

start of the hour, self-scheduled Tier 2 units are identified. If spinning requirements are not met by Tier 1 and self-scheduled Tier 2 resources, then a Tier 2 clearing price is determined 30 minutes prior to the start of the hour. This Tier 2 price is equivalent to the merit-order price of the highest price, Tier 2 resource needed to fulfill spinning requirements, the marginal unit.²²

The spinning offer price submitted for a unit can be no greater than the unit's operating and maintenance cost plus a \$7.50 per MWh margin.^{23, 24} The market-clearing price is comprised of the marginal unit's spinning offer price, the cost of energy use and the unit's opportunity cost. All units cleared in the Spinning Reserve Market are paid the higher of either the market-clearing price or the unit's spinning offer plus the unit-specific LOC and/or the cost of energy use incurred.

The Mid-Atlantic Region, the Western Region, the ComEd Region and the Southern Region Spinning Reserve Zones all operate under similar business rules. The Tier 2 Spinning Reserve Market in each of PJM's spinning reserve zones is cleared on cost-based offers because the structural conditions for competition do not exist. The structural issue can be more severe when the Spinning Reserve Market becomes local because of transmission constraints.

Concentration of Ownership

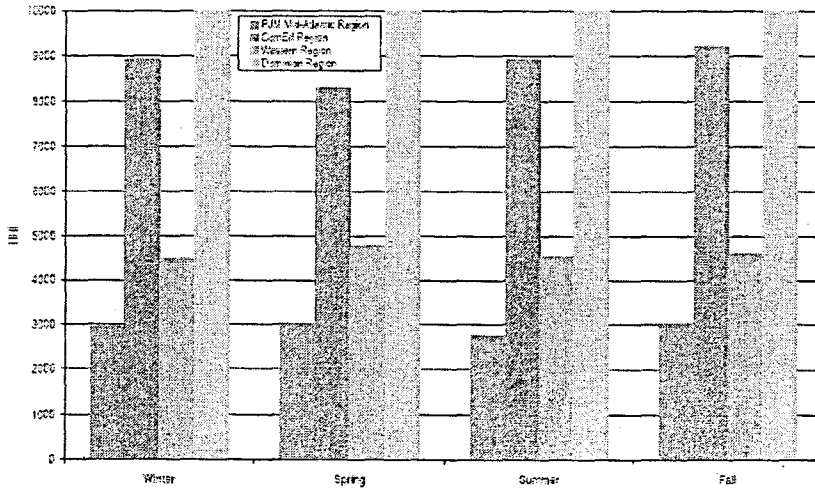
The offered and eligible Tier 2 Spinning Reserve Markets for all four geographic markets are highly concentrated. (See Figure 0-15.) During calendar year 2005, in the Mid-Atlantic Region average HHI for offered Tier 2 spinning was 2167 and 2940 for eligible spinning. In the ComEd Region during 2005 the average HHI for offered spinning was 6305 and 8844 for eligible spinning. In the Western Region the average HHI for offered spinning was 4173 and 4593 for eligible spinning. In the Southern Region the HHI was 10000.

²² Although it is unusual, a PJM dispatcher can deselect units which have been committed after the clearing price is established. This only happens if real-time system conditions require dispatch of a spinning unit for constraint control, or problems with a generator or monitoring equipment are reported.

²³ See "PJM Manual 11: Scheduling Operations," Revision 23 (December 7, 2004), p. 58.

²⁴ See "PJM Manual 15: Cost Development Guidelines," Revision 4, (September 1, 2004), p. 31.

Figure 0-15 Eligible Spinning Reserve Market HHI: Calendar year 2005 << H:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\Spinning Tier2 Eligible HHIs FCS.xls (tab:graph)>>



Spinning Reserve Market Performance

Spinning Reserve Offers

Figure 0-16 shows the daily average hourly offered Tier 2 spinning. Figure 0-17 shows the daily average hourly eligible Tier 2 spinning. Daily Tier 2 spinning offers are fairly stable reflecting the Tier 2 spinning capability of the units, other unit attributes and economic decisions by sellers. The level of eligible spinning displays considerable variability because it is calculated hourly and reflects current market and grid conditions, including LMP, unit dispatch and system constraints.

Figure 0-16 Tier 2 spinning offered MW: Calendar year 2005 << H:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\Spinning Tier 2 Offered MWs and Offered \$ per MWh Daily.xls (tab: Offered MW Graph>>

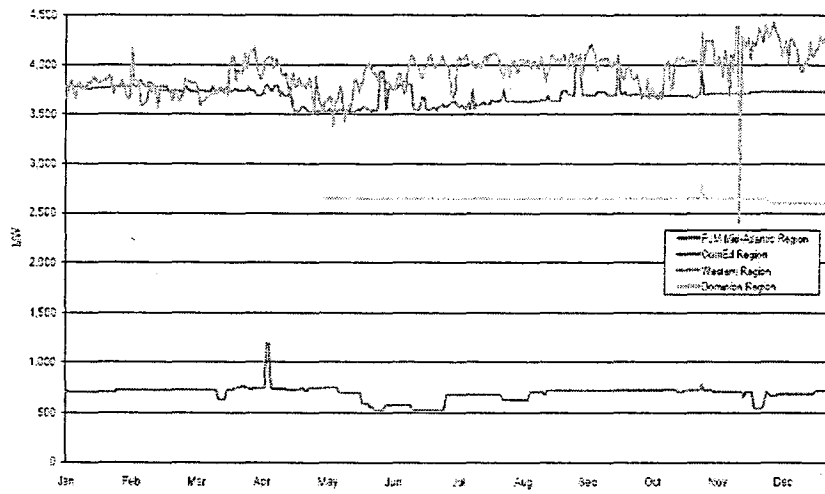


Figure 0-17 Tier 2 spinning eligible MW: Calendar year 2005 << H:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\ Spinning Tier 2 Eligible MWs and Eligible \$ per MWh Daily.xls>>

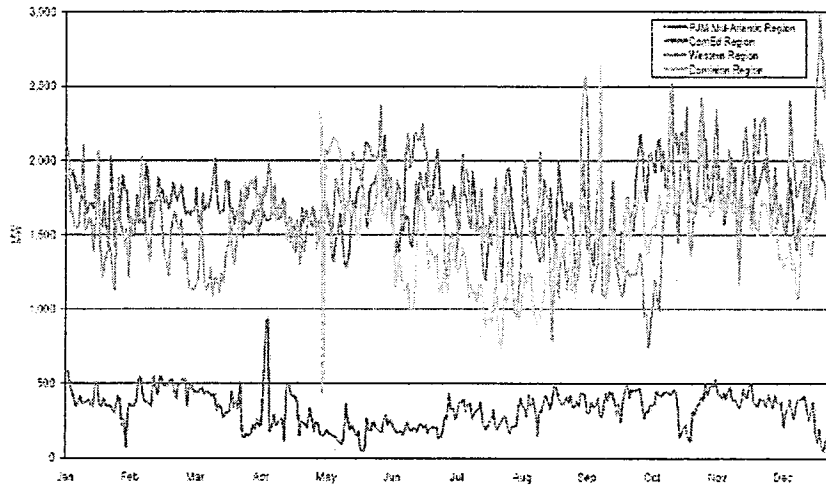
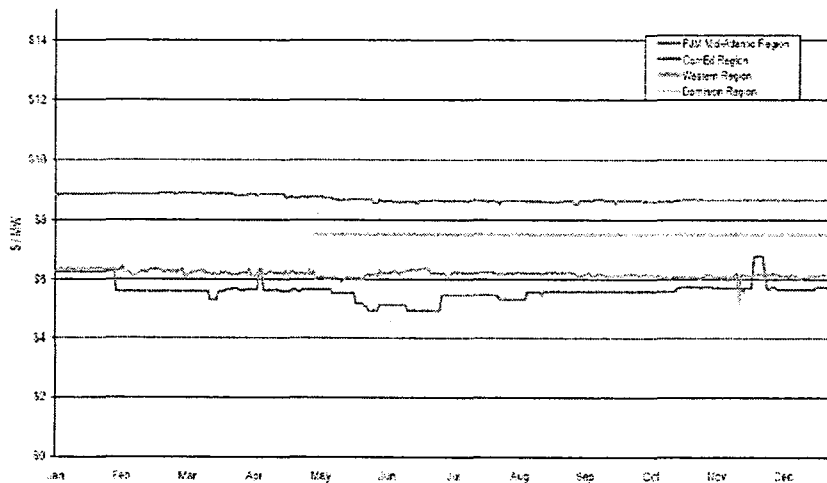


Figure 0-18 shows average offer price per MW by ancillary service area. Tier 2 spinning offers are capped at \$7.50 plus costs. The clearing price for Tier 2 spinning includes lost opportunity costs based on LMP, energy use, and operating costs for units which are actually assigned Tier 2 spinning. (See Figure 0-19.)

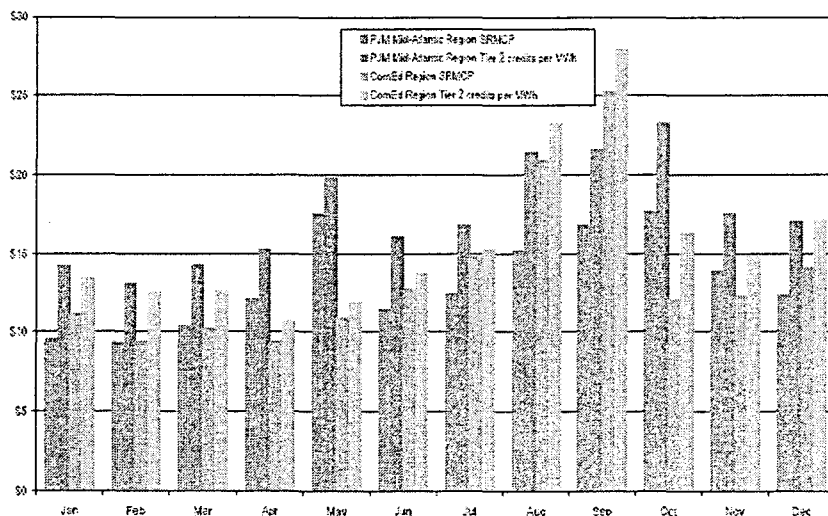
Figure 0-18 Tier 2 spinning average offer price per MW: Calendar year 2005 <<
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Spinning Tier 2 Offered MWs and Offered \$ per MWh Daily.xls (tab: Offered \$ per
MW graph>>



Spinning Reserve Prices

Figure 0-19 shows the average spinning reserve market-clearing price (SRMCP) and the cost per MW associated with meeting PJM demand for spinning reserve. The average PJM Mid-Atlantic Region SRMCP rose in 2005 to \$13.29. The cost per MW of meeting the spinning reserve requirements also rose to approximately \$17.59 per MWh. In the ComEd Region, the average SRMCP was \$13.64 and the cost per MW for meeting the spinning reserve requirement was \$15.85. No price data are presented for the Western Region Spinning Reserve Market because there was almost always adequate Tier 1 spinning reserve to meet the requirements for spinning reserve without clearing the Tier 2 market.

Figure 0-19 Tier 2 spinning market-clearing price and cost per MW: Calendar year 2005 << H:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\ Spinning Tier 2 Credits Per MWh Daily Versus Average SRMCP.xls (tab: graph)>>



The Western Region Spinning Reserve Market (not shown in Figure 0-19) during 2005 almost never had a clearing price because available Tier 1 spinning was always sufficient to cover the spinning requirement. For the 311 hours between June and December when a Spinning Reserve Market was cleared in the Western Region, the average clearing price was \$12.27 and the cost of spinning was \$66.75 per MWh. The Southern Region (not shown in Figure 0-19) was cleared only 18 hours between June 1 and December 31 with an average SRMCP of \$11.34 and an average cost per MWh for Tier 2 spinning of \$35.10.

Like Regulation Market prices, Tier 2 spinning reserve prices are more reflective of costs associated with the marginal unit than they are of offer prices. Unlike regulation, however, the costs in Tier 2 spinning are more than just opportunity costs; they are also energy costs for condensing MWh (which must be purchased from the Real-Time Energy Market when the unit is spinning), and startup costs if the assigned unit is not already running. Figure 0-20 and Figure 0-21 shows the relationship between the marginal unit's offer price and the SRMCP. For the PJM Mid-Atlantic Region during all of 2005 the Tier 2 spinning offer price averaged 67 percent of the SRMCP.

Figure 0-20 PJM Mid-Atlantic Region Tier 2 spinning reserve clearing prices and marginal unit offer price: Calendar year 2005 << H:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\SpinPriceLOC_final.xls (tab: PJMPriceLOCgraph)>>

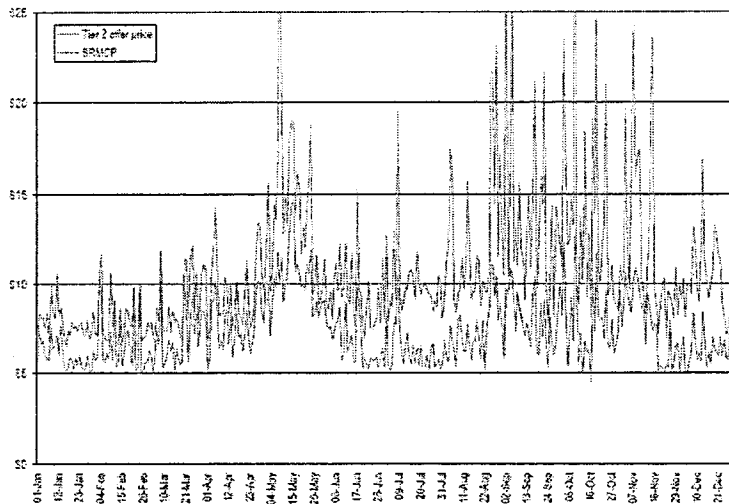


Figure 0-21 shows the relationship between the marginal units' offer price and the SRMCP for the ComEd Region. For the ComEd Region during all of 2005, the Tier 2 spinning offer price averaged 51 percent of the SRMCP.

Figure 0-21 PJM ComEd Tier 2 spinning reserve clearing prices and marginal unit offer price: Calendar year 2005 << H:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\SpinPriceLOC_final.xls (tab: ComEDPriceLOCgraph)>>

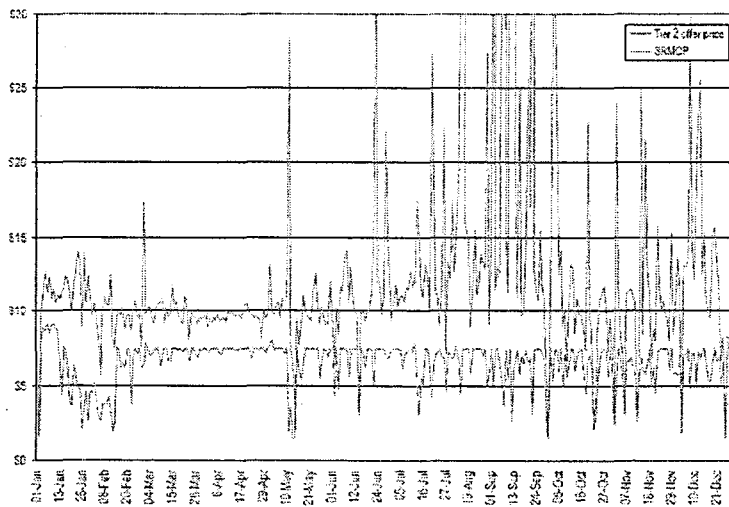
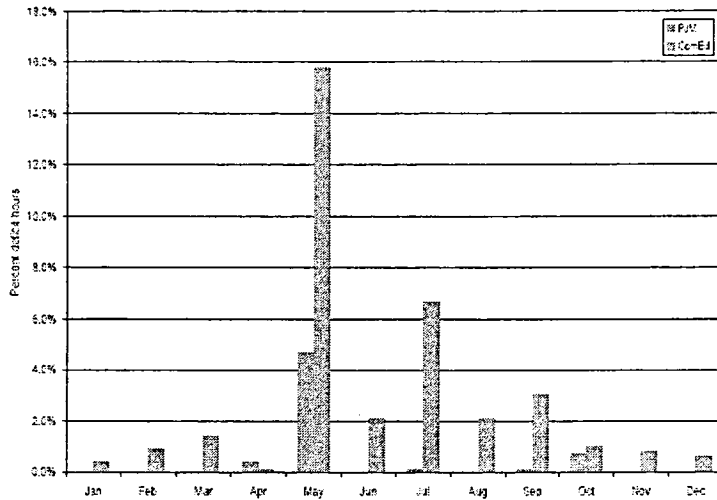


Figure 0-21 shows the level of Tier 1 and Tier 2 spinning reserve purchased from suppliers during calendar year 2005. Tier 1 resources are paid only if they respond during spinning events while Tier 2 resources are paid for providing hourly reserve. In general, more Tier 2 resources are purchased than Tier 1 resources, and Tier 2 payments are higher than Tier 1 payments. An important exception to this general rule was in the Western Region Spinning Reserve Market where a large baseload of available operating reserves ensures that Tier 1 spinning reserve services were almost always sufficient to cover the spinning requirement so Tier 2 spinning reserve was rarely purchased.

Spinning Reserve Availability

A spinning reserve deficit occurs when the combination of Tier 1 and Tier 2 spinning is not adequate to meet the spinning reserve requirement. Except for a brief period in the ComEd Region during May (See Figure 0-22.), none of PJM's Spinning Reserve Markets had significant spinning reserve deficits during 2005.

Figure 0-22 Tier 2 Spinning Reserve Market deficits: Calendar year 2005 <<J:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\DeficitResults.xls (tab: DeficitResultsGraph)>>



The Tier 2 spinning deficit peak during May in the ComEd Region was caused indirectly by a need for regulation and the assignment of several CTs, which otherwise provided spinning reserve to regulation. None of these Tier 2 spinning deficits created a serious problem because the ComEd Region's reserve requirement was satisfied by a reserve-sharing agreement with other members of MAIN.

Ancillary Service Markets

The United States Federal Energy Regulatory Commission (FERC) defined six ancillary services in Order 888: 1) scheduling, system control and dispatch; 2) reactive supply and voltage control from generation services; 3) regulation and frequency response services; 4) energy imbalance service; 5) operating reserve -- spinning reserve services; and 6) operating reserve -- supplemental reserve services.¹ Of these, PJM currently provides regulation, energy imbalance and spinning reserve services through market-based mechanisms. PJM provides energy imbalance service through the Real-Time Energy Market. PJM provides the remaining ancillary services on a cost basis.

Regulation matches generation with very short-term changes in load by moving the output of selected generators up and down via an automatic control signal.² Regulation is provided, independent of economic signal, by generators with a short-term response capability (less than five minutes). Longer term deviations between system load and generation are met via primary and secondary reserves and generation responses to economic signals. Spinning reserve is a form of primary reserve. To provide spinning a generator must be synchronized to the system and capable of providing output within 10 minutes.

Both the Regulation and Spinning Reserve Markets are cleared on a real-time basis. A unit can be selected for either spinning reserve or regulation or neither, but it cannot be selected for both. The Regulation and Spinning Reserve Markets are cleared simultaneously and cooptimized with the Energy Market and operating reserve requirements to minimize the cost of the combined products.

PJM does not provide a market for reactive power, but does ensure its adequacy through member requirements and scheduling.³ Generation owners are paid according to the FERC-approved reactive revenue requirements. Charges are allocated to network customers based on their percentage of load, as well as to point-to-point customers based on their monthly peak usage.

During the last two calendar years, PJM has integrated five control zones. In the 2004 *State of the Market Report* the calendar year was divided into three phases, corresponding

¹ 75 FERC ¶ 61,080 (1996).

² Regulation is used to help control the area control error (ACE). See Appendix F, "Ancillary Service Markets," for a full definition and discussion of ACE.

³ See "PJM Manual for Scheduling Operations, M-11," Revision 25 (August 19, 2005), p. 71.

to market integration dates. In the *2005 State of the Market Report* the calendar year is divided into two phases, also corresponding to market integration dates:⁴

- **Phase 1 (2004).** The four-month period from January 1 through April 30, 2004, during which PJM was comprised of the Mid-Atlantic Region, including its 11 zones,⁵ and the Allegheny Power Company (AP) Control Zone.⁶
- **Phase 2 (2004).** The five-month period from May 1 through September 30, 2004, during which PJM was comprised of the Mid-Atlantic Region, including its 11 zones, the AP Control Zone and the Commonwealth Edison Company Control Area (ComEd).⁷
- **Phase 3 (2004).** The three-month period from October 1 through December 31, 2004, during which PJM was comprised of the Mid-Atlantic Region, including its 11 zones, the AP Control Zone and the ComEd Control Zone plus the American Electric Power Control Zone (AEP) and The Dayton Power & Light Company Control Zone (DAY). The ComEd Control Area became the ComEd Control Zone on October 1.
- **Phase 4 (2005).** The four-month period from January 1 through April 30, 2005, during which PJM was comprised of the Mid-Atlantic Region, including its 11 zones, the AP, ComEd, AEP and DAY Control Zones plus the Duquesne Light Company (DLCO) Control Zone which was integrated into PJM on January 1, 2005.

⁴ See the *2004 State of the Market Report* for more detailed descriptions of Phases 1, 2 and 3.

⁵ The Mid-Atlantic Region is comprised of the Atlantic Electric Company Control Zone (AECO), the Baltimore Gas & Electric Control Zone (BGE), the Delmarva Power & Light Control Zone (DPL), the Jersey Central Power & Light Company Control Zone (JCPL), the Metropolitan Edison Company Control Zone (Met-Ed), the PECO Energy Company Control Zone (PECO), the Pennsylvania Electric Company Control Zone (PENELEC), the Pepco Control Zone (PEPCO), the PPL Electric Utilities Corporation Control Zone (PPL), the Public Service Electric and Gas Company Control Zone (PSEG) and the Rockland Electric Company Control Zone (RECO).

⁶ Zones, control zones and control areas are geographic areas that customarily bear the name of a large utility service provider operating within their boundaries. Names apply to the geographic area, not to any single company. The geographic areas did not change with the formalization of the control zone and control area concepts during PJM's Phase 3 integrations. For simplicity, zones are referred to as control zones for all three phases. The only exception is ComEd which is called the ComEd Control Area for Phase 2 only.

⁷ During the five-month period May 1, 2004, through September 30, 2004, the ComEd Control Zone (ComEd) was called the Northern Illinois Control Area (NICA).

- **Phase 5 (2005).** The eight-month period from May 1 through December 31, 2005, during which PJM was comprised of the Phase 4 elements plus the Dominion Control Zone which was integrated into PJM on May 1, 2005.

In both Phase 4 and Phase 5, PJM operated two Regulation Markets: one for the Mid-Atlantic Region and a second for the Western Region. On August 1 of Phase 5, PJM combined both into a single PJM Combined Regulation Market for a six-month trial period. After the trial period, based on analysis of market results and a report by the PJM Market Monitoring Unit (MMU), PJM stakeholders will vote on whether to keep the combined market.

During Phase 4, PJM operated three Spinning Reserve Markets: one for the Mid-Atlantic Region, one for the Western Region and one for the ComEd Control Zone. During Phase 5, PJM operated a fourth Spinning Reserve Market for Dominion.

The analysis treats each of the two Regulation Markets and each of the three Spinning Reserve Markets separately during Phase 4. The market analysis treats each of the two Regulation Markets separately during the May 1 through July 31 component of Phase 5 (Phase 5-a), and as a single Regulation Market during the August 1 through December 31 component of Phase 5 (Phase 5-b). Each of the four Spinning Reserve Markets is treated separately for the entire Phase 5 period.

Overview – Regulation and Spinning Reserve Markets

The MMU has reviewed structure, conduct and performance indicators for the identified Regulation Markets. The MMU concludes that the Regulation Markets functioned effectively, except for some minor problems of insufficient regulation supply shortly after the start of Phase 5 and during times of minimum generation. The Regulation Markets produced competitive results throughout calendar year 2005 based on the regulation market-clearing price. The Regulation Market prices reflected the fact that offers in the Western Region were capped during Phase 4 and that the offers of two large participants, AEP and Dominion, were capped at cost plus a margin throughout Phase 5, in both cases because the Western Region Regulation Market was determined to be not structurally competitive.

The MMU has reviewed structure, conduct and performance indicators for the identified Spinning Reserve Markets. The MMU concludes that the Spinning Reserve Markets functioned effectively. The Spinning Reserve Markets produced competitive results throughout calendar year 2005 based on the spinning market-clearing price. The Spinning Reserve Market prices reflected the fact that all offers were capped at cost plus a margin because the markets have been determined to be not structurally competitive.

The Regulation Markets

The structure of the Mid-Atlantic Region and Western Region Regulation Markets was evaluated and the MMU concluded that these markets are not structurally competitive as they are characterized by a combination of one or more structural elements including high levels of supplier concentration, high individual company market shares, significant hours with pivotal suppliers and inelastic demand. The structure of the Combined Regulation Market was also evaluated based on the five months of available data and the MMU concluded that this market is characterized by lower levels of concentration, smaller market shares, a smaller number of hours with pivotal suppliers and inelastic demand. The conduct of market participants within these market structures has been consistent with competition consistent with existing offer capping, and the market performance results have been competitive.

- **Mid-Atlantic Region.** The Regulation Market in the PJM Mid-Atlantic Region was cleared based on participants' price offers during Phases 4 and 5-a. All suppliers were paid the market-clearing price, which is a function of the supply curve and PJM-defined demand. The supply curve consists of offered and eligible MW and the associated offer prices which are a combination of unit-specific offers plus opportunity cost (OC) as calculated by PJM.⁸
- **Western Region.** The Regulation Market in the Western Region during Phase 4 was cleared based on participants' cost-based offers. The cost-based regulation offers are defined to be the unit-specific incremental cost of providing regulation plus a margin of \$7.50 per MWh plus opportunity cost calculated by PJM. During Phase 5-a, the market was cleared using a combination of price-based offers and cost-based offers. In Phase 5, Dominion and AEP were required to make cost-based offers based on their dominant position in the market while other participants made price offers.
- **PJM Combined Regulation Market.** During the trial period for the PJM Combined Regulation Market, the market was cleared using a combination of price-based offers and cost-based offers. Dominion and AEP were required to make cost-based offers based on their dominant position in the market while other participants made price offers.

⁸ As used here, the term, "opportunity cost" (OC), refers to the estimated lost opportunity cost (LOC) that PJM uses to create a supply curve on an hour-ahead basis. The term, "lost opportunity cost," refers to opportunity costs included in payments to generation owners.

Market Structure

- **Demand.** Demand for regulation is determined by PJM based on an evaluation of the regulation required in order to meet reliability objectives. Required regulation remained constant for each control region throughout 2005 except for two periods during which a temporary adder was implemented at the direction of PJM.
- **Supply.** The supply of offered and eligible regulation in the PJM Mid-Atlantic Region was generally both stable and adequate, with an average 1.92 ratio of regulation supply offered and eligible to the hourly regulation requirement during Phases 4 and 5-a. While the average ratio of hourly regulation supply offered and eligible to regulation required was 1.64 for the Western Region during Phases 4 and 5-a, at times an inadequate supply of regulation was offered and eligible to participate in the market on an hourly basis in the Western Region. The average ratio of hourly regulation supply offered and eligible to regulation required was 1.88 for the PJM Combined Regulation Market during Phase 5-b.

Concentration of Ownership

- **Mid-Atlantic Region.** During Phase 4 and Phase 5-a, the PJM Mid-Atlantic Region Regulation Market for eligible regulation had an average Herfindahl-Hirschman Index (HHI)⁹ of 1751 which is classified as "moderately concentrated."¹⁰ Less than 1 percent of the hours had an eligible regulation HHI above 2500. There were two suppliers with market shares greater than, or equal to, 20 percent. Seven percent of the hours had a single pivotal supplier, 48 percent of the hours had two pivotal suppliers and 88 percent of the hours had three pivotal suppliers.
- **Western Region.** During Phase 4 and Phase 5-a, the Western Region Regulation Market for eligible regulation had an average HHI of 2802 which is classified as "highly concentrated" and 58 percent of the hours had an HHI above 2500. There was a single pivotal supplier in 62 percent of the hours. One hundred percent of the hours had two pivotal suppliers.
- **PJM Combined Regulation Market.** During Phase 5-b, the PJM Combined Regulation Market had an average HHI of 1079 which is classified as

⁹ See Section 2, "Energy Market, Part I," at "Market Concentration" for a more complete discussion of concentration ratios and the Herfindahl-Hirschman Index (HHI).

¹⁰ The market structure metrics reported in this summary are based on regulation capacity that is both offered to the market and is eligible to provide regulation.

"moderately concentrated." No suppliers had market shares greater than, or equal to, 20 percent. During 1 percent of hours, there was a single pivotal supplier. During 6 percent of hours, there were two pivotal suppliers. During 29 percent of the hours, there were three pivotal suppliers. For all units except CTs, during 5 percent of hours, there was a single pivotal supplier, during 23 percent of hours, there were two pivotal suppliers and during 68 percent of the hours, there were three pivotal suppliers.

Market Conduct

- **Offers.** The offer price is the only component of the total regulation offer price provided by the unit owner and is applicable for the entire operating day. The regulation offer price is subject to a \$100 per MWh offer cap in the Mid-Atlantic Region, was subject to offer capping in Phase 4 in the Western Region and was subject only to a \$100 per MWh offer cap in Phase 5 in the Western Region, with the exception of the dominant suppliers, Dominion and AEP, whose offers were capped at marginal cost plus \$7.50 per MWh plus opportunity cost. The average MW-weighted offer price for regulation in the PJM Mid-Atlantic Region during Phases 4 and 5-a was \$15.63. The average MW-weighted offer price for regulation in the Western Region Regulation Market during Phases 4 and 5-a was \$7.73. For the PJM Combined Regulation Market during Phase 5-b, the average MW-weighted offer price for regulation was \$16.29.

Market Performance

- **Price.** For the entire PJM regional transmission organization (RTO) from January 1, 2005, to December 31, 2005, the average price per MWh (regulation market-clearing price) associated with meeting PJM's demand for regulation was \$49.73. For the PJM region during Phases 4 and 5-a, the average price per MWh for regulation was \$36.39. For the Western Region Regulation Market during Phases 4 and 5-a, the average price per MWh for regulation was \$42.64. For the PJM Combined Regulation Market during Phase 5-b, the average price per MWh was \$64.03.

The Spinning Reserve Markets

The structure of each of the Spinning Reserve Markets has been evaluated and the MMU has concluded that these markets are not structurally competitive as they are characterized by high levels of supplier concentration and inelastic demand. As a result, these markets are operated as markets with market-clearing prices and with offers based on the marginal cost of producing the service plus a margin and opportunity cost. The conduct of market participants within these market structures has been consistent with competition, and the market performance results have been competitive. Prices for spinning in the PJM Mid-Atlantic Region, the ComEd Control Zone, the Western Region

and Dominion are market-clearing prices determined by the supply curve and PJM-defined demand. The cost-based spinning offers are defined to be the unit-specific incremental cost of providing spinning reserve plus a margin of \$7.50 per MWh plus opportunity cost calculated by PJM.

Market Structure

- **Demand.** Computed in accordance with the specific spinning reserve requirements, the average MW spinning requirement was: 1,091 MW, for the PJM Mid-Atlantic Region; 217 MW for the ComEd Spinning Zone; 437 MW for the Western Region; and 5 MW for the Southern Spinning Reserve Zone (May to December only).
- **Supply.** For the PJM Mid-Atlantic Region, the offered and eligible excess supply ratio was 1.15. For the Western and Southern Regions, the ratio was 1.76. For the ComEd Control Zone, the ratio was 1.21.
- **Concentration of Ownership.** In 2005, market concentration was high in the Tier 2 Spinning Reserve Market. The average offered and eligible Spinning Reserve Market HHI for the PJM Mid-Atlantic Region throughout 2005 was 2940. The average Spinning Reserve Market HHI for the Western Region was 4593. The average Spinning Reserve Market HHI for ComEd Control Zone was 8844. The average Spinning Reserve Market HHI for Dominion was 10000.

Market Performance

- **Price.** Load-weighted, average price associated with meeting the PJM system demand for Tier 2 spinning reserve throughout 2005 was \$14.41 per MW, a \$0.45 per MW decrease from 2004. The load-weighted, average price in the PJM Mid-Atlantic Region for Phases 4 and 5 was \$15.44 per MW. The load-weighted, average price for spinning reserve in the ComEd Control Zone during Phases 4 and 5 was \$12.73. The load-weighted, average price for spinning in the Western Control Zone during Phases 4 and 5 was \$13.23. The load-weighted, average price for spinning in Dominion during Phase 5 was \$13.08.

Conclusion

PJM consolidated its Regulation Markets into a single Combined Regulation Market, on a trial basis, effective August 1, 2005. PJM's consolidation of its Regulation Markets resulted in improved performance and in increased competition. The MMU will make a recommendation in the near future as to whether the consolidation has resulted in a market that is structurally competitive. The market continues to be based on price offers for most sellers and all sellers are paid a market-clearing price based on offers plus opportunity costs. The result of this design has been a competitive outcome and consistent with competitive offers from all participants whether offer-capped or not. The

marginal costs of providing regulation have been clearly defined and are consistent with the offers that would be made if the suppliers were behaving competitively.

PJM's Spinning Reserve Markets have worked effectively with offers based on marginal costs plus a margin and with all participants paid a market-clearing price based on the marginal offer including opportunity costs, despite the fact that these markets are characterized by high levels of seller concentration and inelastic demand.

The benefits of markets are realized under this approach to ancillary service markets. Even in the presence of structurally non-competitive markets, there are transparent, market-clearing prices based on competitive offers that account explicitly and accurately for opportunity costs. PJM should continue to consider whether additional ancillary service markets need to be defined in order to ensure that the market is compensating suppliers for services when appropriate.

Regulation Markets

Regulation Market Structure

Two major changes affected the structure of the Regulation Market in 2005. The first was the integration of Dominion into the Western Region Regulation Market on May 1, 2005. The second was the implementation of the PJM Combined Regulation Market on August 1, 2005.

Demand

Demand for regulation does not change with price (is price inelastic). The demand for regulation is set administratively based on reliability objectives and forecast load. Regulation demand will be referred to in this report as required regulation.

The PJM Mid-Atlantic Region has different regulation requirements for on-peak hours and off-peak hours. The regulation requirement for the peak period is 1.1 percent of the peak-load forecast; for the off-peak period, it is 1.1 percent of the valley-load forecast.¹¹ During Phases 4 and 5-a, PJM Mid-Atlantic Region regulation requirements ranged from 226 MW of regulation capability for off-peak periods to 649 MW for on-peak periods. The average required regulation was 434 MW.

In the Western Region, the regulation requirement was 1.0 percent of the peak forecast load and did not vary between on-peak and off-peak periods. During Phases 4 and 5-a, the requirement ranged from 320 MW to 771 MW, averaging 517 MW.

¹¹ See "PJM Manual for Scheduling Operations, M-11," Revision 25 (August 19, 2005), p. 51.

During Phase 5-b, the PJM Mid-Atlantic Region and the Western Region Regulation Markets were combined into the PJM Combined Regulation Market. The regulation requirement for this combined market was defined to equal the sum of the separate regulation requirements for each region. During Phase 5-b, the regulation requirement ranged from 662 MW to 1,404 MW, averaging 978 MW.

Although the required regulation specification remained constant for each control region throughout 2005, a temporary adder was implemented at the direction of PJM for two periods. As a result, regulation was purchased in addition to the full regulation requirement. On October 23, 2004, in response to problems after the integration of the ComEd Control Zone into the Western Region, required regulation was increased by 75 MW for each regulation zone. This regulation adder was subsequently reduced until regulation was returned to its base requirement on February 11, 2005.

On April 15, 2005, in response to a persistent problem with frequency excursions, a 100 MW increment was added to the regulation demand for both the Mid-Atlantic and Western Regions. It was phased out and then eliminated on May 14, 2005. Table 0-1 contains a list of regulation adder amounts by date.

Table 0-1 Temporary regulation adder: October 23, 2004, to May 15, 2005 << H:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\regulation adder table.xls (tab:regulation adder)>>

Regulation Adder Date	Change in Regulation MW per Control Zone	Total Regulation Adder (MW) per Control Zone
23-Oct-04	75	75
29-Oct-04	(75)	0
1-Nov-04	75	75
11-Nov-04	100	175
17-Dec-04	(50)	125
7-Jan-05	(25)	100
14-Jan-05	(25)	75
26-Jan-05	(25)	50
4-Feb-05	(25)	25
11-Feb-05	(25)	0
15-Apr-05	100	100
6-May-05	(25)	75
8-May-05	(75)	0
12-May-05	50	50
14-May-05	(50)	0

The temporary additional regulation requirements between mid-April and mid-May reflected an effort by PJM to solve simultaneous problems of insufficient regulation in the Western Region Regulation Market, particularly during off-peak hours, and frequency excursions that impacted PJM's compliance requirement for CPS2.¹²

Regulation obligation is determined hourly for each load-serving entity (LSE) by applying the real-time load ratio share (adjusted for scheduled load responsibility) to the actual amount of regulation assigned for that hour adjusted for any bilaterals and self-supply. The hourly regulation charge for each LSE is equal to the hourly regulation market-clearing price (RMCP) multiplied by the MW of regulation purchased from the market, plus the LSE's percentage share of any opportunity cost incurred by generation owners over and above the RMCP, plus the LSE's percentage share of any unrecovered costs incurred by those units called on by PJM for the sole purpose of providing regulation.

Supply

The supply of regulation can be measured as regulation capability, regulation offered, or regulation offered and eligible. For purposes of evaluating the Regulation Market, the relevant regulation supply is the level of supply that is both offered to the market on an hourly basis and is eligible to participate in the market on an hourly basis. This is the only supply that is actually considered in the determination of market prices. The level of supply that clears in the market on an hourly basis is called assigned regulation. Assigned regulation is selected from regulation that is both offered and eligible.

Regulation capability represents the total volume of regulation capability reported by resource owners based on unit characteristics.

Regulation offered represents the level of regulation capability actually offered to the PJM Regulation Market. Resource owners may offer those units with approved regulation capability into the PJM Regulation Market. PJM does not require a resource capable of providing regulation service to offer its capability to the market. Regulation offers may be submitted on a daily basis and these daily offers may be modified on an hourly basis.

Regulation offered and eligible represents the level of regulation capability actually offered to the PJM Regulation Market and actually eligible to provide regulation in an hour. Some regulation offered to the market is not eligible to participate in the Regulation Market as a result of identifiable offer parameters specified by the supplier. As an example, the regulation capability of a unit will be included in regulation offered

¹² See Appendix F, "Ancillary Service Markets," for additional information on area control error (ACE) control and control performance standard (CPS).

based on the daily offer and availability status, but that regulation capability will not be eligible in one or more hours because the supplier sets the availability status to unavailable for one or more hours of that same day. (The availability status of a unit may be set in both a daily offer and an hourly update table in the PJM market software.) As another example, the regulation capability of a unit will be included in regulation offered if the owner of a unit offers regulation, but that regulation capability will not be eligible if the owner sets the unit's economic maximum generation level equal to its economic minimum generation level. In that case, the unit cannot provide regulation and is not eligible to provide regulation. As another example, the regulation capability of a unit will be included in regulation offered but that regulation capability will not be eligible if the unit is not operating, unless the unit is a combustion turbine that meets specific operating parameter requirements.

