



Transitional Cluster Study Update

July 15, 2026 VSPC Meeting
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How does a generator interconnect in VT?

- Dependent on various factors
 - Size thresholds (MW)
 - Point of Interconnection (transmission, subtransmission, distribution)
 - Market unit or behind the meter (BTM)
- Must follow both ISO-NE and VT processes



Size Thresholds

- Less than 1 MW
 - No ISO-NE requirements (for BTM)
 - There are VT PUC and DU requirements
- Between 1 and 5 MW
 - ISO-NE notification is required
 - If there is a high concentration of DER in the proposed area, then additional studies are required (very common now)
- Between 5 MW and 20 MW
 - Must go through the Small Generation Interconnection Process at ISO-NE (Schedule 23)
- Greater than 20 MW
 - Must go through the Large Generation Interconnection Process at ISO-NE (Schedule 22)



BTM vs Metered Units

BTM Units

- Act as a load reducer for the distribution utility
- Can not participate in the energy or capacity market
- Can have less up front cost for interconnection
- Can not exceed 5 MW

Metered Units

- Can participate in all markets
- Requires more effort to interconnect due to metering requirements
- No size limitation



The ISO-NE Interconnection Process Through the Years

Serial Study Process	Transitional Cluster Study Process	Cluster Study Process
• Prior to 10/11/2025 • Studied one project at a time, from start to finish	• Between 10/11/2025 and 10/5/2026 • Studies all projects at the same time	• After 10/5/2026 • Studies all projects at the same time

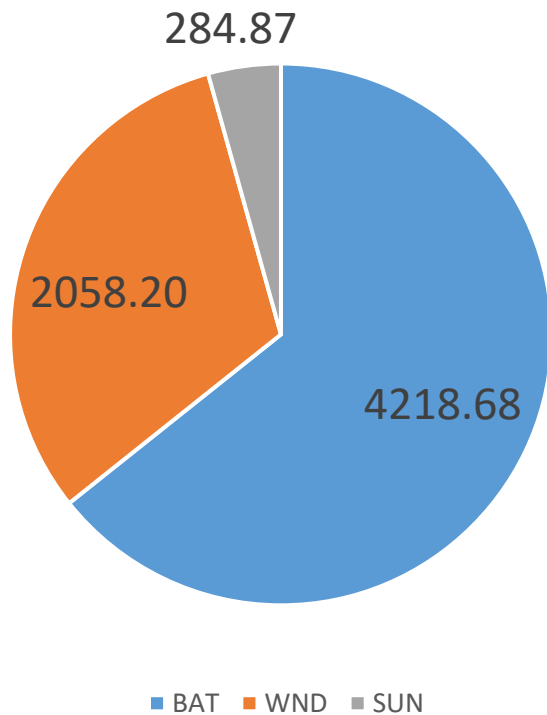
FERC Order No. 2023 created the cluster study requirement

Transitional Cluster Study

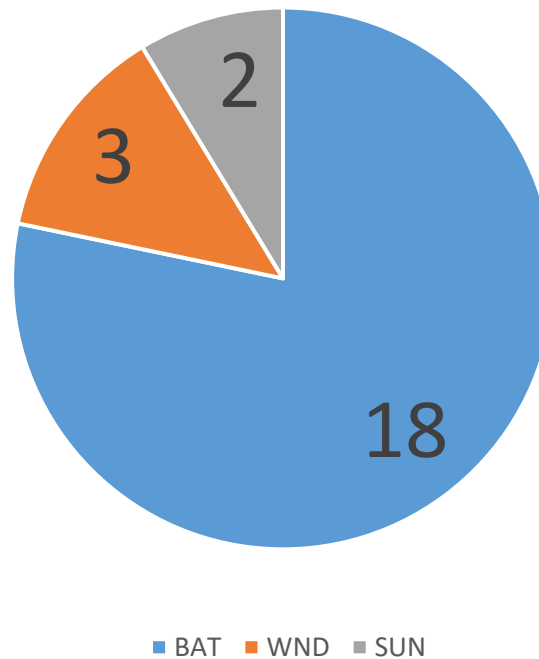
- October 10th, 2025: Deadline for deposits due
 - June 7th, 2026: Draft study report was released
 - August 6th, 2026: Final study report will be published
 - October 6th, 2026: Next Cluster Study begins
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- 25 projects entered the TCS, 4 have withdrawn already
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- Serial Study Process Average: 1 project = 9 months study time
 - Transitional Cluster Study: 23 projects = 8 months study time

