switch and install 37.5 MVAR capacitor.	National Grid	Prior to 2016[6]	TBD
Southeastern Massachusetts and Rhode Island 2026	1722	Extend Line 114 - Dartmouth town line (Eversource- NGRID border) to Bell Rock (~4.2 miles)	National Grid	Prior to 2016[7]	TBD
Southeastern Massachusetts and Rhode Island 2026	1730	Extend the 115 kV 114 line from Eversource/National Grid border to Industrial Park Tap	Eversource	Prior to 2016[8]	TBD
Southeastern Massachusetts and Rhode Island 2026	1731	Install 35.3 MVAR 115kV capacitors at High Hill Substation #644 and Wing Lane Substation #624	Eversource	Prior to 2016[9]	December 2021
Southeastern Massachusetts and Rhode Island 2026	1736	Reconductor the 108 line from Bourne Substation #917 to Horse Pond Tap	Eversource	2016	October 2018
~~Southeastern Massachusetts and Rhode Island 2026~~	~~1723~~	~~Reconductor L14 and M13 from Bell Rock to Bates Tap (8.3 miles each)~~	~~National Grid~~	~~Prior to 2016~~	Project Cancelled[10]

[4] A time-sensitive analysis was completed in the Revised SEMA/RI 2029 Needs Assessment Update and posted in November 2020. The purpose of the Revised SEMA/RI 2029 Needs Assessment Update was to investigate whether projects that had not started construction as of the June 2020 RSP Project List were still needed. The time-sensitive analysis was conducted for the year 2023 and the need for the project was observed in 2023. The Need-By-Date was not updated to 2023, but rather the original Need-By-Dates determined in the SEMA/RI 2026 Needs Assessment, Addendum and Second Addendum remain for the projects.
[5] "TBD" or "To be determined" indicates that the project has not yet been placed into service.
[6] *See supra* fn *4.*
[7] *Ibid*.
[8] *Ibid.*
[9] *Ibid.*
[10] *See supra* fn 3.

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~~Southeastern Massachusetts and Rhode Island 2026~~	~~1735~~	~~Replace wave trap on 114 line at Tremont Substation #713~~	~~Eversource~~	~~Prior to 2016~~	Project Cancelled[11]
Southeastern Massachusetts and Rhode Island 2026	1732	Loop 201-502 line into Medway #65 Substation to form the 201-502N and 201-502S lines	Eversource	Prior to 2016[12]	TBD
Southeastern Massachusetts and Rhode Island 2026	1737	Replace disconnect switches 107A, 107B, 108A and 108B on Line 323 at West Medway Substation #446. Replace 8 line structures with taller structures.	Eversource	2018	August 2020
Southeastern Massachusetts and Rhode Island 2026	1728	Build a new Carver to Kingston 115 kV line and Carver terminal	Eversource	2016[13]	TBD
Southeastern Massachusetts and Rhode Island 2026	1729	Install a new bay position at Kingston for Carver line	Eversource	2016[14]	TBD
Southeastern Massachusetts and Rhode Island 2026	1734	Reconductor/Upgrade 112 Line Tremont Substation #713 to Industrial Tap and terminal equipment	Eversource	2016	June 2018
Southeastern Massachusetts and Rhode Island 2026	1726	Separate the 135/122 DCT lines - West Barnstable to Barnstable	Eversource	Prior to 2018[15,16]	December 2021

[11] Project ID 1735 was cancelled in the June 2017 RSP Project List update as the work was performed as part of a previous project at the Tremont #713 station. This project has been mistakenly included in the 2017-2019 Prior Year List of Projects Designated to the PTOs documents.
[12] See *supra* fn 4.
[13] *Ibid*.
[14] *Ibid.*
[15] *Ibid.*
[16] These contingency scenarios in the Cape Cod subarea were non-convergent in at least one study case for projected 2018 system conditions; as such, their Year of Need for the Cape Cod subarea needs were set to coincide with that study year and respective projected New England net load. Since non-converged solutions are an indication of severe system performance concerns, the actual year of need is likely to be before 2018.