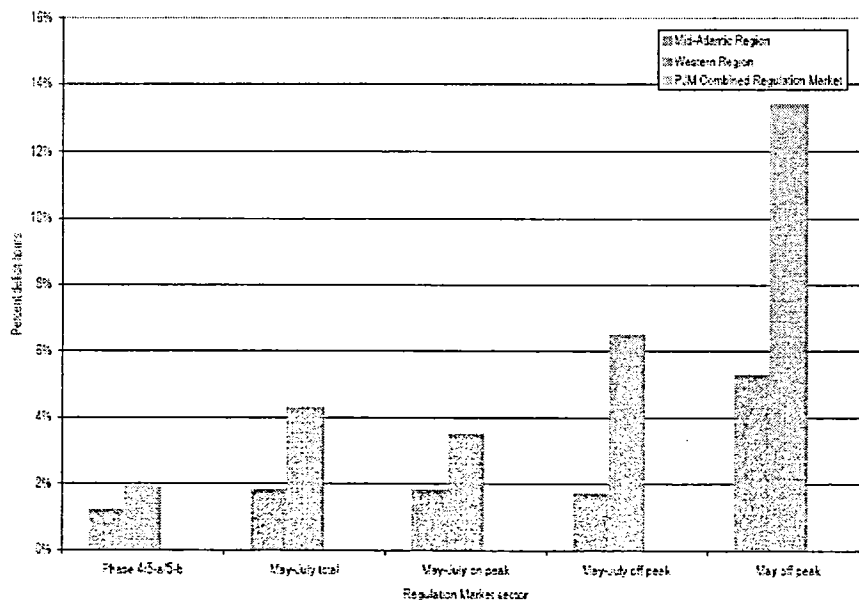
Only those offers which are eligible to provide regulation in an hour are part of supply for that hour, and only those offers are considered for purposes of clearing the market. Regulation assigned represents those regulation resources selected through the regulation market-clearing mechanism to provide regulation service for a given hour.

While the average regulation supply-to-requirement ratio of offered regulation in the Western Region Regulation Market during Phase 5-a was generally adequate at 1.70, the situation was more complicated than the supply-to-requirement ratio indicates. Regulation capacity was always adequate in the sense that the total reported capability was adequate.¹³ Occasionally, however, PJM dispatchers had to redispatch generation uneconomically to satisfy reliability requirements. PJM encountered some difficulty with insufficient regulation supply in the Western Regulation Zone during Phase 5-a. Shortly after the Dominion integration on May 1, 2005, there was at times an inadequate supply of regulation that was offered and eligible to participate in the market on an hourly basis. This situation was most acute in the Western Region Regulation Market in May 2005 during off-peak periods when market solutions resulted in deficits 13.6 percent of the time and occasional off-peak hourly price spikes. (See Figure 0-1.) These higher than normal deficits generally occurred during off-peak hours when regulation-capable units were unavailable to regulate because they were not operating. In May, PJM frequently operated under minimum generation conditions, especially during off-peak hours. The combination of a regulation deficit and minimum generation conditions required dispatchers to balance the need for more regulation with the need for less generation. Dispatchers at times chose to operate with regulation deficits. This situation improved during June (deficits in 5.3 percent of all periods) and was resolved in July when the deficit percentage returned to its overall Phases 4 and 5-a average.

¹³ See "Regulation Capacity, Daily Availability, Hourly Supply and Price," in Appendix F, "Ancillary Service Markets," for a definition of capacity, availability and supply.

Figure 0-1 compares the percentage of regulation deficit hours across several Regulation Market periods, including all of 2005, Phase 5 only, off-peak and on-peak hours and off-peak hours in May. The abnormally high deficits that occurred in the Western Region particularly during off-peak hours in early May are clearly indicated.

Figure 0-1 Regulation deficit analysis: Calendar year 2005 <<H:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\deficit study.xls (tab:graph)>>



Regulation deficits in the west were reduced during June and returned to normal in July. Also indicated in Figure 0-1 is the extent to which regulation deficits were all but eliminated after the PJM Combined Regulation Market. There was only one period of regulation deficit in the PJM Combined Regulation Market during Phase 5-b. This deficit does not show up in Figure 0-1 because the percentage of regulation deficit hours rounds to zero percent.

Concentration of Ownership

Market Structure Definitions

The market structure analysis follows the Commission logic specified in the AEP order.¹⁴ The logic of the delivered price test is followed by calculating market share, HHI and pivotal supplier metrics for each market configuration.¹⁵ The analysis presented here differs in two ways from the Commission's delivered price test. The delivered price test would start with the universe of regulation offered and eligible and then limit the analysis to those offered and eligible units that could provide regulation at less than or equal to 1.05 times the clearing price. The analysis here uses a proxy for the 1.05 times the clearing price definition used to define the relevant market. In PJM, the supply of regulation generally consists of two relatively distinct segments: an all units except combustion turbine (CT) segment (consisting of steam and hydroelectric units) and a CT segment. While steam, hydroelectric and CT units can and do provide regulation, the steam/hydroelectric segment is generally lower cost and is relatively homogeneous while the CT segment is generally significantly higher cost and similarly relatively internally homogeneous. Rather than directly applying the 1.05 times the clearing price market definition, the analysis here focuses separately on the steam/hydroelectric and the CT portions of the market. The steam/hydroelectric segment of the market is used in place of including only sellers that offer for a price less than or equal to the clearing price times 1.05 when a steam/hydroelectric unit is marginal, although the segment approach results in a substantially larger market definition. The CT segment is similarly used in place of including only sellers that offer for a price less than or equal to the clearing price times 1.05 when a CT unit is marginal, although again the segment approach probably results in a larger market definition. The data are presented including all units, all units except CTs (steam and hydroelectric) and CTs. In addition, the analysis here includes the results of the one, two and three pivotal supplier tests.

The analysis here includes all regulation provided by each supplier and made offered and eligible. While the market structure results are reported for regulation offered, this is not directly relevant to a determination of whether a market structure is competitive. Regulation must be both offered and eligible in an hour in order for it to be part of the market. This is termed economic capacity under the delivered price test.

The delivered price test may also be applied using available economic capacity, or gross supply by participant net of their load obligation. The fact that suppliers have load

¹⁴ *AEP Power Mktg. Inc.*, 107 FERC ¶ 61,018 ("AEP Order"), order on reh'g, 108 FERC ¶ 61,026 (2004).

¹⁵ AEP Order at 105 *et seq.*

obligations may affect their incentives to exercise market power although not unambiguously. However, as the amount of load that will be served by the integrated utilities in the future is unknown given the unknown extent of retail competition, a reasonable approach is to evaluate the entire regulation supply, or economic capacity, as is done here.

The Commission's AEP order indicates that failure of any one of the specified tests is adequate for a showing of market power including tests based on market concentration, market share and pivotal supplier analyses. The analysis presented here goes further in order to analyze the significance of excess supply. The MMU applies the pivotal supplier test using one, two and three pivotal suppliers. In addition, when there are hours with one, two or three pivotal suppliers, the analysis also examines the frequency with which individual generation owners are in the pivotal group. If the hours that fail a pivotal supplier test have the same pivotal supplier(s) for a significant proportion of the hours, that information can be used to identify dominant suppliers.

The pivotal supplier tests represent an analytical approach to the issue of excess supply. Excess supply, by itself, is not necessarily adequate to ensure a competitive outcome. A monopolist could have substantial excess supply but the monopolist would not be expected to change its market behavior as a result. The same logic applies to a small group of dominant suppliers. However, if there is adequate supply without the three dominant suppliers to meet the demand, then the market can reasonably be deemed competitive.

PJM Mid-Atlantic Regulation Market – Phases 4 through 5-a

During Phases 4 through 5-a, in the Regulation Market in the Mid-Atlantic Region, the offer capability was 2,408 MW.¹⁶ The level of regulation resources offered on an hourly level and the level of regulation resources both offered and eligible to participate on an hourly level in the market were lower than the total regulation capability. In 2005 the average hourly offer level was 1,128 MW or 47 percent of offer capability while the average hourly eligible offer level was 835 MW or 35 percent of offer capability.

The ratio of the hourly regulation supply offered to the hourly regulation requirement, averaged 2.60 for the PJM Mid-Atlantic Region during Phases 4 and 5-a. When this ratio equals 1.0, it indicates that offered supply exactly equals demand for the referenced time period. Based upon regulation offered and eligible, this ratio averaged 1.92. The average regulation requirement for the PJM Mid-Atlantic Region during 2005 was 434 MW.

¹⁶ Offer capability is defined as the maximum daily offer volume for each offering unit during the period without regard to the actual availability of the resource.

Hourly HHI values were calculated based upon the regulation offered, regulation offered and eligible, and regulation assigned. Based upon regulation offered, HHI ranged from a maximum of 2064 to a minimum of 1088 with an average value of 1510. Based upon regulation offered and eligible, HHI values ranged from a maximum of 2787 to a minimum HHI of 1190, with an average value of 1751. Less than 1 percent of hours had an eligible regulation HHI above 2500. Based upon regulation assigned, HHI values ranged from a maximum of 9690 to a minimum HHI of 1118. The average HHI value for regulation assigned was 2260. Thirty-one percent of hours had an assigned regulation HHI above 2500. Table 0-2 summarizes the January 2005 through July 2005 PJM Mid-Atlantic Region Regulation Market HHIs.

Table 0-2 PJM Mid-Atlantic Region Regulation Market hourly HHI: Phases 4 and 5-a< 14_Graphs_Tables\HHI_Tables.xls (Tab PJM HHIs) >

	Minimum	Average	Maximum	Percent Hours > 2500
Offered	1088	1510	2064	0%
Eligible	1190	1751	2787	0%
Assigned	1118	2260	9690	31%

As noted above, regulation supply in PJM is bifurcated into the combustion turbine (CT) segment and the all units except CTs segment because, while some CTs provide regulation, they are very expensive to operate solely to provide regulation. In order to approximate the delivered price test approach, the Regulation Market HHI is reported with and without CTs. (See Table 3.) In the PJM Mid-Atlantic Region, HHIs are slightly lower without CTs because the CTs are disproportionately owned by the company with the largest market share.

Table 3 PJM Mid-Atlantic Region Regulation Market hourly HHI (All units except CTs): Phases 4 and 5-a< 14_Graphs_Tables\PJMHHIResults.xls (Tab NO_CT) >

	Minimum	Average	Maximum	Percent Hours > 2500
Offered	1078	1475	2354	0%
Eligible	1183	1718	2941	0%
Assigned	1118	2266	9690	31%

During Phases 4 and 5-a, two suppliers had market shares greater than, or equal to, 20 percent based on regulation offered and eligible. For the market segment excluding CTs, two suppliers had market shares greater than, or equal to, 20 percent based on regulation offered and eligible.

During Phases 4 and 5-a, 7 percent of the hours failed the single pivotal supplier test for offered and eligible supply in the PJM Mid-Atlantic Region's market.¹⁷ This means that, during the seven-month period, for 7 percent of the hours the total regulation requirement could not be met in the absence of the largest supplier. Forty-eight percent of the hours failed the two pivotal supplier test. This means that, during 48 percent of the hours, the total regulation requirement could not be met in the absence of the two largest suppliers. Eighty-eight percent of the hours failed the three pivotal supplier test. This means that, during 88 percent of the hours, the total regulation requirement could not be met in the absence of the three largest suppliers.

For the market segment excluding CTs, the percentage of one pivotal supplier hours in the eligible Regulation Market increases from 7 percent to 10 percent, the percentage of two pivotal supplier hours increases from 48 percent to 52 percent and the percentage of three pivotal supplier hours increases from 88 percent to 89 percent. Table 0-4 summarizes the PJM Mid-Atlantic Region Regulation Market pivotal supplier statistics for Phases 4 and 5-a. The pivotal supplier statistics are also presented for all regulating units except CTs. (See Table 5.) Three companies are pivotal more than 75 percent of the three pivotal supplier intervals for all units, and for the all units except CTs segment.

Table 0-4 PJM Mid-Atlantic Region Regulation Market pivotal supplier statistics: Phases 4 and 5-a < 14_Graphs_Tables\Piv Sup Tables.xls (Tab PJM PivSup) >

	Hours Offered (Percent)	Hours Eligible (Percent)
1 pivotal	0%	7%
2 pivotal	3%	48%
3 pivotal	35%	88%

Table 5 PJM Mid-Atlantic Region Regulation Market pivotal supplier statistics (All units except CTs): Phases 4 and 5-a < 14_Graphs_Tables\PJMPivSupResults.xls (Tab NonCTPivSupHours) >

	Hours Offered (Percent)	Hours Eligible (Percent)
1 pivotal	0%	10%
2 pivotal	9%	52%
3 pivotal	52%	89%

¹⁷ The pivotal supplier results are provided for all offered regulation as additional information although these results are not directly relevant to the market structure analysis.

Based on these market structure results, the MMU concludes that the market structure of the PJM Mid-Atlantic Region Regulation Market during Phases 4 and 5-a can no longer be considered to be consistent with a competitive outcome. The combination of two market participants with market shares greater than, or equal to, 20 percent and the pivotal supplier results are not consistent with a competitive structure. The market in the PJM Mid-Atlantic Region was operated by PJM as a competitive market prior to the Combined Regulation Market.

Western Region Regulation Market – Phases 4 and 5-a

During Phases 4 and 5-a, in the Western Region Regulation Market, the submitted offer capability was 2,267 MW. The level of resources offered on an hourly level and the level of regulation resources both offered and eligible to participate on an hourly level in the Regulation Market were lower than the submitted regulation offer capability. Between the beginning of Phase 4 and the end of Phase 5-a, the average hourly offer level was 938 MW or 41 percent of the submitted capability, while the average hourly eligible offer level was 847 MW or 37 percent of the submitted capability.

The ratio of the hourly regulation supply offered to the hourly regulation requirement, averaged 1.81 for the Phases 4 and 5-a Western Region Regulation Market. Based upon regulation offered and eligible, this ratio averaged 1.64. The average regulation requirement for the Phases 4 and 5-a Western Region Regulation Market was 517 MW.¹⁸

Hourly HHI values were calculated based upon the regulation offered, regulation offered and eligible and regulation assigned. Based upon regulation offered, HHI ranged from a maximum of 4357 to a minimum of 1748 with an average value of 2730. Fifty-eight percent of hours had an offered regulation HHI above 2500. Based upon regulation offered and eligible, HHI values ranged from a maximum of 4810 to a minimum HHI of 1757, with an average value of 2802. Fifty-eight percent of hours had an eligible regulation HHI above 2500. Based upon regulation assigned, HHI values ranged from a maximum of 7162 to a minimum HHI of 1698. The average HHI value for regulation assigned was 2973. Sixty-four percent of hours had an assigned regulation HHI above 2500. Table 0-6 summarizes the January through July 2005 Western Region Regulation Market HHIs.

¹⁸ See Appendix F, "Ancillary Service Markets," for additional detail on the regulation requirements.

Table 0-6 PJM Western Region Regulation Market hourly HHI: Phases 4 and 5-a
<14_Graphs_Tables\HHI Tables.xls (Tab WRM HHIs) >

	Minimum	Average	Maximum	Percent Hours > 2500
Offered	1748	2730	4357	58%
Eligible	1757	2802	4810	58%
Assigned	1698	2973	7162	64%

For the market segment excluding CTs, HHIs in the Western Region Regulation Market are somewhat higher. (See Table 7.)

Table 7 PJM Western Region Regulation Market hourly HHI (All units except CTs):
Phases 4 and 5-a<14_Graphs_Tables\WRMHHIResults.xls (Tab NO_CT) >

	Minimum	Average	Maximum	Percent Hours > 2500
Offered	1859	2960	4973	60%
Eligible	1856	3029	5249	62%
Assigned	1738	2984	7162	65%

During Phases 4 and 5-a, one supplier had a market share greater than, or equal to, 20 percent based on offered and eligible regulation. For the market segment excluding CTs, one supplier had a market share greater than, or equal to, 20 percent based on offered and eligible regulation.

During Phases 4 through 5-a, 62 percent of the hours failed the single pivotal supplier test for offered and eligible supply in the Western Region Regulation Market. This means that, during the seven-month period, the total regulation requirement could not be met for 62 percent of the hours in the absence of the largest supplier. One hundred percent of the hours failed the two pivotal supplier test. This means that, during 100 percent of the hours, the total regulation requirement could not be met in the absence of the two largest suppliers. One hundred percent of the hours failed the three pivotal supplier test. This means that, during 100 percent of the hours, the total regulation requirement could not be met in the absence of the three largest suppliers. Table 0-8 summarizes the Western Region Regulation Market pivotal supplier statistics for Phases 4 through 5-a.

Table 0-8 PJM Western Region Regulation Market pivotal supplier statistics: Phases 4 and 5-a .<14_Graphs_Tables\RSI Tables.xls (Tab WRM PivSup)>

	Hours Offered (Percent)	Hours Eligible (Percent)
1 pivotal	30%	62%
2 pivotal	100%	100%
3 pivotal	100%	100%

Table 9 presents pivotal supplier statistics for the Western Region regulation pool for all units except CTs. Eighty-eight percent of hours fail the one pivotal supplier test. In both the all units and all units except CTs market segments the same company that was the one pivotal supplier was also pivotal for more than 95 percent of the hours in which two and three suppliers were pivotal.

Table 9 PJM Western Region Regulation Market pivotal supplier statistics (All units except CTs): Phases 4 and 5-a .<14_Graphs_Tables\WRMPivSupResults.xls (Tab NonCTPivSupHours)>

	Hours Offered (Percent)	Hours Eligible (Percent)
1 pivotal	69%	88%
2 pivotal	100%	100%
3 pivotal	100%	100%

Based on these market structure results, the MMU concludes that the market structure of the Western Region Regulation Market was not consistent with a competitive outcome. The Regulation Market in the Western Region was operated by PJM, with the two dominant suppliers offer-capped, as a market with market-clearing prices during Phases 4 and 5-a.

PJM Combined Regulation Market – Phase 5-b

The PJM Combined Regulation Market during Phase 5-b was comprised of the PJM Western Region (the ComEd, AEP, DAY, Dominion, DLCO and AP Control Zones) and the PJM Mid-Atlantic Region. For the Phase 5-b PJM Combined Regulation Market, the submitted capability was 5,491 MW. The average hourly offer level was 2,370 MW while the average hourly eligible offer level was 1,841 MW.

The ratio of the hourly regulation supply offered to the hourly regulation requirement averaged 2.42. Based upon regulation offered and eligible, this ratio averaged 1.88. The

average regulation requirement for the Phase 5-b PJM Combined Regulation Market was 978 MW.

Hourly HHI values were calculated based upon the regulation offered, regulation offered and eligible and regulation assigned. Based upon regulation offered, HHI ranged from a maximum of 1331 to a minimum of 812 with an average value of 1001. Based upon regulation offered and eligible, HHI ranged from a maximum of 1562 to a minimum HHI of 866, with an average value of 1079. Based upon regulation assigned, HHI values ranged from a maximum of 2390 to a minimum of 878. The average HHI value for regulation assigned was 1299. Table 0-10 summarizes HHI results for the PJM Combined Regulation Market.

Table 0-10 PJM Combined Regulation Market HHI: Phase 5-b
 <<14_Graphs_Tables\HHI Tables.xls (Tab RTO HHIs)>>

	Minimum	Average	Maximum	Percent Hours > 2500
Offered	812	1001	1331	0
Eligible	866	1079	1562	0
Assigned	878	1299	2390	0

For the market segment excluding CTs, HHIs are essentially the same. (See Table 11.)

Table 11 PJM Combined Regulation Market HHI (All units except CTs): Phase 5-b
 14_Graphs_Tables\RTOHHIResults.xls (Tab NO_CTs) >

	Minimum	Average	Maximum	Percent Hours > 2500
Offered	845	1016	1417	0
Eligible	891	1080	1659	0
Assigned	878	1301	2400	0

During Phase 5-b, in the PJM Combined Regulation Market, no suppliers had a market share greater than, or equal to, 20 percent for regulation offered and eligible. For the market segment excluding CTs, no suppliers had a market share greater than, or equal to, 20 percent for regulation offered and eligible. For the CT market segment, two suppliers had market shares in excess of 20 percent for regulation offered and eligible.

During Phase 5-b, 1 percent of the hours failed the single pivotal supplier test for offered and eligible supply in the PJM Combined Regulation Market. This means that, during the five-month period, the total regulation requirement could not be met for 1 percent of

the hours in the absence of the largest supplier. Six percent of the hours failed the two pivotal supplier test. This means that, during 6 percent of the hours, the total regulation requirement could not be met in the absence of the two largest suppliers. Twenty-nine percent of the hours failed the three pivotal supplier test. This means that, during 29 percent of the hours, the total regulation requirement could not be met in the absence of the three largest suppliers. Table 0-12 summarizes the PJM Combined Regulation Market's pivotal supplier results for Phase 5-b. For all units including CTs the same company that was the one pivotal supplier for more than one-third of the one pivotal supplier intervals was also pivotal for more than 75 percent of the two pivotal supplier intervals and more than 80 percent of the hours in which two and three suppliers were pivotal. A second company was pivotal during more than 25 percent of the two pivotal and approximately 50 percent of three pivotal hours.

Table 0-12 PJM Combined Regulation Market pivotal supplier statistics: Phase 5-b
 <<<14_Graphs_Tables\PivSup Tables.xls (Tab RTO PivSup)>>>

	Hours Offered (Percent)	Hours Eligible (Percent)
1 pivotal	0%	1%
2 pivotal	0%	6%
3 pivotal	1%	29%

Table 13 presents pivotal supplier statistics for the PJM Combined Regulation Market's segment for all units except CTs.

Table 13 PJM Combined Regulation Market pivotal supplier statistics (All units except CTs): Phase 5-b <<<14_Graphs_Tables\RTOPivSupResults.xls.xls (Tab NonCTPivSupHours)>>>

	Hours Offered (Percent)	Hours Eligible (Percent)
1 pivotal	0%	5%
2 pivotal	1%	23%
3 pivotal	14%	68%

For the market segment excluding CTs, the percentage of one pivotal supplier hours in the eligible Regulation Market increases from 1 percent to 5 percent, the percentage of two pivotal supplier hours increases from 6 percent to 23 percent and the percentage of three pivotal supplier hours increases from 29 percent to 68 percent. (See Table 13.) In the all units except CTs market segment, the same company that was the one pivotal supplier for more than two-thirds of the one pivotal supplier intervals was also pivotal

for more than 80 percent of the two pivotal supplier intervals and more than 95 percent of the hours in which two and three suppliers were pivotal. A second company is pivotal during more than 60 percent of the two pivotal and three pivotal hours, while the third pivotal position is shared by three companies with an approximately equal frequency of occurrence.

The MMU will make a recommendation to PJM members in the near future regarding the structural competitiveness of this market.

Regulation Market Conduct

Regulation Offers

Generators wishing to participate in any of the PJM Regulation Markets must submit regulation offers for specific units by hour 1800 EPT of the day before the operating day. The regulation offer price is subject to a \$100 per MWh offer cap in PJM control zones with the exception of the dominant suppliers Dominion and AEP whose offers are capped at marginal cost plus \$7.50 per MWh plus opportunity cost. In the PJM Western Region during Phase 4, all regulation offers were capped at \$7.50 per MWh plus the cost of providing regulation service because that market was determined to be not structurally competitive. As in any competitive market, regulation offers at marginal cost are considered to be competitive. In PJM, a \$7.50 per MWh adder is considered to be consistent with competitive offers based on an analysis of historical offer behavior.

The offer price is the only component of the regulation offer applicable for the entire operating day. The following information must be included in each offer, but can be entered or changed up to 60 minutes prior to the operating hour: regulating status (available, unavailable or self-scheduled); regulation capability; and high and low regulation limits. The Regulation Market is cleared on a real-time basis, and regulation prices are posted hourly throughout the operating day. The amount of self-scheduled regulation is confirmed 60 minutes before each operating hour, and regulation assignments are made 30 minutes before each operating hour.

PJM's Regulation Markets are cleared hourly, based upon both offers submitted by the units and the hourly opportunity cost of each unit.¹⁹ The effective offer price is the sum of the unit-specific offer and the opportunity cost. In order to clear the market, PJM ranks units which offer and are eligible to regulate by effective offer price and selects the lowest offers in order until the amount of regulation required for the hour is satisfied at

¹⁹ PJM estimates the opportunity cost for units providing regulation based on a forecast of locational marginal price (LMP) for the upcoming hour. Opportunity cost is included in the market-clearing price.

least cost. The price that results is the RMCP, and the unit that sets this price is the marginal unit.

Regulation Market Performance

Regulation Prices

Figure 0-2 shows both the daily average regulation market-clearing price and the opportunity cost component for the marginal units in the PJM Mid-Atlantic Region during Phases 4 and 5-a. Figure 0-3 shows the same data for the Western Region Regulation Market during Phases 4 and 5-a. Figure 0-4 shows the same data for the PJM Combined Regulation Market during Phase 5-b. All units chosen to provide regulation during Phases 4 and 5 received as payment the higher of the clearing price multiplied by the unit's assigned regulating capability, or the unit's regulation bid multiplied by its assigned regulating capability plus the individual unit's real-time opportunity cost.²⁰

Regulation credits are awarded to generation owners that have either self-scheduled regulation or sold regulation into the market. Regulation credits for units self-scheduled to provide regulation are equal to the RMCP times the unit's self-scheduled regulating capability. Regulation credits for units that offered regulation into the market and were selected to provide regulation are the higher of the RMCP times the unit's assigned regulating capability, or the unit's regulation bid times its assigned regulating capability plus the opportunity cost that unit incurred. Although most units are paid RMCP times their assigned regulation MW, the RMCP is itself strongly dependent on the lost opportunity cost based upon forecast LMP calculated for the marginal unit during market clearing. This means that the total cost of regulation is very strongly dependent upon lost opportunity cost, which is dependent upon forecast LMP. Figure 0-2, Figure 0-3 and Figure 0-4 graph the RMCP against the estimated lost opportunity cost of the marginal unit (calculated at market clearance, adjusted for real-time deviations in LMP and averaged over the day). Most of the cost of regulation comes from the lost opportunity cost of the marginal unit. The rest of the RMCP is the unit's regulation offer. The average offer of the marginal unit for the PJM Mid-Atlantic Region during Phases 4 and 5-a was \$15.33. The average offer of the marginal unit for the Western Region Regulation Market during Phases 4 and 5-a was \$8.66. The average offer of the marginal unit for the PJM Combined Regulation Market during Phase 5-b was \$13.16. In the PJM Mid-Atlantic Region Regulation Market during Phases 4 and 5-a, marginal unit lost opportunity cost (LOC) averaged 57 percent of the RMCP. In the Western Region Regulation Market during Phases 4 and 5-a, marginal unit LOC averaged 76 percent of

²⁰ See "PJM Operating Agreement, Accounting, m28," Revision 27, Section 4, "Regulation Credits" (October 1, 2004), pp. 26-27. PJM uses estimated opportunity cost to clear the market and real-time opportunity cost to compensate generators that provide regulation and spinning. Real-time opportunity cost is calculated using real-time LMP.

RMCP. In the PJM Combined Regulation Market during Phase 5-b, marginal unit LOC averaged 79 percent of RMCP.

Figure 0-2 PJM Mid-Atlantic Region daily average regulation clearing price and adjusted estimated marginal unit opportunity cost: Phases 4 and 5-a << H:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\Fig5_2_RMCP_LOC_graph_PJM_new.xls (tab: Graph)>>

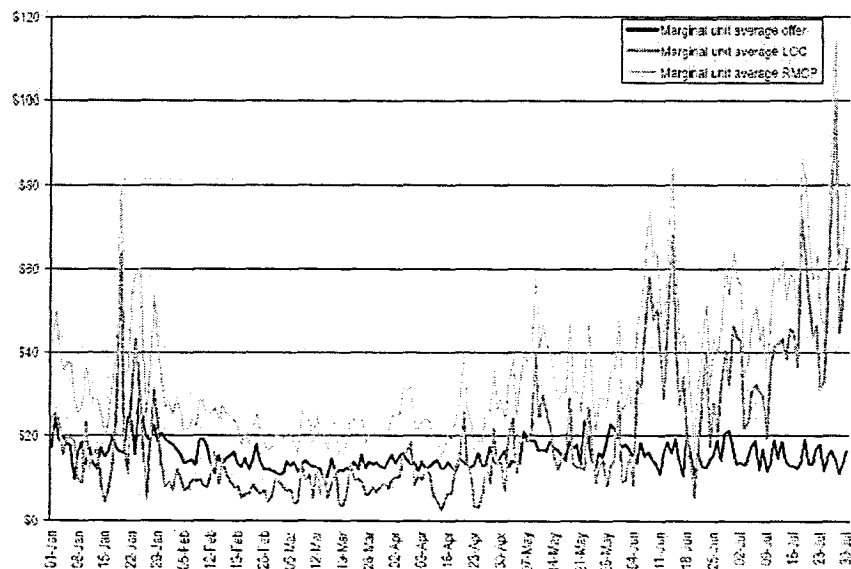


Figure 0-3 PJM Western Region daily average regulation clearing price and adjusted estimated marginal unit opportunity cost: Phases 4 and 5-a << H:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\Fig5_3_RMCP_LOC_graph_WRM_new.xls (tab: Graph)>>

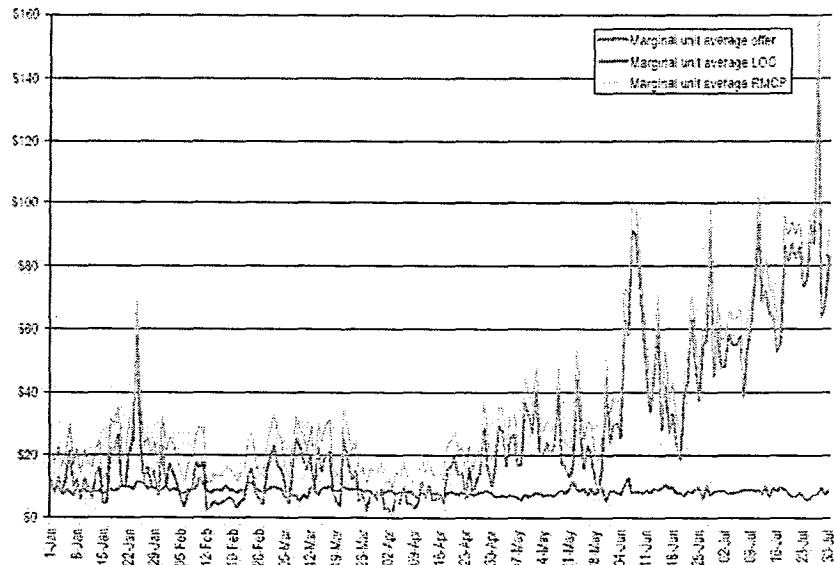


Figure 0-4 PJM Combined Regulation Market daily average regulation clearing price and adjusted estimated marginal unit opportunity cost: Phase 5-b < H:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\Fig5_4_RMCP_LOC_graph_RTO_new.xls (tab: Graph)>

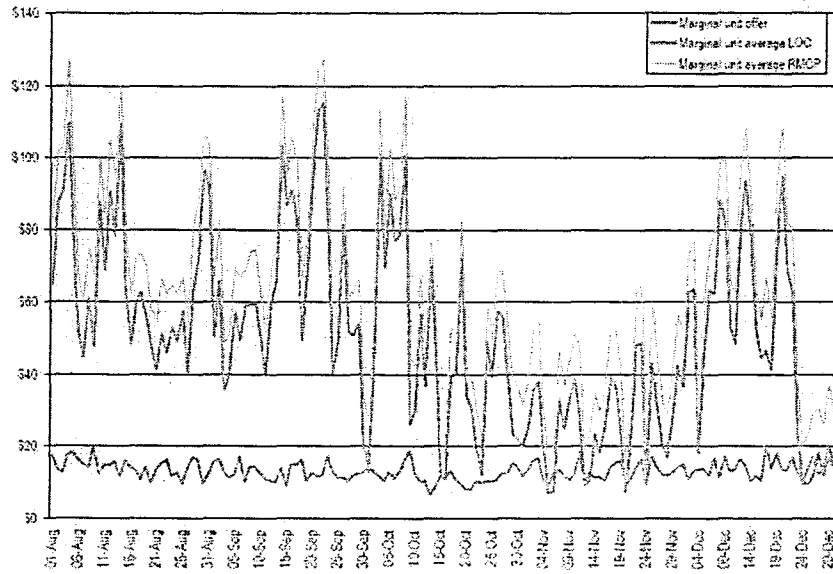
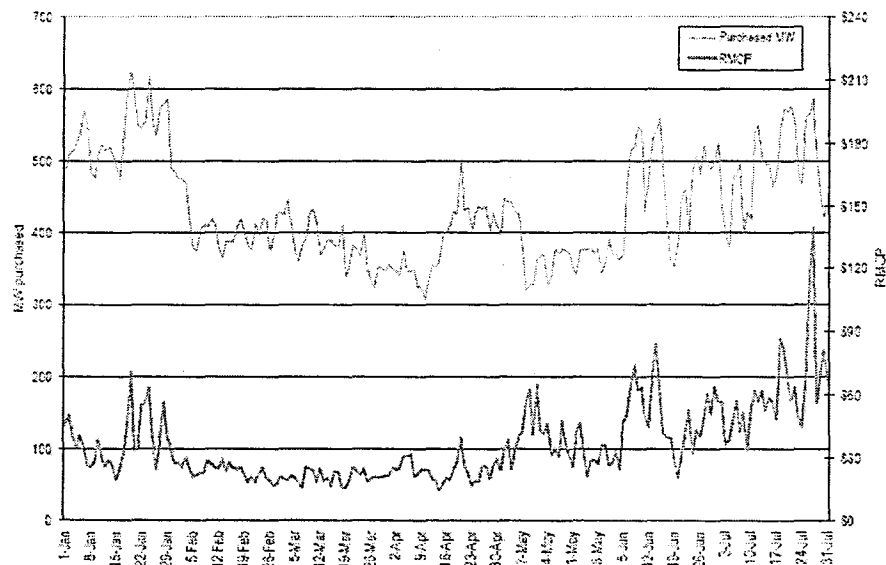


Figure 0-5, Figure 0-6 and Figure 0-7 compare the regulation price per MWh to the regulation MW purchased for each of the Regulation Markets. As the regulation requirement is a linear function of daily forecast peak load in all markets, all three graphs show that despite considerable daily variation, the price of regulation and the demand for regulation increase or decrease together on a seasonal scale. System LMP increases with load because higher priced units must be dispatched to meet demand and those increases in system LMP cause the opportunity cost to rise by increasing the spread between LMP and the energy offers of the regulating units.

Figure 0-5 PJM Mid-Atlantic Region daily regulation MW purchased vs. price per MW: Phases 4 and 5-a <H:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\RegMWPurch_vs_Price.xls (tab: PJMGraph)>>



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**Figure 0-6 PJM Western Region daily regulation MW purchased vs. price per MW:
Phases 4 and 5-a <H:\Office of the President\Market Monitoring
Unit\SOM_2005\14_Graphs_Tables\RegMWPurch_vs_Price.xls (tab: WRMGraph)>>**

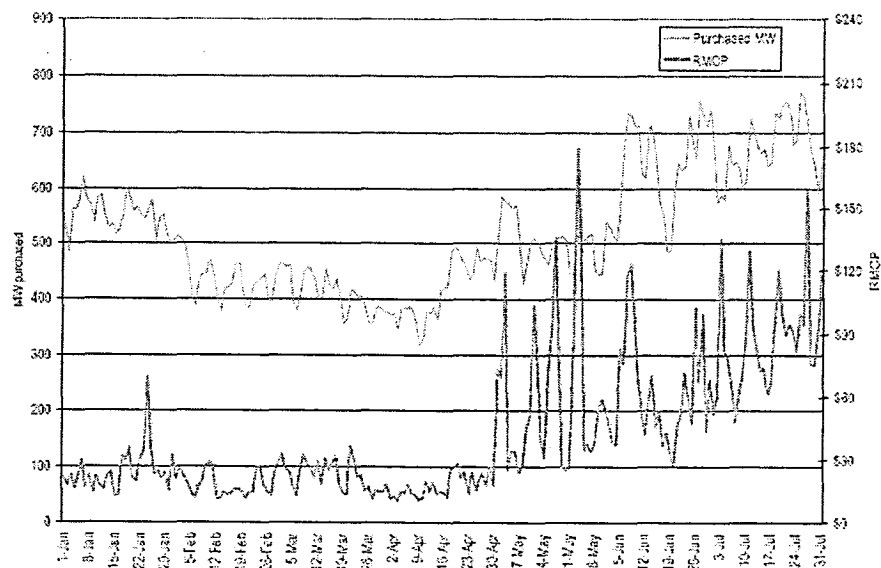
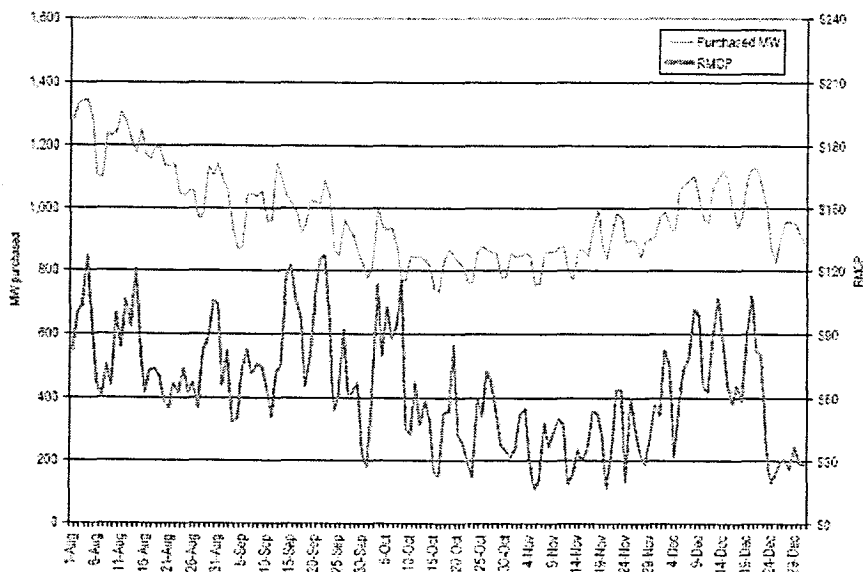


Figure 0-7 PJM Combined Regulation Market daily regulation MW purchased vs. price per MW: Phase 5-b <H:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\RegMWPurch_vs_Price.xls (tab: RTOgraph)>>



Important exceptions to this general pattern occurred periodically in the Western Region after the integration of Dominion on May 1, 2005. (See Figure 0-6.) An hourly analysis of regulation MW purchased versus the regulation price reveals some extreme exceptions that resulted from deficits during off-peak hours and/or times of minimum generation events. A shortage of regulation-capable units (as existed in the Western Region in early May) combined with a minimum generation event required expensive combustion turbine units to be started to satisfy regulation requirements resulting in high clearing prices. Minimum generation events can cause shortages of regulation in the PJM Mid-Atlantic Region as well, but since the regulation requirement in the PJM Mid-Atlantic Region is lower during off-peak hours it is less likely. Overall, the inflexibility of demand and the shortage of available regulating units caused relatively wide price swings in the Western Region during Phase 5-a.