Projects in the TCS

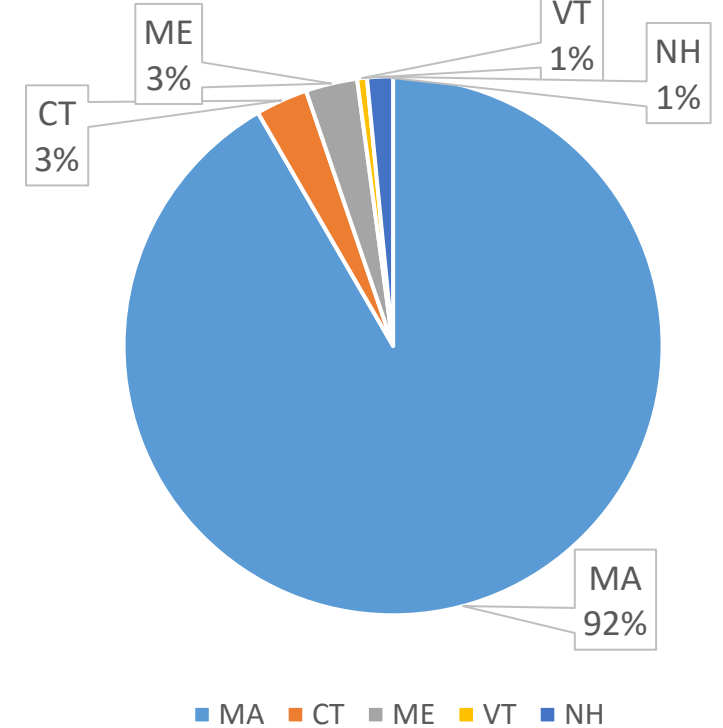
MWs of Proposed Generation



of Proposed Generators



Location of Proposed Generation



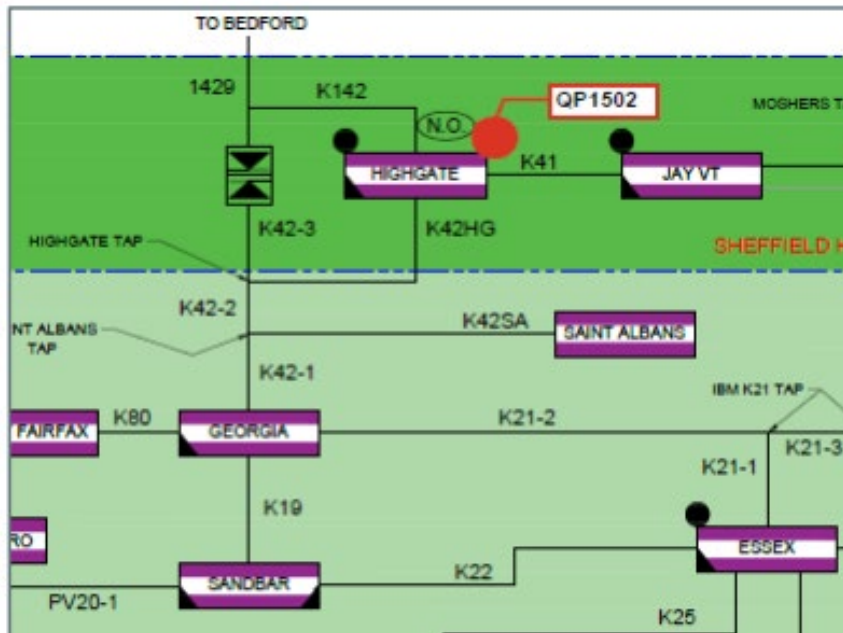
Projects in the TCS

Cluster	Position	Alternative Name	Fuel Unit	Type	Net MW	Summer MW	Winter MW	County	State	Op Date	Sync Date	W/ D Date	Interconnection Location	Serv
TCS		Park City Offshore												
TCS	1090	Wind CNR	WT	WND	0.0	838.2	838.2	NA	MA	12/31/2029	05/01/2029		Eversource (NSTAR) 345kV West Barnstable	CNR
TCS	1116	SouthCoast Wind 1	WT	WND	1200.0	1200.0	1200.0	NA	MA	12/31/2031	05/01/2030		Brayton Point making use of QP 837 to connect	CNR
TCS	11													CNR
19.3 MW BESS connected @ VELCO's Windsor 115 kV														
TCS	11												115 kV substation (bus number 110926), Zone MA_NST	CNR
TCS	1171	Twin Energy Wind					20.0	Oxford	ME	11/06/2026	10/09/2026		Roxbury Substation	CNR
TCS	1238	Battery Storage				301.3	301.3	Norfolk	MA	04/28/2028	11/30/2027		West Medway 345kV station	CNR
TCS	1252	Battery Storage				314.7	314.7	Essex	MA	08/01/2032	07/01/2032	12/22/2025	Ward Hill 345 kV Substation	CNR
TCS	1365	Battery Storage				250.0	254.2	Hampden	MA	06/30/2029	01/29/2029		Connect to South Agawam 115 kV switchyard	CNR
TCS	1412	Battery Storage				168.0	169.8	Bristol	MA	09/30/2027	09/15/2027		Direct tap into the Pottersville Substation in Somerset, MA	CNR
TCS	1427	Solar	PV	SUN	180.0	183.3	183.3	York	ME	12/30/2029	12/01/2029		Lebanon, Maine Line 391 Buxton Sub (CMP) to Scobie Pond (Eversource). GPS coordinates of the POI: 43°22'51.59"N, 70°55'57.74"W. ** This new tap is located approximately 27.8 miles southwest of Buxton substation and approx. 39.9 miles northeast of the Scobie Pond substation.	CNR
TCS	1428	Solar	PV	SUN	100.0	101.5	101.5	Rockingham	NH	12/30/2028	12/01/2028		A tap at existing 115 kV line between Eversource 115kV Scobie Pond - Pulpit Rock Line A184 115kV. * The new tap will be located at approx. 42.9292184N, -71.2567898W and along a ~6 mile segment of Line A184 (approx. 4.9 miles northeast of Scobie Pond and approx. 1.1 miles southwest of Pulpit Rock).	CNR
TCS	1469	Battery Storage	OT	BAT	350.0	353.5	353.5	Bristol	MA	09/30/2027	09/15/2027	02/27/2026	Customer built substation with a tap into the west-most 345kV line exiting the NG 345kV Brayton Point substation	CNR
