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ENERGY REGULATION BRIEF

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U.S. FERC PROPOSES TO STANDARDIZE THE RULES OF WHOLESALE ELECTRICITY MARKETS



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On 31 July 2002, the U.S. Federal Energy Regulatory Commission (FERC) introduced a landmark proposal intended to bring more effective wholesale competitive to the bulk power system. According to FERC in the Notice of Proposed Rulemaking (NOPR),¹ the proposal for a Standard Market Design (SMD) is designed to create: genuine wholesale competition; an efficient transmission system; proper pricing signals for investment in transmission, generation facilities and demand reduction; and more customer options. Market monitoring and market power mitigation proposals are also key features.

For some time, people have been arguing for a measure like this, to facilitate efficient competition in the electricity industry. Sally Hunt, for example, in her new book, *Making Competition Work in Electricity*,² maintains that the U.S. should take the bold step of adopting a coherent national model of trading arrangements and she offers a full checklist of requirements for competition. FERC's NOPR means the industry can go a long way towards achieving these requirements. Previous FERC Orders Nos. 888 and 2000 laid the groundwork for a competitive bulk power system that allowed U.S. utilities to buy and sell power in an open, deregulated market and enabled new merchant power firms to enter the sector. However, both these orders lacked key elements needed for the vision to be fully realized.

Hope for Progress

Today, although efforts to introduce competition and greater levels of efficiency are well underway in several parts of the U.S., many of these programs have been plagued with problems. Such problems include perceived under-investment in transmission, generation locating where it causes congestion, allegations of undue discrimination by transmission providers against generation other than their own, and fundamental design flaws in some electricity markets. These problems are alleged to have reduced the efficiency of grid operation and to have raised costs for all customers. FERC's proposal has the potential to remedy many of these problems and to allow electricity buyers and sellers to transact more efficiently. However, a number of critical details remain to be worked out to ensure that the proposal is fully effective.

Initial comments and reactions to the NOPR must be filed within 75 days. FERC reportedly anticipates issuing a final rule later this year or in January 2003. The Commission's goal is for the rules to be implemented completely by 30 September 2004. The schedule may be ambitious, as the proposal will almost certainly face legal challenges. If implemented, this proposal would mean state regulators

¹ 18 CFR Part 35, Federal Energy Regulatory Commission, Docket No. RM01-12-000.

² Hunt, Sally, *Making Competition Work in Electricity* (Wiley, New York, 2002).

(public utility commissions) would lose much of their jurisdiction over transmission. Already a significant number of state regulators have voiced strong opposition. Opposition will undoubtedly come also from traders, who could miss out on some opportunities to profit if the markets achieve the intended increase in transparency and efficiency. In some respects, the effects of the NOPR will be experienced most of all in those states which have not yet pursued restructuring, but which will be required to surrender their transmission lines to FERC oversight.

Key Elements

The key elements of the proposal are presented below.

- **Location marginal pricing (LMP)**, featuring financial transmission rights (now called congestion revenue rights or CRRs) to manage transmission congestion. LMP is a market-based method for congestion management, known elsewhere as “nodal pricing”. It would be combined with tradable CRRs to lock in a fixed price for transmission. The LMP system is intended to provide a mechanism for allocating transmission capacity to those who value it most.
- **Use of bilateral contracts.** The standard market design also includes reliance on bilateral contracts that limit the effect of potential price swings on the spot market.
- **A single transmission service**, network access service, with **a single open access transmission tariff that applies to all transmission customers** (wholesale, unbundled retail and bundled retail). This new transmission pricing policy is intended to provide for seamless markets and fair prices to all transmission users.
- **An independent transmission provider (ITP)** that is not affiliated with any market participants. It will provide transmission service and will establish short-term electricity and ancillary services markets to complement bilateral contracts.
- **A “resource adequacy” requirement** to make load-serving entities (LSEs – i.e. distribution companies and retailers) ensure that they have adequate capacity to serve their load plus at least a 12 percent reserve margin. (The final level would be determined regionally.)
- **Market power** monitoring and mitigation procedures in the spot markets. Proposed measures would rely upon market monitoring, a safety-net cap (\$1,000/MWh), and the resource adequacy requirement to provide revenues to support long-term investment in generation. A market monitor would have discretion to examine generator bids to determine whether high prices were the result of generators attempting to withhold supplies of power.
- **An access charge to recover embedded transmission costs** that would be a demand charge billed on a customer’s share (by load) of the transmission provider’s cost and would be paid by any LSE taking power off the grid. The basis of the charge would either be “license plate” (zonal) or “postage stamp” (region-wide).³

³ In the US, a “region” corresponds to the service territory of the ITP. It typically will cover several states. A “zone” is more likely to exist within a single state, and to correspond to a utility’s service territory.

