

**PNGC White Paper on Planning/Expansion**  
**8/22/2001**

The Planning and Expansion Content Group is currently trying to reach consensus on restricting RTO West Planning and Expansion responsibility and authority for congestion relief. The Content Group majority opinion is that for congestion relief purposes the RTO authority should be very restricted. While there is general consensus that the RTO has a backstop responsibility and authority for reliability, no consensus has been reached on when transmission constraints are a reliability issue versus a congestion issue.

PNGC believes that there should be no distinction between the RTO role for reliability and congestion relief. In both cases the RTO should provide information and market forces should be given ample time to take corrective action. If market forces fail to solve transmission problems the RTO must have the responsibility and authority to take action. FERC's Order 2000 affirms this responsibility (page 485):

We reaffirm the NOPR proposal that the RTO must have ultimate responsibility for both transmission planning and expansion within its region that will enable it to provide efficient, reliable and non-discriminatory service and coordinate such efforts with the appropriate state authorities.

In the past decade, transmission investment has been extremely low across the nation and the Pacific Northwest was no exception. As the California experience has taught us, going into a market environment with a deficit is not a good idea. The potential RTO West transmission system is in need of improvement in order to provide the kind of free-flowing transmission system FERC envisioned as necessary to facilitate a robust wholesale power market. It is important in the RTO West discussions, as in any transmission restructuring effort, not to lose track of the bigger goal – working wholesale *power* markets. Again, FERC's Order 2000 supports this view (page 382).

Although we agree with some commenters that price signals can also assist in determining the efficient size and location of new generation and grid expansions, we share the view of LIPA and others that price signals alone cannot be relied upon to identify all needed enhancements.

Without adequate expansion authority for RTO West, PNGC believes that the transmission system will be placed in jeopardy. Reliance on a market-driven mechanism alone for transmission expansion across flowpaths is risky, and if expansion does not occur, there is no backstop. RTO West may have the effect of creating multiple load islands, in effect, islands of market power, due to unrelieved constrained transmission capacity. The result of this market failure will be extremely high and volatile prices for transmission rights across flowpaths and into load islands.

There are many reasons why a market-driven expansion program is unlikely to succeed. The requirements for a competitive market are a) low barriers to entry, b) many buyers

and sellers, c) ready access to market information, and d) that no single buyer or seller can make the market. None of these conditions are met in the transmission expansion arena as discussed below.

a) The first requirement of a competitive market is low barriers to entry.

Transmission expansion has enormous barriers to entry. Transmission expansion projects tend to occur in large size increments, often more than any one user or even groups of users can utilize in the near-term. For example, if a party needs an additional 100 MW, the expansion available is likely to be a 500 MW expansion. Transmission expansion is dictated by the physics of electricity, not the additional capacity needed by a market participant. These transmission additions are long-term, capital intensive assets. Typically they have service lives of 40-50 years. Few market entrants, if any, have 40-50 year investment paybacks and fewer have access to the capital necessary to build transmission. Another barrier to entry is the complexity involved in building transmission, from siting right-of-way to permitting to actual design and construction. Five to seven years is the industry standard lead-time for building transmission additions. This kind of lead-time in itself is a barrier to entry for many, many potential participants, in an industry where companies can be wiped out by just a few bad trades.

Substitutes for transmission expansion are generation or demand-side programs on a scale large enough to forego transmission additions. These substitutes are certainly not “low barrier to entry” activities, thus failing this portion of the competitive market test and making success of a market-driven expansion mechanism unlikely.

b) “Many buyers and sellers” simply does not describe the transmission system.

Transmission has always been a monopoly, or at best, oligopoly business. RTO West is no exception. In addition, each of the existing transmission owners will still retain a first right of refusal to build transmission additions, perhaps at any price. Some will argue that there are substitutes for transmission such as generation or demand-side programs. While these measures may be transmission substitutes in some cases, they are certainly not the universal substitute for transmission that some would portray them as. Often, the only answer to a transmission problem is a transmission addition. If an area is constrained by transmission limitations, by definition the access of many buyers and sellers is limited. In such a constrained transmission area, a generator or a holder of firm transmission rights can exercise market power. Thus the second part of our test for the existence of a competitive transmission market, many buyers and sellers, fails.

Again, Order 2000 recognizes that market players incentives to relieve congestion may not exist (page 490):

While accurate price signals can signal the need for expansion, such expansion may not be achieved if an RTO operates under a faulty governance system (e.g., a governance system that allows market participants to block expansions that will harm their commercial interests).

- c) A competitive market requires good access to market information. The role of RTO West is still unclear in this area. Some argue for the RTO to have full planning capabilities while others argue that the RTO's role should be confined to simply identifying problems but leaving the fixes to the "market". The market however will not receive the price signal that a path is congested until it actually is congested. This signal, high prices, will have to be experienced for a reasonable duration in order for parties to be motivated to fix the congestion. At this point however, it is too late. Transmission construction takes 5 to 7 years given the complex design, permitting, procurement, and construction involved. The proposed RTO West market-driven expansion system implies that the transmission customers will have to feel the pain of the high market price for 6 to 9 years before it is relieved. Judging from the unwillingness of nearby jurisdictions to allow price signals to reach the consumer level and the long lead times involved in transmission planning and construction, it is unclear that a market-driven expansion system will deliver the best value for consumers. Instead, RTO West should be vested with the clear ability and authority to plan and expand the system in a timely manner.
- d) Lastly, in a competitive market no one party can make the market. If a private party does expand a transmission flowpath and receives all of the physical rights associated with the expansion, they become the market-maker on that path.

We are highly skeptical that market driven expansion will work; we need to build an RTO that can insure a robust and reliable transmission system. Persistent transmission constraints, even those caused by commercial congestion, can endanger reliability and prevent development of a fully competitive power market. If market driven expansion does not work, the RTO must have the authority to compel the transmission owners to construct or to allow third parties to build transmission, and to allocate the costs to the appropriate transmission owner or owners in a timely manner.

If the RTO West system was reasonably free-flowing and had 3 or 4 congestion points, the RTO West model for congestion management might work well. The market driven expansion mechanism relies on price signals being sent over each flowpath. Because of the large number of flowpaths in the RTO West system, the congestion management system is likely to result in an extremely burdensome administrative system for scheduling, billing, and procuring transmission while not providing adequate incentive for transmission construction.

Order 2000 also addresses this point on page 383:

The principal alternative to LMP advocated by commenters is an approach that manages congestion by means of physical transmission rights that are tradable in a secondary market. Under this approach, the RTO may be required to issue the transmission rights initially through an auction or allocation process. Market participants would then generally have to demonstrate ownership of sufficient rights in a constrained interface before they would be allowed to schedule firm service over the interface. Such an approach greatly reduces the role of the RTO in congestion management. While the approach of trading physical transmission rights in a secondary market may prove to be workable in regions where congestion is minor or infrequent, ***in other regions where congestion is more of a chronic problem, it may not be workable. (emphasis added)***

PNGC believes that congestion in RTO West will be a “chronic problem” if left to market driven expansion alone. The RTO must have the authority to fix congestion if market driven expansion does not work. Without this authority, we are only setting our region up for years and years of volatile electric markets, reduced reliability, and higher costs to electric consumers.