

Designing a Retail Electricity Market That Enhances Wholesale Competition
by
Frank A. Wolak
Chairman, Market Surveillance Committee of the California ISO
Department of Economics
Stanford University
Stanford, CA 94305-6072
wolak@zia.stanford.edu
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Thank you for the opportunity to speak on retail electricity market design. The primary goal of this process should be to create a retail market infrastructure that enhances rather than detracts from the competitiveness of California's wholesale market.

The wholesale price is the largest component of the retail price of electricity. A more competitive wholesale market will set lower wholesale prices. Lower wholesale prices will allow electricity retailers to set lower retail prices and still remain financially viable. Consequently, the more competitive the wholesale market is the greater are the benefits to California consumers from electricity industry restructuring.

As early as August of 1998, the Market Surveillance Committee of the California Independent System Operator stated that California's retail market policies enhanced the ability of wholesale electricity suppliers to exercise unilateral market power. With the exception of the Department of Water Resources forward contracts that commit a substantial amount of energy to the California market, there has been very little progress since the summer of 1998 in implementing a retail market infrastructure that enhances the competitiveness of California's wholesale market.

There are three necessary features of a retail market design that enhance wholesale competition while allowing for the existence of both core and non-core customers. First is symmetric treatment of load and generation. Second is necessity of curtailment plans for all load-

serving entities and non-core customers in the event that there is insufficient energy available to meet their demand. Third is mandatory interval metering and remote interruptible switches for all non-core customers to prevent cross-subsidies from core to non-core customers.

Load and generation should be treated symmetrically regardless of the decision to adopt a core/non-core retail market model. It is the foundation of a retail market that enhances the competitiveness of the wholesale market.

In all formal wholesale electricity markets, the default price generation units are paid for supplying energy is the spot price, unless the units have sold their energy in the day-ahead forward market or longer-horizon forward markets. If a unit produces 50 MWh then it is paid the real-time price for this energy. If the supplier also has a forward contract with a load-serving entity to supply 50 MWh at \$30/MWh, then it is effectively paid \$30/MWh for this energy. Note that although the generation unit owner faces the real-time price as its default price, it is not required to be paid this price for any of its output if it signs a forward contract with load-serving entity or electricity consumer.

All customers should be treated symmetrically to suppliers. They should face the real-time price as the default wholesale price for their consumption. I want to emphasize that similar to the case of generation, this fact does not imply that consumers are required to pay the real time price for any of their consumption. This occurs only to the extent that the customer does not have a hedging arrangement with a generation owner or retailer for his or her consumption. If a customer would like to pay a fixed price, he must sign a long-term contract.

If load and generation are treated symmetrically then customers signing fixed-price, long-term supply agreements implies that retailers have long-term fixed price supply obligations that they

would like to hedge through long-term contracts with generation unit owners. The entire sequence of incentives to sign hedging agreements begins with final consumers facing the real-time price as their default wholesale price.

Symmetric treatment of producers and consumers is a characteristic of virtually all other markets besides electricity. The default price that an airline offers travelers is the price of a ticket on the day of the flight, including the possibility the flight is sold out. However, if the travelers are willing to purchase in advance they can lock-in their price and hedge this spot price risk and the possibility of being curtailed. In other markets, suppliers are paid for the actual good they provide, not the average price for all of the goods they provide during the month, and consumers pay for actual good they consume, not the average price for all of the goods they consume during the month.

Particularly for California, where hydroelectric power provides a substantial amount of electricity, there is a non-zero likelihood that there may be insufficient energy available to meet demand during certain system conditions. Moreover, if there is a \$250/MWh price cap on the real-time market this price signal may not provide a strong enough incentive for suppliers from outside of California to provide the needed energy. Rather than assume or hope that such system conditions cannot occur, all load-serving entities should be required to file curtailment plans for these circumstances.

I want to emphasize that I do not expect that requiring that all load-serving entities to file curtailment plans with CPUC and California ISO means that it is more likely that load will be curtailed. In fact, I believe that because all market participants have a much clearer idea of the circumstances under which specific customers will be curtailed, this fact makes it less likely that those market participants will allow these circumstances to arise.

By having clear rules concerning which load-serving entities will be curtailed and under what circumstances, each load-serving entity will have much less of an incentive to lean on the ISO and other load-serving entities to meet their load obligations. Having a clear decision criterion for the ISO to curtail load will provide a very strong incentive for these load-serving entities procure the necessary reserves and energy so that this curtailment criteria are never met.

To prevent cross-subsidies from core to non-core customers, all non-core customers that opt out of receiving the spot price risk management services provided by their load-serving entity must bear the full costs of this decision. Their hourly consumption of electricity must be measured and they must have a curtailment plan. This logic implies that a necessary condition for becoming a non-core customer is interval metering and the ability to be remotely curtailed under a pre-specified set of system conditions. This logic also implies that size should not be the determining factor in whether a customer is eligible to become non-core.

Any customer regardless of their size should be able to become non-core if it is willing to install an interval meter and submit a curtailment plan. Consistent with symmetric treatment of load and generation, this customer faces the real-time price as its default price unless it signs a hedging arrangement with a generation unit owner. I expect very few non-core customers to pay the real-time price for all or even a substantial fraction of their consumption and do not expect that their consumption will be curtailed, because they will have a strong incentive to make the necessary arrangements in advance to ensure that the curtailment of their consumption will not occur.

Although these requirements for direct access customers may seem punitive to some, it is important to emphasize that these requirements are currently imposed on the incumbent load-serving entity. The goal of introducing retail competition is not to allow large and politically powerful

consumers to obtain lower prices at the expense residential and small business consumers. If non-core customers are able to obtain lower retail prices than they can obtain from their incumbent load-serving entity, while managing all of the risks that the load-serving entity formerly managed for them, then they should be allowed to become a non-core customer. Otherwise, there appears to be little rationale for allowing a core/non-core distinction.