

STANDARD MARKET DESIGN

The U.S. Federal Energy Regulatory Commission's proposal to standardize the structure and operation of competitive wholesale power markets nationally represents the agency's commitment to markets and its determination to assure that severe market dysfunctions such as California's never happen again.

The rulemaking marks an aggressive step to restore public confidence in competitive power markets by assuring adequate generation resources and establishing a standard platform for the exchange of electricity and transmission services. The detailed elements of the proposal are intended to assure the long-term viability of competitive wholesale power markets in the public interest.

Its fundamental elements include active monitoring and mitigation to prevent market abuses, a well-organized central spot-power market that complements a decentralized contract-based market for long-term power supplies, and price discovery and market transparency.

The market standardization proposal is the culmination of a series of landmark Commission orders designed to bring competitive efficiencies to the electric industry and, ultimately, billions of dollars in savings to customers annually. These "rules of the road" will help spur sorely needed investment in electricity generation and transmission by providing regulatory certainty and earnings opportunity to the power sector.

The Commission initiated a similar evolution away from inefficient regulation to competition in the natural gas sector more than a decade ago, which lowered prices and provided billions of dollars in customer savings. One estimate places the aggregate consumer savings from natural gas restructuring since 1984 at \$600 billion, or about \$6,000 in savings for the average family.

AN EVOLVING RESPONSE TO 'UNDUE DISCRIMINATION'

The Standard Market Design proposal is the third leg of a three-legged stool the Commission began building in 1996, when the Commission finalized rules opening the transmission grid to competing wholesale power providers. Those rules, known as Order No. 888, were based on a mandate Congress provided in the 1992 Energy Policy Act. The Commission's open-access transmission mandate sought to remedy "undue discrimination" and was recently affirmed by the U.S. Supreme Court. The rules addressed the ability of vertically integrated utilities to use their control of transmission lines to favor their generation output in competitive power markets.

Order No. 888 and its companion, Order No. 889, dramatically spurred competition in wholesale power markets by requiring investor-owned utilities to open up their transmission systems to competing power providers on a nondiscriminatory basis.

While power generation capacity of investor-owned utilities increased less than 5% from 1989 to 2000, their wholesale power purchases nearly tripled, representing nearly 40% of the sector's energy supply. Over a similar period of time, electricity prices for residential, commercial and industrial customers fell more than 30 percent, according to one estimate.

The increasing importance of wholesale power purchases for U.S. electricity supply underscores the need for the Commission to reform market rules and institutions. But the Commission quickly realized that more needed to be done to truly eliminate the unfair and discriminatory business practices, and structural inefficiencies, that have increased wholesale power costs for all customers.

In December 1999, the Commission finalized rules known as Order No. 2000 to encourage transmission-owning utilities to turn operational control of their high-voltage power lines over to independent entities called Regional Transmission Organizations, while still maintaining ownership of their power-grid assets and receiving revenues from their use. These RTOs were intended to eliminate utilities' ability to use operational control of transmission facilities to gain a competitive advantage over other power providers.

Order No. 2000 noted that perceived discrimination is an impediment to competition. "Efficient and competitive markets will develop only if market participants have confidence that the system is administered fairly," the Commission said in encouraging independent grid oversight by RTOs.

In the Standard Market Design proposal, FERC notes that "the absence of standardization with respect to market rules and practices within and between regional markets" allows discrimination to continue and hinders establishment of an efficient competitive wholesale marketplace.

Many cases over the past three years demonstrate that discrimination continues to occur in wholesale electricity markets. Transmission owners continue to favor their own generation; inconsistent rules governing transmission limit some transactions while lowering costs for others; the existence of seams between regions raises costs for inter-regional power flows; and many vertically integrated utilities interrupt their competitors' transactions to address reliability problems, while protecting their affiliated generation and its flows.

The Commission concludes that these unduly discriminatory transmission practices, and inconsistent design and administration of short-term power markets, have caused rates to be “unjust and unreasonable.” These problems, and the higher wholesale power prices that result, occur in most of the nation and affect both traditionally regulated states and those with retail competition.

RTOs offer a means of eliminating inefficiencies in the current state of operations of the nation’s interconnected power grid. With seamless trading across regional markets and between regional markets, transmission customers will avoid so-called “pancaked” rates in which fees are paid to each individual transmission-system owner.