As Figure 0-5, Figure 0-6 and Figure 0-7 also show, regulation prices during calendar year 2005 were seasonally higher in January, remained lower and relatively stable from February through April, then began to increase and show high daily variability into October before moderating at the end of the year. The higher average summer prices reflect higher LMPs in the LOC portion of the marginal unit's RMCP for regulation. (See Figure 0-2, Figure 0-3 and Figure 0-4.) During a period of low prices, March and April, the LOC/RMCP ratio was 42 percent for the PJM Mid-Atlantic Region and 58 percent for

the Western Region. During a period of high prices, August and September, the LOC/RMCP ratio was 83 percent for the PJM Combined Regulation Market.

Figure 0-8 illustrates the level of demand for regulation by month in 2005 and the corresponding level of regulation cost.

Figure 0-8 Monthly regulation MW and regulation cost per MW: Calendar year 2005
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 Unit\SOM_2005\14_Graphs_Tables\CostPerMW_Monthly.xls (tab: graph)>

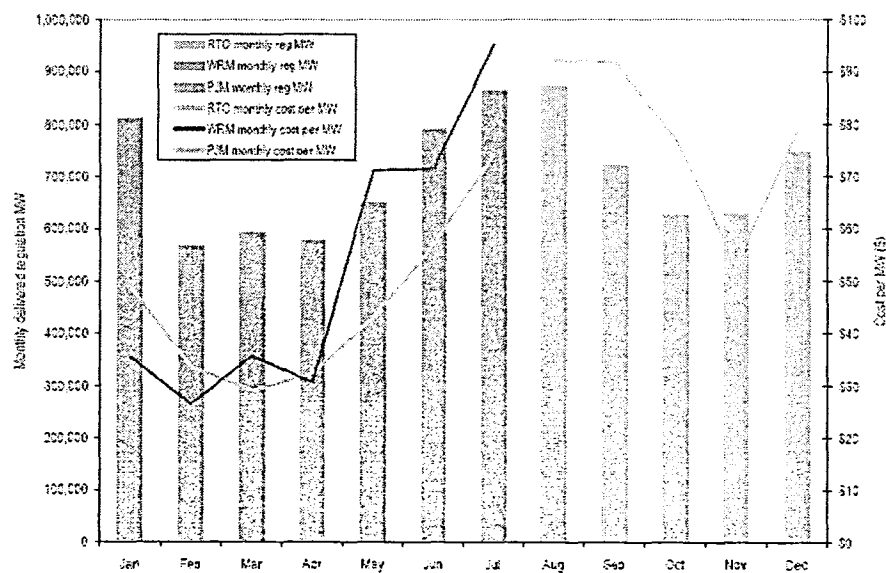
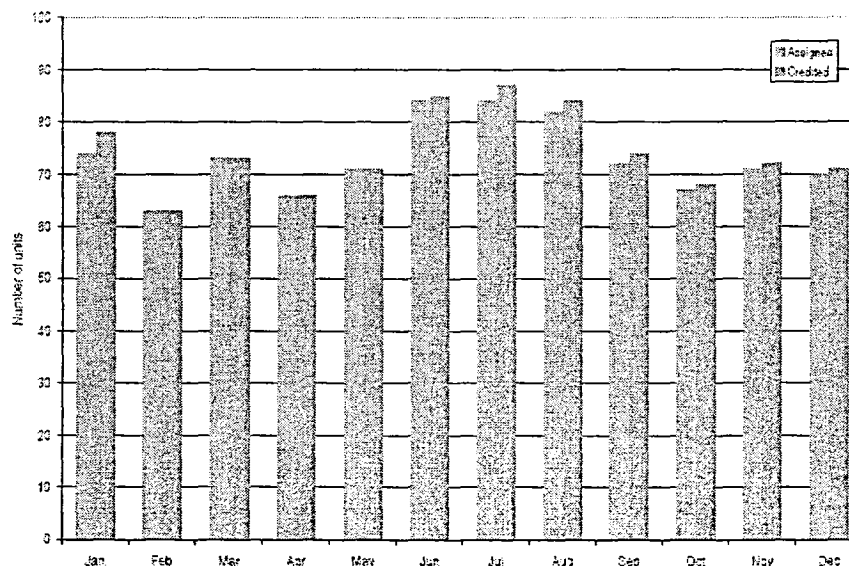


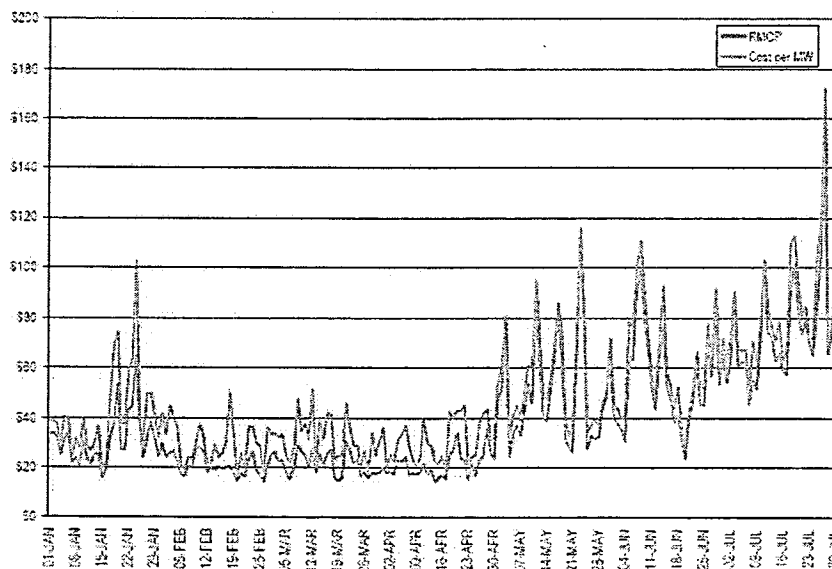
Figure 0-9 shows the average number of units per hour required to satisfy PJM's regulation requirement.

Figure 0-9 Average hourly count of distinct units required to satisfy regulation requirement: Calendar year 2005 < J:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\UnitCount.xls (tab: UnitCountgraph)>>



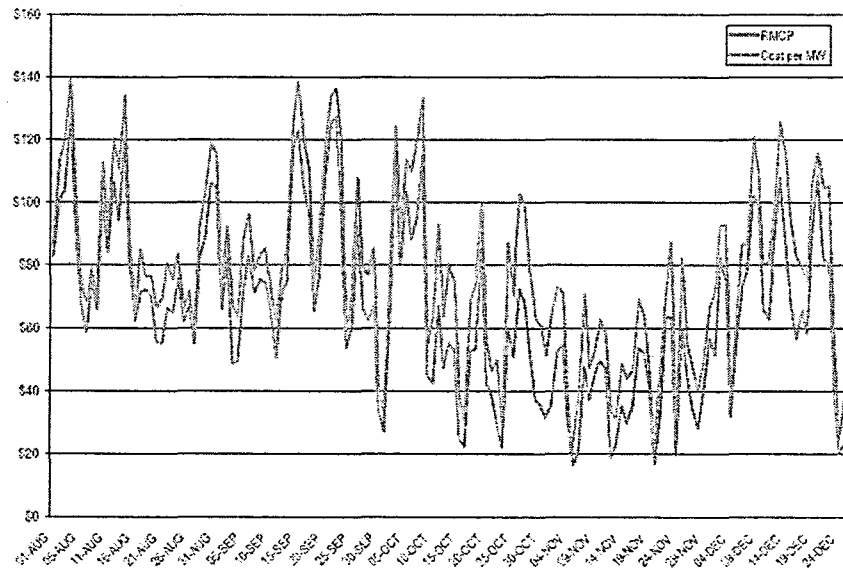
Units which provide regulation are paid the higher of the RMCP or their offer plus their unit-specific opportunity cost. In a perfect market all units would be compensated at RMCP times output. Sometimes, however, circumstances require that units be paid their offer plus their unit-specific opportunity cost. Examples include units that must be redispatched because of constraints, unanticipated performance problems, or changes in the real-time LMP and, therefore, opportunity cost from the value estimated at regulation market-clearing 30 minutes prior to the operating hour. For these reasons some units are paid the value of their offer plus their unit-specific lost opportunity costs when that sum is higher than the RMCP. This means that PJM's regulation cost per MWh is somewhat higher than the RMCP. Figure 0-10 and Figure 0-11 compare the regulation cost per MWh with the regulation clearing price to show the difference between the price of regulation and the total cost of regulation.

Figure 0-10 PJM Western Region Regulation Market daily average RMCP vs. cost per MW for regulation: Phases 4 and 5-a <J:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\CostVsPrice.xls (tab: PJMWORMgraph)>



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Figure 0-11 PJM Combined Regulation Market daily average RMCP vs. cost per MW for regulation: Phase 5-b <J:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\CostVsPrice.xls (tab: RTOgraph)>



Spinning Reserve Markets

Spinning Reserve Market Structure

The integration of Dominion on May 1, 2005, resulted in the creation of a Southern Region Spinning Reserve Market. Thus the PJM Spinning Reserve Markets include the PJM Mid-Atlantic Region Spinning Reserve Market, the Western Region Spinning Reserve Market, the ComEd Region Spinning Reserve Market and the Southern Region Spinning Reserve Market.

Demand

Tier 2 spinning requirements are determined by subtracting the amount of forecast Tier 1 spinning reserve available from each spinning control area spinning reserve requirement for the period. The total spinning reserve requirement is different for each of the four regional Spinning Reserve Markets. For the Mid-Atlantic Region, the requirement is 75 percent of the largest contingency in the region, provided that 25 percent of the largest contingency is available as nonsynchronized, 10-minute reserve. For the ComEd Region, the requirement is 50 percent of the ComEd Control Zone's load ratio share of the largest contingency in the North American Electric Reliability Council's (NERC) Mid-America Interconnected Network, Inc. (MAIN) Region. From October 1 to December 3, 2004, this was 269 MW. After December 3, 2004, the ComEd

Control Zone's spinning requirement was 216 MW. For the Western Region, the requirement is 1.5 percent of the daily peak-load forecast. For the Southern Spinning Reserve Zone, the requirement is the Dominion Control Zone's load ratio share of the largest system contingency within the Virginia and Carolinas Area (VACAR), minus the available 15-minute quick start capability within the Southern Spinning Reserve Zone.

Computed in accordance with the requirements above, the average MW spinning requirement was: 1091 MW, for the PJM Mid-Atlantic Region; 217 MW for the ComEd Spinning Zone; 437 MW for the Western Region; and 5 MW for the Southern Spinning Reserve Zone (May to December only).

Figure 0-12 PJM Mid-Atlantic Spinning Region average hourly required spinning vs. Tier 2 spinning purchased: Calendar year 2005 <<H:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\Spinning Required vs Tier 2 Purchased.xls (tab: PJM)>>

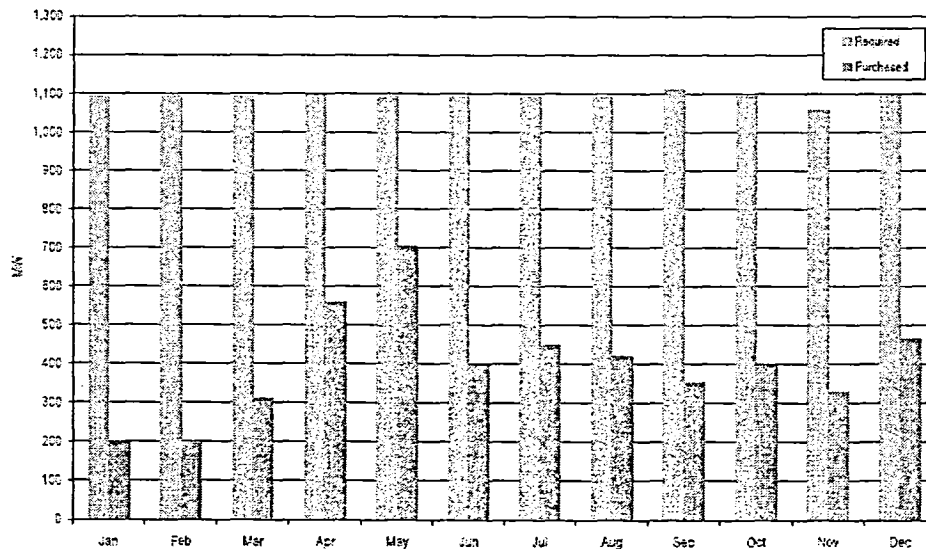


Figure 0-13 PJM ComEd Spinning Region average hourly required spinning vs. Tier 2 spinning purchased: Calendar year 2005 <H:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\Spinning Required vs Tier 2 Purchased.xls (tab: ComEd)>

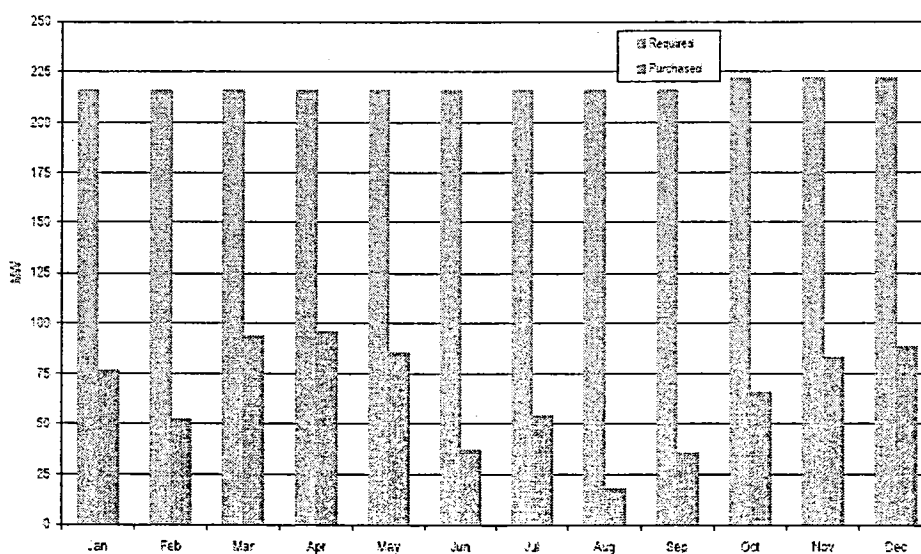
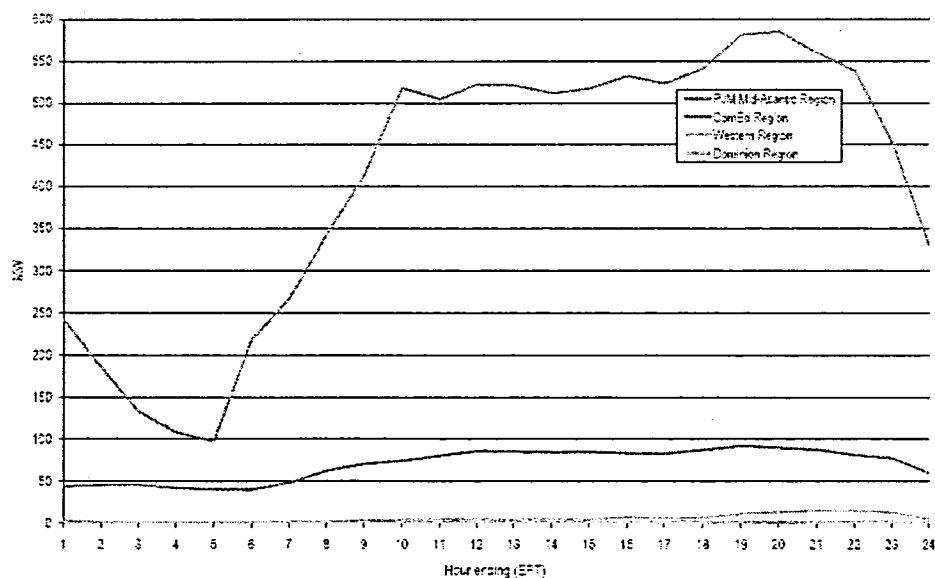


Figure 0-12 and Figure 0-13 show the average hourly spinning required and the average hourly Tier 2 spinning MW purchased during 2005 for the PJM Mid-Atlantic and ComEd Spinning Regions. Results for the Western Region Spinning Reserve Zone and the Southern Spinning Reserve Zone are not shown because Tier 2 spinning MW purchases were insignificant in those control areas during 2005. Spinning MW requirements are different for each of the four spinning regions in PJM. These differences are the result of specifications from local reliability councils, reserve-sharing arrangements with neighboring control areas and the types of generation available in the control area. The Southern Spinning Reserve Zone is a member of the VACAR subregion of NERC's Southeastern Electric Reliability Council (SERC). VACAR specifies that available 15-minute quick start reserve can be subtracted from the largest contingency to determine spinning reserve requirements. The amount of 15-minute quick start reserve available in VACAR is sufficient to make Tier 2 spinning requirements zero for most hours. Similarly, in the Western Region Spinning Reserve Zone most of the required spinning reserve is available as Tier 1 from large, frequently running baseload units, reducing its Tier 2 spinning requirement to zero in most hours. In both the PJM Mid-Atlantic and ComEd Spinning Regions the spinning reserve requirement is a function of the largest contingency. For the PJM Mid-Atlantic Region the hourly spinning requirement was usually 863 MW during off-peak hours and 1,150 MW during on-peak hours. Sometimes temporary grid conditions such as maintenance

outages can cause double contingencies so there were times throughout the year when the on-peak spinning requirement was 1,380 MW. The average hourly Tier 2 spinning required for the PJM Mid-Atlantic Region was 1,091 MW. In the ComEd Region, the hourly requirement was 216 MW from January through September and 222 MW from October through December. Figure 0-12 and Figure 0-13 illustrate monthly average of the spinning reserve requirement and the amount of Tier 2 spinning actually purchased. The difference between the required spinning and Tier 2 spinning purchased is the amount of Tier 2 spinning available. Figure 0-14 illustrates the amount of Tier 2 spinning purchased by hour of the day. The hour variability reflects differing spinning reserve requirements for off-peak and on-peak hours as well as different amounts of Tier 1 spinning available.

Figure 0-14 Average hourly Tier 2 spinning MW purchased (By hour of day): Calendar year 2005 <<H:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\Spinning Tier 2 Credited Average MWs By Hour.xls (tab: graph)>>



Supply

Spinning reserve is an ancillary service defined as generation that is synchronized to the system and capable of producing output within 10 minutes. Spinning reserve can, at present, be provided by a number of sources, including steam units with available ramp, condensing hydroelectric units, condensing CTs and CTs running at minimum generation.

All of the units that participate in the Spinning Reserve Market are categorized as either Tier 1 or Tier 2 spinning. Tier 1 resources are those units that are online following economic dispatch and able to respond to a spinning event by ramping up from their present output. All units operating on the PJM system are considered potential Tier 1 resources, except for those explicitly assigned to Tier 2 spinning. Tier 2 resources include units that are backed down to provide spinning capability and condensing units synchronized to the system and available to increase output.

PJM introduced a market for spinning reserve on December 1, 2002. Before the Spinning Reserve Market, Tier 1 spinning reserve had not been compensated directly and Tier 2 spinning reserve had been compensated on a unit-specific, cost-based formula.

Under the Spinning Reserve Market rules, Tier 1 resources are paid when they respond to an identified spinning event as an incentive to respond when needed. Tier 1 spinning payments or credits are equal to the integrated increase in MW output above economic dispatch from each generator over the length of a spinning event, multiplied by the spinning energy premium less the hourly integrated LMP. The spinning energy premium is defined as the average of the five-minute LMPs calculated during the spinning event plus \$50 per MWh.²¹ All units called on to supply Tier 1 or Tier 2 spinning have their actual MW monitored. Tier 1 units are not penalized if their output fails to match their expected response as they are only compensated for their actual response. Tier 2 units assigned spinning by market operations are compensated whether or not they are actually called on to supply spinning so they are penalized if their MW output fails to meet their assignment.

There were significant changes to the geographic structure of PJM's Spinning Reserve Markets in 2005. In Phase 4, PJM had three Spinning Reserve Markets: the PJM Mid-Atlantic Spinning Reserve Zone, the Western Spinning Reserve Zone and the ComEd Spinning Reserve Zone. During Phase 4, the Western Spinning Reserve Zone was comprised of AP, AEP, DAY and DLCO Control Zones. In Phase 5, the Dominion Control Zone was integrated into PJM and became the Southern Spinning Reserve Zone. Dominion remained a separate Spinning Reserve Market because as a member of SERC it has distinct spinning reserve requirements and reserve-sharing agreements.

Under the Spinning Reserve Market rules, Tier 2 spinning resources are paid to be available as spinning reserve, regardless of whether the units are called upon to generate in response to a spinning event and are subject to penalties if they do not provide spinning reserve when called. The price for Tier 2 spinning resources is determined in a market for Tier 2 spinning resources. Several steps are necessary before the hourly Tier 2 Spinning Reserve Market is cleared. Ninety minutes prior to the start of the hour, PJM estimates the amount of Tier 1 reserve available from every unit; 60 minutes prior to the

²¹ See "PJM Manual 11: Scheduling Operations," Revision 23 (December 7, 2004), pp. 66-67.

start of the hour, self-scheduled Tier 2 units are identified. If spinning requirements are not met by Tier 1 and self-scheduled Tier 2 resources, then a Tier 2 clearing price is determined 30 minutes prior to the start of the hour. This Tier 2 price is equivalent to the merit-order price of the highest price, Tier 2 resource needed to fulfill spinning requirements, the marginal unit.²²

The spinning offer price submitted for a unit can be no greater than the unit's operating and maintenance cost plus a \$7.50 per MWh margin.^{23, 24} The market-clearing price is comprised of the marginal unit's spinning offer price, the cost of energy use and the unit's opportunity cost. All units cleared in the Spinning Reserve Market are paid the higher of either the market-clearing price or the unit's spinning offer plus the unit-specific LOC and/or the cost of energy use incurred.

The Mid-Atlantic Region, the Western Region, the ComEd Region and the Southern Region Spinning Reserve Zones all operate under similar business rules. The Tier 2 Spinning Reserve Market in each of PJM's spinning reserve zones is cleared on cost-based offers because the structural conditions for competition do not exist. The structural issue can be more severe when the Spinning Reserve Market becomes local because of transmission constraints.

Concentration of Ownership

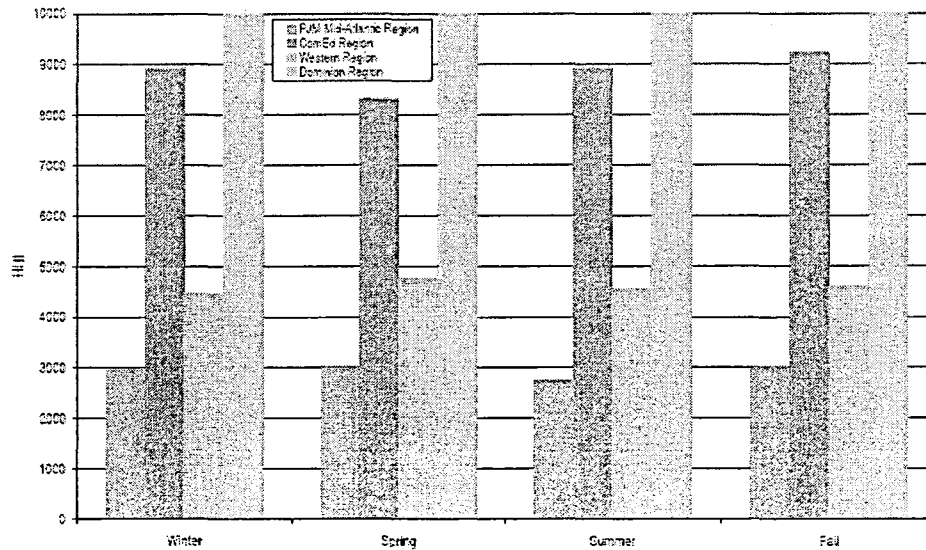
The offered and eligible Tier 2 Spinning Reserve Markets for all four geographic markets are highly concentrated. (See Figure 0-15.) During calendar year 2005, in the Mid-Atlantic Region average HHI for offered Tier 2 spinning was 2167 and 2940 for eligible spinning. In the ComEd Region during 2005 the average HHI for offered spinning was 6305 and 8844 for eligible spinning. In the Western Region the average HHI for offered spinning was 4173 and 4593 for eligible spinning. In the Southern Region the HHI was 10000.

²² Although it is unusual, a PJM dispatcher can deselect units which have been committed after the clearing price is established. This only happens if real-time system conditions require dispatch of a spinning unit for constraint control, or problems with a generator or monitoring equipment are reported.

²³ See "PJM Manual 11: Scheduling Operations," Revision 23 (December 7, 2004), p. 58.

²⁴ See "PJM Manual 15: Cost Development Guidelines," Revision 4, (September 1, 2004), p. 31.

Figure 0-15 Eligible Spinning Reserve Market HHI: Calendar year 2005 << H:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\Spinning Tier2 Eligible HHIs FCS.xls (tab:graph)>>



Spinning Reserve Market Performance

Spinning Reserve Offers

Figure 0-16 shows the daily average hourly offered Tier 2 spinning. Figure 0-17 shows the daily average hourly eligible Tier 2 spinning. Daily Tier 2 spinning offers are fairly stable reflecting the Tier 2 spinning capability of the units, other unit attributes and economic decisions by sellers. The level of eligible spinning displays considerable variability because it is calculated hourly and reflects current market and grid conditions, including LMP, unit dispatch and system constraints.

Figure 0-16 Tier 2 spinning offered MW: Calendar year 2005 << H:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\Spinning Tier 2 Offered MWs and Offered \$ per MWh Daily.xls (tab: Offered MW Graph)>>

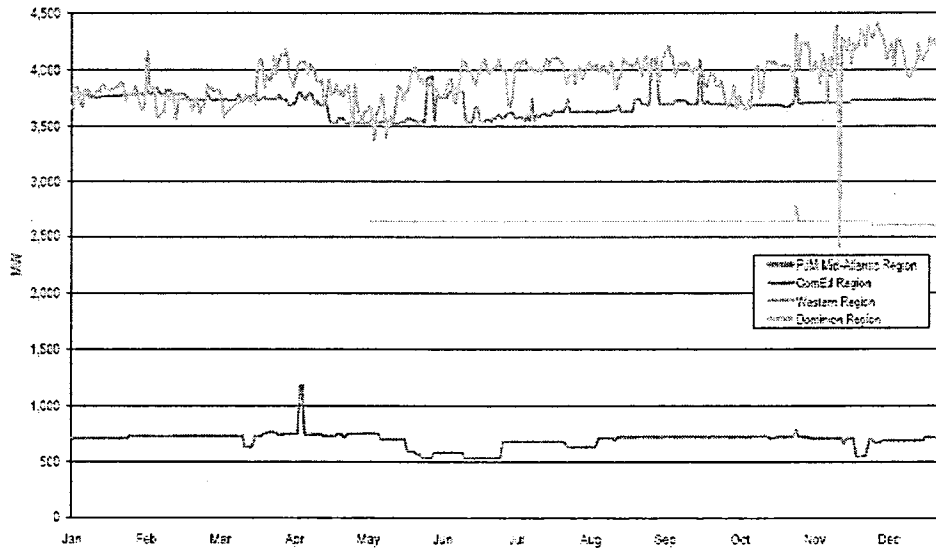


Figure 0-17 Tier 2 spinning eligible MW: Calendar year 2005 << H:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\Spinning Tier 2 Eligible MWs and Eligible \$ per MWh Daily.xls>>

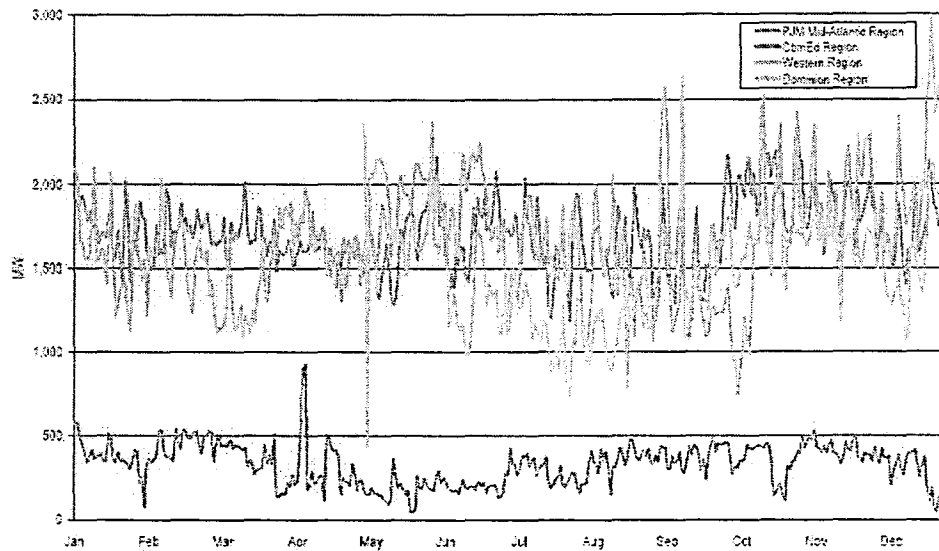
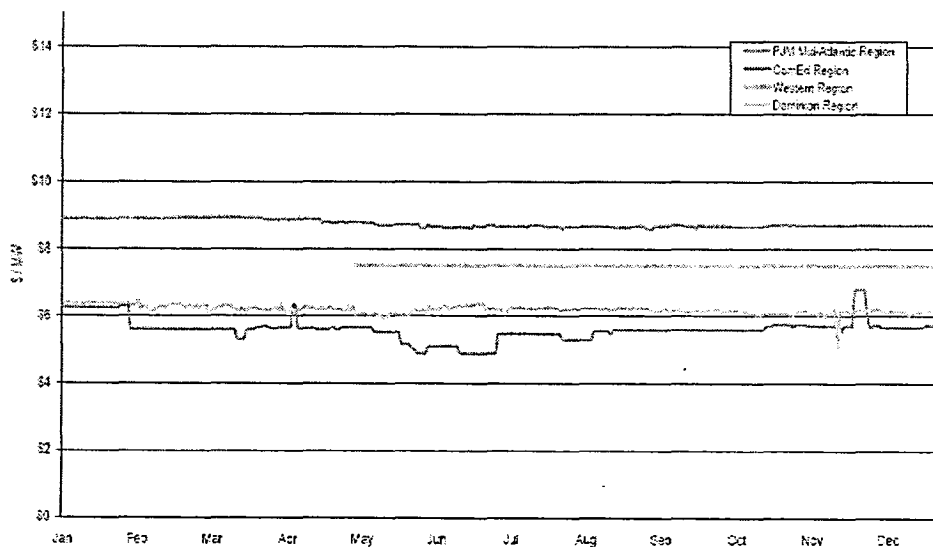


Figure 0-18 shows average offer price per MW by ancillary service area. Tier 2 spinning offers are capped at \$7.50 plus costs. The clearing price for Tier 2 spinning includes lost opportunity costs based on LMP, energy use, and operating costs for units which are actually assigned Tier 2 spinning. (See Figure 0-19.)

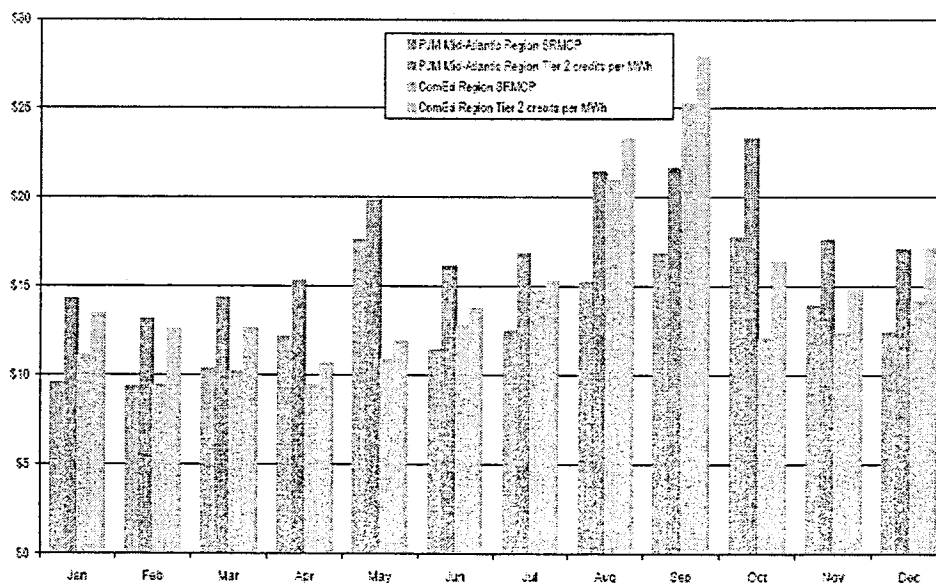
Figure 0-18 Tier 2 spinning average offer price per MW: Calendar year 2005 <<
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Spinning Tier 2 Offered MWs and Offered \$ per MWh Daily.xls (tab: Offered \$ per
MW graph>>



Spinning Reserve Prices

Figure 0-19 shows the average spinning reserve market-clearing price (SRMCP) and the cost per MW associated with meeting PJM demand for spinning reserve. The average PJM Mid-Atlantic Region SRMCP rose in 2005 to \$13.29. The cost per MW of meeting the spinning reserve requirements also rose to approximately \$17.59 per MWh. In the ComEd Region, the average SRMCP was \$13.64 and the cost per MW for meeting the spinning reserve requirement was \$15.85. No price data are presented for the Western Region Spinning Reserve Market because there was almost always adequate Tier 1 spinning reserve to meet the requirements for spinning reserve without clearing the Tier 2 market.

Figure 0-19 Tier 2 spinning market-clearing price and cost per MW: Calendar year 2005 << H:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\ Spinning Tier 2 Credits Per MWh Daily Versus Average SRMCP.xls (tab: graph)>>



The Western Region Spinning Reserve Market (not shown in Figure 0-19) during 2005 almost never had a clearing price because available Tier 1 spinning was always sufficient to cover the spinning requirement. For the 311 hours between June and December when a Spinning Reserve Market was cleared in the Western Region, the average clearing price was \$12.27 and the cost of spinning was \$66.75 per MWh. The Southern Region (not shown in Figure 0-19) was cleared only 18 hours between June 1 and December 31 with an average SRMCP of \$11.34 and an average cost per MWh for Tier 2 spinning of \$35.10.

Like Regulation Market prices, Tier 2 spinning reserve prices are more reflective of costs associated with the marginal unit than they are of offer prices. Unlike regulation, however, the costs in Tier 2 spinning are more than just opportunity costs; they are also energy costs for condensing MWh (which must be purchased from the Real-Time Energy Market when the unit is spinning), and startup costs if the assigned unit is not already running. Figure 0-20 and Figure 0-21 shows the relationship between the marginal unit's offer price and the SRMCP. For the PJM Mid-Atlantic Region during all of 2005 the Tier 2 spinning offer price averaged 67 percent of the SRMCP.

Figure 0-20 PJM Mid-Atlantic Region Tier 2 spinning reserve clearing prices and marginal unit offer price: Calendar year 2005 << H:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\SpinPriceLOC_final.xls (tab: PJMPriceLOCgraph)>>

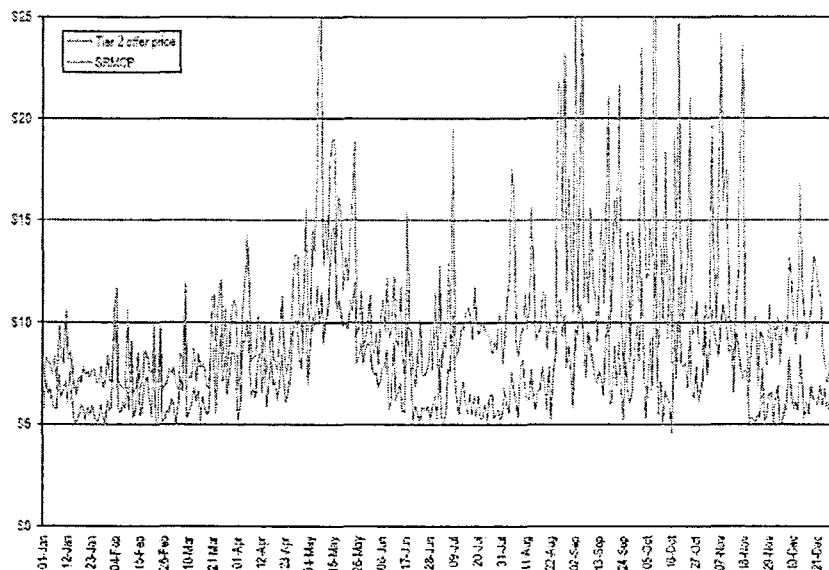


Figure 0-21 shows the relationship between the marginal units' offer price and the SRMCP for the ComEd Region. For the ComEd Region during all of 2005, the Tier 2 spinning offer price averaged 51 percent of the SRMCP.

Figure 0-21 PJM ComEd Tier 2 spinning reserve clearing prices and marginal unit offer price: Calendar year 2005 << H:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\SpinPriceLOC_final.xls (tab: ComEDPriceLOCgraph)>>

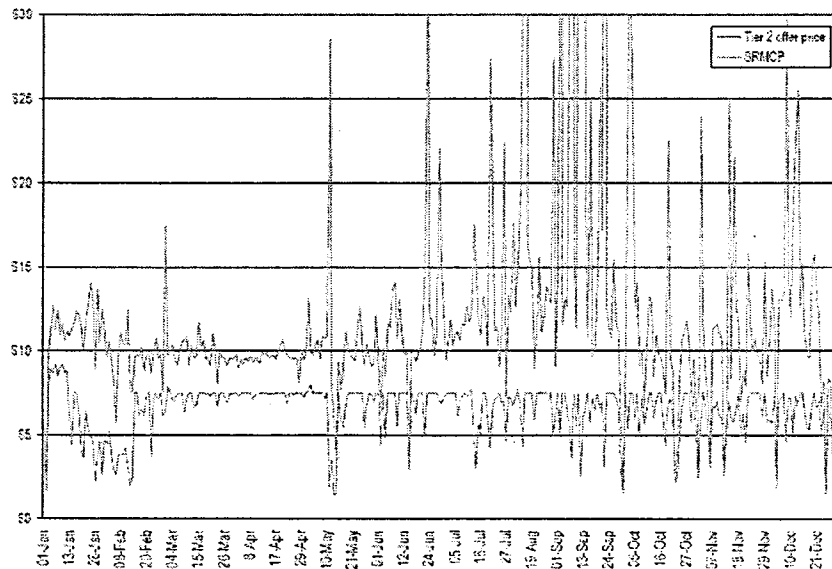
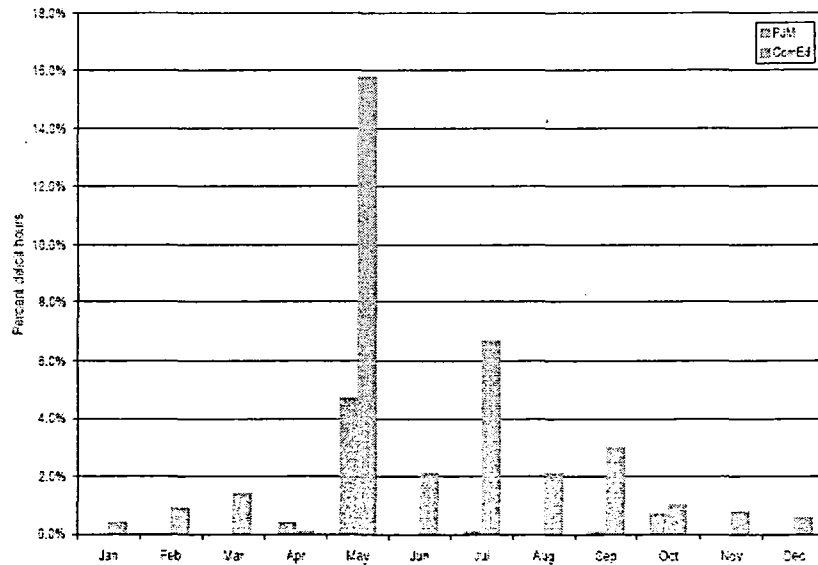


Figure 0-21 shows the level of Tier 1 and Tier 2 spinning reserve purchased from suppliers during calendar year 2005. Tier 1 resources are paid only if they respond during spinning events while Tier 2 resources are paid for providing hourly reserve. In general, more Tier 2 resources are purchased than Tier 1 resources, and Tier 2 payments are higher than Tier 1 payments. An important exception to this general rule was in the Western Region Spinning Reserve Market where a large baseload of available operating reserves ensures that Tier 1 spinning reserve services were almost always sufficient to cover the spinning requirement so Tier 2 spinning reserve was rarely purchased.