TCS	1495	Battery Storage	OT	BAT	19.3	19.3	19.3	Windsor	VT	07/01/2029	06/01/2029		Direct connection to VELCO 115kV Windsor substation (43.48988, -72.40858)	CNR
TCS	1502	Battery Storage	OT	BAT	19.3	19.3	19.3	Franklin	VT	07/01/2029	06/01/2029		Direct connection to VELCO 115kV Highgate substation (44.943833, -73.058515)	CNR
TCS	1513	Battery Storage	OT	BAT	300.0	318.3	318.3	Worcester	MA	08/30/2028	05/31/2028		Bear Swamp- Pratts Junction 230kV	CNR
TCS	1515	Battery Storage	OT	BAT	290.0	295.8	295.8	Berkshire	MA	08/30/2028	05/31/2028		Alps-Berkshire 345kV line	CNR
TCS	1518	Battery Storage	OT	BAT	136.0	139.5	139.5	Berkshire	MA	08/30/2028	05/31/2028		Eversource, New Substation to be built at 42.488290, -73.219503	CNR
TCS	1542	Battery Storage		BAT	170.0	170.0	170.0	Hampden	MA	12/31/2029	06/30/2029	7/1/2026	MA_WMECO Blandford 115kV substation	CNR
TCS	1543	Battery Storage			290.0	585.3	585.3	Barnstable	MA	12/01/2028	09/15/2028		The project will tap the 342-2 W line between the 345 kV Canal Substation and Jordan Tap with a new three breaker ring bus to connect the project	CNR
TCS	1546	Battery Storage			170.0	170.0	170.0	Berkshire	MA	12/31/2029	06/30/2029	6/25/2026	MA_WMECO Partridge 115kV substation.	CNR
TCS	15												The Point of Interconnection will be located on the IC's property (Lat, long: 42°21'44.53"N, 72° 2'22.57"W) by tapping the 115-kV Line (Windsor) at approx. 6km from Barre Substation owned by MA_NGRID.	CNR
TCS	15												Connection - National Grid Tewksbury 115kV substation, Open position opposite the J-162 line	CNR
TCS	15												between Resco-Saugus Tap and Melrose #2 Tap. Approximately 2.4 miles from Melrose #2 Tap and approximately 1.5 miles from Resco-Saugus Tap	CNR
TCS	1557	Battery Storage	OT	BAT	220.0	220.0	220.0	Barnstable	MA	09/30/2027	09/15/2027		120 kV Waterford Junction Substation	CNR
TCS	1567	Battery Storage	OT	BAT	500.0	509.2	509.2	Middlesex	MA	04/27/2028	02/29/2028		The Point of Interconnection will be a direct interconnection will be located on the IC's property (Lat, long: 42°41'23.38"N, 71°26'20.43"W) by tapping the 345-kV Line 326-2 (Sandy Pond-Lawrence Rd), owned by RI_NGRID, at approx. 8.4 miles from the 345-kV Lawrence Rd Substation (42% of line from Lawrence Rd).	CNR