Although RTOs are still being implemented in various regions of the country under Order No. 2000, they form an integral element of the Commission’s Standard Market Design. RTOs will enhance competitive access and power-grid reliability. They will also administer competitive spot markets for wholesale power and help the Commission police against potential anticompetitive actions by market participants.

The Commission has encouraged voluntary participation in RTOs. While the Commission anticipates that eventually most if not all transmission providers will elect to join RTOs as a means of increasing efficiency and lowering administrative overhead. As a transitional step, the proposal calls for transmission providers not yet in RTOs make contractual arrangements that implement SMD rules and practices, and to participate in regional power-grid planning and reliability efforts.

The Commission’s proposal would create a two-tier structure for the independent oversight of RTOs. A governing board made up of directors completely independent of market participants would be augmented by an advisory committee of market participants and state government officials, such as public utility commission representatives.

BUILDING ON BEST PRACTICES

The Standard Market Design proposal builds on the wealth of experience the Commission has accumulated in its nearly decade-long experience with competitive wholesale power markets. It draws on lessons learned from the catastrophic failure of California’s electricity market restructuring, as well as elements of highly successful wholesale power markets elsewhere in the country and overseas in the United Kingdom and New Zealand. The commission has looked to these and other markets to assure it adopts best practices available for a sound competitive market operation, to assure the prevention of market

dysfunctions with adverse effects for customers, the electric industry and the nation as a whole.

The proposal marks an end to a period of state- and regional-level experimentation with competitive wholesale electricity markets, which began with the Commission's reluctant approval of California's market restructuring program. Today's standardization incorporates a "best practices" framework based on the experience gained from years of experimentation.

Under the Commission's proposal, Independent Transmission Providers, or ITPs, will administer spot markets for wholesale power, ancillary services and transmission congestion rights; a real-time "balancing" market to maintain reliable operations of the power grid, and a separate "day-ahead" market. These will complement bilateral contracts for long- and short-term energy purchases.

The voluntary ITP-administered centralized spot-power market is a "security-constrained, bid-based" system. "Security-restrained" refers to those measures to assure operations will not jeopardize grid reliability, while "bid-based" describes the proposed auction for imbalance energy. Power will be bought and sold through a power auction in which buyers and sellers "bid" the price they will buy or sell power at in any hour. The market-clearing price will be provided transparently to all supply and demand-reduction sources to encourage efficient short- and long-run operations.

The Commission's market design proposal also provides a mechanism to curb runaway market volatility, much like the so-called "circuit-breaker" tool used by the New York Stock Exchange. This proposed mitigation measure would bar power providers from bidding to supply power at a price higher than \$1,000 per megawatt-hour. Such a \$1,000 volatility check is already in place in the Northeast and Texas.

But the vast majority of power transactions will still be made under bilateral contracts between buyers and sellers. Energy delivered under these contracts will have to secure transmission between generator and customer, which can be assured by obtaining congestion revenue rights between those points. Congestion Revenue Rights, or CRRs, are tradable financial rights for transmission between two points on the grid over a particular period of time, and lock in a fixed price for the transmission, making the CRR holder indifferent to the cost of congestion over that pathway.

A NEW TRANSMISSION TARIFF WITH CONGESTION PRICING

The market standardization proposal creates a new, universal form of transmission service to replace the two types of open-access transmission tariffs provided for under Order No. 888. The new form of a “network” transmission service tariff combines elements of the existing network and “point-to-point” services available under Order No. 888, and allows all wholesale power sellers to use the grid much as transmission-owning utilities do.

The Commission proposes to eliminate point-to-point service as a stand-alone service. This addresses a key concern that utilities, after denying point-to-point service to a competing power provider, use the information provided by the transmission customer to sell power to their competitor’s intended customer. Under the Standard Market Design proposal, all transmission users will be able to schedule power deliveries using multiple receipt and delivery points, providing the same operational flexibility enjoyed by transmission owners.

A primary difference between the existing form of network service and the new tariff the Commission proposes is a feature creating a market for firm transmission rights to lock in a fixed price for transmission across power-grid bottlenecks. This approach assures that customers who value the transmission pathway the most will get to use it.

