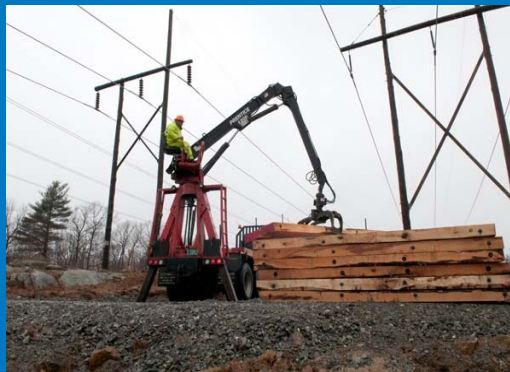


NEEWS Interstate Reliability Project



Energy Facility Siting Board
Preliminary Hearing – September 25, 2012

Agenda

- The NEEWS Projects – A Brief History
- Interstate Reliability Project Overview: Needs, Benefits and Details
- Major Permits, Approvals and Consultations
- Project Timeline
- Questions

The NEEWS Projects: A Brief History

- 2004 - 2008: ISO-NE, National Grid and Northeast Utilities launch study of Southern New England Transmission Reliability (SNETR)
- January 2008: SNETR Needs Analysis identifies five regional reliability needs that can be addressed by the four interrelated NEEWS projects
- 2009 - 2011: ISO-NE reassesses the need for the NEEWS projects
- April 2011: IRP Updated Needs Assessment issued
- 2010 - 2011: ISO-NE, National Grid and Northeast Utilities develop an updated configuration for the IRP
- February 2012: IRP Updated Solutions Report Issued
- July 9, 2012: ISO-NE reaffirms need for the IRP based on 2012 forecast data

NEEWS Project Needs



1. East-West New England Constraints
2. Rhode Island Reliability
3. Interstate Transfer Capacity
4. Springfield Reliability
5. East-West CT Constraints

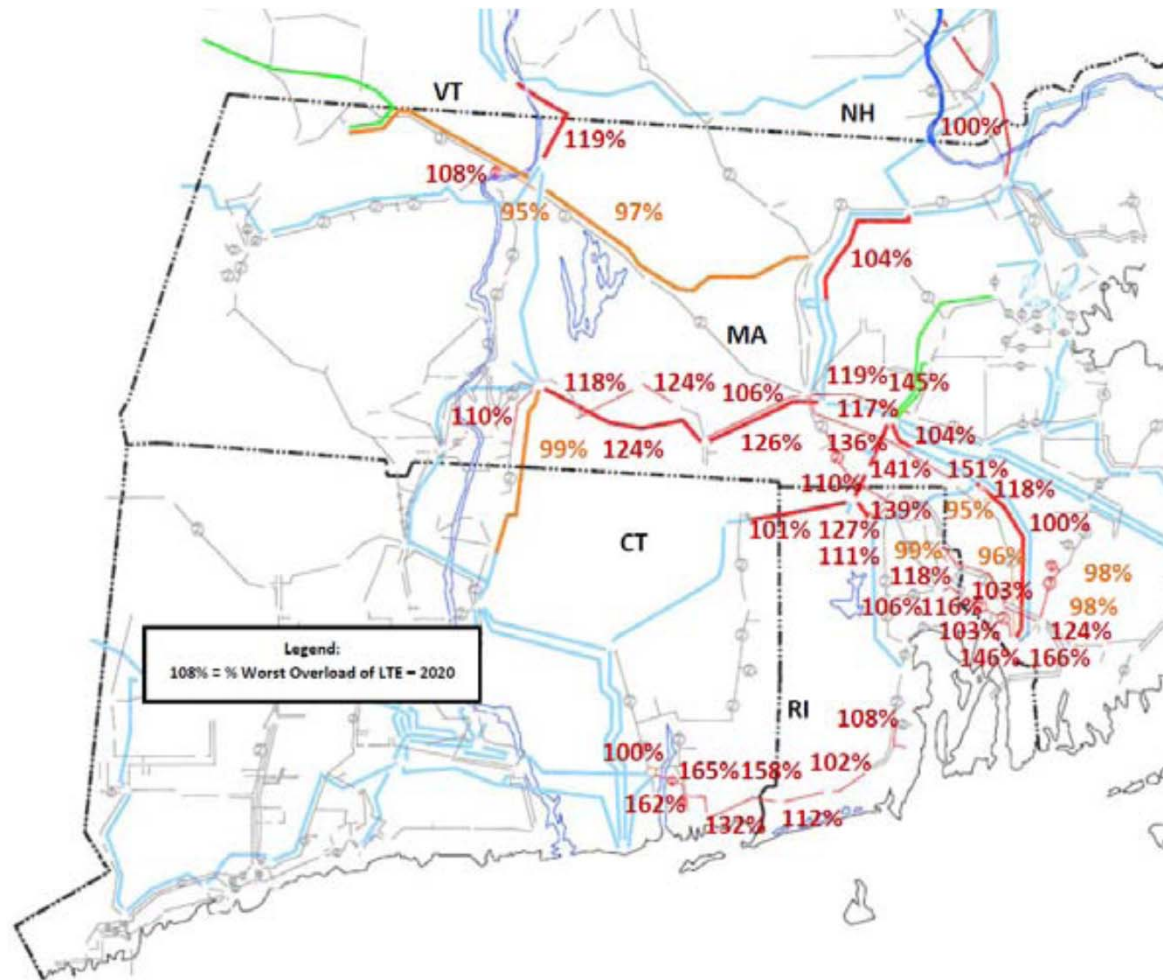
NEEWS: The New England East-West Solution

