
FEDERAL ENERGY REGULATORY COMMISSION



WASHINGTON, D.C. 20426

FACT SHEET

SEPTEMBER 21, 2006

CALIFORNIA INDEPENDENT SYSTEM OPERATOR MARKET REDESIGN AND TECHNOLOGY UPGRADE (MRTU)

The following relevant facts provide a broad overview of the Federal Energy Regulatory Commission's action today on the California Independent System Operator's (CAISO) proposed MRTU tariff:

- The changes represent important, but incremental improvements to the existing market design. MRTU does not create organized markets in California. They already exist, and MRTU actually makes reforms to ensure that they function properly. Moreover, these reforms are based on an extensive record reflecting input from numerous parties inside and outside of California.
- MRTU does not create seams with the bilateral markets in the West; those seams already exist due to the differing market structures within the Western Interconnection. Instead, MRTU is designed, in many ways, to mitigate the seams and enhance trade between the differing regions within the West.
- The day-ahead energy market will allow more opportunities for imports and exports to be scheduled ahead of real-time. Transparent locational marginal prices in the day-ahead market will make it easier for suppliers located outside of California to sell their excess power into California at a competitive price.
- MRTU adopts only limited, but crucial, changes in the area of congestion management. MRTU adopts improved price signals for generators to allow for more efficient generation dispatch, but it does so in a way that protects customers. MRTU will offer monthly and annual transmission rights to protect customers against a much larger portion of congestion charges than is currently possible.
- These reforms should lower costs by increasing the efficiency of the CAISO's transmission grid operations, and offer customers important protections from congestion charges that do not exist today.

The following are the most important elements of MRTU that fix market design flaws, enhance reliability, better protect wholesale customers from price volatility and gaming, incorporate price-responsive demand in the markets, and encourage construction of new resources:

- Eliminates infeasible schedules. Market participants currently submit infeasible schedules for energy because there are no negative financial consequences to their doing so. Also, under the current tariff, the CAISO must accept infeasible day-ahead schedules that do not reflect actual transmission bottlenecks and operating limitations of generators because its computer software ignores these limitations. This is a serious problem that forces the CAISO's transmission grid operators to scramble in real-time to correct infeasible day-ahead schedules. MRTU will ensure that day-ahead schedules are physically feasible because its new computer software will fully consider all transmission bottlenecks and generator operating limitations. This will make the CAISO's system more reliable.
- Uses a more comprehensive model of the transmission grid. The CAISO currently decides which resources will be used for reserves (ancillary services) in a manner that is independent from its energy dispatch decisions. This results in less efficient use of generation capacity. Under MRTU, the CAISO will consider at the same time which resources to use for energy and which resources to use for reserves. This will create more efficient dispatch. Meeting demand and reserve requirements from the lowest cost set of generators will benefit customers by keeping prices down.
- Adds a financially binding day-ahead market. Existing market rules require each Scheduling Coordinator to anticipate customer demand and to match that demand with an equal amount of generation supply. This can create inefficiencies because there is no systematic way to ensure selection of the least cost set of generators to meet customers' needs. Under MRTU, this problem is solved by the creation of the day-ahead energy and ancillary services market, which is open to all creditworthy market participants on a non-discriminatory basis. The day-ahead market will enable all suppliers and customers to submit offers to buy and/or sell electricity in advance of real time. The CAISO will consider the bids of all suppliers in the day-ahead market and select the lowest cost mix of suppliers to serve customers' needs. The creation of a financially-binding day-ahead market will make it easier for all market participants, particularly smaller entities, to participate in the California market. A transparent day-ahead price signal can also be useful in demand response programs. The day-ahead market will provide market efficiencies that will help keep wholesale electricity prices down and make it easier for the CAISO to maintain reliability.

- Adopts locational marginal pricing for suppliers and for improved congestion management: Under locational marginal pricing, or LMP, prices in wholesale markets vary by location and time, based on the physical limitations of the transmission grid, and reflect the incremental cost of meeting customer demand at each location. Locational marginal pricing will communicate the true market value of electricity at each location, as well as the cost of alleviating congestion between any two locations. This will create financial incentives to dispatch the lowest cost energy, when considering all transmission bottlenecks. In the long-term, by making energy and congestion prices more transparent, locational marginal pricing will help encourage transmission and generation investment at appropriate locations, as well as demand response. It bears emphasis that the CAISO's version of locational marginal pricing is aimed primarily at suppliers who will be paid their location-specific price. Wholesale customers will be insulated from the location-specific prices because they will continue to pay an aggregated zonal price.
- Improves transmission rights: The CAISO already incorporates financial transmission rights, but these are limited to rights to congestion revenues associated with transmission service between adjacent zones and external interconnection points. The existing financial transmission rights allow customers to protect themselves from congestion charges occurring between zones. Currently, however, most congestion occurs inside the existing zones and there is no way for customers taking transmission service within each of the CAISO's three zones to protect themselves from these costs, which again means that some customers are forced to significantly subsidize the cost of serving other customers. Wholesale customers must pay for the costs of congestion within zones in the form of "uplift" payments, or billing surcharges, which can be highly volatile and unpredictable. MRTU largely alleviates this problem by ensuring that all congestion costs are reflected in market prices, and by issuing a better form of financial transmission rights, called congestion revenue rights, or CRRs. Congestion revenue rights will enable load serving entities and others to protect themselves against the costs of congestion. Also, customers under contracts that pre-date the existence of the CAISO will continue to receive protection against congestion costs consistent with the requirements of their contracts.
- Requires compliance with the Long-Term Firm Transmission Rights Final Rule: Currently, the CAISO offers no financial transmission rights with a duration of longer than one year. This has often been cited as an impediment to the construction of new facilities necessary to serve the California market, and a barrier for customers trying to access needed resources on a long-term basis. This order addresses that problem by directing the CAISO to comply with the

