DC Energy Response
PJM Strategic Planning Questionnaire of October 6, 2006
November 14th, 2006

1. Network Service Operations

DC Energy agrees that PJM, operating initially as an ISO and more recently an RTO, has increased reliability and system availability. The statistics regarding the dramatic reduction in generator forced outage rates and increase in availability reinforce this point. PJM has at the same time administered the markets effectively. We provide more detailed observations in section 3 below. DC Energy also agrees that infrastructure investment in both generation and transmission assets has lagged behind some industry participants' **hopes and expectations** (emphasis added), however we believe that is it essential that PJM continue to administer its markets, post prices, and develop new markets so that participants can decide which infrastructure improvements are appropriate. Market-driven prices combined with regulatory certainty will provide adequate incentives to invest in existing and new assets.

2. Regional System Planning

While FERC requires that RTOs perform integrated regional planning of transmission and generation infrastructure, DC Energy believes that should be done on two levels. DC Energy believes PJM should continue to study, through its long-term planning process (that looks out 15 years), which improvements are necessary to maintain the reliability of the system; PJM should not advocate economic planning enhancements for market efficiency. The very foundations of an LMP market is to post prices and accommodate all participants the ability to invest in any market and infrastructure priorities to further their company needs. DC Energy does agree that PJM should focus its reliability planning process to specific time frame necessary to maintain the high level of reliability it has consistently provided. As previously stated DC Energy agrees that PJM should develop its plans under the Transmission Owners Agreement and Schedule 6 of the Operating Agreement to require transmission owners to build transmission facilities for reliability purposes.

3. Market Administration

3.1. We envision the electricity markets to expand along three critical dimensions. First, they will expand along the time-horizon with energy forwards and/or futures to parallel that found within other related markets such as natural gas. The advent of greater liquidity for 5- or 10-year contracts will dramatically facilitate an increase in investment in infrastructure. It will also make long term FTR's more attractive and practical. Second, we see a dramatic increase in the participation of end-users in the short, medium and long-term financial markets that will naturally lead end-users away from time- and geographically-averaged tariffs, thus dramatically facilitating economic demand response. Third, we see the development of greater liquidity in financial spread products that will help provide the required hedging between supply and load.

3.2. Yes, the PJM markets function very well for their designed purposes. LMP markets are the only design that aligns with the actual physical flow of electricity. Alternatives, such as zonal pricing, hub based markets, or contract path design violate the physical flows of the network causing the markets to deviate from reality leading to higher costs and discrimination. There is no alternative that doesn't harm the end user. The single clearing price auctions administered by PJM provide the necessary price transparency into the marginal cost of electricity. A single price is preferable to price-as-bid structures, since it empirically leads to lower prices and less gaming. One commodity, at one place, and at one point in time needs to have uniquely one price.

3.3. PJM as an RTO has provided significant benefits to customers and generators in the form of competitive wholesale services to meet each participant's needs. We feel that the current tariff as largely fair in its implied cost allocation, though, there areas in which the cost causation has not been worked out to anyone's satisfaction (e.g., virtual energy cost causation for operating reserve charges). However, the market is functioning well and is providing more benefit than costs to each market participant. We caution against changes in cost allocation where additional cost is placed against financial transactions in PJM's forward markets where (1) the marginal cost of such transaction is very small; (2) the fixed cost of the market is high; and (3) the market is in a growing phase. Imposition of large per-transaction cost would only act to stunt the future expansion of the forward market to the detriment of all market participants. The guiding principle for setting transaction rates should be long-term incremental cost. Allocating fixed cost, or start-up costs to incremental transactions adds a tax that reduces liquidity, increases bid/ask spreads, and impedes price discovery. The value an efficient market brings to the consumer is magnitudes greater than the cost of operating the market.

3.4. The settlement timeframe is not a very significant issue for us. Monthly contracts (e.g., FTRs) naturally should settle on a monthly basis. Settlement of daily obligations (e.g., day-ahead market) could settle on a more frequent basis and provide shorter horizons for collateral requirements.

3.5. In general, we feel the collateral policies of PJM are adequate to cover the risk to one market participant of the default of another market participant. In addition, the current collateral policies are "manageable" in that they do not preclude participation in the PJM's markets. However, there are two areas of potential improvement through which collateral levels could be safely reduced. First, there is not effective "mark-to-market" of forward positions. As a result, PJM requires collateral levels that reflect "unlikely" movements of price in the event that such occur yielding collateral requirements that are on average considerably higher than if using a robust "mark-to-market" methodology. Second, PJM has considerable lag in its monitoring of positions. This means that it cannot know if a participant has or has not incurred a significant liability to PJM until, in some case, several days later. As such, the collateral policy is designed to account for such uncertainly in requiring elevated amounts of collateral to deal with the uncertainty that a liability has been incurred during the time in which PJM lacks updated position reporting. This also yields higher average levels of collateral than if PJM had robust hourly or daily position reporting. Finally, some participants post cash collateral, others

are given the benefit of their credit ratings. Certainly we have seen rated companies quickly become uncreditworthy, which leads to the question of whether some cash postings or letters of credit are appropriate in all cases.