Spinning Reserve Availability

A spinning reserve deficit occurs when the combination of Tier 1 and Tier 2 spinning is not adequate to meet the spinning reserve requirement. Except for a brief period in the ComEd Region during May (See Figure 0-22.), none of PJM's Spinning Reserve Markets had significant spinning reserve deficits during 2005.

Figure 0-22 Tier 2 Spinning Reserve Market deficits: Calendar year 2005 <<J:\Office of the President\Market Monitoring Unit\SOM_2005\14_Graphs_Tables\DeficitResults.xls (tab: DeficitResultsGraph)>>



The Tier 2 spinning deficit peak during May in the ComEd Region was caused indirectly by a need for regulation and the assignment of several CTs, which otherwise provided spinning reserve to regulation. None of these Tier 2 spinning deficits created a serious problem because the ComEd Region's reserve requirement was satisfied by a reserve-sharing agreement with other members of MAIN.



MMU Organization

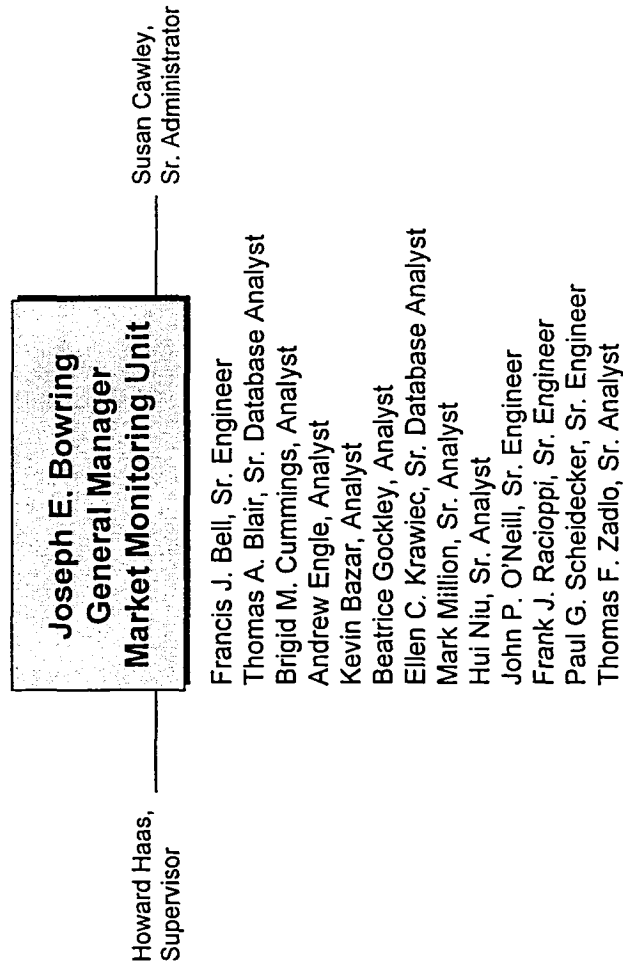
November 7, 2006

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MMU Current State

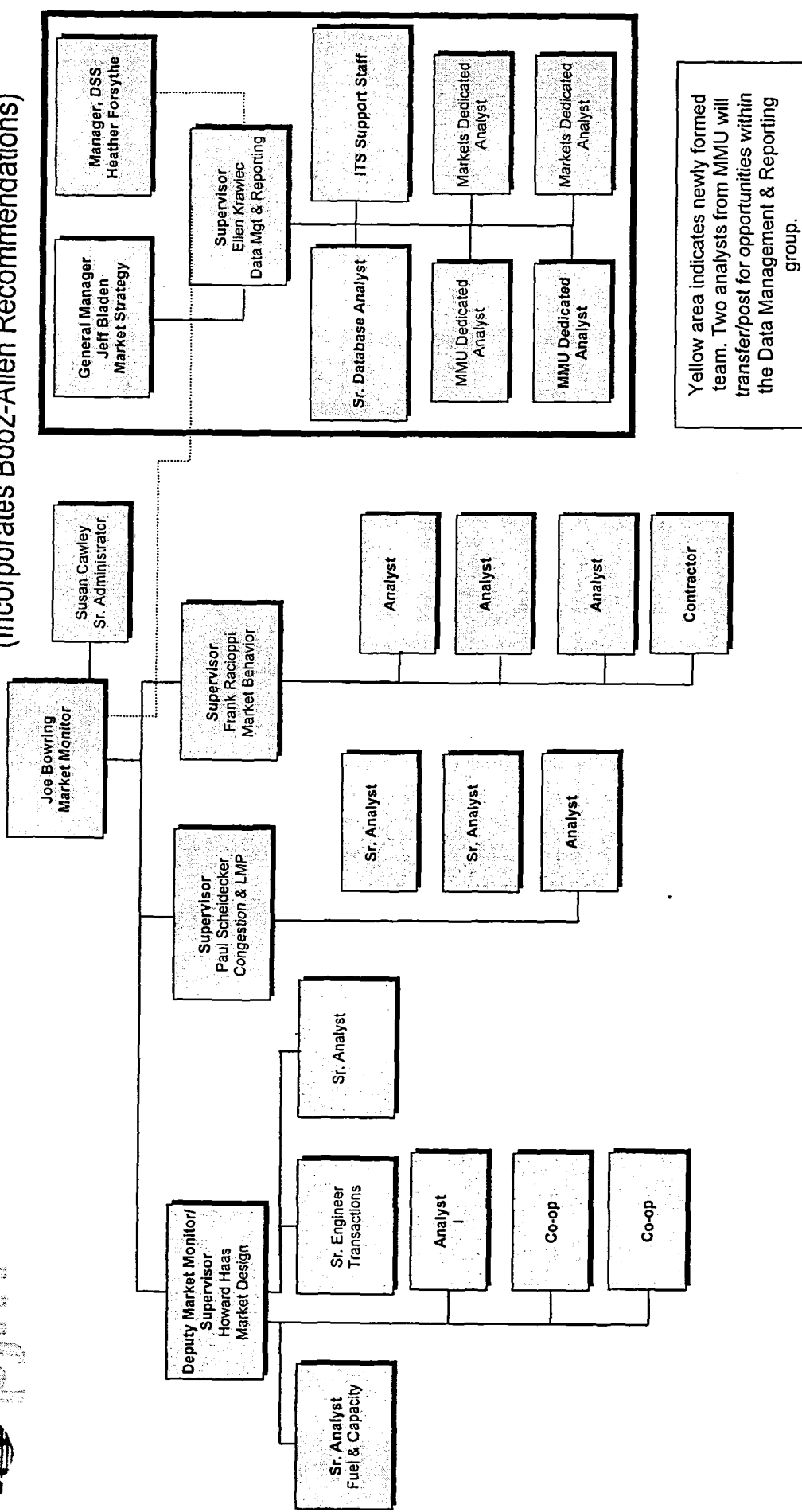


Within the PJM infrastructure, the MMU consists of 16 employees and 3 contractors. The MMU is led by Market Monitor, Joe Bowring. Joe recently has appointed a supervisor, Howard Haas, to assist with daily routine management. The department is extraordinarily flat with all team members reporting to the monitor and receiving daily direction from Joe Bowring on all activities. The team is comprised of Market Monitor – 1 (Band V), Sr. Administrator – 1 (Band II), Analysts – 4 (Band III), Sr. Analysts/Sr. Engineers – 7 (Band IV), Database Analyst – 2 (Band IV), Supervisor – 1 (Band V) and several IT contractors to provide programming support.



Future State

(Incorporates Booz-Allen Recommendations)



In an effort to retain the talent in the MMU as well as provide career progression, a change in the current organizational structure is proposed. As a result, a model in which Subject Matter Experts (SME) are identified to provide supervisory guidance to the team is requested. In this model, four senior-level employees are promoted to supervisory positions.



Currently MMU and Markets operate separately and in

parallel:

- distinct data groups
- separate analytical capabilities

Both groups need to utilize and/or access similar information and analyses. The current organizational configuration is inefficient and ineffective.

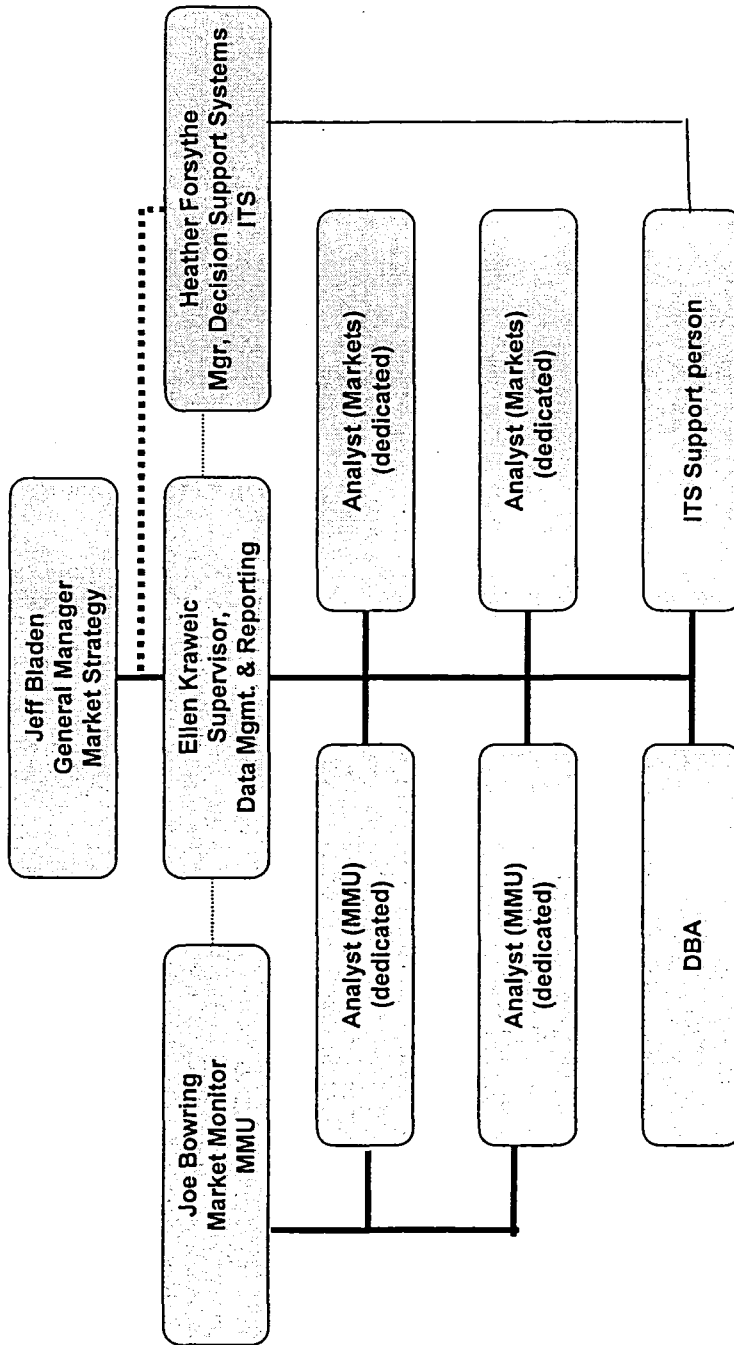


Organizational Options

Option 1 (MMU Control)	Option 2 (Mkts Control)	Option 3 (Mkt Control w/Cross functional Ownership)
<ul style="list-style-type: none">• Data posting and storage moves from MMU to Markets.• MMU will provide procedures for data sharing and analysis between MMU and the rest of PJM.• MMU will create and establish (protocols) for collaborative work.	<ul style="list-style-type: none">• Markets has responsibility for MMU and Markets data as well as analytics.• Markets group will provide transparency of data, coordinate analytical data and data posting as requested for MMU and the rest of PJM.	<ul style="list-style-type: none">• Formation of a Data Management and Reporting group managed by Markets with a dotted line to MMU.• Team will provide better access to data analysis.• Team includes a "blended" group of MMU analysts, Markets analysts, Database Admin (DBA) and an ITS support person.• Team will support analytic and data requests from MMU, Markets and Operations as requested.



Recommendation - Cross Functional Team



To achieve optimal usage of resources and allow for open access to analysis. The formation of a Data Management & Reporting group is recommended. This group will work closely with ITS (Forsythe) with a dotted line to ITS and a solid line reporting to Markets (Bladen). The Monitor would also have a dotted line to some of the Analysts and Supervisor, Ellen Krawiec. Ongoing communication will facilitate the team's success.



Advantages and Challenges

Advantages	Challenges
<ul style="list-style-type: none">• Clarity of roles for MMU and Markets staff members• More appropriate supervision and attention to career development and enhancement occur• Data and analyses are available to Markets, MMU and Operations	<ul style="list-style-type: none">• Resultant staff concerns over organizational realignment (why?)• Requires "buy – in" from all parties• Change necessitates explanation of new organizational paradigm



Staffing Considerations

- Supervisors will be appointed by the Monitor
 - 3 positions
- HR will evaluate and benchmark appropriate position titles and levels
- HR will orchestrate the staffing process: including posting, interviewing and the selection process.



Implementation Timeline

Dates are subject to change; however realignment is scheduled for completion within 30 days of commencement.

Action	Purpose	Est. Completion Date
Alignment discussion and presentation to CEO	Gain approval	11/7/06
Follow up discussion with respective management groups for clarity (MMU, Markets, ITS)	Provide clarity and address any employee concerns	11/8/06
HR back office work:	Administrative tasks for implementation	11/12/06
Communicate plan to EC, SLT, LT		11/13/06
Communicate with MMU and Markets employees	Provide Town hall or Divisional meeting to address concerns and gain employee perspective	11/13/06
Communication update in the Post	Communication plan	11/13/06
Communicate to HR team and all remaining parties	Communication plan	11/13/06
Work with MMU to select supervisors		11/13/06
Review org chart & provide descriptions for review	Ensure appropriate positions are reviewed and prepared for viewing	11/14/06
Conduct 1-on-1 sessions with MMU & (affected) Markets employees	Discussions with employees to understand career choices	11/16/06
Post opportunities for new Data & Reporting group *Discuss information regarding ITS support and functionality		11/16/06
Follow up Communication to the EC, SLT, LT	Communication plan	11/16/06
Candidate Selection and offer		11/20/06
Follow up meeting to MMU employees by Monitor and HR	Check in	11/21/06

2004 Approved Project Budget and Project Requests

Projects Included in Approved Budget			Additional Projects Considered		
Capital	Expense	Total	Capital	Expense	Total

Advanced Technology Proof of Concept - Performance Compliance
 Advanced Credit Screening
 Marginal Losses to Day-Ahead and Real-Time LMP (Markets)
 Accelerated Settlement
 eReports v1 - Conceptual Model Evaluation
 eReports v1 - Implementation
 Marginal Losses to Day-ahead and Real-time LMP Market Settlements
 Demand Side Market
 Resource Adequacy Market
 Advanced Technology Implementation - Performance Compliance
 Market System Applications Enhancements (2004)
 Market System Infrastructure Enhancements (2004)
 eSchedules Replacement
 Reactive Services Market

0	86,215	86,215			
341,464	57,944	399,408			
458,536	92,056	550,592			
410,509	34,265	444,774			
0	170,489	170,489			
818,076	66,673	884,749			
451,415	28,573	479,988			
394,083	111,063	505,146			
905,917	88,937	994,854			
3,780,000	736,215	4,516,215	144,810	89,905	234,715
			462,846	91,528	554,374
			385,181	10,616	395,797
			73,616	108,327	181,943
			176,818	52,354	229,172
			1,243,271	352,730	1,596,001

eData Enhancements 2004	321,408	118,558	439,966		
eData Enhancements 2004	134,883	66,069	200,952		
eDatafeed Enhancements 2004	132,202	29,240	161,442		
EES Enhancements 2004	368,736	204,739	573,475		
OASIS Enhancements 2004	142,771	81,394	224,165		
CC Control Room Renovation	620,341	7,317	627,658		
Control Center Display Replacement	1,677,629	11,066	1,888,695		
Dispatch Training Process Redesign	0	274,501	274,501		
Individual Generator Dispatch Enhancements	44,555	26,452	71,007		
Individual Generator Member Conversion	55,619	32,924	88,543		
New Control Center Development	0	452,511	452,511		
Post-Contingency Congestion Management	22,197	16,333	38,530		
EMS AIX and Oracle Upgrade	1,190,278	392,672	1,582,950		
PJMnet New Member Additions	489,243	259,450	748,693		

Additional Projects Considered		
Capital	Expense	Total

Projects Included in Approved Budget		
Capital	Expense	Total

SCADA Enhancements	110,757	40,550	151,307
Advanced Visualization	154,718	47,346	202,064
Intelligent Information System	421,197	69,677	490,874
Process and Tool Improvements for Generation Dispatcher	12,128	12,125	24,253
Process and Tool Improvements for Power Dispatcher	26,159	13,619	39,778
Process and Tool Improvements for Scheduling Coordinator	40,427	21,438	61,865
Real-time Dynamic Security Assessment	345,370	35,796	381,166
DTS Upgrades	200,000	100,000	300,000
EPRI Training Services and Products			
UDS and DMT Operational Enhancements			
Market Monitoring Tool			
Partial Computation Algorithm and System Recovery			
	140,000	60,000	200,000
	71,250	33,698	104,948
	140,000	60,000	200,000
	394,788	111,284	506,072
	746,038	264,982	1,011,020



Energy Schedules Historical Database
 GIS for Marketing Monitoring (Conceptual Design Pilot)
 Market Monitoring of Pool Tie Flows - PI System Data Analysis
 Market Monitoring System - MMAF v2
 Market Monitoring System Enhancements 2003
 New Market Research and Analysis
 State of the Market Report
 External Data Purchases - MMU
 Market Monitoring - Advanced Technology Initiative



	5,400	6,457	11,857
	0	62,827	62,827
	10,912	5,558	16,470
	199,545	69,525	269,070
	484,143	30,600	514,743
	0	168,572	168,572
	0	56,462	56,462
	700,000	400,001	1,100,001
	13,809,382	3,750,007	17,559,389
	25,000,000	7,200,000	32,200,000

	0	31,207	31,207
	150,832	54,918	205,750
	150,832	86,125	236,957
	4,558,502	1,779,447	6,337,949
	6,698,643	2,483,284	9,181,927

2005 Approved Project Budget and Project Requests

Projects Included in Approved Budget			Additional Projects Considered		
Capital	Expense	Total	Capital	Expense	Total

MARKET DIVISION

MSET Application and Database Redesign
 Market Settlements Reports (eReports)
 Market System Application & HW Upgrades (2005)
 Resource Adequacy Model Implementation (RPM - Market Implementation)
 Marginal Losses to Day-Ahead and Real-Time LMP (Markets)
 Joint and Common Market (JCM) Portal
 Market and Settlement System Enhancements for JCM
 Ancillary Service Market Enhancements
 Look Ahead UDS
 Market Systems Next Generation HW Upgrade (2005)
 RT Unit Commitment Mixed Integer Programming Implementation
 eCart Additional Reports
 IDC-TLR Data for Performance Compliance
 eSchedules Replacement
 Settlement System Modifications for Operating Reserve Rule Changes
 Demand Side Market
 Forward Energy Market

3,620,593 : 594,396 4,214,989
 1,042,548 643,390 1,685,938
 496,612 458,222 954,834
 1,847,620 654,564 2,502,184
 200,000 144,014 344,014

500,000 863,570 1,363,570
 285,000 207,036 492,036
 190,756 8,976 199,732
 232,944 266,944 499,888
 210,000 90,000 300,000
 500,000 732,268 1,232,268
 35,000 15,000 50,000
 35,000 15,000 50,000
 693,576 512,740 1,206,316
 65,720 90,352 156,072
 159,651 369,862 529,513
 0 226,560 226,560
2,907,647 3,398,308 6,305,955

7,207,373 2,494,586 9,701,959

OPERATIONS DIVISION

EMS Network Analysis Hardware Upgrades
 Real-Time Dynamic Security Assessment
 Congestion Management - Phase 2
 Voltage Stability Implementation (Operators)
 EMS Functional Enhancements
 Simulator Software and Hardware Enhancements
 OASIS Enhancements 2005
 PJMnet Additional 10 Sites
 EMS Model Audit (Phase II)
 (Dispatch) Communications Study
 MISO-PJM-TVA Data Exchange (Phase 2)

2,013,220 36,800 2,050,020
 500,000 99,972 599,972
 246,737 251,309 498,046
 53,976 7,660 61,636
 216,000 79,200 295,200
 213,280 61,960 275,240
 100,326 49,824 150,150
 195,997 250,000 445,997
 144,496 55,298 199,794
 0 132,724 132,724
 500,000 183,000 683,000

Projects Included in Approved Budget		
Capital	Expense	Total

Additional Projects Considered		
Capital	Expense	Total

EIPP Eastern Interconnection Phasor Project	50,000	0	50,000	183,800	32,320	216,120
AFC ATC Uis				15,920	10,780	26,700
ATC Automation				249,250	149,660	398,910
eDart Enhancements 2005				247,243	121,140	368,383
eData Enhancements 2005				153,426	48,220	201,646
eDatafeed Enhancements 2005				226,400	95,890	322,290
EES Enhancements 2005				511,200	256,720	767,920
eSuite Customer Enhancements				139,730	24,040	163,770
Long-Term Firm Tracking System				234,730	84,160	318,890
OASIS Redesign (RTOR)				79,800	23,100	102,900
PI System Enhancements				85,340	23,430	108,770
Winter Capacity Test Enhancements				0	13,014	13,014
All Call Study				89,121	11,840	100,961
Complete Video Wall (West)				71,692	9,486	81,178
Console Rearrange (West)				198,230	11,010	209,240
Control Center (CC) Jupiter Backup Processor				25,211	30,611	55,822
Emergency Procedures Enhancements (2005)				117,760	82,240	200,000
Grid Status Monitoring				221,121	68,880	290,001
IMM Information Model Manager				74,540	29,040	103,580
MidAtlantic AGC Updates				70,000	30,000	100,000
UDS and DMT Operational Enhancements				0	132,724	132,724
Communications Study Projects				0	102,968	102,968
ICCP Expanded Architecture				0	21,240	21,240
IPC (Dispatcher Turret System) Study				0	61,784	61,784
PJMnet Cost Reduction Study - Connection Studies and Implementation				492,962	15,254	508,216
PJMnet Next Generation				0	8,644	8,644
Racal Recorders Study				20,460	10,296	30,756
Dispatcher Productivity				635,680	115,760	751,440
Intelligent Alarm Processor				252,748	99,372	352,120
Real-time Visualization Enhancements				100,904	36,600	137,504
System Restoration						
	4,234,032	1,207,747	5,441,779	4,497,268	1,760,223	6,257,491



Market Monitoring System (MMS) - MSET Redesign Changes	103,758	9,488	113,246
State of the Market Report	0	73,000	73,000
MMS - EMS Redesign	0	33,060	33,060

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PJM Confidential

Market Monitoring - Contractors and Consultants*

Vendor Name	Scope	Budget			
		2004	2005	2006	2007
CSS Tech (Teichman, Morgan, You)	SAS - MMU database support			200,000	371,520
David Ehrmann	Management Consulting - Organizational Analysis			30,000	15,000
Econsult	Misc. MMU Consulting, Assessment Final Report - Fuel Cost Adjustment Price Indices		50,000		20,000
Endasol (Carl Smith)	Project Management Support, SAS Programming		50,000		129,600
General Electric	Hourly Flow Delivery/Market Simulation Modeling		25,000		
Linda Sutliff	State of the Market Technical Writer	87,000	40,000	75,000	125,000
Peter Cramton	Economics Consulting - Local Auction Design, Capacity Market Issues		50,000	50,000	10,000
PowerGem	PROBE software support - clears day-ahead market				15,000
Rothcopt	Local Market Power Mitigation Working Group		20,000		
Steven Stoft	Economics Consulting - External Power System Economic Expert - Local Auction Design	25,000	100,000	50,000	10,000
Strategic Energy (Ray Pasteris)	Energy Markets Consulting - Generator Expert - Local Market Power Auction, Blackstart		100,000	80,000	50,000
Unidentified	MMU General Support - Staff Augmentation - Economics/Engineering Spt., Market Power Analysis, etc.		100,000	100,000	
YOH (Mike Koons)	Staff Augmentation				49,795
Total		112,000	535,000	585,000	795,915

*Contractors and consulting budget contains MMU Cost Center planned expenditures only and does not include consulting and contractor costs utilized in project efforts.

Vendor Name	Scope	Actual			
		2004	2005	2006	2007**
CSS Tech (Teichman, Morgan, You, Caan, Klin)	SAS - MMU database support	73,848	268,226	431,394	168,799
David Ehrmann	Management Consulting - Organizational Analysis	20,000	(1,011)	9,912	1,500
Econsult	Misc. MMU Consulting, Assessment Final Report - Fuel Cost Adjustment Price Indices	15,000		8,927	
Endasol (Carl Smith)	Project Management Support, SAS Programming	24,375	19,836	89,663	62,394
Linda Sutliff	State of the Market Technical Writer	14,213	9,438	86,344	89,062
Peter Cramton	Economics Consulting - Local Auction Design, Capacity Market Issues	7,250	13,750		
PowerGem	PROBE software support - clears day-ahead market		1,320	19,820	
Rothcopt	Local Market Power Mitigation Working Group		75		
Software Spectrum	MathCAD v12.0 MP		1,515		
Steven Stoft	Economics Consulting - External Power System Economic Expert - Local Auction Design	77,464		1,464	
Strategic Energy (Ray Pasteris)	Energy Markets Consulting - Generator Expert - Local Market Power Auction, Blackstart	95,578	43,304	34,716	2,550
YOH (Mike Koons, Bhattad)	Staff Augmentation		9,429	45,224	5,766
Total		327,728	365,882	727,464	330,071

** 2007 Actual is Jan - April data

Market Monitoring - Materials & Supplies

Vendor Name	Scope	Budget		
		2004	2005	2006
All or part of the above*	Dues & Subscriptions - Various vendors budgeted as one total value	64,000	25,000	2007
Coal Week	Dues & Subscriptions - Publication subscription			
CRRl	Dues & Subscriptions - Journal of Reg Economics			
Electric Journal	Dues & Subscriptions - Publication subscription		2,500	2,500
Energy Hedge	Dues & Subscriptions - Newsletter			
Energy Trader	Dues & Subscriptions - Publication subscription		500	500
Evolution Markets	Dues & Subscriptions - Emission data			
Gas Turbine World	Dues & Subscriptions - Publication subscription		5,000	5,000
Handy Whitman Indices	Dues & Subscriptions - Construction Costs		100	100
IEEE	Dues & Subscriptions - Membership, Journal		1,000	1,000
Megawatt daily	Dues & Subscriptions - Publication subscription		250	250
New data sources/misc.	Dues & Subscriptions - new data sources/misc. subscriptions			
Platts	Dues & Subscriptions - Dataset on generation and pricing data, coal, gas, oil, futures prices		30,650	30,650
Public Utilities Fortnightly	Dues & Subscriptions - Publication subscription		55,000	55,000
Trend Letter	Dues & Subscriptions - Newsletter			
Xerox	Duplications Services - State of the Market Report		500	500
Staples	Office Supplies		1,000	3,000
Platts	Computer Software Licenses/Maintenance			1,000
		25,000		
	Total	64,000	50,000	96,500
				99,500

Vendor Name	Scope	Actual		
		2004	2005	2006
Argus Media	Dues & Subscriptions - Coal Daily Data		5,080	2007**
Coal Week	Dues & Subscriptions - Publication subscription			
CRRl	Dues & Subscriptions - Journal of Reg Economics			
Electric Journal	Dues & Subscriptions - Publication subscription			
Energy Hedge	Dues & Subscriptions - Newsletter			
Energy Trader	Dues & Subscriptions - Publication subscription			
Evolution Markets	Dues & Subscriptions - Emission data			
FMA	Dues & Subscriptions - membership renewal	2,400	4,800	4,800
Fusaro Focus Newsletter	Dues & Subscriptions - Publication subscription		70	2,400
Gas Turbine World	Dues & Subscriptions - Publication subscription	90	495	
Handy Whitman Indices	Dues & Subscriptions - Publication subscription	345	90	90
Hoovers	Dues & Subscriptions - Construction Costs		345	345
IEEE	Dues & Subscriptions - Premium Select w/Family Tree			
Independent Electricity Operator	Dues & Subscriptions - Membership, Journal	210	223	9,995
Journal of Reg Economics	Dues & Subscriptions - Registration Fee		765	232
Megawatt daily	Dues & Subscriptions - Publication subscription		2,500	
Other	Dues & Subscriptions	1,840		5,000
Platts	Dues & Subscriptions - Dataset on generation and pricing data, coal, gas, oil, futures prices	(2,549)	(663)	
Public Utilities Fortnightly	Dues & Subscriptions - Publication subscription	12,698	61,630	34,626
Trend Letter	Dues & Subscriptions - Newsletter			
Tuft Books	Dues & Subscriptions	225	248	260
UX Consulting	Dues & Subscriptions - Ux Weekly Data subscription		80	
Xerox	Duplications Services - State of the Market Report			
Staples	Office Supplies			
More Direct.com	Software Purchases - PRPRC010, Crystal Report 10 Pro	476	1,150	2,975
Platts	Computer Software Licenses/Maintenance	1,322	2,667	1,091
Shaw Power Technologies	Computer Software Licenses/Maintenance - Annul MUST License Fee	9,910	768	399
D&B	Computer Software Licenses/Maintenance - Family Tree Finder - 1	2,053	23,320	
PowerGem	Computer Software Licenses/Maintenance - PROBE			
IBM	Hardware Purchases - Ultra320 SCSI			
Open Access Technology Int'l	Data Processing - Historical Data Tag Export Service - PMT1, PMT2, Delivery of Current Profile	2,142		
		13,000		
	Total	44,162	77,476	115,613
				53,112

** 2007 Actual is Jan - April data

SMM - 01618

2004 Actual Expenses

Cost elements	Total Company	President	MMU	Finance	Law	EVP	ITS	Sys Plan	Sys Ops	Market Svcs	Corp Svcs
310060 Member Renewal Income	(782,917)			(782,917)							
310070 Application Fee Income	(78,000)			(78,000)							
* Membership Fees Income	(860,917)			(860,917)							
310020 Interest Income	(1,802,108)			(1,802,108)							
310021 Interest Income	(141,807)			(141,807)							
310050 Deposit Interest Income	(25,990)			(25,990)							
* Interest Income	(1,969,706)			(1,969,706)							
300000 Revenue - Consulting	(607)			(607)							
300004 Rev- P Tech Royalties	(3,255)						(3,255)				
300005 Rev- P Tech Maint Serv											
* Other Income	(3,862)			(607)			(3,255)				
480000 Salaries & Wages	48,598,541	2,445,108	1,143,574	2,822,565	1,599,411	1,900,417	12,233,215	3,433,140	10,003,491	4,719,651	6,495,971
480005 On Call Expense	328,700					21,900	181,500		71,000	54,300	
480020 Overtime Compensation	2,150,058	28,698	8,918	8,520	5,473	50,329	633,527	74,955	940,765	100,751	300,117
480025 Employee Benefits	5,000,828	160,742	119,859	195,703	115,712	185,605	1,356,293	408,860	1,107,100	530,589	820,194
480030 Annual Bonus	9,375,831	498,684	231,763	429,062	323,896	390,206	2,491,857	697,586	2,031,171	962,058	1,320,687
480040 Employer Payroll Taxes	3,621,381	168,378	95,023	310,422	109,098	143,346	1,050,836	283,604	828,155	387,889	548,608
480045 Employer 401K	1,888,323	99,987	45,848	106,711	49,542	72,226	498,033	128,858	424,453	210,005	258,680
480050 Tuition Reimburse	449,706	2,055	275	275	2,718	911	59,438	5,020	82,509	13,000	303,722
480055 Flexible Dollars	84,318	5,830	1,780	1,664	2,588	1,664	11,648	15,100	15,176	5,208	23,680
480065 Misc Payroll Exp	(15,417)	(770)		(19,802)		(20)	2,519	(1,191)	(1,612)	3,215	2,249
480070 Miscellaneous Bonuses	1,473,976	5,718	28,000	942,239	64,000	15,512	57,312	34,204	32,593	231,472	64,923
480075 Relocation Expense	817,507	5,403	1,950	37,119	34,468	21,357	55,011	96,532	1,456	564,209	
480085 Fitness Reimbursements	251,072	10,281	5,401	11,125	5,771	8,296	87,379	22,099	55,993	25,181	39,584
* Compensation & Benefits	72,322,605	3,424,072	1,879,898	4,809,390	2,315,328	2,824,854	18,662,882	5,155,246	15,667,326	7,244,615	10,738,784
Project Support Payroll	(15,708,228)	(803,781)	(115,842)	(597,304)	(12,519)	(1,126,126)	(6,142,583)	(1,575,315)	(2,733,845)	(1,008,786)	(1,794,344)
** Compensation & Benefits Total	56,614,379	2,620,311	1,564,254	4,012,086	2,302,809	1,698,728	12,520,299	3,579,931	12,933,481	6,235,829	8,944,440
480010 SERP Expense	257,335			253,138							4,196
480035 Pension Plan Expense	5,331,089	281,857	131,844	243,732	184,407	221,210	1,412,066	396,137	1,153,308	545,934	780,593
480060 Post Retire Bene Exp	5,971,904	310,816	148,106	258,684	204,994	249,843	1,592,214	448,111	1,300,200	613,041	846,091
* Pension & OPEB Expenses	11,560,327	592,473	279,953	755,554	389,401	471,053	3,004,280	844,248	2,453,508	1,158,975	1,610,880
480207 Safety&Equip Supplie	2,492							701			1,791
480200 Office Supplies Expense	257,297					694	4,718	1,027	3,560	1,368	230,903
480205 Postage and Shipping	97,260	1,578	478	2,333	1,842		418	25	1,942		94,875
480210 Dues & Subscriptions	669,212	8,013	15,259	35,291	80,890	38,058	258,844	27,485	88,327	11,901	127,141
480215 Data Processing Expense	13,000										
480218 Duplication Services	653,323	1,033			9		408	758			651,115
480400 Hardware Purchases	641,029		2,142			4,385	625,403				9,119
480410 Software Purchases	744,971		1,322	(3,803)	4,000	21,293	714,793	6,936	1,646		(1,186)
480415 Software Licenses/Main	7,938,915	5,625	11,963	(114,108)	800	33,370	6,480,823	149,411	1,090,921	79,933	200,177
480420 Computer Supplies Expense	172,987						184,667	37	75		8,188
480425 Computer Maint Exp	3,135,009						3,119,182		13,003		2,824
480500 Office Equip Purch	63,848			4,180			1,517				57,950
480510 Equip Maint & Repair	2,634					566					2,068
* Materials & Supplies	14,391,757	16,249	44,182	(76,107)	87,341	96,340	11,370,741	186,380	1,199,474	93,202	1,393,965
480300 Telecommunications Expense	7,505,896	88,055	5,042	15,898	35,872	7,150	6,920,972	59,329	52,552	233,861	87,163
480600 Consulting Fees Expense	7,430,873	1,452,443	327,727	38,611	124,076	210,968	1,811,830	435,106	1,600,378	139,358	1,463,575
480605 Accounting & Audit Fees	1,208,553	(5,978)		266,381			28,220				919,928
480606 Annual Report Expense	154,728										154,728
480610 Legal Fees Expense	3,704,439				3,452,875						251,764
480615 Contract Employees	2,177,434				80,255	43,581	1,906,319	28,616	9,610		129,053
480618 Recruiting Expense	398,185								14,148		384,039
480620 Board of Managers Expense	1,068,508	2,852			1,065,371						485
480700 Building Maint	1,828,130			126	781		10,684				1,816,240
480705 Security Expense	393,775					386,956	5,909				620
480715 Water/Sewer Expense	24,872										24,872
480720 Property/School Taxes	332,402										332,402
480725 Utilities Expense	836,847										836,847
480800 Bank Charges	75,601			75,601							
* Outside Services	27,150,241	1,537,174	332,769	394,617	4,739,030	668,639	10,473,140	523,051	1,670,688	373,219	6,431,914
480305 Telecom Lease	184,121						184,121				
480405 Hardware Leases	4,538,380						4,537,280	1,000			
480406 Software Leases	256						256				
480505 Office Equip Leases	133,515										133,515
480710 Building Lease Expense	2,268,720										2,268,720
* Lease Expense	7,124,893						4,721,657	1,000			2,402,235
470010 Depr exp - Buildings	531,213			531,213							
470020 Depr Exp Fur & Fix	58,810			58,810							
470040 Depr Exp - Computer	5,479,765			5,479,765							
470050 Depr Exp Software	24,433,078			24,433,078							
470155 Amort Def Fin Costs	219,680			219,680							
470600 Regulatory Exp Defer	21,003,911			21,003,911							
* Depreciation Expense - Net	51,726,437			51,726,437							
310030 Discount Received	(738)			(738)							
310040 Other Income	(17,104)			(17,104)							
310080 Seminar/Course Fee Income	(4,865)			(4,865)							
320000 Gain from Asset Sale	(21,000)			(21,000)							
460100 Meals	619,301	77,378	9,087	15,771	33,588	13,587	107,810	33,933	101,818	43,064	183,666
460105 Lodging	643,818	61,411	3,364	15,612	77,176	29,178	145,690	41,715	148,314	57,492	63,864
460110 Travel Expense	916,164	147,723	13,187	61,667	109,378	63,315	132,736	58,129	99,718	154,877	75,456
460115 Travel - Other Expense	28,105	8,071		360	4,570		4,690		4,698	1,872	1,843
460120 Meetings Expense	1,145,298	52,288	6,420	18,683	71,301	26,454	190,166	64,853	40,942	289,813	384,077
460125 Member Training	416,268	87,486		2,367	2,367	3,180	16,712	44,005	107,239	13,158	159,805
460130 Employee Training	769,403	41,260	2,741	28,483	6,650	44,547	313,718	32,768	40,791	51,463	208,653
460206 Sales Tax Expense	261,052			261,052							
460225 Promotional Expense	69,381	37,231			1,199	1,599	17,539			3,309	107,504
460228 Annual Meeting Expense	259,854										259,854
460730 Insurance Expense	3,449,071			3,449,071							
480805 Miscellaneous Expenses	(2,842,935)	(1,146,155)	9,283	209,833	14,623	6,312	(289,224)	(1,872)	(526,906)	(114,683)	(803,835)
480810 Charitable Contributions	362,867										362,867
480811 Corporate Donations	27,505	10,000									17,504
480910 Loss on Asset Sale	551,531			551,506							25
490020 PA Stock/Fran Tax	(110,000)			(110,000)							
* Other Expenses	6,820,004	(643,329)	44,042	4,458,798	321,150	188,172	639,637	273,556	16,324	500,163	1,021,463
480900 Interest Expense	7,113,159			7,113,159							
* Interest Expense	7,113,159			7,113,159							
490000 Federal Inc Tax Exp	40,197			40,197							
490010 State Inc Tax Exp	2,588,451			2,588,451							
* Income Tax Expense	2,628,648			2,628,648							
Project Expenses	5,889,762						(3,337)				
*** Total Expenses	188,185,121	4,322,878	2,265,180	68,181,962	7,819,731	3,122,838	42,723,162	5,408,168	18,279,473	8,363,588	21,604,917