A Set of Four Complementary Projects Solve the Five Regional Reliability Problems



1. The Interstate Reliability Project
2. The Greater Springfield Reliability Project
3. The Rhode Island Reliability Project
4. The Central Connecticut Reliability Project

NEEWS IRP Overview: Need N-1-1 Thermal Overloads

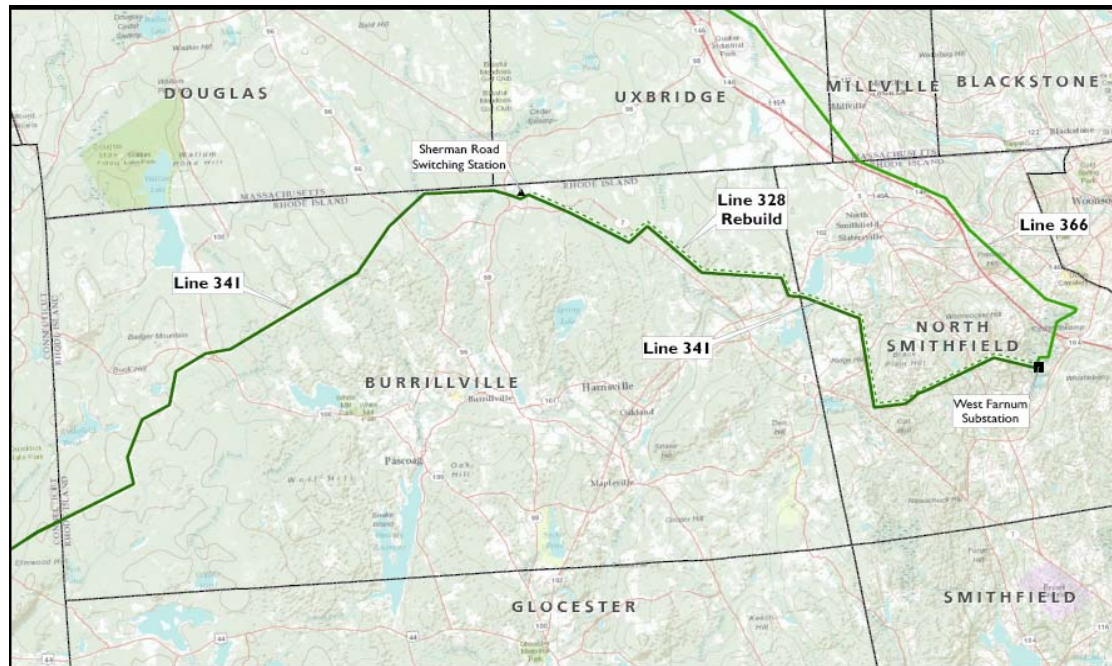


NEEWS IRP Overview: The Solution



- 75 miles of new 345 kV transmission line connecting Rhode Island to Massachusetts and Connecticut
- 9.2 miles of 345 kV line reconstruction and reconductoring
- Upgrades to three switching stations and substations in MA and CT
- Reconstruction of the Sherman Road switching station
- Estimated Cost: \$542 million

NEEWS IRP Overview: Rhode Island Project Elements



- 22.5 miles of new 345 kV transmission line in Burrillville and North Smithfield
- Reconstruction and reconductoring of 9.2 miles of 345 kV transmission line in Burrillville and North Smithfield
- Reconstruction of the Sherman Road Switching Station in Burrillville
- Realignment of 345 and 115 kV lines near Sherman Road
- Cost of project elements in Rhode Island: Approximately \$180 million