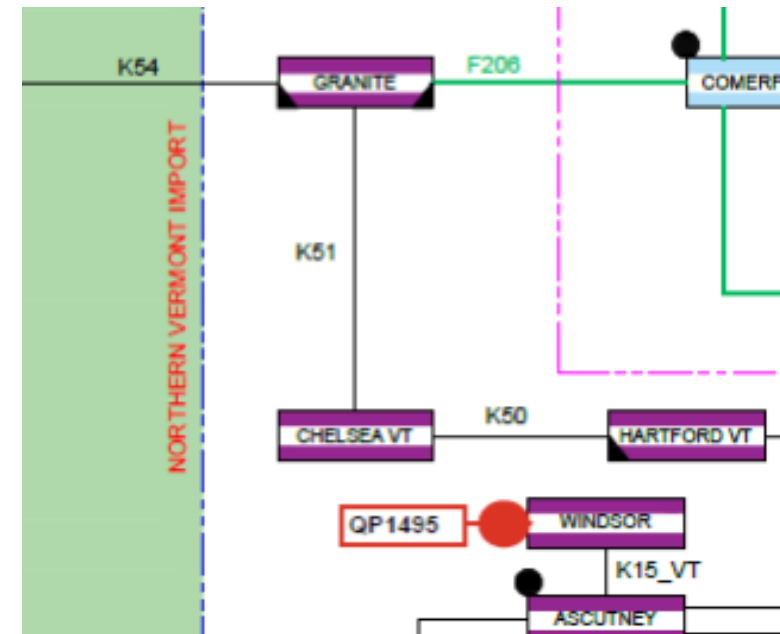
19.3 MW BESS connected @ VELCO's Highgate 115 kV

Two Vermont Generators in the TCS

QP1502: 19.3 MW BESS @ Highgate 115 kV



QP1495: 19.3 MW BESS @ Windsor 115 kV



Interconnection Cost Estimates – Paid by Developers

QP1495 Upgrade(s), Cost and Construction Estimates

Upgrade Element Name	Cost Estimates (\$)	Construction Time Estimates (Months, Longest)
ITO's Interconnection Facilities	3,489,279	24
Substation Network Upgrades	2,469,797	24
System Network Upgrades	6,466	31
Total Cost	5,965,542	

NOTE: The construction time estimates are from Notice to Proceed (NTP)

QP1502 Upgrade(s), Cost and Construction Estimates

Upgrade Element Name	Cost Estimates (\$)	Construction Time Estimates (Months, Longest)
ITO's Interconnection Facilities	1,300,981	24
Substation Network Upgrades	787,733	24
System Network Upgrades	5,938	31
Total Cost	2,094,652	