2005 Actual Expenses

Cost elements	Total Company	President	MMU	Finance	Law	External Affairs	SVP	Sys Ops	Sys Plan	ITS	Market Svcs	Corp Svcs
310060 Member Renewal Income	(1,036,088)			(1,036,088)								
310070 Application Fee Income	(93,000)			(93,000)								
* Membership Fees Income	(1,129,088)			(1,129,088)								
310020 Interest Income	(5,404,833)			(5,404,833)								
310021 Interest Income	(80,021)			(80,021)								
310050 Deposit Interest Income	(32,117)			(32,117)								
* Interest Income	(5,516,771)			(5,516,771)								
300004 Rev- P Tech Royalties	(4,248)										(4,248)	
* Other Income	(4,248)										(4,248)	
460000 Salaries & Wages	51,030,151	2,183,413	1,361,998	2,269,468	1,396,835	4,527,610	3,307,592	10,913,391	4,074,636	11,757,947	5,247,708	4,009,552
460005 On Call Expense	330,300						29,400	67,500		183,000	50,400	
460020 Overtime Compensation	1,930,290	9,953	5,327	8,257	5,768	62,070	37,652	980,838	62,382	449,454	130,491	178,098
460025 Employee Benefits	5,950,959	143,522	164,028	211,567	113,842	516,830	351,861	1,275,487	528,573	1,420,480	657,840	569,118
460030 Annual Bonus	10,400,000	446,393	281,648	354,793	285,470	933,215	682,590	2,251,463	843,129	2,410,461	1,084,049	826,588
460040 Employer Payroll Taxes	4,126,575	133,127	114,561	137,783	112,643	347,597	254,168	894,437	330,296	1,007,250	441,948	352,732
460045 Employer 401K	2,191,010	87,256	54,558	73,763	48,000	158,452	135,742	457,773	160,408	493,104	228,084	293,777
460050 Tuition Reimburse	558,060		3,280	2,718	4,489	2,300	42,237	22,702	38,825	13,285	428,453	
460055 Flexible Dollars	81,935	3,480	3,328	2,880	1,115	11,580	1,864	15,256	16,220	9,284	3,544	13,584
460065 Misc Payroll Exp	110,123	2,302		92,826				931		(1,179)	13,301	1,942
460070 Miscellaneous Bonuses	680,203	36,332	8,850	206,279	86,330	38,493	84,188	38,252	31,279	70,989	64,903	14,310
460075 Relocation Expense	622,580		15,938	4,732	7,346	18,598	20,162	3,726	7,023	2,531	542,528	
460085 Fitness Reimbursements	292,804	9,226	6,875	10,999	5,325	26,949	16,729	61,255	25,321	67,734	27,488	25,904
* Compensation & Benefits	78,324,020	3,034,003	2,020,591	3,368,615	2,062,578	6,634,631	4,922,540	17,018,982	6,066,672	17,914,242	7,974,570	7,256,584
Project Support Payroll	(8,438,082)	(255,318)	(9,451)	(235,707)	(96,404)	(155,617)	(1,336,125)	(1,017,538)	(1,052,952)	(2,898,154)	(729,135)	(651,676)
** Compensation & Benefits Total	69,885,938	2,778,685	2,011,140	3,132,908	1,966,174	6,479,014	3,586,415	16,001,444	5,043,720	15,016,088	7,245,435	6,604,908
460010 SERP Expense	397,097			397,097								
460035 Pension Plan Expense	5,691,792	252,422	159,252	200,766	161,110	528,060	386,135	1,274,341	476,003	1,364,140	611,946	477,615
460060 Post Retire Bene Exp	7,325,942	314,163	168,460	250,089	202,034	656,452	480,839	1,586,034	593,215	1,698,551	762,819	583,286
* Pension & OPEB Expenses	13,614,831	566,585	357,712	647,952	363,144	1,184,512	866,974	2,860,375	1,069,218	3,062,691	1,374,765	1,060,901
460207 Safety&Equip Supplie	8,269								603			7,666
460200 Office Supplies Expense	228,968	1,149	1,150	1,679	2,952	4,669	2,965	1,502	1,440	7,961	480	203,022
460205 Postage and Shipping	138,732			(10)	170	1,032	2,529	2,319		30	560	132,102
460210 Dues & Subscriptions	851,198	98,825	78,326	40,722	35,708	85,968	35,868	104,651	58,486	188,218	20,133	106,284
460215 Data Processing Expense	2,406					246		2,000				160
460218 Duplicate Expense	749,336	312			505	7,608						740,911
460400 Hardware Purchases	706,179						21,476			684,702		
460410 Software Purchases	820,438	1,420				5,619	73,679	12,151	22,160	700,784	504	4,120
460415 Software Licns/Main	7,060,183			(15,712)		222,750	939,897	106,093	138,287	5,377,655	237,593	53,616
460420 Computer Supplies Expense	241,178					710	1,268	175		236,433	593	
460425 Computer Maint Exp	2,812,556									2,809,903		2,653
460500 Office Equip Purch	157,967	100				4,743	211	16,736		3,024		133,154
460510 Equip Maint & Repair	1,539						48					1,491
* Materials & Supplies	13,778,989	101,806	77,476	26,679	39,335	333,343	1,078,001	245,627	220,658	10,010,710	259,863	1,365,182
460300 Telecommunications Expense	7,432,902	36,325	927	5,098	12,200	243,673	228,905	60,065	7,825	6,809,718	27,005	3,160
460600 Consulting Fees Expense	6,981,020	654,680	208,624	274,937	171,322	906,579	15,450	3,085,761	1,436,434	1,046,449	233,539	947,255
460605 Auditing & Audit Fees	1,176,623			1,176,623								
460606 Annual Report Expense	176,588					176,587						
460610 Legal Fees Expense	3,775,843	150,089			3,523,119	103,629						(904)
460615 Contract Employees	6,041,356	4,302	158,213		155,445	150,148	131,531	128,563	18,180	4,815,153	340,116	139,702
460616 Recruiting Expense	274,021											274,021
460620 Board of Managers Expense	1,251,832	486			1,158,755							62,590
460700 Building Maint	508,848						11,932	95				496,821
460701 HVAC Services Expense	267,335							85				267,250
460702 Electric Services Expense	718,663											718,663
460703 Cleaning Services Expense	261,423											261,423
460704 Grounds Maintenance	93,406											93,406
460705 Security Expense	358,999						348,909			(1)		9,045
460715 Water/Sewer Expense	23,132											23,132
460720 Property/School Taxes	292,065											292,065
460725 Utilities Expense	964,949							500				964,399
460800 Bank Charges	95,866			95,836		30						
* Outside Services	32,698,050	845,882	367,764	1,555,464	5,020,841	1,581,862	734,727	3,275,129	1,462,439	12,671,319	600,660	4,581,927
460305 Telecom Lease	1,543									1,543		
460405 Hardware Leases	2,050,317									2,050,317		
460406 Software Leases	33,775								32,950	825		
460505 Office Equip Leases	13,286											13,286
460710 Building Lease Expense	2,008,377											2,008,376
* Lease Expense	4,107,298								32,950	2,052,685		2,021,662
470010 Dep Exp - Buildings	1,668,412			1,668,412								
470020 Dep Exp Fur & Fix	76,810			76,810								
470040 Dep Exp - Computer	9,917,650			9,917,650								
470050 Dep Exp Software	35,803,501			35,803,501								
470155 Amort Def Fin Costs	219,860			219,860								
470000 Regulatory Exp Defer	16,366,160			16,366,160								
* Depreciation Expense - Net	64,052,362			64,052,362								
310030 Discount Received	(113)			(113)								
310040 Other Income	(204,783)			(204,783)								
310080 Seminar/Course Fee Income	(4,500)			(4,500)								
460100 Meals	788,667	61,222	7,685	12,353	53,153	191,855	33,245	108,837	35,403	105,751	50,367	126,696
460105 Lodging	899,593	59,599	6,329	19,563	39,354	157,836	71,651	173,016	70,182	159,322	70,511	33,230
460110 Travel Expense	1,520,572	156,367	15,653	35,785	62,906	384,915	75,000	219,964	117,032	160,022	213,999	78,898
460115 Travel - Other Expense	11,936	2,765	1,780	(16)	1,622	4,682		235	(36)	726	(1,300)	3,259
460120 Meetings Expense	1,022,341	44,709		4,323	73,783	774,757	3,108	13,164	3,817	50,565	35,834	16,470
460125 Member Training	334,156		9,540	1,443	225	20,949	22,298	30,051	36,677	61,279	15,654	136,039
460130 Employee Training	1,161,841	18,466	7,070	30,163	26,783	346,191	108,101	21,332	67,421	367,317	61,779	109,187
460206 Sales Tax Expense	64,205			64,205								
460225 Promotional Expense	204,747	57,779	154		3,798	118,611	306	4,728	494	(1,621)	1,930	18,566
460228 Annual Meeting Expense	158,584					158,584						
460730 Insurance Expense	3,358,746			3,358,746								
460805 Miscellaneous Expenses	(1,136,315)	(47,115)	97	193,094	(29,165)	(211,086)	40,366	23,992	(8,641)	48,827	(1,126,889)	(19,495)
460810 Charitable Contributions	286,673	125		290				60				286,498
460811 Corporate Donations	139,251	10,000										129,251
460810 Loss on Asset Sale	468,542			468,542								
460020 PA Stock/Fran Tax	5,000			5,000								
* Other Expenses	9,038,664	363,947	48,308	3,984,115	232,461	1,947,294	352,075	595,439	322,049	652,188	(678,115)	918,899
460900 Interest Expense	9,213,824			9,213,824								
* Interest Expense	9,213,824			9,213,824								
460000 Federal Inc Tax Exp	3,749,000			3,749,000								
460010 State Inc Tax Exp	4,654,000			4,654,000								
* Income Tax Expense	8,603,000			8,603,000								
Project Expenses	13,604,305									8,314	1,132,238	
*** Total Expenses	231,927,179	4,656,905	2,862,400	84,770,507	7,621,955	11,526,025	6,616,192	22,978,014	8,151,332	43,773,995	9,930,600	16,573,476

2006 Actual Expenses

Cost elements	Total Company	President	MMU	Finance	Law	SVP	ITS	Sys Plan	Sys Ops	Market Svcs	Corporate Svcs	External Affairs
310060 Member Renewal Income	(1,210,250)	-	-	(1,210,250)	-	-	-	-	-	-	-	-
310070 Application Fee Income	(118,500)	-	-	(118,500)	-	-	-	-	-	-	-	-
Membership Fees Income	(1,328,750)	-	-	(1,328,750)	-	-	-	-	-	-	-	-
310020 Interest Income	(18,078,137)	-	-	(18,078,137)	-	-	-	-	-	-	-	-
310021 Interest Income	(165,408)	-	-	(165,408)	-	-	-	-	-	-	-	-
310050 Deposit Interest Income	(49,860)	-	-	(49,860)	-	-	-	-	-	-	-	-
Interest Income	(18,293,405)	-	-	(18,293,405)	-	-	-	-	-	-	-	-
460000 Salaries & Wages	53,443,312	2,162,199	1,383,927	2,041,019	1,401,940	4,919,207	11,781,118	4,137,055	11,106,114	6,957,737	4,406,123	3,146,872
460005 On Call Expense	329,142	-	-	-	-	31,800	165,600	-	72,800	58,842	-	-
460020 Overtime Compensation	2,037,017	6,688	3,215	6,173	292	28,747	580,065	59,641	1,002,881	122,875	188,382	40,077
460025 Employee Benefits	8,323,497	123,972	184,623	222,427	121,497	493,252	1,368,017	558,738	1,355,742	917,622	639,958	337,651
460030 Annual Bonus	10,198,837	442,270	279,944	(212,504)	284,444	860,089	2,394,952	838,794	2,255,818	1,407,901	891,050	636,071
460040 Employer Payroll Taxes	4,297,698	137,955	116,012	121,998	85,194	402,261	942,136	337,674	945,205	569,245	389,149	247,868
460045 Employer 401K	2,473,381	75,291	57,150	89,087	54,109	198,922	441,479	174,290	474,826	297,801	491,142	119,282
460050 Tuition Reimburse	666,820	-	-	-	-	34,164	52,064	10,544	48,114	74,391	439,317	8,225
460055 Flexible Dollars	72,090	3,016	2,940	2,112	-	1,838	6,625	15,374	19,064	9,714	7,878	3,532
460065 Misc Payroll Exp	98,778	1,215	-	88,285	25	(650)	2,055	190	1,362	-	8,244	54
460070 Miscellaneous Bonuses	584,660	21,582	20,000	94,588	45,373	2,471	61,558	27,404	131,027	59,575	107,014	14,067
460075 Reimbursement Expense	757,289	-	-	-	-	-	-	-	-	-	757,289	-
460085 Fitness Reimbursements	278,117	6,375	7,122	11,000	5,375	23,661	59,784	26,638	59,334	40,003	23,078	16,467
Compensation & Benefits	81,561,598	2,980,564	2,054,933	2,462,165	2,001,249	7,113,762	17,855,432	6,186,641	17,472,385	10,515,708	8,348,590	4,570,168
Project Support Payroll	(7,086,248)	(174,785)	(39,404)	(122,740)	(37,304)	(848,669)	(2,529,589)	(896,555)	(749,553)	(935,621)	(671,579)	(80,450)
Compensation & Benefits Total	74,475,349	2,805,780	2,015,529	2,339,425	1,963,946	6,265,093	15,325,843	5,290,085	16,722,832	9,580,085	7,677,011	4,489,716
460010 SERP Expense	596,753	-	-	596,753	-	-	-	-	-	-	-	-
460035 Pension Plan Expense	7,537,958	308,524	196,257	255,497	199,034	679,148	1,679,078	587,303	1,575,140	988,480	625,678	445,819
460060 Post Retire Bene Exp	8,930,612	369,049	233,081	303,821	238,605	773,303	1,994,611	697,871	1,872,201	1,173,851	743,779	532,341
Pension & OPEB Expenses	17,065,323	677,573	429,338	1,156,171	435,639	1,452,451	3,673,689	1,285,174	3,447,341	2,160,331	1,369,457	978,160
460207 Safety&Equip Supplie	8,951	-	-	-	-	5,297	-	21	-	-	3,633	-
460200 Office Supplies Expense	265,945	4,083	768	2,059	241	2,055	1,646	647	18,721	1,833	223,248	10,844
460205 Postage and Shipping	138,362	25	-	-	-	-	240	-	1,393	-	135,534	1,170
460210 Dues & Subscriptions	911,712	53,021	44,458	48,698	45,344	32,765	269,131	43,016	92,544	15,731	153,218	113,768
460215 Data Processing Expense	492	-	-	-	-	-	-	-	-	-	492	-
460216 Duplication Services	845,265	300	2,667	-	-	-	-	1,365	-	-	822,551	18,383
460400 Hardware Purchases	427,747	-	-	-	-	89,554	318,988	12,782	3,284	2,100	1,039	-
460410 Software Purchases	760,853	-	-	196	-	23,087	700,652	47	34,814	-	-	2,058
460415 Software Licenses/Main	4,854,917	-	67,720	-	-	104,400	4,030,481	160,416	30,750	154,601	48,081	258,469
460420 Computer Supplies Expense	242,487	-	-	-	-	3,940	237,345	-	247	-	508	447
460425 Computer Maint Exp	3,137,253	-	-	-	-	60,165	3,077,088	-	-	-	-	-
460500 Office Equip Purch	81,302	-	-	578	-	-	(0)	1,303	132	-	76,316	2,974
460510 Equip Maint & Repair	1,643	-	-	-	-	-	129	-	-	-	1,514	-
Materials & Supplies	11,676,930	57,429	115,613	51,529	45,584	321,263	8,835,700	219,597	147,072	208,679	1,465,642	408,624
460036 Pension Plan Fee Expense	70	-	-	-	-	-	-	-	-	-	70	-
460300 Telecommunications Expense	6,468,746	23,219	94	2,419	6,721	107,360	6,133,860	4,578	82,209	16,374	5,802	66,112
460600 Consulting Fees Expense	9,199,536	1,280,393	152,408	110,570	104,964	244,993	907,113	435,719	2,776,123	493,047	1,836,606	1,057,599
460605 Accounting & Audit Fees	1,068,717	-	-	1,068,717	-	-	-	-	-	-	-	-
460606 Annual Report Expense	160,402	-	-	-	-	-	-	-	-	-	-	160,402
460610 Legal Fees Expense	3,678,332	89,929	-	-	3,589,818	-	-	-	-	-	362	(1,777)
460615 Contract Employees	5,610,624	31,855	575,056	-	131,970	170,906	3,711,824	32,815	189,646	209,675	340,439	216,438
460616 Recruiting Expense	592,881	-	-	-	-	-	5,758	-	-	-	387,125	-
460620 Board of Managers Expense	1,060,416	-	-	-	-	-	-	-	-	-	1,060,416	-
460700 Building Maint	380,764	-	-	-	-	-	-	-	-	-	380,764	-
460701 HVAC Services Expense	199,134	-	-	-	-	-	-	-	-	-	199,134	-
460702 Electric Services Expense	577,426	-	-	-	-	-	-	-	-	-	577,426	-
460703 Cleaning Services Expense	228,305	-	-	-	-	-	-	-	-	-	228,305	-
460704 Grounds Maintenance	170,865	-	-	-	-	-	-	-	-	-	170,865	-
460705 Security Expense	369,847	455	-	-	-	358,479	-	-	-	-	933	781
460715 Water/Sewer Expense	29,447	-	-	-	-	-	-	-	-	-	29,447	-
460720 Property/School Taxes	313,856	-	-	-	-	-	-	-	-	-	313,856	-
460725 Utilities Expense	1,067,527	-	-	-	-	376	-	1,890	-	-	1,065,261	-
460800 Bank Charges	103,378	-	-	103,346	-	-	-	32	-	-	-	-
Outside Services	31,069,075	1,425,851	727,558	1,285,052	3,833,473	881,738	10,758,929	473,110	3,049,899	719,096	6,394,811	1,519,555
460405 Hardware Leases	1,207,575	-	-	(37,861)	-	-	1,245,436	-	-	-	-	-
460406 Software Leases	7,904	-	-	-	-	-	-	-	-	-	7,904	-
460505 Office Equip Leases	2,177,073	-	-	-	-	-	-	-	-	-	2,119,473	-
460710 Building Lease Expense	3,392,552	-	-	(37,861)	-	-	1,245,436	-	57,600	-	2,127,377	-
Lease Expense	1,732,830	-	-	1,732,830	-	-	-	-	-	-	-	-
470010 Depr exp - Buildings	76,810	-	-	76,810	-	-	-	-	-	-	-	-
470020 Depr Exp Fur & Fut	10,018,816	-	-	10,018,816	-	-	-	-	-	-	-	-
470040 Depr Exp - Computer	29,944,964	-	-	29,944,964	-	-	-	-	-	-	-	-
470050 Depr Exp Software	219,860	-	-	219,860	-	-	-	-	-	-	-	-
470155 Amort Def Fin Costs	4,120,147	-	-	4,120,147	-	-	-	-	-	-	-	-
479000 Regulatory Exp Defer	46,113,426	-	-	46,113,426	-	-	-	-	-	-	-	-
Depreciation Expense - Net	(122)	-	-	(122)	-	-	-	-	-	-	-	-
310030 Discount Received	(171,786)	-	-	(171,786)	-	-	-	-	-	-	-	-
310040 Other Income	(19,072)	-	-	(19,072)	-	-	-	-	-	-	-	-
310080 Seminar/Course Fee Income	-	-	-	-	-	-	-	-	-	-	-	-
440000 Study Deposits	820,817	62,863	9,331	6,530	26,077	65,804	138,441	28,245	100,194	100,169	149,347	133,814
460105 Lodging	813,192	88,692	5,815	25,364	24,881	88,226	101,355	98,488	137,618	122,915	28,755	94,884
460110 Travel Expense	1,337,413	130,033	19,584	76,072	37,298	178,768	124,634	110,258	228,968	218,531	61,036	151,946
460115 Travel - Other Expense	9,134	2,137	-	-	198	15	113	170	2,048	834	1,848	1,772
460120 Meetings Expense	1,084,812	59,788	3,319	125	3,792	73,082	29,203	-	4,044	20,212	138,319	752,926
460125 Member Training	435,491	-	(1,054)	-	1,517	22,685	94,473	9,730	16,641	6,750	195,401	89,346
460130 Employee Training	1,073,739	13,520	3,974	15,466	19,103	55,347	303,488	54,418	42,684	128,289	71,175	366,286
460206 Sales Tax Expense	18,620	-	-	-	-	17,694	-	-	-	-	926	-
460225 Promotional Expense	124,740	10,415	26	-	231	4,315	875	1,449	-	11,421	9,084	86,924
460228 Annual Meeting Expense	221,479	-	-	-	-	-	-	-	-	-	-	221,479
460650 Project Accrual Expense	3,445,119	-	-	3,445,119	-	-	-	-	-	-	-	-
460730 Insurance Expense	109,750	38,144	572	(10,360)	(1,849)	94,564	25,507	1,603	17,763	(154,483)	60,107	38,184
460805 Miscellaneous Expenses	329,277	2,500	-	-	-	-	-	-	-	-	326,777	-
460810 Charitable Contributions	125,262	-	-	-	-	-	-	-	-	-	125,262	-
460811 Corporate Donations	125,000	-	-	-	-	-	-	-	-	-	125,000	-
460905 Penalties & Fines	281,867	-	-	281,867	-	-	-	-	-	-	-	-
460910 Loss on Asset Sale	5,000	-	-	5,000	-	-	-	-	-	-	-	-
490020 PA Stock/Fran Tax	10,169,733	406,291	41,867	3,671,897	111,236	582,806	818,091	304,359	549,957	454,638	1,291,037	1,937,561
Other Expenses	17,867,694	-	-	17,867,694	-	-	-	-	-	-	-	-
460900 Interest Expense	17,867,694	-	-	17,867,694	-	-	-	-	-	-	-	-
Interest Expense	18,500,598	-	-	18,500,598	-	-	-	-	-	-	-	-
490000 Federal Inc Tax Exp	(871,198)	-	-	(871,198)	-	-	-	-	-	-	-	-
490005 Def Fed Inc Tax Exp	5,515,336	-	-	5,515,336	-	-	-	-	-	-	-	-
490010 State Inc Tax Exp	(4,215,573)	-	-	(4,215,573)	-	-	-	-	-	-	-	-
490015 Def State Inc Tax	18,929,165	-	-	18,929,165	-	-	-	-	-	-	-	-
Income Tax Expense	9,886,794	-	-	-	-	-	-	-	-	166,293	-	-
Project Expenses	221,023,887	5,372,923	3,329,965	71,754,343	6,389,878	9,503,351	40,457,688	7,572,325				

April Year-to-date 2007 Actual Expenses

Cost elements	Total Company	President	MMU	Finance	Law	SVP	ITS	Sys Plan	Sys Ops	Market Svcs	Corporate Svcs	External Affairs
310060 Member Renewal Income	(437,025)	-	-	(437,025)	-	-	-	-	-	-	-	-
310070 Application Fee Income	(34,500)	-	-	(34,500)	-	-	-	-	-	-	-	-
Membership Fees Income	(471,525)	-	-	(471,525)	-	-	-	-	-	-	-	-
310020 Interest Income	(6,339,871)	-	-	(6,339,871)	-	-	-	-	-	-	-	-
310021 Interest Income	(23,834)	-	-	(23,834)	-	-	-	-	-	-	-	-
310050 Deposit Interest Income	-	-	-	-	-	-	-	-	-	-	-	-
Interest Income	(6,363,705)	-	-	(6,363,705)	-	-	-	-	-	-	-	-
460000 Salaries & Wages	17,258,345	724,498	459,773	713,772	502,532	2,509,422	3,518,337	1,080,441	2,970,679	2,402,364	1,368,168	1,006,058
460005 On Call Expense	96,428	-	-	-	-	18,729	53,100	-	9,600	14,999	-	-
460020 Overtime Compensation	815,154	3,908	3,328	2,720	417	68,788	218,148	48,582	319,510	46,777	77,721	25,262
460025 Employee Benefits	2,588,155	55,400	73,318	95,294	58,471	384,675	558,864	184,660	445,807	393,803	223,498	136,565
460030 Annual Bonus	3,666,687	154,636	98,152	135,256	107,401	535,121	752,163	230,765	634,889	512,250	291,412	214,620
460040 Employer Payroll Taxes	2,316,821	85,883	58,700	83,369	67,590	365,898	144,732	138,352	399,442	316,553	222,016	133,677
460045 Employer 401K	753,702	35,843	20,606	34,533	20,276	109,289	444,637	47,093	136,126	105,828	59,140	40,352
460050 Tuition Reimburse	149,280	-	-	1,649	5,250	18,961	15,048	13,225	11,232	9,014	73,152	3,750
460055 Flexible Dollars	22,602	1,044	578	1,152	-	2,904	2,828	4,432	-	2,828	3,254	762
460065 Misc Payroll Exp	28,257	-	-	28,981	-	-	(500)	-	(1,472)	(448)	(283)	-
460070 Miscellaneous Bonuses	251,573	-	22,054	13,333	2,000	50,500	28,971	20,000	9,022	58,583	31,110	20,000
460075 Relocation Expense	111,480	-	-	-	-	-	-	-	-	-	111,480	-
460085 Fitness Reimbursements	94,029	1,500	1,500	4,739	2,000	12,887	20,128	5,500	20,998	11,186	9,589	4,000
Compensation & Benefits	28,148,491	1,062,511	738,007	1,114,778	765,938	4,054,970	5,752,450	1,773,050	4,958,759	3,875,163	2,469,829	1,585,028
Project Support Payroll	(2,875,597)	(14,442)	(62,169)	(39,558)	(5,150)	(682,224)	(779,978)	(298,317)	(84,661)	(658,825)	(238,841)	(11,432)
Compensation & Benefits Total	25,272,895	1,048,070	675,838	1,075,220	760,787	3,372,746	4,972,472	1,474,733	4,874,098	3,216,338	2,230,988	1,573,594
460010 SERP Expense	197,081	-	-	197,081	-	-	-	-	-	-	-	-
460035 Pension Plan Expense	2,263,820	94,949	60,313	82,802	68,055	329,259	462,124	141,281	385,422	312,111	198,587	130,916
460060 Post Retire Bene Exp	2,631,916	111,327	70,719	97,089	77,456	386,097	541,855	165,825	451,623	365,793	210,809	153,443
Pension & OPEB Expenses	5,092,818	208,276	131,032	376,952	143,512	715,356	1,003,979	308,906	837,045	677,904	409,496	284,359
460207 Safety&Equip Supply	104	-	-	-	-	-	-	-	-	-	104	-
460200 Office Supplies Expense	80,411	1,171	399	2,368	1,250	688	2,686	177	844	142	55,884	14,821
460205 Postage and Shipping	41,192	-	-	-	-	-	-	-	450	-	40,742	-
460210 Dues & Subscriptions	241,165	6,766	51,622	2,254	12,168	9,748	4,106	4,262	80,080	29,180	25,298	15,722
460216 Duplication Services	262,691	-	1,091	-	-	-	-	-	-	-	261,600	-
460400 Hardware Purchases	187,986	-	-	-	-	13,387	174,094	352	-	-	153	-
460410 Software Purchases	74,903	-	-	139	-	35,389	29,529	-	-	650	5,472	3,724
460415 Software Licens/Main	2,164,704	-	-	-	-	93,551	1,885,441	31,772	32,315	3,284	25,712	92,628
460420 Computer Supplies Expense	105,604	-	-	-	-	755	103,215	75	-	-	324	1,236
460425 Computer Maint Exp	1,663,144	-	-	-	-	105	1,663,039	-	-	-	-	-
460500 Office Equip Purch	8,483	305	-	-	-	1,377	523	-	-	-	8,279	-
460510 Equip Maint & Repair	999	-	-	-	-	-	-	-	-	-	999	-
Materials & Supplies	4,831,405	8,242	53,113	4,761	13,418	154,679	3,862,833	36,638	113,669	33,236	422,567	128,131
460300 Telecommunications Expense	1,901,705	4,462	-	218	2,276	16,169	1,860,255	723	812	3,153	1,264	12,373
460600 Consulting Fees Expense	2,544,543	435,486	37,317	2,058	3,166	238,570	155,158	354,070	588,810	83,190	361,568	285,149
460605 Accounting & Audit Fees	337,500	-	-	337,500	-	-	-	-	-	-	-	-
460608 Annual Report Expense	144,780	-	-	-	-	-	-	-	-	-	-	144,780
460610 Legal Fees Expense	1,254,288	-	-	-	1,249,354	-	-	-	-	-	-	4,935
460615 Contract Employees	1,813,522	-	292,755	-	20,547	114,788	999,418	12,404	4,456	92,347	175,088	101,718
460616 Recruiting Expense	230,252	-	-	-	-	-	-	-	-	-	230,252	-
460620 Board of Managers Expense	413,137	-	-	-	-	-	-	-	-	-	413,137	-
460700 Building Maint	115,882	-	-	-	-	-	-	-	-	-	115,882	-
460701 HVAC Services Expense	73,576	-	-	-	-	-	-	-	-	-	73,576	-
460702 Electric Services Expense	250,263	-	-	-	-	-	-	-	-	-	250,263	-
460703 Cleaning Services Expense	75,077	-	-	-	-	-	-	-	-	-	75,077	-
460704 Grounds Maintenance	48,529	-	-	-	-	-	-	-	-	-	48,529	-
460705 Security Expense	125,745	329	-	-	-	125,416	-	-	-	-	-	-
460715 Water/Sewer Expense	9,712	-	-	-	-	-	-	-	-	-	9,712	-
460720 Property/School Taxes	108,790	-	-	-	-	-	-	-	-	-	108,790	-
460725 Utilities Expense	368,273	-	-	-	-	-	-	-	68	-	368,205	-
460800 Bank Charges	64,678	-	-	64,678	-	-	-	-	-	-	-	-
Outside Services	9,878,251	440,277	330,072	404,455	1,275,343	494,943	3,014,831	367,197	594,146	178,690	2,229,342	548,955
460405 Hardware Leases	365,845	-	-	-	-	-	365,845	-	-	-	-	-
460406 Software Leases	1,499	-	-	-	-	-	1,499	-	-	-	-	-
460505 Office Equip Leases	5,573	-	-	-	-	-	-	-	-	-	5,573	-
460719 Building Lease Expense	607,413	-	-	(12,468)	-	-	-	-	-	-	619,881	-
Lease Expense	980,331	-	-	(12,468)	-	-	367,344	-	-	-	625,454	-
470010 Depr exp - Buildings	591,152	-	-	591,152	-	-	-	-	-	-	-	-
470020 Depr Exp Fur & Fix	25,603	-	-	25,603	-	-	-	-	-	-	-	-
470040 Depr Exp - Computer	2,674,432	-	-	2,674,432	-	-	-	-	-	-	-	-
470050 Depr Exp Software	8,465,963	-	-	8,465,963	-	-	-	-	-	-	-	-
470155 Amort Def Fin Costs	70,763	-	-	70,763	-	-	-	-	-	-	-	-
470900 Regulatory Exp Defer	1,373,382	-	-	1,373,382	-	-	-	-	-	-	-	-
Depreciation Expense - Net	13,201,296	-	-	13,201,296	-	-	-	-	-	-	-	-
310030 Discount Received	(12)	-	-	(12)	-	-	-	-	-	-	-	-
310040 Other Income	(4,767)	-	-	(4,767)	-	-	-	-	-	-	-	-
310080 Seminar/Course Fee Income	(4,224)	-	-	(4,224)	-	-	-	-	-	-	-	-
460100 Meals	274,348	24,170	3,492	2,279	4,858	30,499	29,843	11,446	32,025	38,765	59,839	37,332
460105 Lodging	224,872	29,391	566	12,735	2,198	36,541	29,137	13,499	32,948	29,927	4,967	32,932
460110 Travel Expense	365,196	53,456	1,514	15,018	(1,258)	71,658	26,433	24,235	31,775	90,189	14,935	37,242
460115 Travel - Other Expense	124	124	-	-	-	-	-	-	-	-	-	-
460120 Meetings Expense	358,626	63,357	2,978	726	1,272	23,912	3,262	-	2,577	1,322	26,684	232,515
460125 Member Training	139,626	-	-	-	-	-	1,911	-	3,638	16,313	116,764	-
460130 Employee Training	348,118	990	680	4,058	1,200	37,346	77,618	12,780	30,098	13,674	142,159	27,313
460208 Sales Tax Expense	19,218	-	-	-	-	-	-	-	-	-	19,218	-
460225 Promotional Expense	38,048	558	251	-	-	-	-	-	-	107	1,195	35,536
460228 Annual Meeting Expense	11,374	-	-	-	-	-	-	-	-	-	-	11,374
460730 Insurance Expense	762,417	-	-	762,417	-	-	-	-	-	-	-	-
460805 Miscellaneous Expenses	(18,610)	(1,121)	550	(6,125)	3,221	(1,002)	8,979	(1,417)	8,543	(25,119)	(3,113)	(2,004)
460810 Charitable Contributions	118,381	-	-	-	-	-	-	-	-	-	118,381	-
460811 Corporate Donations	23,653	-	-	-	-	-	-	-	-	-	23,653	-
460905 Penalties & Fines	8,000	-	-	-	-	-	-	-	-	-	8,000	-
460910 Loss on Asset Sale	-	-	-	-	-	-	-	-	-	-	-	-
490020 PA Stock/Fran Tax	5,000	-	-	5,000	-	-	-	-	-	-	-	-
Other Expenses	2,668,387	171,324	10,061	787,103	11,492	198,954	177,203	60,543	141,604	165,178	415,918	529,004
460900 Interest Expense	5,474,883	-	-	5,474,883	-	-	-	-	-	-	-	-
Interest Expense	5,474,883	-	-	5,474,883	-	-	-	-	-	-	-	-
490000 Federal Inc Tax Exp	575,733	-	-	575,733	-	-	-	-	-	-	-	-
490005 Def Fed Inc Tax Exp	1,273,499	-	-	1,273,499	-	-	-	-	-	-	-	-
490010 State Inc Tax Exp	(69,568)	-	-	(69,568)	-	-	-	-	-	-	-	-
490015 Def State Inc Tax	444,568	-	-	444,568	-	-	-	-	-	-	-	-
Income Tax Expense	2,224,232	-	-	2,224,232	-	-	-	-	-	-	-	-
Project Expenses	2,691,911	-	-	-	-	-	-	-	-	18,767	-	-
*** Total Expenses	65,481,177	1,874,189	1,198,116	16,701,203	2,204,552	4,936,978	13,398,462	2,246,017	6,560,582	4,290,113	6,333,765	3,064,043

2004 Project Expenditures

WBS #	Project Name	Cost Element	Capital	Expense
22828	eFuel Enhancements v 2.0	Career Band 4		12,709
	eFuel Enhancements v 2.0	Career Band 5		269
	eFuel Enhancements v 2.0	Consulting Fees Exp	-	
	eFuel Enhancements v 2.0	Unpaid Overtime		-
	22828 Total		-	12,978
22952	Mkt Monitoring System-MI-PJM	Career Band 1	329	
	Mkt Monitoring System-MI-PJM	Career Band 4	1,120	534
	Mkt Monitoring System-MI-PJM	Career Band 5	45	
	Mkt Monitoring System-MI-PJM	Consulting Fees Exp		20,886
	Mkt Monitoring System-MI-PJM	Interest Expense	2,096	
	Mkt Monitoring System-MI-PJM	Labor Overheads		336
	Mkt Monitoring System-MI-PJM	Meals		157
	Mkt Monitoring System-MI-PJM	Miscellaneous Exp		368
	Mkt Monitoring System-MI-PJM	OT Career Band 4	67	34
	22952 Total		3,657	22,314
23294	MM Data Store&SAS Envir Stor Exp	Career Band 1	268	
	MM Data Store&SAS Envir Stor Exp	Career Band 4	11,000	
	MM Data Store&SAS Envir Stor Exp	Hardware Purchases	(16,980)	
	MM Data Store&SAS Envir Stor Exp	Interest Expense	8,936	
	MM Data Store&SAS Envir Stor Exp	OT Career Band 4	1,424	
	MM Data Store&SAS Envir Stor Exp	Software Purchases	6,800	
	MM Data Store&SAS Envir Stor Exp	Unpaid Overtime	-	
	23294 Total		11,448	
23303	Entrprs Congest Analy&Rprting	Career Band 3	2,166	413
	Entrprs Congest Analy&Rprting	Career Band 4	19,722	21,008
	Entrprs Congest Analy&Rprting	Career Band 5	1,033	3,637
	Entrprs Congest Analy&Rprting	Consulting Fees Exp	171,600	42,000
	Entrprs Congest Analy&Rprting	Hardware Purchases	18,770	
	Entrprs Congest Analy&Rprting	Interest Expense	2,054	
	Entrprs Congest Analy&Rprting	Meals	54	353
	Entrprs Congest Analy&Rprting	Meetings Expense		1,927
	Entrprs Congest Analy&Rprting	OT Career Band 3	1,428	
	Entrprs Congest Analy&Rprting	OT Career Band 4	1,926	251
	Entrprs Congest Analy&Rprting	Unpaid Overtime	-	-
	23303 Total		218,753	69,588
23352	Market Monitoring System v2.0	Career Band 3	2,785	1,908
	Market Monitoring System v2.0	Career Band 4	76,123	24,182
	Market Monitoring System v2.0	Career Band 5	269	225
	Market Monitoring System v2.0	Consulting Fees Exp	323,599	166,044
	Market Monitoring System v2.0	Hardware Purchases	2,916	
	Market Monitoring System v2.0	Interest Expense	10,836	
	Market Monitoring System v2.0	Meals	212	448
	Market Monitoring System v2.0	OT Career Band 4	586	837
	Market Monitoring System v2.0	Project Accrual Exp	30,446	9,372
	Market Monitoring System v2.0	Software Purchases		441
	Market Monitoring System v2.0	Unpaid Overtime	-	-
	23352 Total		447,773	203,456
23357	MISO-PJM-TVA Data Exchange Ph 1	Career Band 3	7,787	2,243
	MISO-PJM-TVA Data Exchange Ph 1	Career Band 4	2,522	3,124
	MISO-PJM-TVA Data Exchange Ph 1	Career Band 5	24,381	19,172
	MISO-PJM-TVA Data Exchange Ph 1	Consulting Fees Exp	113,614	
	MISO-PJM-TVA Data Exchange Ph 1	Interest Expense	408	
	MISO-PJM-TVA Data Exchange Ph 1	Lodging	315	2,644
	MISO-PJM-TVA Data Exchange Ph 1	Meals	1,999	1,062
	MISO-PJM-TVA Data Exchange Ph 1	Meetings Expense		1,298