3.6. We believe that existing ISOs/RTOs and their participants would benefit from a degree of standardization of rules and design; benefits would accrue to the ISOs/RTOs in the form of shared development cost for the tools used in administering the markets; benefits would accrue to market participants in having lower costs to participate across multiple markets. However, in order to promote the development of markets in the face of local and regional constraints to market administration, we feel it is justified for ISOs/RTOs to develop variations in their designs and rules in order to expedite the development of robust markets while satisfying the issues and constraints unique to their situation. Furthermore, some degree of variation in design is healthy at the early stages of market development. This provides an opportunity to experiment and see what works best. It is our view that in the long term, variations in design will eventually be resolved through the combined learning process involved in the trial and error of existing ISOs/RTOs. For example, the market designs of the PJM, NYISO, California and ERCOT ISOs, so different in their early, near simultaneous inception, are in the process of converging on slightly different flavors of LMP markets. We anticipate that the convergence process will continue to play itself out over the next eight to ten years.

3.7. The existing markets (real-time, day-ahead, FTR, Capacity, and some ancillary services) provide a solid platform for robust functioning. We anticipate that the Long-Term FTR auction and new RPM capacity construct will fill important gaps in the market functioning. We believe the expansion of PJM from a monthly auction to a Balance of Panning Period (BOPP) auction provided significantly more liquidity to forward monthly positions within the balance of the planning period. Similarly, we would like to see the same process performed outside of the planning period to facilitate the liquidity of long-term FTR positions, in conjunction with the development of long-term FTR auctions. Another major gap in the market landscape is a market to naturally promote demand response – a near term forward market. Forward positions of bal-week, week ahead (and other such near-term positions) at a nodal or zonal level will stimulate participation of end-use customers and promote natural economic demand response.

3.8. In general, more information and timely information will make the market function more efficiently.

3.9. Yes. DC Energy participates in futures markets such as NYMEX, ICE and OTC energy markets. We think these markets are functioning well and gaining momentum for products that settle on the PJM footprint.

3.10. We do not see any reason the electricity markets cannot develop more financial liquidity to the extent seen in other commodity markets (e.g., Natural Gas at 25:1 financial: physical ratio). One major obstacle is the development of long-term forward markets. It is probably that Long-term FTR markets will foster greater liquidity in electricity forwards since hub contracts are not adequate long-term hedges for either load

or generation. Only the combination of an FTR (obtained at auction, OTC or bilaterally) and an energy forward position will provide an adequate hedge to either load or generation.

3.11. The development of Long-Term FTR auctions in conjunction with an increase in the horizon of the current forward markets should enable more robust infrastructure investments. The availability of both Long-Term FTR and forward energy contracts will allow new entrants the ability to hedge part or all of their power price risk, potentially lowering the anticipated risks to such significant investments. In addition, price caps limit the market's ability to incent investment and efficiency. When prices don't reflect the true underlying economics, then investment will be deferred, and consumption will not be incented to make reductions. It would be better to allow unfettered price movements (of course, while mitigating unfair pricing practices) and encourage a robust futures market that can allow participants to hedge when the price volatility is unacceptable.

3.12. Yes, we feel that the design of retail electric rates affect the success of wholesale markets. In particular, the dramatic time- and geographical-averaging of traditional retail tariffs complicates the evolution of economic demand response. As a result, demand response is achieved only through central coordination of "load shedding" events and through "simulated economic response" from subsidization programs, which provide additional compensation to end-use customers who elect to participate.

3.13. Under most circumstances, we feel that PJM's markets are functioning well under the current offer caps. However, we feel that PJM's use of offer capping when there is no evidence of the exercise of market power is over-reaching. In particular, we feel that PJM may discount the tremendous market force for convergence provided by virtual energy transactions and, as a result, is reluctant to let the market function normally without caps to restrict the use of market power.

3.14 PJM should ensure that a significant portion of its budget and human resources is dedicated to the development of new markets. By definition, an organization will always be short of resources, so there will be few times when a surplus is available to expand market operations. Consequently, the best way to ensure that development will occur is to segment the resources for this effort.

4. Demand Response and Access to Markets

4.1. DC Energy hopes that Demand Response can be increased through expanding forward markets and encouraging load (including end-use customers) to take positions in these markets. Under the current environment of time-averaged tariff for retail load, the incentive for customers to change behavior is not strong; nor is there a financial incentive to curtail retail usage during high load periods except through programs that provide a subsidy. DC Energy favors expansion of the use of RT metering and RT tariffs for end-use customers to enable direct customer response. In addition, we feel that demand response would benefit greatly through the use of locational marginal pricing in retail tariff design to enable greater price transparency to the end use customers.

4.2. We are generally in favor of PJM's existing demand side programs though we feel that load shedding events should be used only as a last resort, and only when prices have met or exceeded current price caps. We don't see the logic for shedding load while wholesale prices are below scarcity price levels.

