

Rhode Island Reliability Project EFSB Public Hearing

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The Five Regional Reliability Needs

New England

- ♦ East-West power flows are limited across New England

Rhode Island

- ♦ Rhode Island's reliability is overly dependent upon limited access to the 345-kV system.
- ♦ RI experiences overloads and voltage violations under certain conditions.
- ♦ Imports are limited now and more so in the near future

Massachusetts

- ♦ The Springfield, MA area experiences thermal overloads and voltage problems under numerous contingencies

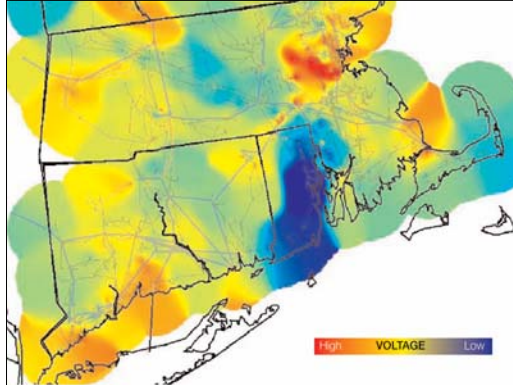
Connecticut

- ♦ Interstate transfer capacity is limited, affecting Connecticut reliability in the near-term and regional reliability over the long term
- ♦ East-to-west power flows in Connecticut stress the existing system



Rhode Island Reliability Concerns

- ◆ During peak electric use in hot weather, the existing Rhode Island transmission system could experience reliability issues for a considerable number of customers
- ◆ The Rhode Island Reliability Project will reinforce the Rhode Island transmission system so that electricity can be reliably delivered throughout the region, now, and into the future



2009 Rhode Island low voltages for an area contingency
Overloads on a 345-kV line in the Rhode Island area could result in subsequent low voltages (area indicated in blue), if the system is not reinforced.

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A Set of Complementary Projects

The four projects work together to:

New England

- ◆ Increase East-West New England transfer capability
- ◆ Strengthen interconnections between MA, RI, and CT

Rhode Island

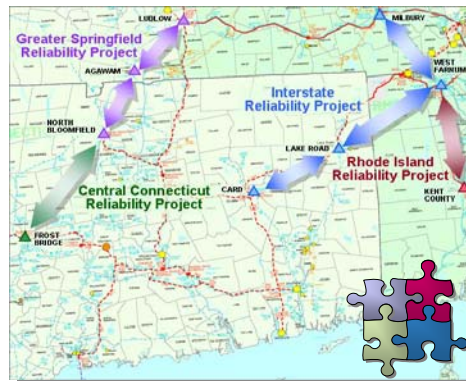
- ◆ Solve RI reliability problems
- ◆ Create new 345-kV interconnections for RI

Massachusetts

- ◆ Solve Springfield reliability problems
- ◆ Create a 345-kV loop in eastern MA, providing reliability support to the West Medway area

Connecticut

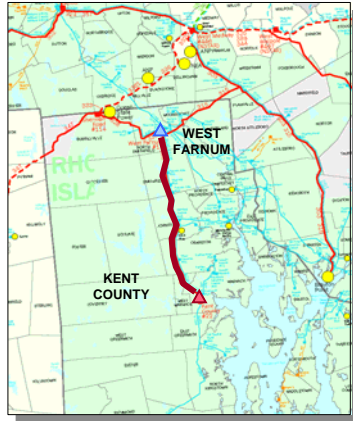
- ◆ Increase CT interstate transfer capability
- ◆ Increase CT East-West transfer capability



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Rhode Island Reliability Project



Description:

- ◆ Reconfigure the existing ROW to accommodate a second 345-kV line
- ◆ Build a second 345-kV line between West Farnum (North Smithfield) and Kent County (Warwick) substations.
- ◆ Install a third 345/115-kV autotransformer at Kent County Substation.
- ◆ Reconductor various short segments of 115-kV lines and make terminal equipment upgrades.

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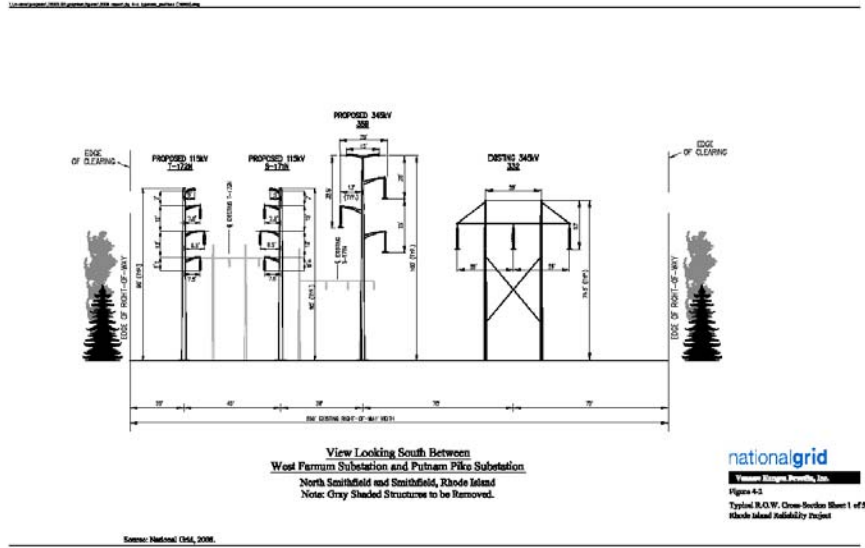
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Typical Cross Section (looking south)



West Farnum Substation Improvements