By allowing transmission customers to lock in transfer rights across congested transmission pathways with CRRs, and promoting a secondary market for those firm transmission rights, the Commission lets the market assign a value to the congestion that signals investment needed to relieve the bottleneck.

The proposed market design also incorporates a form of congestion pricing known as “locational marginal pricing,” which allows more efficient management of the transmission grid. This LMP methodology provides price signals indicating where investment in generation and transmission is needed to improve grid operations. LMP has proven to be the most reliable and efficient market design, and it minimizes opportunities for market manipulation.

The proposal further provides an incentive for power grid enhancement by allowing the companies that invest in new transmission to retain the fixed rights to the added power-transfer capacity. By providing predictable rules and clear rewards for investment, the Commission expects the proposal to spur needed expansion of the nation’s highly interconnected electricity grid.

This congestion pricing and management approach should dramatically reduce, or even eliminate, the need for curtailment of transactions as a means of preserving

power-grid stability. Recent Commission staff studies found the use of transmission loading relief, or TLR, procedures increased markedly in the Midwest and Southeast in recent years, indicating that transmission owners are exercising the option for more than grid reliability purposes.

In the Midwest, TLRs increased 472 percent from the summer of 1999 to the summer of 2000. In the Southeast, TLRs jumped 354 percent over the same time period, the staff studies found. TLRs disrupt markets by abruptly terminating the property rights of transmission service customers. These increases suggest that transmission owners are using curtailment not just to assure grid reliability, but also to discriminate against competing power providers.

Another important change in the proposed new transmission service is the Commission's call for all transmission uses to be under the network tariff. Thus, transmission service in support of both wholesale and retail transactions will fall under a common tariff for the first time.

Some state utility regulators may object to this, given their traditional role in determining the rates of return for wholesale transmission service "bundled" into state-regulated retail power sales. The Commission does not take this step lightly, but has determined that maintaining state regulation of bundled transmission services fosters inefficiencies and provides an avenue for potential discrimination in competitive markets. Remedying undue discrimination in interstate commerce requires that the Commission assert its authority over bundled transmission.

By scheduling transmission in support of both retail and wholesale power sales under the same tariff, the commission provides transparency and eliminates the potential for transmission owners to reserve more capacity than needed as a means of blunting market entry at wholesale. The Supreme Court, in its recent opinion upholding Order No. 888, clearly indicated it is appropriate for the Commission to assert its authority over transmission bundled into retail sales upon just such a finding of undue discrimination.

GENERATION RESOURCE ADEQUACY

To promote long overdue investment and avoid over-reliance on the spot market auction, the Commission establishes a forward-looking generation adequacy requirement. The market design requires "load-serving entities" (companies serving retail customers) to arrange sufficient supply and demand reduction resources to meet peak demand plus a 12% reserve margin.

This approach to assuring enough generation is available to meet periods of peak demand supersedes the Installed Capacity, or ICAP, requirements adopted in markets in the Northeast, which new market entrants have complained served to blunt competitive entry and is susceptible to market manipulation. Further, the new approach is expected to assure investment in new, cleaner, more efficient generation rather than rewarding older “dirty” facilities.

The 12% margin likely will be replaced with a higher percentage level agreed upon by state officials. Load-serving entities that fail to satisfy the resource adequacy requirement will be subject to state review and potential penalties.

DEMAND RESPONSIVENESS

A key feature in the market standardization proposal provides for the use of demand reduction to meet the generation adequacy requirement. Reducing electricity usage shaves the peaks off of high-demand periods when prices typically spike, and thus dampens price volatility.

The Commission proposes that demand reduction be bid into the spot market in addition to power supply. Demand-reduction mechanisms can include electing for service interruption or taking steps to lessen electricity use.

By making certain segments of the market receptive to price signals, the Commission aims to address a key inefficiency in electricity markets of concern to economists.

Most electricity customers today buy their power at a fixed price that does not vary. Whether prices in wholesale markets are high during periods of peak demand, or low during slack demand, the price remains the same. Economists call this an “inelasticity” problem, and have consistently urged that customers be exposed to price signals that would curb demand for electricity during periods of peak demand when prices tend to spike (i.e., provide “elasticity” in the market).