2004 Project Expenditures

WBS #	Project Name	Cost Element	Capital	Expense
	MISO-PJM-TVA Data Exchange Ph 1	Miscellaneous Exp	5	38
	MISO-PJM-TVA Data Exchange Ph 1	OT Career Band 3	260	
	MISO-PJM-TVA Data Exchange Ph 1	OT Career Band 4	251	
	MISO-PJM-TVA Data Exchange Ph 1	Travel Expense	263	3,963
	MISO-PJM-TVA Data Exchange Ph 1	Unpaid Overtime	-	
	23357 Total		151,805	33,545
23540	LPA Mod-Export ParticUnit Factr	Career Band 4	4,036	309
	LPA Mod-Export ParticUnit Factr	Consulting Fees Exp	23,185	
	LPA Mod-Export ParticUnit Factr	Interest Expense	238	
	LPA Mod-Export ParticUnit Factr	Unpaid Overtime		-
	23540 Total		27,459	309
23123	MMU State of the Mkt Rpt(2003)	Career Band 1		479
	MMU State of the Mkt Rpt(2003)	Career Band 4		9,438
	MMU State of the Mkt Rpt(2003)	Consulting Fees Exp		33,813
	MMU State of the Mkt Rpt(2003)	Meals		53
	MMU State of the Mkt Rpt(2003)	OT Career Band 4		4,815
	MMU State of the Mkt Rpt(2003)	Unpaid Overtime		-
	23123 Total			48,598
23128	Mkt Monitoring Sys MMAF	Career Band 4		683
	Mkt Monitoring Sys MMAF	Consulting Fees Exp		(272)
	23128 Total			411
23502	State of the Market Report 2004	Career Band 4		9,064
	State of the Market Report 2004	Consulting Fees Exp		25,500
	State of the Market Report 2004	Office Supplies Exp		2,978
	State of the Market Report 2004	OT Career Band 4		293
	State of the Market Report 2004	Unpaid Overtime		-
	23502 Total			37,835
23570	Data Rcvry-Est 99 Base Yr Fuel LMP	Career Band 3		1,341
	Data Rcvry-Est 99 Base Yr Fuel LMP	Career Band 4		5,630
	Data Rcvry-Est 99 Base Yr Fuel LMP	OT Career Band 3		909
	Data Rcvry-Est 99 Base Yr Fuel LMP	OT Career Band 4		1,926
	23570 Total			9,806
	2004 Total Actual Spending		860,895	438,842

2005 Project Expenditures				
WBS #	Project Name	Cost Element	Capital	Expense
22828	eFuel Enhancements v 2.0	Consulting Fees Exp	(13,166)	
	eFuel Enhancements v 2.0	Software Licens/Main		(1,585)
		22828 Total	(13,166)	(1,585)
23352	Market Monitoring System v2.0	Consulting Fees Exp	12,698	4,736
	Market Monitoring System v2.0	Interest Expense	6,801	
	Market Monitoring System v2.0	Project Accrual Exp	(0)	
	Market Monitoring System v2.0	Software Licens/Main	(14,405)	(7,095)
		23352 Total	5,094	(2,359)
23502	State of the Market Report 2004	Career Band 4		6,185
	State of the Market Report 2004	Career Band 5		7,367
	State of the Market Report 2004	Consulting Fees Exp		39,313
	State of the Market Report 2004	Office Supplies Exp		1,898
	State of the Market Report 2004	OT Career Band 4		736
	State of the Market Report 2004	Postage and Shipping		870
	State of the Market Report 2004	Unpaid Overtime		-
	State of the Market Report 2004	Promotional Expense		1,575
	State of the Market Report 2004	Dues & Subscriptions		433
	State of the Market Report 2004	Duplication Services		14,855
	State of the Market Report 2004	OT Career Band 5		190
		23502 Total		73,420
23540	LPA Mod-Export ParticUnit Factr	Consulting Fees Exp	(30)	
		23540 Total	(30)	
23629	Mkt Mntring Sys(MMS)	Career Band 3	5,002	383
	Mkt Mntring Sys(MMS)	Career Band 4	22,689	3,092
	Mkt Mntring Sys(MMS)	Career Band 5		1,610
	Mkt Mntring Sys(MMS)	Consulting Fees Exp	69,280	540
	Mkt Mntring Sys(MMS)	Contract Employees	105,997	
	Mkt Mntring Sys(MMS)	Interest Expense	2,538	
	Mkt Mntring Sys(MMS)	Meals		113
	Mkt Mntring Sys(MMS)	Unpaid Overtime	-	-
		23629 Total	205,506	5,738
23707	Mkt Monitor & Mitigation Plan	Career Band 4		8,235
	Mkt Monitor & Mitigation Plan	Career Band 5		854
	Mkt Monitor & Mitigation Plan	Meals		25
		23707 Total		9,113
23806	Mkt Monitor Data Expansion	Career Band 4	1,042	347
	Mkt Monitor Data Expansion	Career Band 5	1,854	
	Mkt Monitor Data Expansion	Hardware Purchases	96,350	
	Mkt Monitor Data Expansion	Interest Expense	532	
	Mkt Monitor Data Expansion	Software Purchases	3,463	
		23806 Total	103,242	347
	2005 Total Actual Spending		300,646	84,674

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2006 Project Expenditures				
WBS #	Project Name	Cost Element	Capital	Expense
23629	Mkt Mntring Sys(MMS)	Career Band 4	1,068	
	Mkt Mntring Sys(MMS)	Contract Employees	3,150	
	Mkt Mntring Sys(MMS)	Interest Expense	4,333	
		23629 Total	8,551	
23806	Mkt Monitor Data Expansion	Interest Expense	9	
		23806 Total	9	
23899	Day Ahead Unt Particptn Fctr	Career Band 4	2,492	570
	Day Ahead Unt Particptn Fctr	Hardware Purchases	9,200	
	Day Ahead Unt Particptn Fctr	Interest Expense	3,812	
	Day Ahead Unt Particptn Fctr	Software Purchases	103,200	
		23899 Total	118,704	570
24006	Enhanced Net Revenue	Career Band 4	15,128	9,041
	Enhanced Net Revenue	Contract Employees	60,330	2,833
	Enhanced Net Revenue	Interest Expense	680	
		24006 Total	76,138	11,874
	2006 Total Actual Spending		203,401	12,444

2007 Project Expenditures *				
WBS #	Project Name	Cost Element	Capital	Expense
23899	Day Ahead Unt Particptn Fctr	Interest Expense	1,717	
		23899 Total	1,717	
24006	Enhanced Net Revenue	Career Band 4		457
	Enhanced Net Revenue	Career Band 5		1,616
	Enhanced Net Revenue	Interest Expense	1,222	
		24006 Total	1,222	2,073
24028	MMS - RPM Support Systems	Career Band 4	457	
	MMS - RPM Support Systems	Consulting Fees Exp	3,080	3,200
	MMS - RPM Support Systems	Interest Expense	343	
	MMS - RPM Support Systems	Software Purchases	80,000	
		24028 Total	83,880	3,200
	2007 Total Actual Spending *		86,819	5,273
* Information reflects total actual expenditures through April 30, 2007				

2007 Project Expenditures*

Information Technology and Services Division				
	WBS #	Project	2007 Capital	2007 Expense
1	23981	DST (Daylight Savings Time Remediation)	-	80,245
2	23970	eSuite Architectural Enhancements	-	43,736
3	24092	Information Preservation & Storage 2007	-	-
4	24130	MS Project Server 2003 Upgrade	3,014	11,056
5	23986	Net Redesign Internet Network Rearchitecture	54,910	8,409
6	24091	Production Shark Storage Server Replacement 2007	237,540	-
7	23852	SAP Upgrade Netweaver 2005	3,440	-
8	24033	TSM Rearchitecture Upgrade	92,861	-
9	23987	IT Methodology Implementation 2006	(2,412)	-
10	24002	Special File Storage Disk Space - FKA	(91)	-
ITS Total			389,262	143,446
System Operations Division				
	WBS #	Project	2007 Capital	2007 Expense
1	24200	Dispatch Communications Upgrade	172,602	44,260
2	24073	eDart 2nd Half 2006	13,798	2,213
3	24237	eDart Enhancements 1st Half 2007	42,559	73
4	24022	eData Flex Rewrite	478	304
5	24079	Infra Upgrades to eTools on eDART DB Server	-	66,285
6	23845	OASIS Relocation	1,700	10,004
7	23951	OTS eDart and Emergency Procedures	19,013	-
8	24071	PJMnet Additional Sites 2007	-	-
9	23945	Simulator Enhancements 2006	37,437	3,575
10	24017	CM2-FG Maintenance Automation	(1,994)	-
11	23753	Dispatch Communications Study	-	182
12	23961	EES Enhancements 2006	-	(361)
13	23822	EMS Model Update Process Improvement	(123)	-
14	23997	JCM Broad Price Transparency	3,434	1,815
15	24186	Neptune Market Integration	-	(198)
16	23892	PJMnet Additional Sites 2006	-	-
17	23637	PJMnet Additional 10 Sites	(2,317)	-
18	23960	Smartlogs Phase III	(1,178)	-
SOD Total			285,409	128,152
System Planning Division				
	WBS #	Project	2007 Capital	2007 Expense
1	23903	GIS III	1,113	23,677
SPD Total			1,113	23,677
Reliability Services Division				
	WBS #	Project	2007 Capital	2007 Expense
1	24036	AFC Enhancements 2006	1,703	-
2	24236	Market Flow Threshold Modification	152,809	6,658
3	24009	Outage Process Improvement	79,885	-
4	23901	Willing Pay Congestion Service	83,193	11,872
5	23983	Additional Security Camera Deployment	-	-
6	24070	FYI Visualization	31	(114)
7	23819	GCA Short Term	-	79,360

2007 Project Expenditures*

8	24008	MW Reserve Dashboard	(418)	5,489	
			RSD Total	317,203	103,265
			Corporate Services Division		
	WBS #	Project	2007 Capital	2007 Expense	
1	24196	CC Below Grade Cooling Upgrade	510,466	36,127	
2	24347	CC MCC Capacity Extension	-	-	
3	24344	CC UPS Power Distribution to Computer Rooms	-	-	
4	23971	CC Bldg Air Quality Pandemic	-	5,953	
5	23855	Conference Room Reserve System	649	851	
			CSD Total	511,115	42,931
			External Affairs Division		
	WBS #	Project	2007 Capital	2007 Expense	
1	23792	Customer Intelligence Application DB	26,272	12,694	
2	23835	PJM Websites Redesign	1,538	-	
			EAD Total	27,810	12,694
			Market Services Division		
	WBS #	Project	2007 Capital	2007 Expense	
1	24150	Long-Term FTR (Allocation)	9,838	2,055	
2	24021	Marginal Loss LMP	147,367	210,885	
3	23825	Market Settlements ETS	3,554,123	398,464	
4	23856	Market Sys Enhancements 2006	44,257	10,324	
5	24151	Market Sys Enhancement 2006-B	2,856	913	
6	24174	Market Sys Enhancements 2007	-	-	
7	23438	Reliability Pricing Model Development	4,049	-	
8	23635	Reliability Price Model - Market Implementation	611,702	174,864	
			MSD Total	4,374,192	797,505
			Market Monitoring Unit		
	WBS #	Project	2007 Capital	2007 Expense	
1	24329	ACR Modification	-	-	
2	23899	Day Ahead Unit Participation Factor	1,717	-	
3	24006	Enhanced Net Revenue	1,222	2,073	
4	24028	MMS - RPM Support Systems	83,880	3,200	
			MMU Total	86,819	5,273
(1)	2007 Total PJM Project Portfolio Actual Spending*		5,992,923	1,256,943	
(1) Represents project information for the PJM project portfolio and excludes the Business Continuity Planning-Advanced Control Center investment.					
* Information reflects total actual expenditures through April 30, 2007					
Business Continuity Planning-Advanced Control Center (BCP-AC2)					

2007 Project Expenditures*

	WBS #	Project	2007 Capital	2007 Expense
		2007 AC2 Actuals	5,537,119	1,416,227
		AC2 Total	5,537,119	1,416,227

2006 Project Expenditures

Information Technology and Services Division				
	WBS #	Project	2006 Capital	2006 Expense
1	23974	Advance Technology Prototyping	-	47,551
2	23981	DST (Daylight Savings Time Remediation)	-	94,232
3	23987	IT Methodology Implementation 2006	131,718	-
4	24077	IT Monitoring Consolidation	-	14,965
5	24074	IT Operations Center Advanced Tools	233,356	57,303
6	24130	MS Project Server 2003 Upgrade	53,401	1,495
7	23986	Net Redesign Internet Network Redesign	862,248	188,088
8	23858	Project Management Training & Development 2006	-	241,178
9	23852	SAP Upgrade Netweaver 2005	206,299	23,369
10	24033	TSM Rearchitecture Upgrade	536,341	23,051
11	23621	AIX 5L Upgrade Phase IV	930	-
12	23831	Building Network Switch Replacement	10,934	1,709
13	23978	Data Quality	-	30,217
14	23969	ECM Strategic Analysis	-	-
15	23463	Enterprise Visualization	369,885	4,600
16	23624	Global Firewall Architect	32,239	57
17	23607	Hierarchical Computing	-	28,210
18	23853	Information Storage & Preservation	161,654	-
19	23963	Information Storage & Preservation Mid 2006	143,670	-
20	23846	Infrastructure Reliability Hardware	29,410	-
21	23832	Internet Traffic Reliability	23,657	17,431
22	23841	Operational Experience Knowledge Management	-	163,846
23	23759	PETF 2005 Project Management	-	47,622
24	23826	PI Server Hardware Replacement	5,325	-
25	23985	Portfolio Management Process ProjectWEB	-	63,677
26	23567	Project Portfolio Management SW Evaluation	4,611	-
27	23977	SAS Server Performance Upgrade	219,952	157,014
28	24002	Special File Disk Space-FKA	96,283	190
29	24117	TSM Upgrade Tape Storage Capacity Upgrade	126,798	-
30	23850	Voicemail Replacement	53,623	5,293
ITS Total			3,302,334	1,211,098
System Operations Division				
	WBS #	Project	2006 Capital	2006 Expense
1	24036	AFC Enhancements 2006	15,000	214
2	24017	CM2 - FG Maintenance Automation	139,134	28,855
3	24013	Dispatch Cognitive Task Analysis	-	246,109
4	23753	Dispatch Communications Study	-	150,884
5	24200	Dispatch Communications Upgrade	-	31,067
6	24073	eDart 2nd Half 2006	40,311	8,934
7	23951	eDart OTS	2,491	2,380
8	24022	eData Flex Rewrite	42,436	16,082
9	23961	EES Enhancements 2006	54,650	71,708
10	23959	EIPP Phase 2	49,399	1,166
11	23822	EMS Model Update Process Improvements	51,221	8,455
12	23937	EMS User Access	160,067	35,380
13	24070	FYI Visualization	43,088	520,448
14	23819	GCA Short Term	-	14,930
15	23997	JCM Broad Price Transparency	49,295	14,786
16	24008	MW Reserve Dashboard	143,153	30,169
17	24186	Neptune Market Integration	-	40,443

2006 Project Expenditures

18	23845	OASIS Relocation	765,678	227,147
19	24009	Outage Process Improvement	22,229	4,508
20	23896	Penetration Test Remediation	91,354	20,087
21	24244	PI Analysis Framework SW Purchase	47,700	-
22	23892	PJMnet Addl 10 Sites 2006	62,818	86,841
23	23947	Secure ICCP	142,028	-
24	23945	Simulator Enhancements 2006	104,564	29,376
25	23960	Smartlogs Phase III Enhancements	178,845	22,070
26	23884	UDS Operational Enhancements	258,722	18,347
27	23901	Willing Pay Congestion Service	63,548	37,508
28	23656	C1.5 Relocation to Jeanette	2,250	39,784
29	23747	Eastern Interconnection Phaser (EIPP)	12,744	906
30	23754	eDart Enhancements 2nd Half 2005	16,455	1,192
31	23928	eDart First Half 2006 Enhancements	75,033	2,694
32	23618	EMS Model Audit Phase II	52,828	-
33	23827	EMS NA Enhancements	53,961	-
34	23619	EMS Network Analysis Hardware Upgrade	28,090	-
35	23814	Market Flow Phase II	66,304	11,948
36	23637	PJMnet Addl 10 Sites	(94)	-
37	23644	Real Time Dynamic Security Assessment	8,043	-
38	23722	Simulator Enhancements	169,181	3,355
39	23891	Transient Stability Analysis Prod Enhancement	79,072	23,449
40	23645	Voltage Stability (VSA) Enhancement	112,956	386
SOD Total			3,204,554	1,751,608

System Planning Division

	WBS #	Project	2006 Capital	2006 Expense
1	23903	GIS III	41,062	83,408
2	24035	PRA Software	90,000	-
3	23801	CAP Core Calc	-	18,104
4	23876	Web App R-Study	-	98,838
SPD Total			131,062	200,350

Reliability Services Division

	WBS #	Project	2006 Capital	2006 Expense
1	23983	Additional Security Camera Deployment	-	40,381
2	23836	IDS Consolidation & Enhancements	83,702	-
3	23958	Web Monitoring & Filter Proxy Server	60,965	1,590
4	23848	Web Monitoring Filter Policy	24,291	-
5	23849	Wireless Local Area Network	-	14,366
RSD Total			168,958	56,337

Corporate Services Division

	WBS #	Project	2006 Capital	2006 Expense
1	23971	CC Bldg Air Quality Pandemic	-	121,050
2	24196	CC Below Grade Cooling Upgrade	-	7,018
3	23855	Conference Room Reserve System	76,675	36,615
4	23995	CC SC TC Park Lot Resurface	-	133,570
5	23796	CC Roof Top Replacement	-	12,931
6	23989	Computer Room Restructuring	-	12,984
7	23613	Control Center Damper Controls	-	(25,179)
8	23968	IT Computer Ops Center Construction	159,799	240,505

2006 Project Expenditures

9	23982	SC First Floor Carpet Replacement	-	108,331
10	23794	SC Roof Top Replacement	-	(5)
11	23795	SC/TC/CC Facility Maint Upgrade	-	(11,959)
		CSD Total	236,474	635,861
		External Affairs Division		
	WBS #	Project	2006 Capital	2006 Expense
1	23792	Customer Intelligence Application DB	430,244	186,674
2	23835	Member Customer PJMcom Self Service	90,000	241,667
3	23865	Search Engine for Intranet	1,174	-
4	23658	Western Region Temo Office (WRO)	-	(156)
		EAD Total	521,418	428,185
		Finance Division		
	WBS #	Project	2006 Capital	2006 Expense
1	23866	ACL Continuous Ctrl Monitoring	170,886	49,847
2	23565	OASIS BUCC Continuation	(8,432)	-
		FD Total	162,454	49,847
		Market Services Division		
	WBS #	Project	2006 Capital	2006 Expense
1	24150	Long-Term FTR (Allocation)	285	1,993
2	24021	Marginal Loss LMP	1,046,938	468,603
3	23825	Market Settlements ETS	4,166,668	2,341,847
4	23856	Market Sys Enhancements 2006	735,028	40,615
5	24151	Market Sys Enhancement 2006-B	173,461	41,693
6	24179	Real Time Market - DSR Integration	160,856	9,967
7	23438	Reliability Pricing Model Development	17,928	91,959
8	23635	Reliability Price Model - Market Implementation	589,045	-
9	23882	Demand Side Response Ancillary Services	222,485	6,227
10	23840	Economic Load Program (ELP)	184,180	27,481
11	23764	FTR Balance Plan Period	440,097	9,136
12	23917	JCM Market Coordination	-	24,970
13	23531	JOA Market to Market Data Exchange	3,963	-
14	24103	Market Data Posting	19,342	4,676
15	24175	Market Efficiency Transmission Analysis	48,505	9,912
16	23883	Market Simulation SW Procurement	(2,883)	(615)
17	24018	Market Settlement System HW Upgrade 2006	743,737	-
18	23627	Market System Application & HW Upgrade	22,644	(3,000)
		MSD Total	8,572,279	3,075,464
		Market Monitoring Unit		
	WBS #	Project	2006 Capital	2006 Expense
1	23899	Day Ahead Unit Participation Factor	118,704	570
2	24006	Enhanced Net Revenue	76,138	11,874
3	23806	Mkt Monitoring Data Expansion	9	-
4	23629	Mkt Monitoring Sys (MMS)	8,551	-
		MMU Total	203,401	12,444

2006 Project Expenditures

(1)	2006 Total PJM Project Portfolio Actual Spending		16,502,934	7,421,194
(1)	Represents project information for the PJM project portfolio and excludes the Business Continuity Planning-Advanced Control Center investment.			
Business Continuity Planning-Advanced Control Center (BCP-AC2)				
	WBS #	Project	2006 Capital	2006 Expense
		2006 AC2 Actuals	5,723,859	2,302,501
		AC2 Total	5,723,859	2,302,501

2005 Project Expenditures

Information Technology and Services Division				
	WBS #	Project	2005 Capital	2005 Expense
1	23609	Advanced Visualization	-	158,781
2	23621	AIX 5L Upgrade Ph IV	291,190	34,167
3	23760	Biometrics	13,279	1,366
4	23412	Bus Syst Monitor Initial Implem	(3,600)	-
5	22804	Data Archiving Implementation	(9,880)	-
6	23401	EAGLE to J2EE Analysis	-	(800)
7	23407	EMS AIX-Oracle Upgrade Migration	(3,372)	-
8	23601	Enterprise Data Model Phase 3	-	9,963
9	23462	eSuite Browser Config Update	0	-
10	23624	Global Firewall Architect	190,716	87,244
11	23506	IBM Director Implementation	(10)	-
12	23404	ICCP Monitoring	19,844	-
13	23836	IDS Consolidation & Enhncmnts	220,838	69,429
14	23853	Info Storage & Preservation	246,441	-
15	23807	Info Storge &Preserv-Learn Ctr	24,051	486
16	23846	Infrastructure Reliability HW	285,471	-
17	23832	Internet Traffic Reliability	181,438	26,297
18	23390	ISD Capital Equip Purch 2004	(166)	164,658
19	23526	Jefferson Tape Backup-2nd Library	12,647	-
20	23608	Knowledge Management	-	119,068
21	23339	Monito Ctr Enhan Phase I	-	(5,909)
22	23368	MS Exchange Svr 2003 Upgrade	(70)	-
23	23841	Operatn Exprc Knwldg Mngmnt	-	1,685
24	23367	Oracle Enterprise Mgr Implemnt	-	(98)
25	23602	Oracle RMAN Bkup Rcvry Strg	35,852	-
26	23334	Paperless Acc Auth Exp	39,869	(1,748)
27	23625	Perfrm Tst & Chng Mngmnt MSET	71,524	61,898
28	23826	PI Server HW Rplcmt	76,458	556
29	23564	PJM J2EE Framework 2004	(38,051)	-
30	23485	Portal Pilot Implementation	77,239	19,407
31	23528	Potshop TSM Server Replacement	5,699	-
32	23858	Prj Mngmnt Trng & Dvlp 2006	-	-
33	23567	Project Portfolio Mgmt SW Eval	77,495	84,061
34	23391	SAP Web Enablement	(112,116)	(1)
35	23223	Security lab enhancements	(1,855)	-
36	23530	Storage Addition for Nrml Grwth	5,615	-
37	23731	Sweep Technology	13,823	-
38	23723	Unified Method Eval & Develop	-	14,986
39	22920	Visual Age Replacement	-	(8,811)
40	23848	Web Monitoring Filter Policy	36,954	1,042
ITS Total			1,757,323	837,726
System Operations Division				
	WBS #	Project	2005 Capital	2005 Expense
1	23712	ASTFC Enhanc for AFC ATC	42,142	765
2	23509	CM2 Enhancements	260,496	179,157
3	23720	ConEd Wheel Operating Protoc	221,455	97,040
4	23606	Data - Event Correlation	23,569	4,606
5	23753	Dispatch Communications	-	3,476
6	23747	Eastrn Interctnt Phasr(EIPP)	-	14,714
7	23514	eDART Enhancements 03 2004	(5,773)	(8,652)

2005 Project Expenditures				
8	23754	eDart Enhcmnts 2nd Half 2005	22,508	11,253
9	23618	EMS Model Audit Phase II	6,492	15,469
10	23822	EMS Model Updt Process Imprv	-	7,029
11	23827	EMS NA Enhancements	4,615	1,343
12	23619	EMS Network Analysis HW Upgd	1,384,515	-
13	23463	Enterprise Visualization	123,387	159,177
14	23607	Hierarchical Computing	-	94,093
15	23516	HW-Reliability Engineer in BUCC	(1)	-
16	23493	Intelligent Alarm Processor	-	37
17	23814	Market Flow Phase II	2,470	208
18	23655	Method Strategy & Roadmap	-	51,823
19	23489	MISO PJM TVA Data Exchnng Ph2	78,732	3,414
20	23478	OASIS ATC AFC Enhancement 2004	(1,520)	-
21	23565	OASIS BUCC Continuation	(0)	-
22	23845	OASIS Relocation	49,976	34,909
23	23651	Operation Sys Reconfig 2005	14,476	53,385
24	23122	Operations System Reconfig	-	15,475
25	23637	PJMnet Add'l 10 Sites	210,152	108,440
26	22056	PJMnet Add'l 20 Sites (51-70)	(41,493)	(18,627)
27	23644	Real Time Dynmc Scrty Assmnt	423,594	93,360
28	23722	Simulator Enhancements	103,089	2,453
29	23185	Sys Op LMS Enhancements	-	(1,514)
30	23854	Video Training Equipment	47,821	-
31	23645	VSA Enhancement	51,036	191
SOD Total			3,021,737	923,024
System Planning Division				
	WBS #	Project	2005 Capital	2005 Expense
1	23465	CAP Analysis Enhancements-Design&Exec	(1,312)	-
2	23801	CAP Core Calc Speed Imprv-Rqr & Pln	-	49,944
3	23464	Enhancements to PRISM-Design & Exec	(4,223)	-
4	23709	NICA-eCapcty Cutover Prj-Rqr & Pln	-	50,590
5	23521	System Planning GIS Enhancement-Dsgn&Exe	163,734	-
SPD Total			158,199	100,534
Corporate Services Division				
	WBS #	Project	2005 Capital	2005 Expense
1	23831	Bldg Ntwk Switch Rplcmnt	287,458	10,125
2	23371	Branding-Corporate Bldgs 2004	-	6,225
3	23713	C1.5 Constrct Jeanette Facilty	-	399,213
4	23656	C1.5 Relocation to Jeanette	133,712	498,204
5	23537	CC Roof Replacement	-	(1,433)
6	23796	CC Roof Top Replcmnt	-	231,138
7	23613	Control Ctr Damper Ctrls	-	420,397
8	23420	Next Gen Video Conferenc 2004	-	(486)
9	23759	PETF 2005 Prj Mngmt	-	207,774
10	23591	PETF-Business Case Modifications	-	(798)
11	23383	SC 2nd Floor Renovation	(14,625)	-
12	23794	SC Roof Top Replcmnt	-	275,451
13	23795	SC/TC/CC Faciltiy Maint Upgd	-	157,541
14	23714	Southern Region Office	-	182,308
15	23186	Streaming Media Training Tools	-	(134)
16	23850	Voicemail Rplcmnt	128,248	69

2005 Project Expenditures				
17	23658	Westrn Region Temp Office(WRO)	40,004	199,250
		CSD Total	574,797	2,584,846
		External Affairs Division		
	WBS #	Project	2005 Capital	2005 Expense
1	23792	Customer Intellgce Applc DB	300,622	3,680
2	23865	Search Engine for Intranet	30,447	-
		EAD Total	331,069	3,680
		Market Services Division		
	WBS #	Project	2005 Capital	2005 Expense
1	23882	Demand Side Rspn Acly Srvs	-	278
2	23660	DSR Regulation	-	1,037
3	23840	Economic Load Program(ELP)	40,008	19,873
4	23349	eReports v1 Concept Model Eval	(99,455)	454,966
5	23764	FTR Balance Plan Period	658,903	29,377
6	23531	JOA Mkt to Mkt Data Exchange	313,417	76,019
7	23825	Market Settlements ETS	3,311,626	92,128
8	23883	Mkt Simulation SW Procurement	135,938	64,868
9	23430	Mkt Sys Enhanc-Model Growth	(188)	-
10	23856	Mkt Sys Enhncmnts 2006	260,733	11,280
11	23627	Mkt System Appl & HW Upgrade	1,063,654	323,595
12	23323	MSET Application & DB Rearch	(2,061,005)	3,179,981
13	23438	Reliab Pricing Model Development	22,299	197,761
14	23635	Relibly Price Model-Mkt Impl	383,288	125,742
		MSD Total	4,029,216	4,576,905
		Market Monitoring Unit		
	WBS #	Project	2005 Capital	2005 Expense
1	22828	eFuel Enhancements v 2.0	(13,166)	(1,585)
2	23540	LPA Mod-Export ParticUnit Factr	(30)	-
3	23352	Market Monitoring System v2.0	5,094	(2,359)
4	23629	Mkt Mntring Sys(MMS)	205,506	5,738
5	23707	Mkt Monitor & Mitigation Plan	-	9,113
6	23806	Mkt Monitor Data Expansion	103,242	347
7	23502	State of the Market Report 2004	-	73,420
		MMU Total	300,646	84,674
(1)	2005 Total PJM Project Portfolio Actual Spending		10,172,988	9,111,390
(1)	Represents project information for the PJM project portfolio and excludes the Market Integration and Business Continuity Planning-Advanced Control Center investments.			
		Market Integration (MI)		
	WBS #	Project	2005 Capital	2005 Expense
		2005 MI Actuals	742,998	1,753,122
		MI Total	742,998	1,753,122

2005 Project Expenditures				
Business Continuity Planning-Advanceec Control Center (BCP-AC2)				
	WBS #	Project	2005 Capital	2005 Expense
		2005 AC2 Actuals	81,896	3,350,559
		AC2 Total	81,896	3,350,559

2004 Project Expenditures

Information Technology and Services Division

	WBS #	Project	2004 Capital	2004 Expense
1	23366	8021x Eval-NtwkUsr Prt AccssCtrl	-	23,500
2	22668	AIX 5.L Upgrade Migration	-	12
3	23255	Architect Review Process Auto	52,810	4,677
4	23331	Auto Insp DB for Stand Conf	-	29,723
5	23412	Bus Syst Monitor Initial Implem	100,710	5,749
6	23205	Casewise Implementation	166	-
7	23524	Citrix Elimination	6,154	1,265
8	23362	ClearCase Mentoring & Implem	57,372	1,131
9	22804	Data Archiving Implementation	334,838	14,808
10	23322	Data Asset Analy-Dscvry Session	-	90
11	23401	EAGLE to J2EE Analysis	-	187,882
12	23227	EES (Shark) Redundancy	61,552	-
13	23407	EMS AIX-Oracle Upgrd Migration	1,442,980	112,039
14	23543	Enhanced Digital Recorder Expan	119,349	2,945
15	23354	Enterprise Data Model Develop	-	138,466
16	22885	Enterprise Gen ID Consistency	-	28,770
17	23375	Enterprise MS Project Upgrade	30,435	7,673
18	23460	Enterprise Proj Issue&Risk Mgmt	-	228
19	22811	Enterprise Wide Data Model	-	180
20	23279	ERP TCO Analysis	-	3,181
21	23114	eSuite (Single Sign on)-PJM	-	(578)
22	23462	eSuite Browser Config Update	188,817	12,316
23	23269	eSuite Member Comp Login Secur	-	260
24	23360	Fast Oracle Backup & Recovery	332,404	7,207
25	23381	Firewall User Authentication	279,795	79,560
26	23505	Google Box Search Facility	61,419	98
27	23506	IBM Director Implementation	42,005	5,915
28	23404	ICCP Monitoring	82,042	3,883
29	23143	Infra Enhan Test Envir 2003 Ph2	7,641	-
30	22854	Intranet Redesign Requirements	-	65
31	23409	Intrnt-based Remote Vndr Access	98,762	13,565
32	23222	Intrusion Detection Expansion	(356)	
33	23390	ISD Capital Equip Purch 2004	1,624,942	-
34	23157	ISD Capital Equip Purchases	112,542	-
35	23359	IT Strategic Plan (2004-2006)	-	105,827
36	23136	J2EE Development Infrastructure	13,086	404
37	23526	Jefferson Tape Backup-2nd Library	150,807	2,209
38	23406	Jffrsn Tape Bckup Libr Expan 04	293,314	5,871
39	22841	Mainframe Elim/Reduct Proj	-	(91)
40	23339	Monito Ctr Enhan Phase I	312,942	104,608
41	23368	MS Exchange Svr 2003 Upgrade	134,296	5,527
42	23336	NESEC Monitoring Center Pilot	-	0
43	22685	Net Redsgn-Internet Ntwk Upgrd	-	1,790
44	23310	Netview Switch Port Monitoring	130	-
45	22918	OASIS Backup Web Server	10,664	-
46	23220	OASIS BUCC-PJM	84,180	45,060
47	22896	Oracle 9i Implementation	110,791	-
48	23313	Oracle Audit Remediation	-	52,528
49	23298	Oracle Auditing Enhancements	-	47,452
50	23367	Oracle Enterprise Mgr Implemt	32,338	17,637
51	23602	Oracle RMAN Bkup Rcvry Strg	243,016	-
52	23334	Paperless Acc Auth Exp	144,722	32,490
53	22792	Paperless Access Authorization	35,667	-

2004 Project Expenditures

54	23527	Patch Mngmnt Sftwr Tool	24,897	5,031
55	23554	Phase II Redundnt Accs Cntrl	152,363	1,497
56	23546	PI ACE Implementation	26,361	586
57	22523	PI Historian Reliab Enhan	3,061	-
58	23564	PJM J2EE Framework 2004	275,815	16,492
59	23485	Portal Pilot Implementation	768,245	112,949
60	23226	Portals Proof of Concept	-	7,663
61	23528	Potshop TSM Server Replacement	86,570	2,265
62	23567	Project Portfolio Mgmt SW Eval	199,761	65,747
63	23151	RTO Dex Proof of Concept	-	100
64	23488	RUP Implementation	181,712	343,331
65	23391	SAP Web Enablement	112,116	21,881
66	23529	SAS 9_1 Upgrade	7,272	1,074
67	23256	SAS Server Replacement	36,338	3,159
68	23575	SAS Storage at BUCC	56,017	-
69	23382	Secure Network Communications	48,294	11,982
70	22773	Security Info Monitoring	-	(16,000)
71	23223	Security lab enhancements	120,248	23,686
72	23490	Server Consolidation Evaluation	-	1,706
73	23396	SMS 2003 Implementation	48,413	4,413
74	23393	Staging Envir Storage&SAN Expan-PJM	32,045	26
75	23530	Storage Addition for Nrml Grwth	139,428	1,208
76	23270	Strategy for EAI-PJM	-	1,962
77	23132	Streaming Multimedia Architect	697	-
78	23316	TeamQuest Software	7,125	1,119
79	23330	Tech Center RandD Lab Setup	-	4,278
80	23308	TEPCO Joint Project	-	80,150
81	23436	Unified Project Status Report	39,255	12,857
82	22920	Visual Age Replacement	7,889	19,951
83	23129	VPN Expansion 2003-PJM	30,603	23,554
ITS Total			9,006,858	1,858,588

System Operations Division

	WBS #	Project	2004 Capital	2004 Expense
1	23422	All Call Sys HW & Op Sys Upgrd	54,700	-
2	23512	AllCall Sys HW&Ops Sys Upgrd DCC	33,761	360
3	23408	C2-Second Control Center	-	5,290
4	23509	CM2 Enhancements	84,469	27,884
5	23289	Collabor Tool Analysis	-	3,780
6	23501	DSA Dynamic Data Preparation	-	62,713
7	23514	eDART Enhancements 03_2004	109,458	25,812
8	23364	eDART Release 01_04-PJM	136,240	61,673
9	23468	eDART Release 02_2004	155,018	68,744
10	22698	eDART Enhancements 2003	5,821	34,305
11	23271	eData Enhancements 2003-PJM	3,959	-
12	23302	eData Enhancements 2004	-	(2,066)
13	23165	eDataFeed Production Readiness	2,175	(0)
14	23268	eDataFeed Release 3.0	36,036	17,076
15	23295	EES Enhancements 2004-PJM	288,774	4,208
16	23292	EES-Webservices-NYISO Coord	-	864
17	23201	Emergency Procedures	122,987	13,093
18	23117	eMonitor Phase 2	15,146	2,723
19	23410	EMS Model Audit	59,603	14,439
20	23327	eTools Rebranding	-	55,329
21	21431	Gen Attrib Track Sys v2.0	-	2,375

2004 Project Expenditures

22	23516	HW-Reliability Engineer in BUCC	14,764	90
23	23392	ICI Hardware Replacement	29,935	1,231
24	21319	Individual Generator Disp	(723)	-
25	23417	Information Visualization	-	370
26	23493	Intelligent Alarm Processor	-	9,830
27	23547	Internal Point to Point Modific	59,784	10,308
28	23389	Long Term Firm Tracking Sys-PJM	-	6,185
29	23335	Mapboard Transit Coord Effort	-	456
30	23414	Mapboard Transition Coordination	-	9,864
31	23655	Method Strategy & Roadmap	-	25,692
32	23489	MISO PJM TVA Data Exchng Ph2	-	23,300
33	23087	Mkt Grwth SCADA Day 2-PJM	89,099	22,573
34	23372	NISF Economic Optimization	41,168	911
35	23478	OASIS ATC AFC Enhancement 2004	81,043	-
36	23565	OASIS BUCC Continuation	126,912	-
37	23651	Operation Sys Reconfig 2005	-	613
38	23122	Operations System Reconfig	476,866	549,528
39	23272	Parallel Computat Algorithm-PJM	-	3,592
40	21285	PJMnet Additional 20 Sites	-	87
41	22056	PJMnet Add'l 20 Sites (51-70)	401,718	118,442
42	23233	PJMnet Next Gen-PJM	-	6,869
43	23569	Real Time DSA	-	17,727
44	23589	Real Time Visualization Enhanc	68,310	258
45	23160	Real Time Visualization-PJM	83,725	1,555
46	23598	SCADA Enhncmnts	11,827	6,317
47	22922	SCADA Internet Functionality	58,839	90
48	23126	Scheduling Coord Reports v1	23,493	9,621
49	23185	Sys Op LMS Enhancements	-	23,436
50	23214	UDS Operational Enhancement	555	26
51	21475	Very Shrt Term Load Frctst Appl	(327)	-
52	23299	Very Shrt Trm Load Frctst Enhncm	23,510	-
53	23479	Voltage Stability Phase 3	78,101	851
54	23326	Wireless Data for the Blackberry	107,853	9,137
55	23329	Wntr Capacity Test ExemptPilot	2,131	421
SOD Total			2,886,729	1,257,983

System Planning Division

	WBS #	Project	2004 Capital	2004 Expense
1	23552	Blk Pwr TransRisk AssesAlgorithm	-	10,000
2	23465	CAP Analysis Enhancements	90,383	8,605
3	22706	Capacity Adeq Analy Method-PJM	435,368	76
4	23193	Congestion Analysis 3	199,742	980
5	23328	Day Ahead Mkt Top PROBE	57,664	-
6	23230	eCapacity ALM Crdt&Compl Review	27,942	6,893
7	23079	eGADS Upgrd-PowerGADS2.0-PJM	(2,408)	-
8	23464	Enhancements to PRISM	51,137	15,656
9	23544	MatLab	30,530	1,179
10	23341	PowerWorld Software Purchase	-	-
11	23197	Relay Subcom EquipOpsUploadSite	-	14,416
12	23285	R-Study Procedure Review	-	2,092
13	23508	Signal Stab&Voltage StabAnaly SW	77,082	-
14	22592	Summer-Winter Test Automation	-	2,176
15	23153	Sys Plan GIS Expans Ph1-PJM	116,758	25,424
16	22588	System Planning GIS	(23)	-
17	23521	System Planning GIS Enhancement	149,827	8,514

2004 Project Expenditures

		SPD Total	1,234,002	96,011
Corporate Services Division				
	WBS #	Project	2004 Capital	2004 Expense
1	20111	Asset Management	2,622	-
2	23371	Branding-Corporate Bldgs 2004	-	55,861
3	23656	C1.5 Relocation to Jeanette	-	34,118
4	23370	Calendar for PJM Website	-	6,717
5	23513	CC Jupiter Backup Procssr	234,553	4,084
6	23537	CC Roof Replacement	-	418,611
7	23423	Committee Voting Boxes	-	65,437
8	23469	Conference Rm B1&B2 Consolid	-	15,227
9	22666	Corporate Compliance Software	1,539	-
10	23203	CRM Implementation-PJM	2,293	-
11	23503	Customer Relatnshp Mngmnt Plan	-	147,745
12	23435	Deploy of Policy Standrd&Proced	-	2,797
13	23317	Eastrn Regn Ctrl Rm Video Wall	1,317,388	2,353
14	23442	eTools Training Material Rebrand	-	130
15	23385	HR Move From BCIII to BC I	-	(2,450)
16	23353	Learning Ctr Video Wall-PJM	301,008	9,259
17	21389	New Building-2600 Monroe-PJM	(4,390)	-
18	23420	Next Gen Video Conferencing 2004	503,269	74,869
19	23440	OTS Test System	238,633	9,581
20	23591	PETF-Business Case Modific	-	17,339
21	23538	Power Facility Louvers&Cntrls	-	36,077
22	23402	ProjWEB-Annual Bdgt Func Enh	18,453	2,358
23	23254	Redundant Secur Access Ctrl Sys	3,631	-
24	23421	SAP Plant Maintenance Enhanc	35,179	6,050
25	23383	SC 2nd Floor Renovation	965,532	14,966
26	23229	Space Prog Study VFCC	-	(4,389)
27	23137	Srv Ctr Exec Space Retrofit	(18,741)	-
28	23186	Streaming Media Training Tools	500	48,488
29	23258	Systems Dynamics Course	-	(14,875)
30	23658	Western Region Temp Office (WRO)	-	5,029
31	23300	Wstrn Region Ctrl Rm Data Wall	24,484	551
		CSD Total	3,625,954	955,934
Finance Division				
	WBS #	Project	2004 Capital	2004 Expense
1	23411	Asset Mgmt Phase 2	91,861	13,504
2	23395	Banking Software	-	2,160
3	23340	Emergency Response Enhance	546	98
4	23318	Service Category Revision	33,721	4,611
		FD Total	126,128	20,373
Market Services Division				
	WBS #	Project	2004 Capital	2004 Expense
1	23133	Advanced RSC Engine (MG)-PJM	9,475	-
2	23432	Advanced RSC Engine-Model Grwth	151,181	-
3	23088	Centrl Res Adeq Mkt Prop Eval	-	35,355
4	23480	DA Mkt Perfrm Improv-Model Grwth	286,235	-

2004 Project Expenditures

5	23273	Demand Side Data Table	5,004	418
6	23349	eReports v1 Concept Model Eval	99,455	112,562
7	23277	FTR v 3 Bus Rule Change	252,904	11,395
8	23531	JOA Mkt to Mkt Data Exchange	708,747	56,561
9	23191	LPA Calc Rplc for Mkt Intg-PJM	1,918	-
10	23135	LPA Upgrd-Split Bus Conting-PJM	487	-
11	23533	Mkt Operation Appli-Migrat to JAVA	-	103
12	23430	Mkt Sys Enhanc-Model Growth	2,642,926	41,025
13	23627	Mkt System Appl & HW Upgrade	207,800	320,102
14	23323	MSET Application & DB Rearch	2,061,005	269,378
15	23438	Reliab Pricing Model Development	239,936	240,272
16	23287	UDS & SPREGO Enhanc 03-1	192,066	7,546
17	23481	UDS SPREGO Look-ahead Function	223,220	-
MSD Total			7,082,359	1,094,719

Market Monitoring Unit

	WBS #	Project	2004 Capital	2004 Expense
1	23570	Data Rcvry-Est 99 Base Yr Fuel LMP	-	9,806
2	22828	eFuel Enhancements v 2.0	-	12,978
3	23303	Entrprs Congest Analy&Rprting	218,753	69,588
4	23540	LPA Mod-Export ParticUnit Factr	27,459	309
5	23352	Market Monitoring System v2.0	447,773	203,456
6	23357	MISO-PJM-TVA Data Exchange Ph 1	151,805	33,545
7	23128	Mkt Monitoring Sys MMAF	-	411
8	22952	Mkt Monitoring Syst-MI-PJM	3,657	22,314
9	23294	MM Data Store&SAS Envir Stor Exp	11,448	-
10	23123	MMU State of the Mkt Rpt(2003)	-	48,598
11	23502	State of the Market Report 2004	-	37,835
MMU Total			860,895	438,842

2004 Total PJM Project Portfolio Actual Spending	24,822,924	5,722,448
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Represents project information for the PJM project portfolio and excludes the Market Integration and Business Continuity Planning-Advanced Control Center investments.