Interstate Reliability Project Rhode Island Components

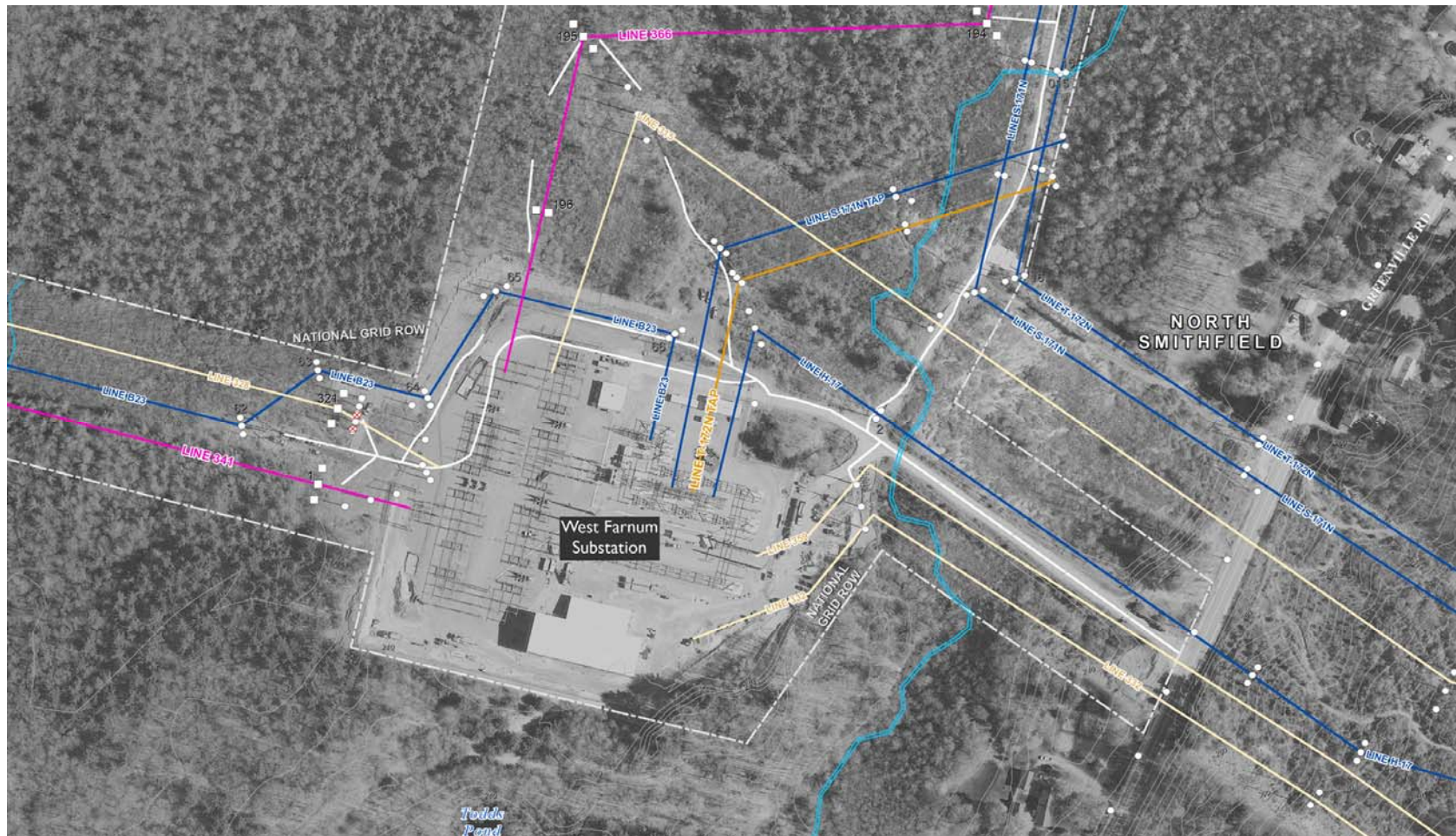
Project Component	Total Length (MA, CT, RI) (Miles)	Rhode Island Length	Rhode Island Towns	Description of Rhode Island Component
Proposed 366 Line (345 kV transmission line)	20.2	4.8	North Smithfield	Construct ~4.8 miles of new 345 kV transmission line ¹
Proposed 341 Line (345 kV transmission line)	25.3	17.7	North Smithfield and Burrillville	Construct ~17.7 miles of new 345 kV transmission line ²
Existing 328 Line (345 kV transmission line)	9.2	9.2	North Smithfield and Burrillville	Reconstruct and reconductor ~9.2 miles of existing 345 kV transmission line
Existing 333 Line (345 kV transmission line)	0.25	0.25	Burrillville	Reconstruct and realign ~0.25 mile of existing 345 kV transmission line
Existing 3361 Line (345 kV transmission Line)	0.25	0.25	Burrillville	Reconstruct and realign ~0.25 mile of existing 345 kV transmission line
Existing 347 Line (345 kV transmission line)	0.25	0.25	Burrillville	Reconstruct and realign ~0.25 mile of existing 345 kV transmission line
Existing B-23 Line (115 kV transmission line)	NA	NA	North Smithfield	Replace certain structures along existing 115 kV transmission line
Former K11/L12 Line structures	MA	NA	North Smithfield	Remove double-circuit steel towers which previously supported the K11 and L12 69 kV transmission lines
Existing T172N Line (115 kV transmission line)	NA	NA	North Smithfield	Replace certain structures along existing 115 kV transmission line
Sherman Road Switching Station	NA	NA	Burrillville	Construct a new 345 kV switchyard with air insulated switchgear and retire the existing facilities

¹ Total length of proposed line in Massachusetts and Rhode Island is 20.2 miles with termination points at the Millbury No. 3 Switching Station and the West Farnum Substation.

