

Non-Wires Alternatives to Building Transmission

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Presentation Overview

- Description of paper on non-transmission alternatives: Audience, need and goals
- Outline of paper
- Research to date
- Timeline
- Feedback

Paper Goals and Audience

- Part 2 of a primer on transmission:
 - Part 1 was Electricity Transmission: A Primer
 - Outline, format of Part 2 will be similar to the first document
- Goal: Address topic of non-transmission alternatives in language that is easily understandable, but with enough depth to be useful to an audience that is already into the topic.
- Audience is state officials – the NCEP membership.

Definition of NTA/NWA

- BPA definition:
 - “non-wires solutions are any demand response, distributed generation, conservation measure, generation siting and pricing strategies that individually or in combination delay or eliminate need for upgrades to transmission system.”
- Input welcome on this definition

Why is This Important?

- Transmission is one of the most critical components of the nation's infrastructure.
- Transmission planning is undergoing some major shifts.
- EE, DG have begun to come in to their own
 - NE capacity market
 - Importance to meeting energy/capacity needs
 - Recognition of cost advantages.
- EE and DG have potential to play a part in meeting, deferring or managing the need for transmission – If we plan it right and address financial issues.

Outline of Paper

- Executive Summary
- Background:
 - Why is the topic important?
 - Why/Where is demand for transmission growing?
 - What is congestion and where are congested areas?
- Why transmission is tremendously important now, related to improving reliability and meeting load growth, and to integrating clean energy resources into the electric system.

Outline of Paper

- Traditional approach to meeting transmission needs: Wires
- Non-wires approach to meeting transmission needs: energy efficiency and distribution generation
 - Review of non-wires approaches:
 - Distributed generation
 - Close to load and in congestion zones
 - Efficiency, conservation and demand response programs
- Approaches to integrating a discussion of transmission and non-wires solutions.
- Regulatory and Policy Options

An Overview of What's Happening Now

- There is growing interest in non-transmission or non-wires alternatives to transmission
- Despite that interest, a select few jurisdictions are real leaders in the area
- This paper will profile these leaders, offering concrete lessons and examples from their experience

General Approaches

- Many states address both transmission and alternatives to transmission through the permitting and CPCN process:
 - Transmission providers required to (at least) consider alternatives to transmission
 - More highly developed processes to consider NTAs exist in a few jurisdictions
 - Vermont, Maine, Pacific Northwest, others

State Approaches: Vermont

- Enacted legislation requiring an assessment of NTAs when considering new transmission
- Vermont (through the transmission utility) has a new, but growing, effort to conduct this analysis.
 - Only two projects have passed/are going through the Vermont process:
 - The decision in the first case was to go with the T option
 - Second case still undecided
 - The importance of the Vermont effort is the infrastructure that has been set up to address NTAs – a formal process that the Transmission utility takes seriously.

State Approaches: Vermont (cont.)

- Key issue in Vermont (and elsewhere):
 - Build a transmission line that is a Pooled Transmission Facility:
 - The whole New England region benefits
 - The whole region pays
 - Vermont's share is around 7%.
 - Build a non-transmission alternative:
 - Even if it benefits the region – Vermont pays for the whole thing.

State Approaches: Maine

- Central Maine Power is going through a multi-year process to identify NTAs and compare them to the transmission alternative.
- CMP process is ongoing and has resulted in a detailed study of various congestion points (current and projected).
- CMP hired consultants to examine both efficiency and DG alternatives, and their ability to defer need for new transmission.

State Approaches: Maine (cont.)

- Results of the Maine study:
 - Transmission has typically been the least costly way to achieve the goals.
 - Efficiency measures have considerable value and should be implemented along with transmission in order to reduce costs.
 - Efficiency measures will not be large enough to meet the specific goals that CMP has laid out, although they are important.
 - Renewable DG options have potential but are the most expensive option among the three.

BPA: Non-Wires Solutions (NWS) Oversight Structure and Barriers

- Set goals to identify:
 - Least cost solutions
 - NWS planning methodologies
 - Barriers to NWS/
 - Criteria to determine when NWS may or may not be appropriate
 - Addressed institutional barriers to the implementation of NWS:
 - Lost revenues for BPA and distribution utilities
 - Incentives for distribution utilities to do accurate forecasting
 - Lack of coordination and transparency in transmission planning process
 - Better price signals
 - Reliability of NWS vs. transmission upgrades
 - Who funds? Who implements?
- Began process of examining potential pilot projects.
- Process has slowed considerably now, as pace of T buildout has slowed.

Other Jurisdictions

- British Columbia Transmission Company is actively investigating non-wires alternatives.
- Alberta is examining non-wires alternatives.
- Massachusetts is looking at non-wires alternatives, focusing more on distribution.
- Potential ISO (e.g. MISO) integration of NWAs in planning process
- Southwest Connecticut installation of distributed resources to meet demand
 - Acquired capacity (generation) as well as energy efficiency based on bids and contracts for performance

Final Document

- The paper will review the experiences in these and perhaps other jurisdictions based on the outline provided earlier.
- Final document will end with a discussion of policy options to address non-wires solutions.

Input?

- Input welcome
 - Data sources
 - Experiences to focus on in different jurisdictions
 - Discussion

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