

BP Energy Company Response to PJM 2007 Strategic Report

On April 2, 2007, PJM issued its 2007 Strategic Report ("Report") detailing management's recommended long-term strategic plan to the PJM Board. PJM noted that members are invited to submit written comments by April 24. BP Energy Company ("BPEC") appreciates the opportunity to address this important document and herein communicates its conclusions regarding the Report.

Areas of Agreement

BPEC is generally supportive of PJM's plan to institute a "smart grid" - the application of new information systems-based communications technologies across its transmission network - which is the major initiative proposed in the Strategic Report. However, BPEC believes that any large scale capital intensive project must be demonstrated to be cost-effective prior to implementation. That is, it must first be shown to lead to a reduction in net consumer costs.

BPEC is also in agreement with what are characterized in the Report as PJM's Foundational Principles, i.e., that:

- Grid operations and market administration must remain integrated.
- Organized markets must continue to be developed to ensure robust competition.
- Information transparency must be developed and preserved.
- System planning must consider both reliability and market efficiency.

Efficient operations, market mechanisms based upon competitive principles, transactional transparency, and optimizing system expansions in a manner that minimizes long-term costs, are fundamental and necessary elements of an organized electric power market that continues to deliver net benefits to consumers.

However, to be competitive and efficient, markets must also be liquid, bringing together many buyers and sellers in a manner that induces cost minimizing behavior. As such, BPEC believes that an additional Foundational Principle must be that PJM will "institute market power mitigation, market pricing and cost allocation mechanisms that promote market liquidity," facilitating inclusion by parties that mitigate participant risk (hedging) and provide financial arbitrage (such as virtual transactions). Both liquidity and market power mitigation are facilitated by robust real-time demand response - allowing load to compete dynamically and directly with generation.

Regarding the issues listed in the Report as Major Challenges the industry is confronting, BPEC believes that (among those listed) the truly significant challenges that PJM can influence through its operations and through interaction in the stakeholder and FERC and State regulatory processes are:

- Encouraging timely and effective "new generation and transmission investment."
- Enabling "long-term power supply contracts."
- Addressing "increased demands and participation by all parties in the real-time electricity value chain."

Listed Challenges such as "electric price increases" (and price volatility in general), "regulatory uncertainty", and "environmental and other considerations" are conditions inherent to energy commodities, markets and infrastructure development which must be anticipated and managed as they occur. However, while PJM management must be cognizant of such exogenous factors and recommend mechanisms that serve to minimize cost uncertainty where possible, these variables are largely beyond PJM's ability to control.

The remaining included Challenges, *i.e.*, "business alacrity" and "human resource needs," while not unimportant, are more manageable and generally less significant than the industry structure and market design related issues bulleted above.

Regarding the topic of Network Service Operations, Critical Areas in the Next Decade, as identified in PJM CEO Phil Harris's April 3, 2007 summary presentation, BPEC believes that the most important of the listed four are:

- PJM's RTEP process must meet near-term reliability needs and long-term economic needs, and reduce congestion costs.
- Additional technologies for communicating, processing data and interfacing with demand devices will be required.

Maintaining reliability, while reducing congestion in a cost-effective manner, is a critical responsibility of PJM. This reality was recently reinforced in the FERC's Order No. 890, which requires transmission providers to implement effective transmission planning and expansion processes. The increased availability of demand response, especially real-time response, is necessary to minimize market participant costs otherwise incurred 1) to start-up (operating reserve costs), or 2) to maintain the availability of (capacity costs) inefficient peaking units. Real-time demand response, facilitated by value-based spot market pricing (the establishment of accurate price signals), promotes long-term contracting because it helps to equilibrate (*i.e.*, make more symmetrical) financial risk between buyers and sellers. Additionally, both predictable ongoing congestion relief and real-time demand response will help to mitigate market power, clearly a positive outcome.

The remaining "smart grid" related "Critical Areas" may be beneficial to implement during the next decade. They are:

- New technologies for automation and visualization are being developed and need to be cost-effectively deployed.
- Regulatory attention is needed for recovery of the cost of obsolescence.

But, as PJM notes, these benefits will only be realized to the extent that implementation, including more timely depreciation for capital assets, can be demonstrated to provide lower cost service for consumers. Furthermore, BPEC is concerned that prior to implementation of any significant "smart grid" or other staff initiative, that the initiative first be fully vetted with stakeholders.