4.3. Currently, all demand response programs are focused on reducing load during high load events, and not to motivate demand response to deal with congestion, which may at times have higher marginal cost than high-load events for customers in a specific geographical location. We would like to see PJM move to addressing demand response opportunities to address severe congestion. The only effective means to this end is to use locational marginal prices in retail rates.

4.4. We don't have a perspective on this at this time.

4.5. Demand Response is critical to an efficient energy system; uncapped prices are necessary to motivate this response. Until retail (and wholesale) prices consistently reflect the true underlying nodal economics, PJM will be working at cross-purposes to the demand response goal.

5. Governance Section:
From PJM's inception (until the last couple of years) PJM's governance has been a model for others to emulate. DC Energy has, over the last 18 months, suggested that changes to the governance process are necessary. While some improvements to the mechanism for the membership to communicate to the Board is appropriate now that the membership is well over 400 members, governance among the PJM members is what has failed to work efficiently. DC Energy has communicated our concerns and recommendations in a July 18, 2006 letter to Audrey Zibelman.

5.1. The Governance structure should be rebalanced so as to provide the Board with valuable information on what the membership beliefs are on specific issues. The basis of sector voting is to provide equal voting weight to all members. Of the 443 PJM members, 266 are voting members and more than 150 voting members are in the Other Supplier sector. Therefore, by definition, the vote of an Other Supplier sector member weighs less than a member in any other sector and in the opinion of DC Energy not the intent of the governance design.

5.2. DC Energy believes that the membership has a vast economic ownership in the success of the PJM market place and thus its governance process. While some companies have invested heavily in the physical infrastructure, others like DC Energy have invested heavily in human capital and software systems to ensure the market is robust, liquid and efficient. Our concern is that the membership contribution to the governance process has tended to become more adversarial than collaborative over time. Furthermore, when the debate of differing viewpoints does occur, corporate short-term economic interest is dominant.

5.3. Attending PJM meetings are a major focus of DC Energy. We have a group whose function is strictly market affairs, which focus on attending ISO/RTO meetings plus involvement at the State and Federal level regulatory process. There are literally dozens of others within our organization who listen in and or travel to meetings because of the value such meetings have. Our senior management (i.e., CEO and Managing Directors) also spend a portion of their focus on ISO/RTO activities. This ranges from attending meetings (e.g., PJM Annual Meeting) to meeting with ISO/RTO Management as well as meetings with FERC Commissioners. PJM does a good job balancing the amount of meetings that occur.

5.4. Two-thirds voting structure worked very well when there were only four sectors. However with five sectors currently populated those against have an easier time vetoing progress. DC Energy suggests that the Board consider the NYISO and NEPOOL thresholds of 58% and 60% as more appropriate when more than 4 sectors exist as in those two regions. ISO-NE and NYISO both have five voting sectors. Furthermore, sectors were tailored to represent each unique interest group so that the full range of opinions could be heard (e.g. Load, Generation, End-User, etc.), however, individual companies have sometimes deployed themselves outside of their natural sector to gain more influence in the decision-making process. Rules regarding sector membership should clearly defined and enforced. Beyond this, we would also propose adding a sector representing financial participants. Financial participants are a much bigger group than existed at the inception of PJM, and lumping them with "other suppliers" leads to more confusion than clarity in communications, so a new and separate group is warranted.

5.5. DC Energy believes that PJM should have the 205 rights over the Operating Agreement.

5.6. Again DC Energy recommends the 205 rights of the OA rest with the PJM Board. Members can individually (or a group) have the rights to file complaints or protests.

5.7. DC Energy reiterates its recommendations:
Sector Semi-Annual Meetings with PJM CEO and Senior Management – We recommend annual or potentially semi-annual meetings between PJM's CEO and senior management with each sector separately. This will enable the Board to hear first hand from the decision makers, what issues are critical to them. As members seek interaction with PJM management and Board, we believe that the only way that this will be productive is if member companies commit its executives to be present at these meetings. With senior executives from the participants, a broader range of ideas and compromises can be entertained. Ideally, with the "strategic agenda" formed from these meetings, implementation in lower level committee meetings can be streamlined.
Open Board meetings. We recognize and support the need to protect the independence of the Board. However, we believe that some portion of the meetings of the Board be open to the members. PJM should investigate what other ISO/RTO do in this regard and determine if it would be compatible with their current mode of discussing and deciding issues.

Liaison Committee: We recommend that PJM consider some form of a Board Liaison Committee. This will provide ongoing formal interaction and communication between each of the sectors and the PJM Board.

Appeal Process: In very rare instances the PJM Board should consider a mechanism whereby members may appeal the Members Committees decisions or lack thereof. Unfortunately the members' decisions in recent years (on some controversial issues) have not in all cases been in the best interest of the markets. We recommend that the Board consider a mechanism that may provide them a more detailed insight into such sub-optimal member decisions. Direct member access to the Board can be very useful to inform the board on member positions when there is an impasse on issues in the stakeholder process.

5.8. In each case the key to a governance structure is a collaborative process whereby sufficient discussion is allowed and at the appropriate time PJM file changes to the issue in question.