

## Western Transmission: Improving Regional Planning

Meaningful and robust regional transmission plans developed through open and transparent planning efforts are needed to maintain resource adequacy and meet state goals. Future transmission reform should develop a regional transmission planning entity to ensure we fully tap into geographically diverse sources for electricity supply and demand in neighboring areas that have opposite or minimally correlated patterns.

### What would robust West-wide regional transmission planning look like?

The status quo for Western regional planning entities (required by FERC Order No. 1000 in 2011) is to gather and report on siloed utility transmission plans across the region. Robust planning across the region should instead:

- Estimate future generator additions and retirements across the region;
- Estimate future power demand and shape across the region;
- Model the power system to meet energy and resource adequacy requirements on a least-cost basis, incorporating economic trade-offs between generation and transmission;
- Evaluate and identify optimal configuration and technology options; and
- Implement the transmission and cost allocation plan through utility actions and tariffs, as well as de-pancake transmission rates to increase efficiency.

Performing this level of planning across the region is the only way to produce an efficient grid configuration plan that has support from customers and policymakers. It must cover a wide geographic area to capture efficiencies of exchange and economies of scale.

### How can West-wide regional transmission planning be developed openly and transparently?

An open planning process includes some important steps and functions that benefit customers and build trust in the outcomes:

- **Ensuring engagement**, with state policymakers, utilities, customers, and other stakeholders participating in review, comment, and development of consensus plans and fair allocation of costs;
- **Vetting of input assumptions**, such as utility resource plans, economics of different resources, transmission usage, and generation retirements and expansions;
- **Vetting of methodologies**, including capacity planning and production cost modeling;
- **Determining scenarios to study**, such as scenarios for stressed conditions when the value of transmission is highest; and
- **Reviewing alternative configurations**, including how existing rights of way can be utilized, as well as new rights of way, different capacity levels (rated voltage), and combination of AC vs DC lines.

All successful regional transmission initiatives so far in this century have resulted from open and transparent regional planning efforts. No individual developer can identify the optimal points where expansion would best integrate with the existing network. No federal agency can integrate all the regional factors or regional agreements needed. No individual utility covers the geographic footprint needed for a regional plan.

## How could the West fill this gap with a trusted, independent party?

FERC oversight provides for a variety of structures the West could use to establish an independent regional transmission planning entity.

Independence of the entity can increase trust in major planning functions, such as cost allocation. Recent FERC initiatives on transmission planning (Docket RM 21-17), generator interconnection (Docket RM 22-14), incentives (Docket RM 20-10), and interregional transfer capacity (Docket AD 23-3) do not propose to change the institutional options or require any particular structure.

- FERC 1000 regional planning entities (Northern Grid, West Connect, and CAISO) could improve their joint planning to cover a wider region with more robust planning;
- An interconnection-wide entity, such as the Western Electricity Coordinating Council (WECC), could establish robust planning that overcomes differences in cost-benefit analysis, stakeholder governance, and cost allocation responsibilities; and
- Individual utilities could join existing RTOs, encourage day-ahead market options to scale into full RTO models, or work to establish new, innovative RTOs.

Regardless of which pathway is pursued, an Independent Transmission Monitor (ITM) should be established to provide oversight of existing or new entities.

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## What specific benefits would an RTO provide?

RTOs provide a core advantage by offering the ability to find centralized synergies between transmission service and interconnection, energy markets, resource adequacy, and transmission planning. RTOs also provide a platform for robust stakeholder engagement and have a track record of establishing permanent stakeholder forums that address reliability, market, and policy drivers. Robust stakeholder engagement supports multi-value planning, which has proven to be particularly effective in addressing long-term system needs.

An organized wholesale market (OWM) is a centrally managed market that provides a platform for transparent and competitive wholesale electricity trading. The most advanced markets are operated by a regional transmission organization (RTO) or independent system operator (ISO) to more optimally match supply and demand between a larger collection of electricity generators and resellers. RTO and ISO are sometimes used interchangeably; we say RTO here for simplicity.

RTOs can provide:

- **Security coordination**, as the NERC-certified entity to perform real-time reliability function;
- **Balancing authority consolidation**, as RTOs are their own balancing authority, dispatching generation and meeting load on a geographically broad and independent basis;
- **De-pancaked transmission rates**, because having one balancing authority removes the need to pay multiple transmission charges to move power across utility systems, significantly reducing friction and barriers to economic dispatch;
- **Flow-based regional dispatch**, as opposed to contract path scheduling that does not always accurately reflect physical flows on the transmission system;
- **Regional resource adequacy coordination**, because even with vertically integrated utilities in place, RTOs can provide limited coordination functions and achieve cost reductions; and
- **Improved generator interconnection service**, because breakthroughs that improve interconnection could be scaled across the West via an RTO.

While a new regional entity for transmission planning would be a leap forward for the West, some important benefits could only be provided through an RTO model, and those should be priority areas for any new Western-specific RTO design.