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Solutions Study	Project ID	Solution Component (Project)	Transmission Owner Responsible for the Project	Need-By-Date	Actual In-service Date
Southeastern Massachusetts and Rhode Island 2026	1727	Retire Barnstable SPS	Eversource	Prior to 2018[17,18]	November 2021
Southeastern Massachusetts and Rhode Island 2026	1725	Build a new Bourne #917 to West Barnstable #921 115 kV line and associated terminal work	Eversource	Prior to 2018[19,20]	TBD
~~Southeastern Massachusetts and Rhode Island 2026~~	~~1733~~	~~Separate the 325/344 DCT lines - West Medway to West Walpole~~	~~Eversource~~	~~Prior to 2016~~	Project Cancelled[21]
Southeastern Massachusetts and Rhode Island 2026	1724	Kent County T3 345/115 kV transformer replacement[22]	National Grid	Prior to 2016[23]	March 2022
Southeastern Massachusetts and Rhode Island 2026	1741	Rebuild the Middleborough Gas and Electric (MGED) portion of the E1 line from Bridgewater to Middleborough (2.5 miles)	Middleborough Gas and Electric Department	2017	April 2019
Southeastern Massachusetts and Rhode Island 2026	1782	Reconductor the J16S line	National Grid	Prior to 2016[24]	May 2022
Southeastern Massachusetts and Rhode Island 2026	1789	West Medway 345 kV Circuit Breaker Upgrades	Eversource	Prior to 2016[25]	April 2021

[17] See *supra* fn 4.
[18] See *supra* fn 16.
[19] See *supra* fn 4.
[20] See *supra* fn 16.
[21] See *supra* fn 3.
[22] The need for the project was identified in the SEMA/RI 2026 Needs Assessment. The need for the project was reevaluated in the Revised SEMA/RI 2029 Needs Assessment Update. The Revised SEMA/RI 2029 Needs Assessment Update concluded that the need for the project was no longer observed. The project will continue to move forward due to the amount spent on the project to date and the vintage of the existing transformer. Although asset condition related projects are not included on this list, the project will remain as it was originally added to the list to solve a time-sensitive need.
[23] See *supra* fn 4.
[24] *Ibid*.
[25] These projects to upgrade and replace circuit breakers were identified and developed as a result of the Proposed Plan Application (PPA) studies completed for the Southeastern Massachusetts and Rhode Island (SEMA/RI) projects in April 2018. The SEMA/RI projects increase the available short circuit levels at West Medway and Medway over the current short circuit duties of the breakers there. Since the SEMA/RI projects caused the need to replace the

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Southeastern Massachusetts and Rhode Island 2026	1790	Medway 115 kV Circuit Breaker Replacements	Eversource	Prior to 2016[26]	November 2020
Boston 2028	1807	Install a 160 MVAR reactor at Golden Hills 345 kV	National Grid	June 2019[27]	August 2022
Boston 2028	1806	Install a 115 kV breaker in series with breaker 4 at Mystic	Eversource	June 2019[28]	December 2021
Eastern CT 2029	1815	Reconductor the L190-4 and L190-5 line sections	National Grid	June 2022	TBD
Eastern CT 2029	1850	Install a second 345/115 kV autotransformer (4X) and one 345 kV breaker at Card substation	Eversource	June 2022	TBD
Eastern CT 2029	1851	Upgrade Card 115 kV to BPS standards	Eversource	June 2022	TBD
Eastern CT 2029	1852	Install one 115 kV circuit breaker in series with Card substation	Eversource	June 2022	TBD
Eastern CT 2029	1853	Convert Gales Ferry substation from 69 kV to 115 kV	Eversource	June 2022	TBD
Eastern CT 2029	1854	Rebuild the 100 Line from Montville to Gales Ferry to allow operation at 115 kV	Eversource	June 2022	TBD
Eastern CT 2029	1855	Re-terminate the 100 Line at Montville station and associated work. Energize the 100 Line at 115 kV	Eversource	June 2022	TBD
Eastern CT 2029	1856	Rebuild 400-1 Line section to allow operation at 115 kV (Tunnel to Ledyard Jct.)	Eversource	June 2022	TBD
Eastern CT 2029	1857	Add one 115 kV circuit breaker and re-terminate the 400-1 line section into tunnel substation. Energize 400 Line at 115 kV	Eversource	June 2022	TBD
Eastern CT 2029	1858	Rebuild 400-2 Line section to allow operation at 115 kV (Ledyard Jct. to Border Bus with CMEEC)	Eversource	June 2022	September 2022

circuit breakers at West Medway and Medway, the need-by-date (NBD) of the circuit breaker projects at West Medway and Medway is the same as the SEMA/RI projects (Prior to 2016).