Decisions about demand-reduction programs would be left to state and regional transmission planners. Most of those customers opting for exposure to potentially volatile real-time pricing are expected to be sophisticated industrial entities initially, although similar opportunities are expected for average household and commercial customers over time.

EFFICIENT RATE DESIGN

RTOs offer a means of eliminating inefficiencies in the current state of operations of the nation's interconnected power grid. With "seamless" trading across regional markets and between regional markets, transmission customers will avoid so-called "pancaked" rates in which fees are paid to each individual transmission-system owner, adding to costs ultimately paid by retail customers.

Rather than pay each individual utility owning transmission assets needed to carry out a power transaction, electricity sellers will pay a single access fee and a region-wide transmission rate. This will not only reduce the cost of transmission service, but provide additional savings by reducing administration inefficiencies.

Utilities will still own their transmission systems and derive revenues from their assets. But those power-grid assets ultimately will be independently operated and managed by RTOs. Some utilities will opt to retain their ownership of transmission lines while others will choose to "spin off" their grid assets to create stand-alone independent transmission companies. Either way, the public interest is served by providing for independent, nondiscriminatory use of the transmission system by a range of competing electricity providers. A level playing field with uniform rules will lower costs with savings ultimately passed on to customers.

MARKET MONITORING AND PRICE MITIGATION

The Standard Market Design's rules and congestion management provisions will reduce opportunities for market manipulation by providing greater price transparency and encouraging demand reduction in response to price signals.

The potential for volatility in near-term spot markets is reduced by requiring most energy supplies to be purchased through long-term contracts. But each ITP-administered regional power market will have an independent market monitor to rapidly alert the Commission to potential anticompetitive problems. And market administrators will have important price-mitigation tools to impede market-manipulation efforts. State advisory committees also will play an important role in market monitoring.

The Commission's proposal addresses both the ability of transmission providers to disadvantage their generation competitors, as well as the ability of power providers to "game" flawed market rules or market inefficiencies to derive higher returns. In Appendix E, the Commission discusses allegedly manipulative trading practices employed by Enron Corp. and other companies in California's market, and explains why the proposed market design "uses a different congestion management system that would make most of these strategies infeasible."

To the extent that market participants retain any market power, or ability to disadvantage competitors, the Commission's market monitoring and price mitigation proposals are designed to protect customers.

Environmental Benefits

The Commission seeks comment in response to its expectation that the Standard Market Design will result in environmental benefits by creating a level playing field for market entry by new generation that emits fewer pollutants. New natural gas-fired generating units and intermittent generators, such as solar, wind and fuel cell power, will face fewer barriers to market entry. The effects are more pronounced when the Commission's pending rules standardizing power-grid interconnections are considered in tandem with the Standard Market Design.

TIMETABLE FOR FINALIZATION

Initial comments on the proposed rules are due no later than 75 days after issuance. Final rules are expected by the end of the year. Once the rules are final, a phased compliance schedule begins.

Thirty days after the rules are final, jurisdictional utilities that own, operate or control interstate transmission are to begin discussions with stakeholders and interested parties regarding the transition to, and compliance with, the SMD.

By July 31, 2003, jurisdictional utilities that own, operate or control interstate transmission must file an SMD implementation plan and file transmission tariffs incorporating the changes required under the new rules.

Within six months, a regional transmission process must be established in each applicable region of the country and a regional transmission plan instituted within 12 months.

By Sept. 30, 2003, jurisdictional utilities that own, operate or control interstate transmission must implement revised interim open-access transmission tariffs.

Within one year after the final rule, the independent transmission provider must have a regional transmission planning process in place.

By Dec. 1, 2003, the independent transmission provider must file proposed tariff language on market mitigation, long-term resource adequacy, transmission planning and expansion, transmission pricing and regional accommodations. The

independent transmission provider must indicate the date it will fully implement the standard market design.

The first due date for making annual cyber-security compliance filings is Jan. 31, 2004.

By Sept. 30, 2004, jurisdictional utilities that own, operate or control interstate transmission must file open-access transmission tariffs with any remaining revisions and be operating under the standard market design.

At least 60 days prior to implementation of the SMD, transmission owners and independent transmission providers must file changes needed in their transmission rates or revenue requirements for jurisdictional service.