² Total length of proposed line in Rhode Island and Connecticut is 25.3 miles with termination points at the West Farnum Substation in North Smithfield, RI and the Lake Road Switching Station in Killingly, CT. Another new 345 kV transmission line (the 3271 Line) will continue through Connecticut for 29.3 miles from the Lake Road Switching Station to the Card Street Substation in Lebanon, CT.

Source: Interstate Reliability Project, Environmental Report, Table 4-1, July 2012.

Interstate Reliability Project West Farnum Substation



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THE POWER OF ACTION



NEEWS IRP Overview: Visual Simulation of the 366 Line

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Existing



115 kV Circuit

115 kV Circuit

Decommissioned
69 kV Circuits

Proposed



115 kV Circuit

115 kV Circuit

New 345 kV Circuit

NEEWS IRP Overview: Visual Simulation of the 341 Line

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Existing



345 kV Circuit

Proposed



345 kV Circuit

New 345 kV Circuit

Interstate Reliability Project

Estimated Cost (by Component)

Project Components	Total Estimated Rhode Island Project Cost (\$M) ¹
New 366 345 kV Transmission Line MA/RI Border to the West Farnum Substation	\$26.8
Removal of Existing 69 kV Towers	\$0.9
Realign Existing 347 345 kV Transmission Line at the Sherman Road Switching Station	\$2.7
New 341 345 kV Transmission Line from the West Farnum Substation to RI/CT Border	\$74.9
Reconstruct and Reconductor Existing 328 345 kV Transmission Line	\$41.6
3361 345 kV Transmission Line Realignment at the Sherman Road Switching Station	\$3.4
333 345 kV Transmission Line Realignment at the Sherman Road Switching Station	\$2.9
Reconstruction of the Sherman Road 345 kV Switching Station	\$27.6
Total Estimated Cost in Rhode Island	\$180.8

¹ Study grade estimates ($\pm 25\%$) in 2011 dollars. Estimated costs include costs of materials, labor and equipment.

Source: Interstate Reliability Project, Environmental Report, Table 4-3, July 2012.

NEEWS IRP Overview:

Estimated Project Taxes

- Estimated RI Sales Tax:

- Rhode Island Reliability Project – \$4.5M

- Interstate Reliability Project -- \$2.9M

- Estimated First Year Taxes (by Project):

■ <u>Project</u>	<u>North Smithfield</u>	<u>Burrillville</u>
■ RI Reliability	\$1.8M	--
■ Interstate Reliability	\$2.3M	\$1.5M

NEEWS IRP Overview: Benefits

- The Interstate Reliability Project will address ISO-NE-identified needs by:
 - Providing two new 345 kV transmission connections to serve Rhode Island load
 - Resolving projected thermal overloads across southern New England, including central and southern Massachusetts
 - Providing additional transfer capability from west to east, from east to west, and into Connecticut
- **Additional benefits of the IRP include:**
 - Strengthening the transmission system overall, which may assist the efficient delivery from new generation, including renewables
 - Facilitating the retirement of older, inefficient generation which may otherwise be needed from time to time to backstop the region on an out-of-merit basis

Federal, State and Local Permits, Approvals and Consultations

- US Army Corps of Engineers – Section 404 Permit
- RI Energy Facility Siting Board
- RI Department of Environmental Management – Freshwater Wetlands Permit, 401 Water Quality Certification, RIPDES
- RI Department of Transportation Permits
- RI Historical Preservation and Heritage Commission
- RI Natural History Survey
- Tribal Consultations: Narragansett and Wampanoag Tribes
- Local Permits: North Smithfield and Burrillville
 - Zoning (dimensional variances in both towns)
 - Construction Work Hours (NS – Town council; Burrillville – ZBR)
 - Soil Erosion and Sediment Control

IRP: Target Timeline

- Detailed Engineering: Ongoing
- Community Outreach: Ongoing
- Connecticut Siting Council Filing (CL&P): December 2011
- Army Corps Filing (Tri-State): May 2012
- Massachusetts EFSB Filing: June 2012
- Rhode Island EFSB Filing: July 2012
- Rhode Island 401 and Freshwater Wetlands Filings: July 2012
- Rhode Island municipal zoning filings: September, 2012
- Construction: 2014 - 2015
- Facilities in service: December 2015