[26] *Ibid*.

[27] The needs identified at off peak load levels are deemed to be time-sensitive because the off-peak load levels are possible under current day system conditions. The Need By Date for steady-state needs observed at off peak load levels is defined as the date of publishing the final Needs Assessment report, June 10, 2019. See Section 4.1.4.3 of the Transmission Planning Technical Guide.

[28] *Ibid*.

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Eastern CT 2029	1859	Rebuild the 400-3 Line Section to allow operation at 115 kV (Gales Ferry to Ledyard Jct.)	Eversource	June 2022	TBD
Eastern CT 2029	1860	Install a 25.2 MVAR 115 kV capacitor and one capacitor breaker at Killingly	Eversource	June 2022	December 2021
Eastern CT 2029	1861	Install one 345 kV series breaker with the Montville 1T (345 kV)	Eversource	June 2022	November 2021
Eastern CT 2029	1862	Install a 50 MVAR synchronous condenser with two 115 kV breakers at Shunock	Eversource	June 2022	TBD
Eastern CT 2029	1863	Install a 1% series reactor with bypass switch at Mystic, CT on the 1465 Line	Eversource	June 2022	March 2022
Eastern CT 2029	1864	Convert the 400-2 Line Section to 115 kV (Border Bus to Buddington), convert Buddington to 115 kV	CMEEC	June 2022	TBD
Eastern CT 2029	1904	Convert 69kV equipment at Buddington to 115 kV to facilitate the conversion of the 400-2 line to 115kV[29]	CMEEC	June 2022	TBD
NH 2029	1878	Install a +55/-32.2 MVAR synchronous condenser at N. Keene 115 kV Substation with a 115 kV breaker and a 13.8 kV breaker	Eversource	June 2022	TBD
NH 2029	1879	Install a +55/-32.2 MVAR synchronous condenser at Huckins Hill 115 kV Substation with a 115 kV breaker and a 13.8 kV breaker	Eversource	June 2022	TBD
NH 2029	1880	Install a +127/-50 MVAR synchronous condenser at Amherst 345 kV Substation with three 345 kV breakers and a 13.8 kV circuit breaker	Eversource	December 2019	TBD
NH 2029	1881	Install two 50 MVAR capacitors on Line 363 near Seabrook station with three 345 kV breakers	New Hampshire Transmission	June 2022	TBD
UME[30] 2029	1882	Rebuild 21.7 miles of the existing 115 kV line Section 80 Highland – Coopers Mills 115 kV line	Central Maine Power Company	June 2022	TBD

[29] Project added to provide clarity around the Eastern CT 2029 work at the Buddington Substation.
[30] UME stands for Upper Maine.

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UME 2029	1883	Convert the Highland 115 kV substation to an eight breaker, breaker-and-a-half configuration with a bus connected 115/34.5 kV transformer	Central Maine Power Company	June 2022	TBD
UME 2029	1884	Install a 15 MVAR capacitor at Belfast 115 kV substation	Central Maine Power Company	June 2022	TBD
UME 2029	1885	Install a +50/-25 MVAR synchronous condenser at Highland 115 kV substation	Central Maine Power Company	June 2022	TBD
UME 2029	1886	Install a +50/-25 MVAR synchronous condenser at Boggy Brook 115 kV substation, and install a new 115 kV breaker to separate Line 67 from the proposed solution elements	Versant Power	March 2020	TBD
UME 2029	1887	Install a 25 MVAR reactor at Boggy Brook 115 kV substation	Versant Power	March 2020	TBD
UME 2029	1888	Install a 10 MVAR reactor at Keene Road 115 kV substation	Versant Power	March 2020	TBD
UME 2029	1889	Install three remotely monitored and controlled switches to split the existing Orrington reactors between the two Orrington 345/115 kV autotransformers	Versant Power	March 2020	TBD
Change Status of the K Street 345 kV Breaker	1898	K Street 345 kV 103S Breaker - Operate as Normally Open	Eversource	March 2022	September 2022
D-4 Protection System	1908[31]	Install a POTT protection system on the D-4 line	National Grid	Prior to 2022	TBD

[31] This project was inadvertently excluded from the October 2022 RSP Project List and will be included on the March 2023 RSP Project List.