NOTE: The construction time estimates are from Notice to Proceed (NTP)

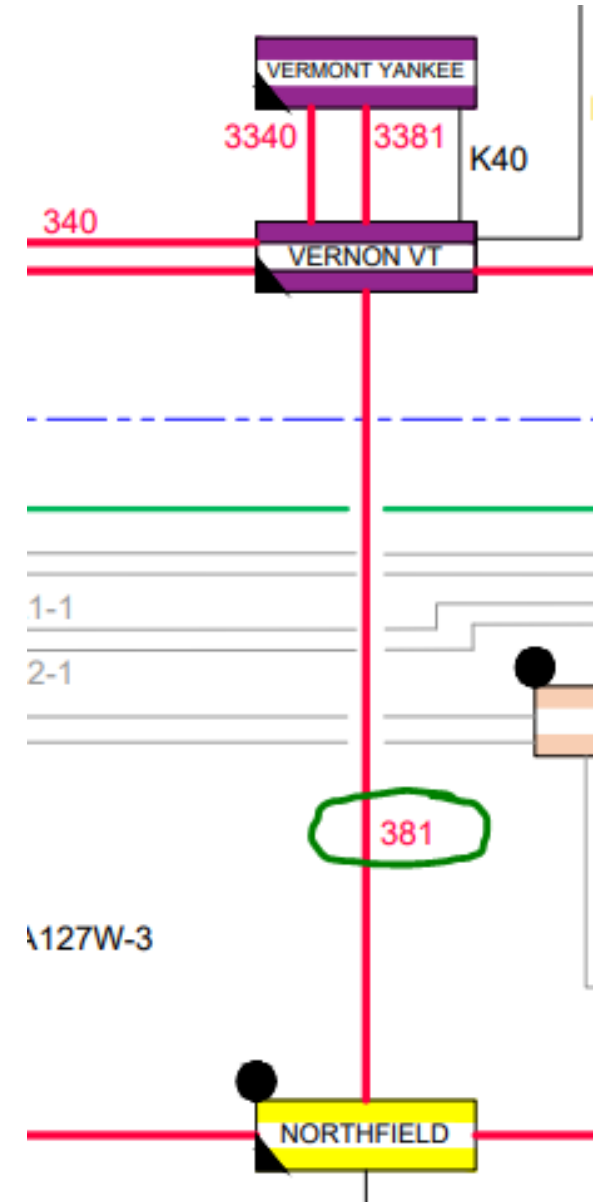
Impact to VT Transmission

- The 381 line must be reconductored
- 345 kV from Vernon (VELCO) – Northfield (Eversource)
- Paid for by impactful generators

VELCO's Network Upgrades – Estimated Cost and Construction Time

Upgrade Element Name or Location	Cost Estimates (\$)	Construction Time Estimates (Months)
381-VELCO	4,265,434	12
Total Cost	4,265,434	

NOTE: The construction time estimates are from Notice to Proceed (NTP)



Next Steps for the TCS

DATE	MILESTONE
June 7, 2026	ISO issued the interim TCS Report
July 7, 2026	Deadline for Interconnection Customers ("ICs") to provide written comments to the ISO on the interim TCS Report
August 6, 2026	ISO issues the final TCS Report
August 21, 2026	ISO tenders draft IAs to ICs
August 22 - October 20, 2026	IA negotiations, including meetings with individual ICs and Interconnecting Transmission Owners ("ITOs").
October 20, 2026	ICs must request to execute IA, file IA unexecuted, or enter dispute resolution, or IR is deemed withdrawn
ASAP after October 20, 2026	ISO issues IAs for execution to ICs
October 30, 2026	ICs that request to file IA unexecuted on October 20 th provide IA deposit, or IR is deemed withdrawn
ASAP after November 4, 2026	ICs that request to execute IA on October 20 th provide IA deposit, or IR is deemed withdrawn

Key Takeaways

- TCS studied 23 interconnection projects in 8 months
- 2 new generators in VT, both 19.3 MW BESS connected to transmission
- 381 line will need to be reconductored
- Results from the TCS are now being used in the ASO cluster studies

References:

- [Non-CEI Interim Report](#)
- [Next Steps Memo](#)



Questions?

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