Areas of Concern

BPEC has one major area of disagreement with PJM's Strategic Plan. This concern echoes throughout the document. BPEC believes that a key omission from the Report that is both a "major challenge" and a "critical area for the next decade" (or more properly for the next few years) is a focused plan to eliminate the Reliability Pricing Model ("RPM") forward capacity construct. RPM should be replaced with a reliability inducing resource adequacy mechanism that results in more accurate price signals in PJM spot markets predicated upon 1) a robust transmission system, and 2) value-based pricing that enhances market efficiency because it effectuates direct competition between supply and demand.

Unfortunately, RPM's forward commitment mechanism is highly biased toward subsidizing inefficient capital at the expense of efficient demand response. Although much effort and good intentions went into designing RPM, it is only a bandage masking the current market design's fundamental shortcomings. RPM is not a constructive long-term fix. Instead, it inhibits the development of an efficient market. For example, RPM violates two of the Report's Foundational Principles. First, it inhibits "robust competition" by suppressing real-time demand response. Second, the black box opaqueness inherent in its guesstimated administrative calculation inhibits "informational transparency", distorting price signals, and thereby participant incentives.

In fact, during the Federal Trade Commission's conference on Energy Markets in the 21st Century held April 10-12, 2007, Dr. Frank Wolak of Stanford University and current Chair of the California ISO Market Surveillance Committee, explained the nature of capacity constructs:

Capacity payments are just a regulatory process couched in the guise and lingo of wholesale markets. Consumers pay for the existence of generation, something that could never happen in other industries. Capacity payments came about because firms weren't building enough generation under deregulation thus a system similar to cost-recovering regulation was devised. Market price signals weren't signaling the need, so the ISOs and governments intervened.¹ [Emphasis added]

The price signal masking effects inherent to administrative forward capacity constructs, such as RPM, were explained by Harvard University Professor William Hogan at the FERC's February 27, 2007 conference on Competition in Wholesale Power Markets:

¹ Restructuring Today, Wednesday April 11, 2007.

What you do [with forward capacity constructs] is you take the incentive out of the marginal price [in spot markets] that people actually see when you really need the response and all the other things that have to be done that you can't plan three years ahead of time and you put it in the average price, which is the average price that's going to come out of this forward capacity market. But what you should be trying to do is get as much as you can into the energy price, the marginal price and as little as possible into average price over time because that allows all kinds of other things to happen, incentives that ripple through the whole system and are going to affect a lot of other things that are extremely difficult to simulate three years ahead of time in a stakeholder regulatory process....²

Professor Hogan also noted that:

We underestimated how difficult it would be to get demand side into real-time spot market to provide the right price incentives.... This is a regulatory problem and in particular I would focus on operating reserve demand curves ... prices, when we get into scarcity situations, are dramatically too low under most of these systems because we don't reflect in the operating reserves the pricing of that scarcity. Setting the operating reserve demand curve is not going to be done by the market. It must be done by the ISO or the FERC or somebody and it's been set too low a price for the critical hours.³

In the Foundational Principles section of the Strategic Report, PJM states that "...one of PJM's obligations is to ensure the creation and operation of a robust, competitive, and non-discriminatory electric power market in the PJM region." BPEC fully supports this goal.

PJM goes on to assert that it:

...has the responsibility to ensure that the market matures and evolves to facilitate effective competition. Recent examples of this maturation process are the introduction of demand response into the Synchronous Reserve Market and the development of a Reliability Pricing Model (RPM) for the capacity market. In each of these instances, the expansion of the market or the development of the product was intended to remove barriers to market participation and to increase liquidity, thereby reducing risk and lowering overall cost.⁴

Although BPEC applauds PJM for taking a step in the ancillary service market toward increasing demand response and thereby lowering aggregate consumer cost,

² Tr. at 285: 14-25, and 186: 1-5.

³ Tr. at 130: 16-21 and 131: 1-20

⁴ PJM Strategic Report, page 14.

BPEC believes that the introduction of RPM will have the opposite effect. Even assuming that RPM did have the effect of encouraging investment in generation (such an assumption is at best speculative), RPM, as it is accompanied by (too low) price caps in ancillary service and energy markets, inhibits real-time demand response, thereby subsidizing inefficient capital - increasing the number of economically marginal units that must be available to ensure reliability.

In conclusion, BPEC believes that PJM should increment its Major Challenges" and "Critical Areas in Next Decade" goals to include the replacement of RPM by a generation adequacy regime relying upon accurate value-based price signals emanating from effective competition between supply and demand. BPEC believes that this addition is necessary to minimize overall consumer costs, while ensuring reliability.

BPEC looks forward to further discussion of these and other issues at the PJM Annual Meeting May 1-3.

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