Long-Term Firm Transmission Rights Final Rule. This should hasten the creation and availability of long-term firm transmission rights, directly addressing concerns raised by customers in California.

- Increases bid caps incrementally: Currently, suppliers' bids into the CAISO's real-time markets are capped at \$400/MWh. It has long been recognized that, if price caps are set too low, they can result in a reduction in needed supply that will usually not be in the public interest. Therefore, in markets where bid caps are used to help protect against the exercise of market power, it is imperative to set the bid cap at an appropriate level in order to stimulate demand response, provide incentives to enter into long-term contracts, and foster investment in new infrastructure. If a bid cap is set too low, this could adversely affect reliability by artificially suppressing resource prices when resources are scarce. MRTU is slated to go into effect November 2007. At that time, the bid cap will be increased first to \$500/MWh, and thereafter incrementally increased over the next two years until it reaches \$1,000/MWh. This gradual increase will give market participants time to adjust to both the new cap levels and other mitigation features, while helping to ensure that needed supply is not driven from the market by overly restrictive price caps.
- Improves local market power mitigation: Currently the CAISO's market power mitigation lacks adequate measures to address the potential for generators located in load pockets (areas surrounded by transmission bottlenecks) to exercise market power. MRTU adopts local market power mitigation techniques that identify generators with the potential to exercise local market power, and limits those generators' bids to pre-established default levels. These default energy bids are tailored to contribute to the recovery of the generator's fixed costs, so the generator can afford to continue producing energy. These local market power mitigation rules will help prevent market manipulation and price volatility, while maintaining adequate generation supply and reliability.
- Demand Response: MRTU provides loads with demand response capability – the opportunity to participate in the CAISO day-ahead, real-time, and ancillary services markets under comparable requirements as supply, and receive the corresponding market value. Price-responsive demand moderates price increases and price volatility for all customers (because some demand is willing to be reduced rather than pay higher prices for energy from more expensive units) and it also helps to check potential market power because it provides a countervailing willingness to reduce demand in the face of high prices. Further, demand response contributes to reliability by shaving peak demand and providing reserves. We believe the continuing development of demand response is an effective route to produce CAISO markets that are competitive

and that can be relied upon to produce rates that are just and reasonable for customers. We therefore direct parties interested in further developing demand response in the CAISO markets to provide proposals to the Commission that detail new avenues for incorporating price-responsive demand within 60 days of the date of this order.

- Builds upon resource adequacy: Resource adequacy is the availability of an adequate supply of generation or demand responsive resources to support safe and reliable operation of the transmission grid. Until June 2006, the CAISO market did not require load-serving entities to procure sufficient generation capacity to serve their customers. The lack of this requirement jeopardized reliability and made it difficult to ensure that wholesale prices would remain just and reasonable. Under MRTU, load-serving entities under the authority of the California Public Utilities Commission will be required to obey its requirement to maintain a level of capacity above load serving entities' forecasted customer needs (currently 15-17 percent). They will also have to demonstrate a year in advance that they have procured resources to cover 90 percent of their summer (May through September) peak period needs. Other load-serving entities that are CAISO members and serve customers in the CAISO control are required to comply with the planning reserve margin for capacity that is set by their Local Regulatory Authority. If the Local Regulatory Authority does not establish such a margin, the default margin will be 15 percent. These resource adequacy requirements will help ensure sufficient supply, enhance reliability, protect against price volatility, and reduce the opportunities to game the market that exist when electricity supplies are insufficient to meet customers' needs.

In order to further address commenter concerns and to build on further market improvements, the Commission's order on MRTU directed that future technical conferences be held on various aspects of MRTU. One of the technical conferences the Commission directed will address commenter concerns about operational rules that differ between the CAISO and other providers of transmission service in the West (so-called "seams" issues). The Commission order also directed the CAISO and neighboring transmission providers to meet to resolve these seams issues, and to jointly inform the Commission on the progress of these efforts through the filing of quarterly status reports.