Getting the Signals Straight: Modeling, Planning, and Implementing Non-Transmission Alternatives

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Tom Stanton
Principal Researcher – Energy and Environment
National Regulatory Research Institute
8611 Second Avenue, Suite 2C
Silver Spring, MD 20910
Tel: 301-588-5385
Web: www.nrri.org
Email: tstanton@nrri.org

Major takeaways

- FERC Order 1000 focuses useful attention on NTAs, but does not, by itself, fix the "transmission first" culture in utility planning, nor NTA cost recovery
- States have multiple opportunities to advance cost-effective NTAs through existing IRP and certificate of need proceedings
- States might usefully consider NTAs to be present unless and until they are proven to be absent: Find at least one opportune place on the grid and see to it that someone prospects it for NTA practicality

Presentation Outline

- Defining and describing NTAs
- Briefly: Why care about NTAs?
- Challenges to NTAs
- NTA triggers in transmission planning
- Examples of early NTA progress
- Options for state PUC NTA actions

Definitions and Description of NTAs

- NTAs are electric utility system supply- and demand-side investments and operating practices that defer or replace the need for specific transmission projects, at lower total resource cost, by reliably reducing transmission congestion at times of maximum demand in specific grid areas.
- NTAs can use all means available and necessary, including, for example, demand response, distributed generation (DG), energy efficiency, electricity and thermal storage, load management, and rate design.

Why care about NTAs?

- FERC Order 890 and 1000 obligations
- Lower cost, many measures are fully cost-effective, not counting deferred or avoided transmission assets
- Often added environmental and economic benefits
- Many measures help with 111(d) compliance
- Reliability, resilience, redundancy
- Reduced siting concerns and obstacles, even "WIMBY" ("want in my back yard") preferences
- Less lumpy expenditures; gradual, incremental growth
- Facilitates democratized, community-based, integrated, synergistic smart-cities infrastructure planning

Challenges to NTAs

- Culture of "transmission first" utility planning
- No multi-jurisdictional cost allocation mechanism
- No entity identified to model and plan NTAs
- Uncertainty about "comparable consideration" and what it means for an NTA to produce and deliver equivalent services and reliability
- Most RTOs claim authority to determine whether or not an NTA is to be implemented
- NTAs challenge traditional utility business models

What should be the triggers for NTA consideration, in transmission planning?

- Congestion costs or reliability needs with proposed high-cost transmission solutions
- Adequate lead time to plan and implement NTA components
- Relevant planners and potential actors capable of achieving a critical mass of NTA resources

Examples of NTA progress

- BPA deferrals using “non-wires alternatives”
- California “loading order” and storage mandates
- Public purpose microgrids moving forward in Connecticut, Maryland, Massachusetts, New Jersey and New York
- Maine’s Booth Bay Harbor Pilot Project
- Massachusetts’ required grid modernization plans
- New York’s “reforming the energy vision” (REV), and Brooklyn/Queens Demand Management Program
- Vermont’s transmission deferral projects

Options for State PUC NTA Actions

- Check and adjust if necessary rate designs and utility incentives for NTA resources, such as energy efficiency, demand response, load management, distributed generation and storage
- Determine whether geo-targeting can be accomplished under existing authorities, and adjust if necessary
- Find at least one opportune place on the grid and see to it that someone prospects it for NTA practicality