Market Integration (MI)

	WBS #	Project	2004 Capital	2004 Expense
		2004 MI Actuals	16,116,333	15,332,750
MI Total			16,116,333	15,332,750

Business Continuity Planning-Advanced Control Center (BCP-AC2)

	WBS #	Project	2004 Capital	2004 Expense
		2004 AC2 Actuals	-	92,823
AC2 Total			-	92,823



PJM Interconnection, L.L.C.
Cost Development Task Force
Minutes of the 214th Meeting
PJM Interconnection, L.L.C.
Norristown, PA
9/23/03 - 10:00 AM

Attendees:

Cheryl L. Cloud, Chair	PJM Interconnection
Chris Hein	PJM Interconnection
Joe Bowring	PJM Interconnection
Mike Stellabotte	PJM Interconnection
John Baranowski	PJM Interconnection
Chrys Alcala	Pepco Energy Services
Jim Bellis	First Energy
Bruce Bleiweis	Reliant
Rick Douglas	Conectiv
John Esposito	PPL Genco
John Horstmann	NRG Energy, Inc.
Don Kujawski	First Energy
Paul Margiotta	Conectiv
Ron Matlock	Duke Energy

Also present, via conference call:

Donald Berry	Mirant Americas Energy Marketing, LP
Bill Booth	Reliant
Bruce Campbell	Mirant Americas Energy Marketing, LP
Pat Esposito	Dominion
Ted Fasca	Dominion
Reid Maust	Allegheny Energy
Pat Moyles	Constellation Power Source
Bill Schofield	Customized Energy Solutions
Rick Zabrosky	Allegheny Energy

1. ADMINISTRATIVE

Minutes of the 213th meeting were approved, as written.

No future meeting date was set.

2. RATE FOR STATION SERVICE

The new rate for (fourth quarter of 2003) Costing Station Service Electrical Requirements during Steam Unit Start-up is \$ 28.70/MWh (reference Ms Cloud's letter of 09/17/03).

The current (third quarter, 2003) rate of \$ 27.9/MWh (reference Ms Cloud's letter of 06/05/03) was also reconfirmed.

3. DISCUSS FUTURE OF CDTF

This discussion, led by Mr. Bowring and Mr. Hein, centered on deciding the future direction of CDTF, given the increased concern on Anti-trust issues and an overall objective of optimizing the group's productivity. During the discussion, Mr. Hein again reiterated the importance of maintaining full compliance with Anti-trust law and limitations, and stated that his presence at this meeting was to assure compliance by PJM. All meeting attendees were advised that they should seek their own legal counsel on how to assure their own compliance as individual meeting participants.

After briefly discussing the two primary alternatives - 1) abolishing CDTF entirely, or 2) continuing the CDTF, but with a modified activity structure - the group reaffirmed its mission statement, and reached a consensus of following choice #2, with specific attention given to the following activities:

***) Convening future CDTF meetings** – it was agreed that the group would meet:

a) per request of PJM, or b) at the request of any PJM member wishing to bring forward an issue needing CDTF involvement. This latter option would involve first approaching the PJM Market Monitoring Unit (MMU) with specifics of the issue(s) to be discussed bilaterally. MMU would then attempt to frame the issue(s), as appropriate for group discussion, while avoiding any possible conflict with Anti-trust issues.

***) Procedure for routine data updates** – it was agreed that most of these updates would not, by themselves, require a meeting. The quarterly update of Costing Station Service is essentially a PJM internal calculation, so it could simply be disseminated via electronic posting, as is the current practice. The annual update of the Maintenance Adder Escalation Index (and subsequent Guidelines update) could be based on an initial proposal by PJM, and discussed/refined by the group as needed.

***) Procedure for future Cost Development Guidelines Manual updates** – in light of the reduced regular meetings, the group acknowledged that it should review the manual on a regular basis, while also being prepared to make issue-specific changes as they are needed.

***) Minor change in CDTF reporting structure (MIWG-EMC-MC)** – due to the highly-technical focus of many CDTF issues, the group supported the idea of reporting through the Market Integration Working Group (MIWG), instead of directly to the EMC. Although the added layer has the potential to slow down the approval process, the consensus was that a better



level of understanding of the issues prior to reaching the EMC would be more beneficial in the long run.

4. FUTURE MEETINGS

Next meeting date to be determined as needed, as was agreed upon, per group discussion/consensus.

Prepared By: M. L. Stellabotte, Jr.
Draft: 09/25/03
Final: 03/09/04
DMS Document Number:



PJM Interconnection, L.L.C.
Cost Development Task Force
Minutes of the 213th Meeting
PJM Interconnection, L.L.C.
Norristown, PA
5/16/03 - 10:00 AM

Attendees:

Cheryl L. Cloud, Chair
Chris Hein (p/t)
Frank Racioppi (p/t)
Mike Stellabotte
Chrys Alcala
Roberts Batarags
Donald Berry
John Esposito
Ted Fasca
Luis Gomez
Paul Margiotta
Pat Moyles
Ron Ulmer

PJM Interconnection, L.L.C.
PJM Interconnection, L.L.C.
PJM Interconnection, L.L.C.
PJM Interconnection, L.L.C.
Pepco Energy Services
PSEG Power LLC
Mirant Americas Energy Marketing, LP
PPL Genco
Dominion
Exelon Power Team
Conectiv
Constellation Power Source
Dominion

Also present, via conference call:

Bill Booth
John Horstmann
J.P. Arcuri
Brian Sinclair

Reliant
NRG Energy, Inc.
EMMT
EMMT

1. ADMINISTRATIVE

Minutes of the 212th meeting were approved, as written.

Future meeting(s) to be determined, pending a resolution of CDTF status (see #2).

Next tentative date chosen to be Tues., 9/23/03, 10 AM, S-1.

2. ANTI-TRUST ISSUES – SHORT PRESENTATION

Mr. Hein gave a brief overview of an Anti-trust presentation which is given annually to all PJM employees. He emphasized that this group (CDTF) is one PJM group which must pay special attention to this matter, given the highly sensitive nature of some of the areas addressed by CDTF. After the presentation, there was an expression of concern among several attendees as to whether future meetings should be convened without some sort of clarification of legal status for CDTF continuing its mission.

3. RATE FOR STATION SERVICE

The new rate for (second quarter of 2003) Costing Station Service Electrical Requirements during Steam Unit Start-up is \$ 24.30/MWh (reference Ms Cloud's letter of 03/06/03). Ms. Cloud confirmed that this letter was sent out, but since no meeting was held for a while, this was the first opportunity to acknowledge it in group forum.

4. ANNUAL UPDATE: MAINT.-ADDER ESCALATION INDEX

Mr. Alcala distributed a handout summarizing the projection for the current year, based on updated Handy-Whitman Index data. Using the prescribed process (which exactly matched last year's actual figure), values of 452/3.2% were proposed. These values were unanimously accepted. Ms. Cloud will post an update to the CDTF Guidelines.

5. FIXED VS. VARIABLE COSTS

In light of newly-arisen concerns on Anti-trust issues, the group agreed to table further efforts in this area until a clarification of legal status for the group is provided.

6. NO-NOTICE GAS COST IN FUEL COSTS

In light of newly-arisen concerns on Anti-trust issues, the group agreed to table further efforts in this area until a clarification of legal status for the group is provided.

7. COST-CAPPED OPERATIONS

Under the continuing "Option 2" discussion the group acknowledged that a key issue relating to this area is to determine what time period is applicable. Several members are looking for an alternative to the CDTF manual. Mr. Racioppi agreed to take the matter back to Mr. Bowring and re-submit the information which was previously distributed.



8. FUTURE MEETINGS

Tue., Sept. 23, 2003, **10:00** AM - PJM Interconnection, L.L.C. – **S-1**
(1st fl., Service Center) [Pending legal clarification/status of CDTF]

Prepared By: M. L. Stellabotte, Jr.
Draft: 06/11/03
Final: 09/23/03
DMS Document Number: 228313



PJM Interconnection, L.L.C.
Cost Development Task Force
DRAFT Minutes of the 214th Meeting
PJM Interconnection, L.L.C.
Norristown, PA
9/23/03 - 10:00 AM

Attendees:

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Chris Hein	PJM Interconnection
Joe Bowring	PJM Interconnection
Mike Stellabotte	PJM Interconnection
John Baranowski	PJM Interconnection
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Also present, via conference call:

Donald Berry	Mirant Americas Energy Marketing, LP
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Ted Fasca	Dominion
Reid Maust	Allegheny Energy
Pat Moyles	Constellation Power Source
Bill Schofield	Customized Energy Solutions
Rick Zabrosky	Allegheny Energy

1. ADMINISTRATIVE

Minutes of the 213th meeting were approved, as written.

No future meeting date was set.

2. RATE FOR STATION SERVICE

The new rate for (fourth quarter of 2003) Costing Station Service Electrical Requirements during Steam Unit Start-up is \$ 28.70/MWh (reference Ms Cloud's letter of 09/17/03).

The current (third quarter, 2003) rate of \$ 27.9/MWh (reference Ms Cloud's letter of 06/05/03) was also reconfirmed.

3. DISCUSS FUTURE OF CDTF

This discussion, led by Mr. Bowring and Mr. Hein, centered on deciding the future direction of CDTF, given the increased concern on Anti-trust issues and an overall objective of optimizing the group's productivity. During the discussion, Mr. Hein again reiterated the importance of maintaining full compliance with Anti-trust law and limitations, and stated that his presence at this meeting was to assure compliance by PJM. All meeting attendees were advised that they should seek their own legal counsel on how to assure their own compliance as individual meeting participants.

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a) per request of PJM, or b) at the request of any PJM member wishing to bring forward an issue needing CDTF involvement. This latter option would involve first approaching the PJM Market Monitoring Unit (MMU) with specifics of the issue(s) to be discussed bilaterally. MMU would then attempt to frame the issue(s), as appropriate for group discussion, while avoiding any possible conflict with Anti-trust issues.



*) **Procedure for routine data updates** – it was agreed that most of these updates would not, by themselves, require a meeting. The quarterly update of Costing Station Service is essentially a PJM internal calculation, so it could simply be disseminated via electronic posting, as is the current practice. The annual update of the Maintenance Adder Escalation Index (and subsequent Guidelines update) could be based on an initial proposal by PJM, and discussed/refined by the group as needed.

*) **Procedure for future Cost Development Guidelines Manual updates** – in light of the reduced regular meetings, the group acknowledged that it should review the manual on a regular basis, while also being prepared to make issue-specific changes as they are needed.

*) **Minor change in CDTF reporting structure (MIWG-EMC-MC)** – due to the highly-technical focus of many CDTF issues, the group supported the idea of reporting through the Market Integration Working Group (MIWG), instead of directly to the EMC. Although the added layer has the potential to slow down the approval process, the consensus was that a better level of understanding of the issues prior to reaching the EMC would be more beneficial in the long run.

4. FUTURE MEETINGS

Next meeting date to be determined as needed, as was agreed upon, per group discussion/consensus.

Prepared By: M. L. Stellabotte, Jr.
Draft: 09/25/03
Final:
DMS Document Number:

PJM Interconnection, L.L.C.
Cost Development Task Force
Minutes of the 213th Meeting
PJM Interconnection, L.L.C.
Norristown, PA
5/16/03 - 10:00 AM

Attendees:

Cheryl L. Cloud, Chair	PJM Interconnection, L.L.C.
Chris Hein (p/t)	PJM Interconnection, L.L.C.
Frank Racioppi (p/t)	PJM Interconnection, L.L.C.
Mike Stellabotte	PJM Interconnection, L.L.C.
Chrys Alcala	Pepco Energy Services
Roberts Batarags	PSEG Power LLC
Donald Berry	Mirant Americas Energy Marketing, LP
John Esposito	PPL Genco
Ted Fasca	Dominion
Luis Gomez	Exelon Power Team
Paul Margiotta	Conectiv
Pat Moyles	Constellation Power Source
Ron Ulmer	Dominion

Also present, via conference call:

Bill Booth	Reliant
John Horstmann	NRG Energy, Inc.
J.P. Arcuri	EMMT
Brian Sinclair	EMMT

1. ADMINISTRATIVE

Minutes of the 212th meeting were approved, as written.

Future meeting(s) to be determined, pending a resolution of CDTF status (see #2).

Next tentative date chosen to be **Tues., 9/23/03, 10 AM, S-1.**

2. ANTI-TRUST ISSUES – SHORT PRESENTATION

Mr. Hein gave a brief overview of an Anti-trust presentation which is given annually to all PJM employees. He emphasized that this group (CDTF) is one PJM group which must pay special attention to this matter, given the highly sensitive nature of some of the areas addressed by CDTF. After the presentation, there was an expression of concern among several attendees as to whether future meetings should be convened without some sort of clarification of legal status for CDTF continuing its mission.

3. RATE FOR STATION SERVICE

The new rate for (second quarter of 2003) Costing Station Service Electrical Requirements during Steam Unit Start-up is \$ 24.30/MWh (reference Ms Cloud's letter of 03/06/03). Ms. Cloud confirmed that this letter was sent out, but since no meeting was held for a while, this was the first opportunity to acknowledge it in group forum.

4. ANNUAL UPDATE: MAINT.-ADDER ESCALATION INDEX

Mr. Alcala distributed a handout summarizing the projection for the current year, based on updated Handy-Whitman Index data. Using the prescribed process (which exactly matched last year's actual figure), values of 452/3.2% were proposed. These values were unanimously accepted. Ms. Cloud will post an update to the CDTF Guidelines.

5. FIXED VS. VARIABLE COSTS

In light of newly-arisen concerns on Anti-trust issues, the group agreed to table further efforts in this area until a clarification of legal status for the group is provided.

6. NO-NOTICE GAS COST IN FUEL COSTS

In light of newly-arisen concerns on Anti-trust issues, the group agreed to table further efforts in this area until a clarification of legal status for the group is provided.

7. COST-CAPPED OPERATIONS

Under the continuing "Option 2" discussion the group acknowledged that a key issue relating to this area is to determine what time period is applicable. Several members are looking for an alternative to the CDTF manual. Mr. Racioppi agreed to take the matter back to Mr. Bowring and re-submit the information which was previously distributed.

8. FUTURE MEETINGS

Tue., Sept. 23, 2003, 10:00 AM - PJM Interconnection, L.L.C. – S-1
(1st fl., Service Center) [Pending legal clarification/status of CDTF]

Prepared By: M. L. Stellabotte, Jr.
Draft: 06/11/03
Final:
DMS Document Number:

Agenda
214th CDTF Meeting
PJM Interconnection, Service Center Room S-1
Tuesday, September 23, 2003
10:00 A.M.

1. Minutes – Review minutes of the 213th meeting
2. Rate for Costing Station Service Electrical Requirements during Steam Unit Start-up
 - Rates for third and fourth quarter of 2003 (See C. L. Cloud's letters of 6/5/03 and 9/17/03.)
3. Discuss future of CDTF
 - Convening Future CDTF meetings
 - Procedure for future Cost Development Guidelines Manual updates
 - Procedure for future routine data updates
 - Annual update of Maintenance Adder Escalation Index
 - Quarterly update of rate for Costing Station Service Electrical Requirements
 - Other Issues?

Agenda
213th CDTF Meeting
PJM Interconnection, Service Center Room S-1
Friday, May 16, 2003
10:00 A.M.

1. Administrative matters
 - Minutes – Review minutes of the 212th meeting
 - Schedule future meetings
2. Short Presentation on Anti-Trust Issues
 - Presentation by Christopher Hein, PJM Legal Dept.
3. Rate for Costing Station Service Electrical Requirements during Steam Unit Start-up
 - Review new rate for second quarter of 2003 (See C. L. Cloud's letter of 3/6/03.)
4. Annual Update of Maintenance Adder Escalation Index Numbers
 - Please bring copy of July Handy-Whitman Index if you have access to one.
5. Fixed vs. Variable Costs
 - Continue to review compilation data from Variable Cost Worksheet responses
 - Continue discussion of cost components that are excluded from cost recovery under current CDTF guidelines but which may be proposed for inclusion in future guidelines.
6. No-Notice Gas Cost in Fuel Costs
 - Continue discussion on the appropriate handling of No-notice Gas Costs in the calculation of Fuel Costs. Paul Margiotta to present draft proposal for a pro-rated delivery charge as a recoverable cost.
7. Cost-capped Operations
 - Continue discussion of "Option 2" under the cost-capping rule in Schedule 1, Section 6 of the Operating Agreement



**PJM Interconnection, L.L.C.
Energy Market Committee Meeting
Minutes of the Sixtieth Meeting
The Wyndham Hotel
Wilmington, DE
September 24, 2003
10:00 a.m.**

Members Present:

Ott, Andrew, Chair on behalf of Ken Laughlin

Giles, Steven

Hubbard, Lance

Conley, Lawrence

Stuchell, Jeffrey

Zaiontz, Jeanne

Baldwin, Ted

Barker, Jason

Lalor, Peter

Larson, Thomas A.

Ogenyi, Gloria

Garbini, Marjorie

Jain, Adarsh

Cocco, Michael

Fernands, Stephen

Schofield, William

Douglass, Richard K.

Esposito, Patricia

Pakela, Gregory A.

Matlock, Ronald

Cox, Jason

Wadsworth, Joseph

Fahey, Reem

Biden, Douglas

Carrado, Regina

Shah, Pulin

Bainbridge, Thomas

Bellis, James

Meridionale, Kevin

Like, Russel

Ecelbarger, Carl

Shanker, Roy

PJM Interconnection, L.L.C.

Allegheny Electric Cooperative, Inc.

Allegheny Electric Cooperative, Inc.

Allegheny Energy Supply

Allegheny Energy Supply

BP Energy Company

Calpine Energy Services, L.P.

Cinergy

Commonwealth Chesapeake Company, L.L.C.

Commonwealth Chesapeake Company, L.L.C.

Conectiv Energy

Conectiv Energy Supply, PHI

Consolidated Edison Company of NY Inc.

Constellation Power Source

Customized Energy Solutions

Customized Energy Solutions

Delmarva Power & Light [Mbr Rep'g PHI]

Dominion

DTE Energy

Duke Energy

Dynegy

Edision Mission Marketing & Trading

Edison Mission Marketing & Trading

Electric Power Generation Association

Exelon Power Team

Exelon Power Team

FirstEnergy

FirstEnergy

FirstEnergy/Jersey City Power & Light

Gabel Associates for Sempra Energy Trading

H.Q. Energy Services, (U.S.)

Jedi Linden



Barua, Rajnish
Kleppinger, David M.

Campbell, Bruce
Caletka, Patricia
Tigue, John
Jeremko, Steven
Horstmann, John
Tatum, Edward
Vollmer, Lydia
Rainey, Frank A.
Newton, James
Baranowski, John
Bowring, Joseph
Bryson, Michael
Covino, Susan
Crutchfield, Steven
Dadourian, John
Herling, Steven
Loomis, Harold
Miller III, W. Scott
Ott, Andrew L.
Whitehead, Jeffrey
Williams, Stanley J.
Philips, Marjorie
Swider, Michael
Tippitt, Kalim
Spector, Barry
Bresler, F. Stuart, Secretary

Maryland Public Service Commission
McNees Wallace & Nurick on behalf of 7
companies
Mirant Americas Energy Marketing, L.P.
New York State Electric and Gas Company
New York State Electric and Gas Company
New York State Electric and Gas Company-RGE
NRG Energy Marketing, Inc.
Old Dominion Electric Cooperative
Outback Power Marketing
PEI Power Corporation
PEPCO Energy Services, Inc.
PJM Interconnection, L.L.C.
PJM Interconnection, L.L.C.
PJM Interconnection, L.L.C.
PJM Interconnection, L.L.C.
PJM Interconnection, L.L.C.
PJM Interconnection, L.L.C.
PJM Interconnection, L.L.C.
PJM Interconnection, L.L.C.
PJM Interconnection, L.L.C.
PJM Interconnection, L.L.C.
PJM Interconnection, L.L.C.
PJM Interconnection, L.L.C.
PSEG Energy Resource & Trading
Strategic Energy, L.L.C.
The Structure Group
Wright & Talisman, P.C.
PJM Interconnection, L.L.C.

1. ADMINISTRATION

A. Mr. Ott added Items 13 (Operating Committee Issues) and 14 (2004 Electricity Markets Committee Annual Plan) to the agenda. Mr. Ott requested additional agenda items and received none.

B. The minutes of the August 27, 2003 meeting were approved as written.

2. FERC ISSUES

Mr. Spector highlighted recent FERC activity including the order accepting with certain changes the PJM filing regarding virtual bid credit screening as well as the dismissal of the NERTO mediation proceeding, and responded to questions on the legal report distributed prior to the meeting.



3. WORKING GROUP REPORTS

- A. Market Implementation Working Group - Mr. Ott reminded those present that the period during which participants may choose price-based or cost-based generator start-up costs and submit price-based generator start-up costs for the October 1, 2003 through March 31, 2004 period ends on September 30th. Mr. Ott also reported on current issues under discussion at the MIWG including revisions to the billing determinants used for the Schedule 9 charges for FTR Administration and Market Support categories, and behind-the-meter generation issues.
- B. Demand Side Response Working Group – Ms. Covino reported that the next meeting is scheduled for October 1, 2003.
- C. Transmission Outage Impact Mitigation Working Group – Mr. Hyzinski reported that the next meeting scheduled for October 1, 2003.
- D. Credit Working Group – Mr. Loomis reported that the Credit Working Group will hold its next meeting on October 2, 2003.

4. LOCAL MARKET POWER MITIGATION PROPOSAL

Mr. Bowring discussed and answered questions regarding the proposed tariff and operating agreement changes developed by the Local Market Power Mitigation Working Group and reviewed by the Tariff Advisory Committee. Mr. Bowring also distributed a clarification to the originally distributed language in preparation for the Members' Committee vote on this issue. The EMC agreed with one vote opposed that the clarifying language should be included in materials for the Members Committee meeting.

5. EES TRANSACTION SCHEDULING CHANGE

Mr. Whitehead discussed the proposed PJM manual change regarding the use of eTags to submit scheduling requests to the PJM EES system. The manual change describes the participants' responsibility to verify correct submission to the PJM EES system of schedule data transmitted via the participants' eTag vendor. **The EMC approved the change with none opposed.** Some participants voiced concerns with the timing requirements for confirming ramp reservations made in EES via eTag submissions. Given these concerns, PJM will delay implementation of the scheduling change until November 1st so that timing issues can be resolved at the Market Implementation Committee.

6. SPINNING RESERVE MARKET OPERATING RESERVE CHANGE

Mr. Bresler reviewed the proposed change to the Spinning Reserve Market Business Rules regarding Operating Reserve deviations for units pool-assigned to provide Tier 2 spinning reserve. **The EMC approved the change with none opposed.**



7. MARKET MONITORING ISSUES

Mr. Bowring reported on the following current issues:

- Real-time zonal load data posting – one LSE has objected to posting this data. The EMC referred the issue to the Market Implementation Committee for resolution. Mr. Bowring will convene a conference call prior to the next MIWG meeting to explore the needs driving the original request, and determine whether alternate data may be posted that would satisfy those needs.
- Status of eFuel including the now available upload capability and future training dates.
- Cost Development Task Force –the MMU proposed that future meetings of the CDTF be called by the PJM MMU or by request to the PJM MMU in order to address specific issues related to generic, cost-related subjects rather than unit-specific costs, and that the group report to the Market Implementation Committee. There were no objections to the proposed adjustments to the CDTF alignment or mission.
- Mr. Bowring also announced that the appendix to the MMU report regarding the ComEd integration has been distributed and posted.

8. MARKET INTEGRATION UPDATE

Mr. Crutchfield provided an update on the PJM market integration efforts.

9. MEMBERSHIP PRORATION

Mr. Schofield discussed a proposal to prorate the PJM membership fee based on the time of year at which a new member joins. The issue was referred to the Credit Working Group for development of a consensus proposal for consideration at the October EMC and MC meetings.

10. OPERATING RESERVE ISSUES

This item was removed from the agenda and will be discussed at the Market Implementation Committee.

11. RESOURCE ADEQUACY MODEL (“RAM”)

Ms. Esterly updated the committee on the RAM group’s activities.

12. PJM-NY SEAMS GROUP

Mr. Bryson updated the Committee on SEAMS coordination activities.



13. OPERATING COMMITTEE ISSUES

Mr. Baranowski discussed the following issues currently under review by the Operating Committee:

- Revised Operating Reserve Objective calculation;
- Winter capacity testing;
- Black start costs; and
- PJMNet connections.

General consensus was reached among the members present that EMC action is not required on the majority of these subjects, with the exception of the issue regarding adjustment of the Black Start costs. This issue will be brought to the MIC and back to the EMC for review at upcoming meetings.

14. 2004 ELECTRICITY MARKETS COMMITTEE ANNUAL PLAN

Mr. Bresler requested comments regarding the 2004 EMC Annual Plan. Assuming FERC approval of the new PJM committee structure, the Electricity Market Committee will be requested to endorse this plan at the October meeting.

15. FUTURE MEETINGS

2003

October 22, 2003	10:00 AM	Chicago, IL
November 19, 2003	10:00 AM	Wilmington, DE

2004

January 6, 2004	10:00 A.M.	Wilmington, DE
January 28, 2004	10:00 A.M.	Wilmington, DE
March 3, 2004	10:00 A.M.	Wilmington, DE
April 15, 2004	10:00 A.M.	Wilmington, DE
May 12, 2004	10:00 A.M.	TBD
June 2, 2004	10:00 A.M.	Wilmington, DE
August 4, 2004	10:00 A.M.	Wilmington, DE
August 25, 2004	10:00 A.M.	Wilmington, DE
October 6, 2004	10:00 A.M.	Wilmington, DE
November 3, 2004	10:00 A.M.	Wilmington, DE
December 1, 2004	10:00 A.M.	Wilmington, DE

Author:	F. Stuart Bresler, Secretary
Typist:	Virginia L. Filipovic
DMS Document Number:	227815v2



**PJM Interconnection
Energy Market Committee
Minutes of the Fifty-sixth Meeting
The Wyndham Hotel
Wilmington, DE
June 18, 2003
10:00 a.m.**

Members Present:

Laughlin, Kenneth W., Chair
Chapman, Thomas
McDonald, Steve L.
Yan, Herbert
Allen, Geoffrey R.
Guy, Gary
Craig, Derrick M.
Barker, Jason
Larson, Thomas
Wemple, Stephen
Garbini, Marjorie
Jain, Adarsh
Stevens, Andrew J.
Douglass, Richard K.
Esposito, Patricia
Foley, Christopher
Wadsworth, Joseph
Shah, Pulin
Bellis, James L.
Ecelbarger, Carl
Shanker, Roy
Lyons, Kenneth
Fields, William
Kleppinger, David M.
Cale, Dwight E.
Campbell, Bruce
Fuess, Jay
Horstmann, John W.
Raine, Frank A.
Griffiths, Danial
Newton, James E.
Kafka, Richard J.
Hyzinski, Thomas W.
Hunsperger, Jennifer

PJM Interconnection, L.L.C.
AEP Energy Services, Inc.
AES Ironwood, L.L.C.
Allegheny Energy Supply Company
American Electric Power
Baltimore Gas & Electric Company
Baltimore Gas and Electric Company
Cinergy Services, Inc.
Commonwealth Chesapeake
Con Edison Solutions
Connectiv Energy Supply, Inc.
Consolidated Edison Company of NY Inc.
DC Energy LLC
Delmarva Power & Light [Mbr Rep'g PHI]
Dominion
Edison Mission Energy
Edison Mission Marketing & Trading
Exelon Power Team
FirstEnergy Corporation
H.Q. Energy Services (U.S.) Inc.
Jedi-Linden
Lehigh Cement
Maryland Office of People's Counsel
McNees Wallace & Nurick representing 8 companies
MG Industries
Mirant Americas Energy Marketing L.P.
New Energy Concepts, L.L.C.
NRG Power Marketing, Inc.
PEI Power Corporation
Pennsylvania Office of Consumer Advocate
Pepco Energy Services, Inc. [PHI]
Potomac Electric Power
PPL EnergyPlus, LLC
Praxair, Inc.



Philips, Marjorie R.
Bleiweis, Bruce I.
Hohki, Keiichi
Kishimoto, Naoki
Bresler, F. Stuart, Secretary

PSEG Energy Resource & Trade, LLC
Reliant Energy Services, Inc.
Tokoyo Electric Power Company
Tokoyo Electric Power Company
PJM Interconnection, L.L.C.

Also Present:

Brown, Michael
Schofield, William
Caletka, Patricia A.
Jeremko, Steven T.
Bryson, Michael
Daugherty, Suzanne
Hinkel, Robert
Loomis, Harold
Miller, W. Scott
Williams, Stanley

Baltimore Gas and Electric Company
Customized Energy Solutions
New York State Electric and Gas Corporation
New York State Electric and Gas Corporation
PJM Interconnection, L.L.C.
PJM Interconnection, L.L.C.
PJM Interconnection, L.L.C.
PJM Interconnection, L.L.C.
PJM Interconnection, L.L.C.
PJM Interconnection, L.L.C.

Present Via Teleconference:

Liang-Nicol, Cecilia
Gigliotti, Cara
Grabiak, Terri
Smith, William J.
Wojciechowicz, Jason J.
Beasley, Ann
Zaiontz, Jean M.
Lancaster, Deborah
Lalor, Robert P.
Bellama, Brian
Citrolo, John
Matlock, Ronald J.
Bradshaw, Tina
Elwood, Darren
Biden, Douglas
Carrado, Regina
Shah, Pulin
Haymes, Alan
Bitowf, Terry
Miller, Donald C.
Travaglianti, Mark
Like, Russel

Allegheny Energy Supply Company, L.L.C.
Allegheny Power
Allegheny Power
Allegheny Power
Allegheny Power
American Municipal Power-Ohio
BP Energy Company
Central Illinois Light Company
Commonwealth Chesapeake Company, LLC
Constellation Power Source, Inc.
Delaware Public Advocate
Duke Energy Trading & Marketing, L.L.C.
Dynegy
Edison Mission Marketing and Trading, Inc.
Electric Power Generation Association
Exelon Power Team
Exelon Power Team
Federal Energy Regulatory Commission
FirstEnergy (EDC)
FirstEnergy Corporation
FirstEnergy Solutions Corp.
Gabel Associates for Sempra Energy Trading
Corporation



Hoatson, Thomas
Valladares, Jorge
Fields, William F.
Perrotti, Frank
Parikh, Lopa
Lee, Hinwing
Ford, Andrew
Reuter, Robert
Ellis, David
Ravishankar, Raman
Boyle, Sean
Grim, Michael S.
Racho, Joseph T.

J. Aron & Company
Maryland Office of the People's Counsel
Maryland People's Counsel
New Jersey Board of Public Utilities
Office of the People's Counsel for District of Columbia
Outback Power Marketing
PJM Interconnection, L.L.C.
Potomac Electric Power Company
Public Service Commission of West Virginia
Public Utilities Commission of Ohio
Select Energy
TXU Portfolio Management Company LP
UGI Utilities, Inc.

1. ADMINISTRATION

- A. Mr. Laughlin added an agenda item to receive a presentation from Ms. Daugherty regarding the 2 Chairman's Advisory Team proposed changes to the PJM committee process.
- B. Minutes from the May 21, 2003 meeting were approved as written.

2. FERC ISSUES

Mr. Spector responded to questions regarding the previously distributed summary of recent FERC filings. There was a discussion of the lack of timeliness with which the June PJM FERC filings and orders were posted. It was also requested that PJM continue to notify PJM members regarding issues on which PJM is contemplating FERC filings.

3. WORKING GROUP REPORTS

- A. Market Implementation Working Group - Mr. Ott highlighted the Group's major current activities including the development of the allocation methodology for Auction Revenue Rights to be utilized beyond the 2003/2004 planning period. The details of this allocation methodology must be filed with FERC by September 30, 2003.
- B. Generator Attributes Tracking System Working Group – no report.
- C. Demand Side Response Working Group – Mr. Bresler reviewed current topics under discussion by the group, as well as current statistics on participation in the PJM Load Response Programs.
- D. Local Market Power Mitigation Working Group – Mr. Bowring indicated that the group is continuing its deliberations with the goal of making a final proposal by November, 2003.



- E. Behind the Meter Generation Working Group – Mr. Bresler reported that at its meeting on June 3, 2003, the group received a presentation from Mr. Dessender, Manager of Market Settlements at PJM, regarding certain aspects of the PJM settlement processes, and discussed a draft set of business rules for behind-the-meter generation.
- F. Credit Working Group –
 - 1) Mr. Loomis reviewed the proposed default allocation methodology. **The EMC voted to endorse the development of tariff language to implement this methodology** with none opposed and no abstentions.
 - 2) Mr. Ott reviewed Credit User Group discussion regarding implementation of a Day-ahead Market credit exposure screening procedure for virtual bids and offers.
- G. Transmission Outage Impact Mitigation Working Group – Mr. Hyzinski reported on the group's initial meeting.

4. OPERATING AGREEMENT CHANGE FOR LOST OPPORTUNITY COST

Mr. Bresler noted that the proposed changes to the Operating Agreement that are necessary to support compensation to generators for lost opportunity costs have been discussed in detail at the MIWG over the last several meetings. **The EMC voted to endorse the changes** with none opposed and no abstentions. The changes will next go to the Tariff Advisory Committee on June 26, 2003, and to the Members' Committee on July 10, 2003.

5. ADDITION OF AN ONTARIO (IMO) INTERFACE PRICING POINT

Mr. Ott discussed PJM's intention to add a pricing point to be utilized for transactions sourcing or sinking in the IMO control area. This addition is necessary due to the relatively evenly distributed effect of these transactions on the PJM interfaces with NYISO and the west. PJM will begin posting prices for this interface for informational purposes as soon as possible, and PJM will implement the new pricing point on August 1, 2003.

