



Electric distribution resilience valuation – Northeast utilities examples

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Alan H. Sanstad – LBNL

Connecticut Example: Avangrid (United Illuminating CT)



- Example of Benefit-Cost Analysis submitted in 2022 rate case – conducted by Resource Innovations
- Used 10-year historical weather data including storms in two 30-year scenarios:
 - Extrapolated as is
 - Assumed increase in storms relative to past 5 years
- Evaluated 3 portfolios for each of 9 designated circuits using All-in SAIDI:
 1. Mixed automation and topology upgrades (lowest cost)
 2. 1. plus overhead hardening
 3. Undergrounding
- Used
 - All-in SAIDI as metric
 - augmented Berkeley Lab ICE Calculator – extrapolated beyond 24 hours

New Hampshire Example: Eversource



- Eversource uses in-house resilience planning model – key elements:
 - Based on All-in SAIDI and SAIFI (including Major Exception Days)
 - Targets vulnerable zones based on analysis of historical data with MEDs
 - Measures in four categories:
 - Undergrounding
 - Aerial cable
 - Reconductoring of tree-wire or spacer cable
 - Resilience tree work (enhanced vegetation management)
 - In each zone, compares estimated All-in SAIDI improvement and cost/mile for potential measures
 - Potential projects ranked by “cost efficiency” – delta SAIDI/cost – and spending determined by an all-in SAIDI target, budgetary constraint, or cost efficiency threshold.

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