- **CRR allocation** by auction, eventually, but initially allowing regional flexibility to determine whether to allocate the rights to existing customers or to auction them.
- **“Fair treatment of transmission capacity reserved for reliability”**. For years the reservation of transmission capacity to support “native load” reliability needs has been a controversial topic in the U.S.
- **A more explicit statement of transmission provider obligations** to comply with standards for ensuring system security and reliability.

The scope of the changes is daunting, and many of the important policy details need improvement or are still to be established. However, the overall framework provides a sound basis for efficient competition. The SMD NOPR has its roots in the well-functioning Northeast electricity markets of New York and Pennsylvania/New Jersey/Maryland (PJM), and their distant cousins in faraway lands such as New Zealand and Chile. In the U.S., the Northeast markets have quietly been working away while their counterparts in the West, plagued by problems, have been making all the headlines. Part of the reason for this success has been the sound trading arrangements used in the Northeast.

Areas for Further Development

One of the areas of the SMD NOPR that needs considerable work is the resource adequacy provision. The intention is to provide for sufficient supply (generation) and demand (load management) resources to avert shortages. The main reason for the provision is that spot market prices alone are not expected to signal the need to begin development of new resources in time to avert a shortage, particularly since spot market prices are subject to market power mitigation measures and might not produce prices high enough when situations of scarcity arise. However the proposed methodologies appear to suffer from a number of problems, and it is not clear that they offer any improvement on the current installed capacity (ICAP) methods used in the Northeast.

For example, the reason for an LSE to comply with its resource obligation is the threat of a penalty if it does not. The proposed penalty is added to the spot market price for the capacity-short LSEs when the system cannot meet the required level of operating reserves. But if LSEs are free to contract at any time to avoid exposure to the spot market, it is difficult to see how the proposed mechanism could have its desired effect. It appears that capacity-short LSEs could avoid the penalty by having energy contract cover at peak times, even if there is insufficient capacity to back it up. It is also difficult to see how the size of the penalty could be commensurate with the value of capacity. FERC suggests penalties of the order of \$500/MWh when operating reserves are violated. This seems too low.⁴

Furthermore, the method proposes that spot market service to a capacity-short LSE should be curtailed first, when a shortage is severe enough to require the shedding of some consumers. It is not clear that this rule is workable with existing technology, particularly in a region with retail competition where a retailer’s customers may be widely disbursed within several distribution networks.

⁴ See, Dr Alfred Kahn, *The Adequacy of Prospective Returns on Generation Investment Under Price Control Mechanisms*, NERA Energy Regulation Brief, February 2002.

Another area of the SMD NOPR that deserves careful consideration is the proposal to eliminate transmission access charges for “export” and “through-and-out” transactions. The implications of this proposal are astounding: no matter where generation is located, the cost of transmission – other than applicable congestion and losses charges – is the access charge for the transmission system where power is ultimately delivered to load. Ideally, nodal pricing and other transmission usage charges should together signal the long-run marginal cost of transmission – under the old system, the prices were perhaps too high because of pancaking – but it is not clear that the proposal hasn’t gone too far in the opposite direction.

There are many other areas that deserve attention. FERC has not done as much as it could have to allow more price response on the demand side. Increasing the “price elasticity” of demand would go on a long way to solving many of the problems that exist today, and would obviate the need for several administrative fixes, such as price caps and the resource adequacy provision. FERC is seeking guidance on the best way to allocate CRRs, on revenue adjustments between adjacent ITPs, and on scores of other items.

Conclusion

Overall, the SMD NOPR is an excellent piece of work by FERC. It has made nearly all the right high-level policy decisions. FERC seems to have a strong will to move ahead with a policy that is comprehensive in scope and uniform across the country. Yet FERC needs to make sure that the hundreds of detailed policies that will define the success or failure of SMD are also right. The implementation of the SMD is likely to take several years. Most of the work remains to be done. Implementing LMP across wide regions for example, a cornerstone of SMD, may mean significant changes in sensitive control room operations. And FERC needs to win over the states and also those who do not benefit from transparent markets. Many of the issues will be thoroughly debated and the ultimate implementation may look much different than initially proposed.

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