6. MARKET MONITORING ISSUES

Mr. Bowring suggested changes with the role of the Cost Development Task Force ("CDTF") and presented suggested changes. The Committee discussed the need for the CDTF and the role of the CDTF. Mr. Laughlin requested EMC members to discuss this issue with their CDTF representatives in preparation for further discussion at upcoming EMC meetings.



7. POST-CONTINGENCY CONSTRAINT OPERATION PILOT

Mr. Ott reviewed MIWG discussion regarding perceived market impacts of the post-contingency constraint operation pilot approved by the Operating Committee. The pilot will begin on July 1, 2003.

8. PJM MARKET GROWTH UPDATE

A. Mr. Hinkel provided an update on PJM market growth activities, including the proposed ComEd Market integration scheduled for October 1, 2003. Mr. Hinkel reported that PJM submitted its reliability plan for the ComEd Market integration to NERC for its approval. PJM remains committed to implementation of the congestion management methodology as described in the inter-regional whitepaper, and proposes to do so when other parties are able to reciprocate. Upon initial implementation of the ComEd Market integration, PJM proposes to accomplish congestion management utilizing the same processes that exist today. Further discussion and debate with all involved stakeholders is continuing.

B. Mr. Ott presented market simulations modeling the ComEd integration, including estimated production cost savings and flow projections on the proposed pathway between the two control areas.

9. RESOURCE ADEQUACY MODEL ("RAM")

A. Ms. Esterly announced that PJM, ISO-NE, and NYISO selected NERA as the consultant to analyze the proposed centralized resource adequacy market construct.

B. Ms. Esterly also reported to the Committee the daily capacity market schedule for the July 4th holiday weekend.

10. PJM/MISO CONGESTION MANAGEMENT PROPOSAL

This item was covered under item 8A.

11. PJM-NY SEAMS GROUP

Mr. Bryson reported on activities regarding PJM-NY coordination, including NYISO implementation of their OSS system. PJM/NYISO enhancement of ramp data sharing is currently in the test mode, and more effective integration of NERC tags with NY and PJM scheduling systems is under development.

12. CHANGES TO PJM COMMITTEE STRUCTURE

Ms. Daugherty presented upcoming changes to the PJM committee structure, particularly those specific to the EMC, as developed by the Chairman's Advisory Team and approved by the PJM Members' Committee.



13. FUTURE MEETINGS

2003

July 9, 2003	10:00 AM	Wilmington, DE
August 27, 2003	10:00 AM	Wilmington, DE
September 24, 2003	10:00 AM	Wilmington, DE
October 22, 2003	10:00 AM	Chicago, IL
November 19, 2003	10:00 AM	Wilmington, DE



Author:
Typist:
DMS Document Number:
Attachment:

Stu Bresler, Secretary
Virginia L. Filipovic
218160v4
Embedded Links



DRAFT
PJM Interconnection
Energy Market Committee
Minutes of the Fifty-seventh Meeting
The Wyndham Hotel
Wilmington, DE
July 9, 2003
10:00 a.m.

Members:

Laughlin, Chair, Kenneth W.
Horton, Dana
McDonald Steve
Brown, Michael
Owens P.E., George E.
Barker, Jason C.
Lalor, Robert P.
Garbini, Marjorie
Jain, Adarsh
Lynch, Mary
Schofield, William
Douglass, Richard K.
Esposito, Patricia
Pakela, Gregory A.
Wadsworth, Joseph R.
Biden, Douglas L.
Clarke, Linda
Stein, Edward C.
Villar, Juan R.
Ecelbarger, Carl
Shanker, Roy J.
Fields, William F.
Kleppinger, David M.

Campbell, Bruce
Fuess, Jay
Jeremko, Steven
Raine, Frank A.
Griffiths, Danial
Newton, James E.
Hyzinski, Thomas W.
McCormick, James

PJM Interconnection, L.L.C.
AEP Energy Services, Inc.
AES Ironwood, L.L.C.
Baltimore Gas and Electric Company
Borough of Chambersburg, PA
Cinergy Services, Inc.
Commonwealth Chesapeake Company, L.L.C.
Conectiv Energy Supply, Inc. – PHI
Consolidated Edison Company of NY Inc.
Constellation Power Sources, Inc.
Customized Energy Solutions
Delmarva Power & Light [Mbr Rep'g PHI]
Dominion Virginia Power
DTE Energy Trading
Edison Mission Marketing and Trading, Inc.
Electric Power Generation Association
Exelon Power Team
FirstEnergy Corporation
FPL Energy Power Marketing, Inc.
H.Q. Energy Services (U.S.) Inc.
Jedi-Linden
Maryland Office of the People's Counsel
McNees Wallace & Nurick L.L.C. on behalf of 7
companies
Mirant Americas Energy Marketing, L.P.
New Energy Concepts, L.L.C.
New York State Electric & Gas Corporation
PEI Power Corporation
Pennsylvania Office of Consumer Advocate
Pepco Energy Services, Inc.
PPL EnergyPlus, L.L.C.
Strategic Energy, L.L.C.



Grim, Michael S.
Bresler, F. Stuart, Secretary

TXU Portfolio Management Company LP
PJM Interconnection, L.L.C.

Also Present:

Larson, Thomas A.
Herrman, Mark
Adams, Harold
Fahey, Reem
Bainbridge, Thomas
Bladen, Jeffrey M.
Bowring, Joseph
Bryson, Michael
Dateno, George
Fuentes, Jose
Herling, Steve
Hinkel, Robert O.
Jones, Patricia M.
Kormos, Michael J.
Loomis, Harold
Niemeyer, Jay
Ott, Andrew L.
Polidoro, Joseph
Rodriguez, Andrew
Williams, Stanley J.
Spector, Barry

Commonwealth Chesapeake Company, L.L.C.
Conectiv Energy Supply, Inc. - PHI
Dominion Virginia Power
Edison Mission Marketing and Trading, Inc.
FirstEnergy Corporation
PJM Interconnection, L.L.C.
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PJM Interconnection, L.L.C.
PJM Interconnection, L.L.C.
Wright & Talisman, P.C.

Present Via Teleconference:

McDonald, Steven L.
Ahr, John
Gigliotti, Cara
Gabiak, Terri
Smith, William J.
Wojciechowicz, Jason J.
Beasley, Ann
Scarp, David
Francoeur, Rene
Holder, Dana
Zaiontz, Jeanne
Lancaster, Deborah

AES Ironwood, L.L.C.
Allegheny Power
Allegheny Power
Allegheny Power
Allegheny Power
Allegheny Power
American Municipal Power-Ohio
Baltimore Gas & Electric Company
Black Oak Energy, L.L.C.
Black Oak Energy, L.L.C.
BP Energy Company
Central Illinois Light Company d/b/a
AmerenCILCO



Wemple, Stephen
Olinchak, Katharine
Bohorquez, Mario
Pollock, Jansen C.
Bellama, Brian
Stevens, Andrew
Tate, Matthew
Hu, Grace
Crusey, David
Cox, Jason W.
Elwood, Darren
Jett, Jason
Carrado, Regina
Shah, Pulin
Haymes, Alan
Miller, Donald
Farley, Brian
Preiss, Richard F.
Schum, Alice
Berg, William
Carrigan, David
Fields, William F.
Devaney, Bryan
Pappas, Lisa
Hosch, Amanda
Horstmann, John
Lee, Hinwing
Levin, John
Tubbs, Andrew
Casciani, Jennifer
Hagele, Jack
Uhrin, James
Weiss, Glenn
Jensen, Betty K.
Ravishankar, Raman
Schubiger, Michael
Racho, Joseph T.
Murray, Sandra

Con Edison Energy
Conectiv
Constellation NewEnergy
Constellation NewEnergy, Inc.
Constellation Power Source, Inc.
DC Energy, L.L.C.
DC Energy, L.I.C.
DC Public Service Commission
Delmarva Power & Light
Dynegy
Edison Mission Marketing and Trading, Inc.
Entegra Capital Management
Exelon Power Team
Exelon Power Team
Federal Energy Regulatory Commission
FirstEnergy Corporation
FrstEnergy Solutions
Gabel Associates
Illinois Municipal Electric Agency
Liberty Electric Power, LLC
Market Energy, L.L.C.
Maryland People's Counsel
Maryland Public Service Commission
Michigan Public Service Commission
MidAmerican Energy Company
NRG Energy Marketing Inc.
Outback Power Marketing
Pennsylvania Public Utility Commission
Pennsylvania Public Utility Commission
People's Energy Services
PJM Interconnection, L.L.C.
PJM Interconnection, L.L.C.
PJM Interconnection, L.L.C.
PSEG Services Corporation
Public Utilities Commission of Ohio
SESCO, L.L.C.
UGI Utilities, Inc.
We Energies

1. ADMINISTRATION

A. Mr. Laughlin requested additional Agenda Items and received none.



B. The minutes from the June 18, 2003 meeting were approved as written.

2. FERC ISSUES

Mr. Spector discussed current PJM FERC activity, highlighting the most recent filings.

3. WORKING GROUP REPORTS

A. Market Implementation Working Group - Mr. Ott reported on current activities. Mr. Ott noted that the process and tariff language for the ARR allocation procedure for the 2004/2005 planning period is under development, and must be filed by September 30, 2003.

B. Generator Attributes Tracking System Working Group – no report at this meeting.

C. Demand Side Response Working Group – Mr. Polidoro provided an update on current participation in the PJM load response programs, as well as a survey by PJM that will begin July 18th regarding LSE load response programs.

D. Local Market Power Mitigation Working Group – Mr. Bowring reported on current progress of the group and expected completion by November 2003.

E. Behind the Meter Generation Working Group – Mr. Herling summarized the draft business rules developed by the Working Group and requested comments. The EMC will be requested to endorse the rules at the next meeting for inclusion in the PJM Manuals.

F. Credit Working Group – Mr. Loomis reviewed the proposed Operating Agreement language developed to support the new default allocation method. **The EMC voted to endorse the language by a vote of 31 for, 0 against, and 6 abstentions.**

G. Transmission Outage Impact Mitigation Working Group – no report at this meeting – the next meeting is scheduled for July 17, 2003.



4. VIRTUAL BID CREDIT SCREENING

Mr. Ott discussed the proposed revisions to the PJM credit policy for virtual bids. **The EMC voted to endorse the policy by a vote of 34 in favor, 3 against, and 2 abstentions.**

5. EMERGENCY CAP ON FTR BID VOLUME

Mr. Ott discussed PJM's FERC filing to implement a cap on the volume of FTR quotes each participant may submit in a single auction. Mr. Ott noted that addition of cap or number of permissible bids requires an Operating Agreement change and will require member approval. **The EMC voted to endorse the change by a vote of 41 in favor, 1 opposed, and 1 abstention.**

6. MARKET MONITORING ISSUES

Mr. Bowring suggested that he convene the Cost Development Task Force to discuss future changes to the PJM Cost Development process. The results of the CDTF discussions will be reported and discussed at future EMC meetings.

7. COMED INTEGRATION UPDATE

Mr. Hinkel summarized the tariff changes developed to support the ComEd integration. Mr. Herling presented the interim capacity construct that has been developed as a transition during the initial months of the ComEd integration through May 31, 2004. **The EMC voted not to endorse the Operating Agreement changes necessary for the ComEd integration by a vote of 11 for, 19 against, 11 abstentions.** The members suggested PJM provide additional time for customer discussion.



8. PROGRAM MANAGEMENT UPDATE – 2004 MARKETS PROJECT BUDGET

Mr. Dateno presented the Market projects budgeted for 2004. The Committee discussed the process by which the stakeholders will discuss and coordinate the budget, the CAT recommendations, and the development of the EMC annual plan.

9. RESOURCE ADEQUACY MODEL (“RAM”)

Mr. Bresler summarized the timeline for upcoming activities of the RAM group.

10. PJM-NY SEAMS GROUP

Mr. Bryson informed the Committee that NYISO will enable the ability for participants to view PJM ramp details through its OSS system in August.

11. FUTURE MEETINGS

2003

August 14, 2003	10:00 AM	Wilmington, DE
August 27, 2003	10:00 AM	Wilmington, DE
September 24, 2003	10:00 AM	Wilmington, DE
October 22, 2003	10:00 AM	Chicago, IL
November 19, 2003	10:00 AM	Wilmington, DE

Author: F. Stuart Bresler
Typist: Virginia L. Filipovic
DMS Document Number: 220319v2



Market Monitoring Issues

EMC
September 24, 2003

Joseph E. Bowring
Manager
PJM Market Monitoring Unit

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Zonal Load Data

- Zonal load data issue
 - Should real time zonal data be posted?
 - Issue – confidentiality
 - Seven zones have potential confidentiality issues for major LSE in each zone
 - Recommended that PJM post zonal load data with explicit agreement of the major LSE in each zone

©2003 PJM



- Zonal load data conclusion
 - There is not unanimous agreement of the LSEs to post this data
 - LSEs' positions contingent on all other LSEs posting data
- As a result, PJM will not post real time zonal load data



- Status of eFuel
 - Data can be uploaded now in existing system
 - Flat file format
 - Revised eFuel software operational on 10/22/03
 - New data formats available from MMU
 - Contact Jerry Bell
 - 610-666-4526; bellj@pjm.com
 - XML; flat file; comma delimited formats
 - Deadline for providing eFuel data
 - Data from 1/1/02 through 9/30/03 by 11/30/03



- Training for eFuel
 - Training session: 10/20/03
 - Training session: 11/3/03
- Training link
 - <http://www.pjm.com/services/courses/e-fuel-training.html>



- Cost Development Task Force
 - Met on 9/23 to discuss future of CDTF
- Consensus:
 - CDTF will continue to exist in a modified form
 - Meetings will be held only to address specific issues
 - Meetings will be called by MMU or at member's request to MMU
 - Meetings will focus on generic cost-related issues
 - Members will discuss company and unit specific cost issues bilaterally with the MMU



- **Consensus (cont):**
 - CDTF will report to the MIWG/EMC/MC
 - CDTF will regularly review the Cost Development Guidelines Manual
 - Meetings will be chaired by MMU
 - PJM will continue to develop quarterly station service costing data and review with CDTF
 - PJM will develop annual update of maintenance adder escalation index and review with CDTF
 - CDTF mission statement was reaffirmed



- **CDTF Mission**
- The Cost Development Task Force (CDTF) reports to the PJM Energy Market Committee (EMC) and is responsible for developing, reviewing, and recommending to the EMC standard procedures for calculating the costs of products or services provided to PJM when those products or services are required to be provided to PJM at a cost-based rate.

Cawley, Susan

From: Cloud, C.L.
Sent: Friday, May 16, 2003 1:25 PM
To: Stellabotte, Michael L.; Krajnik, Gregory G.
Subject: FW: CDTF

FYI:

-----Original Message-----

From: Laughlin, Ken W.
Sent: Thursday, May 15, 2003 8:01 PM
To: Bowring, Joseph; Cloud, C.L.; Dessender, H.E.; 'Frank Racioppi'; Hein, Christopher; O'Neill, John
Cc: Ott, Andy; Bresler, Frederick S. (Stu); Hagele, Jack
Subject: RE: CDTF

Write a proposal to the EMC for their information and discussion. (not approval)
Include that all changes will be presented and discussed and that we will ask for their input on all changes.
Provide a process that you will follow that includes a timeline for timing of proposal, presentation to stakeholders, drafting of final proposal and implementation.

-----Original Message-----

From: Bowring, Joseph
Sent: Thursday, May 15, 2003 1:54 PM
To: Cloud, C.L.; Dessender, H.E.; Frank Racioppi; Hein, Christopher; O'Neill, John
Cc: Laughlin, Ken W.; Ott, Andy; Bresler, Frederick S. (Stu); Hagele, Jack
Subject: CDTF

All:

It is my opinion that we should disband the CDTF or, at minimum, retain the group to be called together only when PJM wants their input on an issue.

The only reason the group continues to exist is to set prices for cost capped units, arguably an antitrust violation.

I would also propose that the Cost Development Manual be the responsibility of the MMU, as it is now and that any proposed changes by member companies be handled bilaterally. Individual companies would come to us with issues, we would resolve them and where the resolution is general, would modify the CDTF manual. The modification would occur after bilateral discussions with each individual member of the CDTF or, if appropriate, after a special meeting to discuss the issue.

Let's discuss and resolve.

- Joe

Please forward to any PJM staff that should be involved.

SMM - 01681

5/22/2007

Cawley, Susan

From: Cloud, C.L.
Sent: Wednesday, September 17, 2003 6:08 PM
To: 'pjm-cdtf@pjm.com'
Cc: Stellabotte, Michael L.; Bowring, Joseph; Racioppi, Frank; O'Neill, John
Subject: CDTF Meeting Reminder - 9/23/03

Please remember that the next meeting of the PJM Cost Development Task Force (CDTF) is scheduled for Tuesday, September 23, 2003 at 10:00 AM in Room S-1 of the PJM Service Center (This is the building where we usually meet. You will need to press the button and identify yourself at the barrier gates to be able to enter the parking lot.) Anyone wishing to participate by conference line may call in on (610) 728-4320.

The purpose of this meeting will be to discuss the future of the CDTF. Joe Bowring (Manager, PJM Market Monitoring Unit) will be leading the discussion. Please note that this meeting may be quite short, so those of you who travel long distances may wish to take advantage of the conference line option.

Attached is an agenda for the upcoming meeting, as well as draft minutes of our 213th meeting and final minutes of our 212th meeting. Also attached is a letter showing the new rate for costing station service electrical requirements during steam unit start-up for the fourth quarter of 2003.

I hope to see you on Tuesday.

Cheryl L. Cloud

Chair, CDTF

Cawley, Susan

From: Cloud, C.L.
Sent: Tuesday, July 15, 2003 5:09 PM
To: 'pjm-cdtf@pjm.com'
Cc: Bowring, Joseph; Stellabotte, Michael L.; Racioppi, Frank; O'Neill, John; Dessender, H.E.
Subject: CDTF Meeting Notice - 9/23/03

Please note that the next meeting of the PJM Cost Development Task Force (CDTF) is scheduled for Tuesday, September 23, 2003 at 10:00 AM in Room S-1 of the PJM Service Center (This is the building where we usually meet. You will need to press the button and identify yourself at the barrier gates to be able to enter the parking lot.) Anyone wishing to participate by conference line may call in on (610) 728-4320.

The purpose of this meeting will be to discuss the future of the CDTF. Joe Bowring (Manager, PJM Market Monitoring Unit) will be leading the discussion. It is anticipated that this meeting will be shorter than our usual CDTF meeting. Lunch will be provided. I hope to see you there.

Cheryl L. Cloud
Chair, CDTF

SMM - 01683

6/9/2007

Cawley, Susan

From: Dessender, H.E.
Sent: Wednesday, March 10, 2004 5:59 PM
To: Stellabotte, Michael L.
Cc: Cloud, C.L.
Subject: RE: CDTF Changes - one more needed to complete the re-org ...

I agree. Continue working with Frank on the hand off.

-----Original Message-----

From: Stellabotte, Michael L.
Sent: Tuesday, March 09, 2004 2:27 PM
To: Dessender, H.E.
Cc: Cloud, C.L.
Subject: CDTF Changes - one more needed to complete the re-org ...

Harry, I think it makes sense for me to be removed from CDTF activity, now that Market Monitoring has assumed full control and administration of this group. When our group was first assigned to support this function, Market Monitoring was not in a good position to be fully involved, as it was just coming up to speed on CDTF issues, and was still involved in the process of building up staff. Now, both of these handicaps have been fully resolved, as is evidenced by their recent assumption of full control over meeting structure and content, along with multi-person attendance of the past several meetings. In fact, the MMU now has several subject matter experts, and at least two former CDTF members on its staff - any one of these people could most certainly do a better job at compiling/maintaining meeting minutes, since they are far more familiar with the subject matter. The meeting administration is now being incorporated into the PJM standard practices, and since almost all future CDTF issues will require direct MMU interaction, it seems quite appropriate to make this change at this time.

To help provide optimum continuity for this change, I've already compiled several electronic repositories of past meeting minutes, web-posting utilities/files, etc., which can be easily turned over to someone in that group for ongoing support, without missing anything critical. I will complete the current 'cycle' of minutes, but with your OK, I'd like to begin final "turn-over" activity, with the objective of being fully transitioned by the time the group has its next meeting.

I wanted to raise this issue after the last meeting, when it became apparent that the group was going to be re-organized, but decided to wait for at least one meeting under the new setup, just to make sure that this direction made sense. After seeing the how things went, I can see no valid business reason not to do this at this time. Although the less-frequent meetings would not be as much of a time impact as before, the "disconnect" of my involvement is now more apparent than ever before, and it seems that my time could be put to far better use in activities that would more directly benefit Market Settlements, or at least better align with our department goals.

Bowring, Joseph

From: Zibelman, Audrey A.
Sent: Tuesday, March 20, 2007 11:53 PM
To: Bowring, Joseph
Subject: Re: Issue

We will talk tomorrow

-----Original Message-----

From: Bowring, Joseph
To: Zibelman, Audrey A.
CC: Johnston, Lindsay
Sent: Tue Mar 20 22:01:14 2007
Subject: Issue

Audrey,

I don't know if you aware of the following, but you need to be.

Andy Ott had Frank Racioppi, one of my recently promoted supervisors, summoned to his office this morning. Andy proceeded to threaten Frank in forceful terms, demanding that he transfer from the MMU to Markets, stating that Frank would not have a job with PJM if he should refuse and stating that you would be announcing the disbanding of the MMU at the MMU meeting to which I invited you next week.

I have several issues with this:

* Based on the meeting that you had with me and Andy on Monday, you had stated that you wanted to move responsibility for the CDTF to Andy. You also indicated that you wanted Frank to continue his CDTF role for a transition period until Andy could hire someone to handle the issue. I explained that the CDTF role for Frank was a minor one, taking perhaps one percent of his time and that there were other PJM staff who could fill the CDTF role. While I don't agree that moving the CDTF or requiring one of my staff to fill that role is appropriate, all that is very different from what Andy told Frank today.

* In addition, you recognized that Frank was just promoted to be a supervisor in the MMU and that he plays a core role in the MMU and that his cost analyses have nothing to do with his CDTF role and that his CDTF duties are an extremely minor part of his overall job.

* Also based on the meeting that you had with me and Andy on Monday, you did not state that you would be disbanding the MMU or announcing such a move at our scheduled meeting next week. Rather, you indicated that the Strategy Report would call for further study.

* Andy's threatening behavior towards Frank is inconsistent with PJM core values and violates one or more PJM policies governing the interactions between officers of the company and employees and management of the company and employees.

* Andy's behavior constituted a threat towards Frank and caused Frank to be frightened and extremely upset.

* Frank has expressed no interest in moving to Markets and no job opening has been posted. Coercion is an inappropriate recruiting behavior.

* I regard this, in addition, as an attack on the independence of the MMU and on our ability to do our FERC-mandated jobs. We cannot do our jobs in an independent manner if this type of threat is permitted.

* This is the second recent incident that I have reported regarding Andy's threatening behavior towards members of the MMU.

* Andy's statement to Frank that the MMU would be disbanded is entirely inappropriate. If policy steps are to be taken on market monitoring, I would hope that I would be informed in a professional manner.

I appreciate your attention to this matter.

- Joe

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Bowring, Joseph

From: Zibelman, Audrey A.
Sent: Wednesday, March 21, 2007 8:03 AM
To: Bowring, Joseph
Cc: Mannheimer, Toby
Subject: Conversation

Toby will call you this am with how we will resolve it. I will call you later in the day



INTEROFFICE MEMORANDUM

Date: March 23, 2007
To: Joseph E. Bowring
From: Audrey A. Zibelman *AZ*
Subject: March 20, 2007 Email

This memo is a follow up to your email dated March 20, 2007. At my request, Dionne Wright met with Frank Racioppi on March 21, 2007. I am providing you with a copy of Dionne's memorandum.

The charges that you made against Andy Ott in your email were very serious and a matter of great concern. As you can see from Dionne's summary of her conversation, the charges were not supported by Frank. Specifically, your claims that Andy "threatened Frank in forceful tones", "demanded that he transfer from the MMU to markets" and "stated that Frank would not have a job with PJM if he should refuse" and further stating that "I would be announcing the disbanding of the MMU" at the meeting next week, were not supported by Frank in his conversation with Dionne.

To the contrary, Frank informed Dionne it was a professional and amicable conversation in which Andy informed Frank of my decision to move the CDTF responsibility to the Markets Division. Andy advised Frank that if Frank chose to transfer to Markets with the function, Andy would welcome him in the Division. Frank also does not agree with your other assertions and did not indicate any coercion, inappropriate or threatening behavior, nor was he upset or freighted as a result of the meeting. To the contrary, Frank's concerns were primarily with your reaction to this transfer and the consequences or possibility of retaliation.

I am also surprised by your statement that you do not support moving the CDTF responsibility into Markets. This is directly contrary to your statements to me when we met on this topic several days ago.

Based on all of the above, the following are my conclusions:

1. The decision to move CDTF responsibility to Markets is not a decision that requires the concurrence of the Market Monitoring function or you in particular. This is an administrative decision predicated on the PJM policy that the development of market rules and design of practices belongs with Market Services, not the Market Monitoring. As you agreed during our meeting, historically CDTF resided with Markets. It was moved under your control because of staffing issues. That was a mistake and we are rectifying it now.

2. Andy will post to fill his staffing requirements. Frank Racioppi and anyone else will have an opportunity to apply for that position or positions, with hiring decisions by Andy Ott and his managers. If Frank chooses to apply, you will adhere to our human resources rules and not object or threaten any retaliation to Frank or any other MMU assigned staff that chooses to pursue the position (s).
3. At the MMU meeting next week, I will discuss our plans to pursue all market monitoring and mitigation issues that have been raised in the strategic planning process. As you know, there have been assertions that market monitoring needs to be more independent. You have stated that you believe that greater independence is necessary. Looking at this issue is important to the Board and part of that examination will include the structures of other RTOs that use external market monitors and other methods of defining market power and mitigation. It is a normal and appropriate business practice for Boards to review matters such as this in light of the concerns that have been raised. This is good and normal business and organizational governance, and I am confident you will view it in this context. This is the same information that I shared with you when we met earlier this week.
4. Based upon Dionne Wright's report, I believe that this matter is closed. We will not be pursuing any further investigation into your allegations or take any further action. We will not be pursuing any further action against Andy Ott, since your claims are not supported. We also will be closing any further inquiry or action against you for making non-supported allegations against another employee.
5. Finally, as I indicated, we will be posting the position under Market Services for the CDTF. Frank will continue in his role until that posting process is complete, but will be reporting to Stan Williams for that work. This is PJM's normal practice and will be adhered to here.

If you should have any questions about any of the above, you can refer them to Toby Mannheimer or me.

cc: P. G. Harris
T. S. Mannheimer



INTEROFFICE MEMORANDUM

Date: 3/21/07
To: Lindsay Johnston
From: Dionne Wright
Subject: Cost Development Task Force and Frank Racioppi

Background:

On Wednesday, March 21, 2007, 2:00pm, I met with employee Frank Racioppi, MMU. During this meeting, I spoke with Frank regarding a conversation he had with VP, Andy Ott, Market Services.

Frank stated that on Tuesday, March 20, 2007, Andy Ott requested that Frank meet him in his office to discuss career opportunities and work within the Market Services Division. Frank went on to state that Andy discussed transferring the Cost Development Task Force (CDTF) work to the Market Services areas, specifically within the Performance Compliance department, reporting to manager, Stan Williams.

Frank stated that he believes the work should transfer as CDTF was originally performed in the Markets area and really belongs there based upon the analysis and outcomes. Frank currently works closely with the group and would have no concern working with or for Stan.

Frank stated that his concern(s) surround Joe Bowring's reaction to the news of transferring or working for Markets as Frank believes Joe will feel betrayed. Frank comments that he does not want to become a "political pawn" in the battle between MMU and Markets. Frank also states if Andy Ott assures him that there will be no ill feelings or harsh actions taken against him from anyone (particularly Joe) he would transfer with no problem.

I asked Frank what he wanted to do should the CDTF work be transferred to the Markets Division. Frank stated if the position was posted, he would probably post for it because he likes the work and is extremely knowledgeable in this area. Frank further discussed that Analyst, Bridgid Cummings, has been integral in the analysis and information supplied. Frank recommends if the work moves to Markets that Bridgid transfer with the analytics as well. Frank states that currently due to RPM he is allocating anywhere from 30% – 50% of his time to this work. However, he believes once RPM is established this number will decrease dramatically.



I asked Frank about other projects and work tasks in which he was involved. Below is a summary of these tasks:

- Cost Development Task Force (CDTF) Secretary and task force manager (not the Chair as the Chair must be a manager or higher)
- Actual generator net revenue and financial position analysis (includes accumulating and maintaining all specific generator data detail databases from public sources not received from generation owners)
- Generator mark-up analysis
- Generator cost and market offer bid analysis (this occurs in conjunction with analysis – Energy, parameters, ancillary services)
- RPM capacity market analysis (avoided costs and net revenue)
- Generator cost bid development – act as a liaison to generator market participants for cost bid development
- Theoretical generator net revenues (develop perfect and reasonable dispatch scenarios)
- Develop generator financial position based on Forward Energy Market (OTC) contracts
- MMU analysis specific to: peak loads, supply curve development, PJM total net capacity, operating reserves and mark up

Frank states that although he is a 5c, he is not a supervisor, but more of a technical lead responsible for the aforementioned analysis.

Potential Outcomes/Recommendations:

The immediate outcome should Racioppi transfer, is a decrease in staff for the MMU. A review of MMU staffing levels would then be conducted.

The Market Services Division will acquire an experienced lead to further assist in analysis and help with the CDTF function which has transferred the Chair to Market Services. Again, this function, due to the nature of the analysis and end result is better aligned with the work performed in the Performance Compliance department.

Regarding skill sets, work tasks and realignment of work, the position in which Frank Racioppi currently performs would be changed slightly to retain his current role with CDTF, but also provide additional technical experience and analytics necessary for Market Services. As a result of the change in scope it is recommended that a description be developed and posted for the "new" position. This is the standard PJM practice and further allows other employees the opportunity to apply and be given consideration for the position.

Immediate Next steps:

- Follow up with employee, Frank Racioppi
- Review and create new position description
- Meet with MMU management on process and staffing implications
- Post position, make selection(s) and transfer work to new department

There is a great deal of information to review regarding this position and transfer of work tasks. I would recommend a review of this information with all involved parties prior to execution.

If you should have any additional questions, please feel free to contact me.

cc: T. S. Mannheimer

412198

Zibelman, Audrey A.

From: Bowring, Joseph
Sent: Tuesday, March 20, 2007 10:01 PM
To: Zibelman, Audrey A.
Cc: Johnston, Lindsay
Subject: Issue

Audrey,

I don't know if you are aware of the following, but you need to be.

Andy Ott had Frank Racioppi, one of my recently promoted supervisors, summoned to his office this morning. Andy proceeded to threaten Frank in forceful terms, demanding that he transfer from the MMU to Markets, stating that Frank would not have a job with PJM if he should refuse and stating that you would be announcing the disbanding of the MMU at the MMU meeting to which I invited you next week.

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- In addition, you recognized that Frank was just promoted to be a supervisor in the MMU and that he plays a core role in the MMU and that his cost analyses have nothing to do with his CDTF role and that his CDTF duties are an extremely minor part of his overall job.
- Also based on the meeting that you had with me and Andy on Monday, you did not state that you would be disbanding the MMU or announcing such a move at our scheduled meeting next week. Rather, you indicated that the Strategy Report would call for further study.
- Andy's threatening behavior towards Frank is inconsistent with PJM core values and violates one or more PJM policies governing the interactions between officers of the company and employees and management of the company and employees.
- Andy's behavior constituted a threat towards Frank and caused Frank to be frightened and extremely upset.
- Frank has expressed no interest in moving to Markets and no job opening has been posted. Coercion is an inappropriate recruiting behavior.
- I regard this, in addition, as an attack on the independence of the MMU and on our ability to do our FERC-mandated jobs. We cannot do our jobs in an independent manner if this type of threat is permitted.
- This is the second recent incident that I have reported regarding Andy's threatening behavior towards members of the MMU.
- Andy's statement to Frank that the MMU would be disbanded is entirely inappropriate. If policy steps are to be taken on market monitoring, I would hope that I would be informed in a professional manner.

I appreciate your attention to this matter.

- Joe

3/23/2007

SMM - 01692

Zibelman, Audrey A.

From: Mannheimer, Toby
Sent: Wednesday, March 21, 2007 5:36 PM
To: Zibelman, Audrey A.
Subject: FW: MMU Issue

-----Original Message-----

From: Mannheimer, Toby
Sent: Wednesday, March 21, 2007 5:36 PM
To: Bowring, Joseph
Subject: RE: MMU Issue

Joe,
Suggest you discuss general questions about the MMU with Audrey. I understand that she's scheduled a meeting with the MMU staff on March 29th.
TSM

-----Original Message-----

From: Bowring, Joseph
Sent: Wednesday, March 21, 2007 4:36 PM
To: Mannheimer, Toby
Subject: RE: MMU Issue

Toby,
I appreciate the call this morning.
However, I have not heard anyone tell me that PJM does not plan to disband the MMU.
I would like a clear answer to that question.
Thanks,
Joe

-----Original Message-----

From: Mannheimer, Toby
Sent: Wednesday, March 21, 2007 8:04 AM
To: Bowring, Joseph
Cc: Zibelman, Audrey A.
Subject: MMU Issue

Joe,
Audrey spoke to me about the issue you have raised regarding the transition of the CDTF and Frank Racioppi. Let's discuss today. Let me know when you are available.

TSM

3/23/2007

SMM - 01693

Bowring, Joseph

From: Zibelman, Audrey A.
Sent: Wednesday, March 21, 2007 9:34 PM
To: Bowring, Joseph
Cc: Mannheimer, Toby; Harris, P.G.
Subject: Re: MMU questions

We need to clarify the cdtf responsibility is being transferred to andy - frank will continue in his current capacity under andys direction and andy will post the position post haste. Frank will be free to apply in accordance with our standard policies. There is no decision made on the structure of the mmu. It is a board decision and we are recommending that the board look at all alternatives since no one, including you believes the current structure is working. The board will make that decision after it hears from stakeholders and completes its own due diligence.

When we get together this week I will review with you what I intend to say when I meet with your staff.

-----Original Message-----

From: Bowring, Joseph
To: Zibelman, Audrey A.
CC: Mannheimer, Toby
Sent: Wed Mar 21 18:11:49 2007
Subject: MMU questions

Audrey,

I have spoken with Toby who indicated that nothing would happen with the CDTF or Frank until a review had been completed. I am uncertain of the expected timeframe.

I have a couple of questions based on our meeting of Monday:

- * Does PJM plan to disband the MMU?
- * Do you plan to announce that the MMU will be disbanded at our meeting next week?
- * I did not understand your point about data transfer in our meeting. We have a process in place to transfer responsibility for the data.
- * I would appreciate clarification about exactly what you plan to announce regarding the data at next week's meeting.

Thanks,
Joe



INTEROFFICE MEMORANDUM

Date: March 23, 2007
To: File
From: Toby Mannheimer
Subject: Meeting Joe Bowring – March 23, 2007

A meeting was held on March 23, 2006 with Audrey Zibelman, Joe Bowring and Toby Mannheimer in attendance. Below is a summary of this meeting.

I. 2006 Performance Review

Audrey Zibelman advised Joe Bowring that he has not signed his 2006 performance review. PJM requires reviews be completed and signed prior to distribution of Incentive Compensation Awards. Mr. Bowring acknowledged that he is late in signing his review and committed to signing and returning the document shortly.

II. MMU Issues

Two issues are highlighted in the PJM Strategy Report concerning the MMU. First concerns scarcity pricing and the PJM market mitigation approaches employed in PJM. Ms. Zibelman indicated that the report recommends an external consultant/economist review PJM's current mitigation approach in the context of alternative methodologies and best practices.

The second issue concerns the MMU structure and the need for further independence of the MMU in light of the concerns raised by stakeholders in response to the PJM Strategic Questionnaire and in the context of recent FERC proceedings on this issue. Ms. Zibelman indicated that the report will recommend a review of the appropriate structure, including due diligence on structures of other RTOs that use external market monitors.

III. MMU Staff Meeting

Audrey indicated her intent to meet with the MMU staff on Thursday, March 29, 2007 to provide them with advance information on the PJM Strategy Report, with particular emphasis on the implications for the MMU. She stated that the recommendations do not reflect any performance issues on the part of the MMU or its staff.



IV. Cost Development Task Force

Audrey responded to Joe Bowring's March 20, 2007 e-mail regarding the transfer of the CDTF responsibility to Market Services and issues arising from a meeting with Andy Ott and Frank Racioppi on March 20, 2007. Ms. Zibelman advised that Dionne Wright from Human Resources investigated the matter and concluded that there was no substance to the allegations Mr. Bowring reported concerning Mr. Ott's behavior and statements.

Mr. Bowring indicated that he disagreed with the facts and conclusions of Dionne Wright's investigation.

Mr. Bowring was provided a memorandum summarizing this matter along with a copy of Dionne Wright's memorandum dated 3/21/07.

V. Other Discussion

Mr. Bowring indicated that he is concerned about motivation and retention of MMU talent while discussions and studies are underway regarding the MMU. Ms. Zibelman indicated that this was an important consideration and that she would ask Human Resources to look into this and provide recommendations.



INTEROFFICE MEMORANDUM

Date: 4/26/07
To: Frank Racioppi
From: Lindsay Johnston
Cc: Dionne Wright, Andy Ott, Joe Bowring, Stan Williams
Subject: Transition to Markets

Frank,

Congratulations on your new position in the Performance Compliance department. It has been agreed by Joe Bowring, Andy Ott and Human Resources that you will transition into your new role on **May 1, 2007**.

In the interest of ensuring continuity of MMU operations we will need you to provide assistance to the MMU for the July RPM auction and other MMU work until your duties can be transitioned to other MMU staff. Our hope is that your RPM assistance can be transitioned prior to the December 2007 RPM auction, however should that not have occurred you will need to provide assistance in the December RPM auction as well. In addition should your assistance be necessary for the 2007 State of the Market report, the MMU, HR and Markets will discuss how best to accommodate that additional work in the fall.

Keeping in mind that it may take some time to transition your duties to other MMU staff, I am suggesting that no more than 30% of your time is allocated to the MMU but flexibility will be required there as well. Additionally, I am requesting that you maintain a record of all your MMU work related activities in the SAP system so we can ascertain how many hours are required to complete the analyses.

Frank, let me know if you have any questions or concerns.



INTEROFFICE MEMORANDUM

Date: 4/26/07
To: Bridgid Cummings
From: Lindsay Johnston
Cc: Dionne Wright, Andy Ott, Joe Bowring, Stan Williams
Subject: Transition to Markets

Bridgid,

Congratulations on your new position in the Performance Compliance department. It has been agreed by Joe Bowring, Andy Ott and Human Resources that you will transition into your new role on **May 23, 2007**.

In the interest of ensuring continuity of MMU operations we will need you to continue to provide assistance with the MMU as we transition the work and until the MMU has transitioned your duties to another analyst. In addition should your assistance be necessary for the 2007 State of the Market report, the MMU, HR and markets will discuss how best to accommodate that additional work in the fall.

Keeping in mind that this may take some time, I am suggesting that no more than 30% of your time is allocated to the MMU. Additionally, I am requesting that you maintain a record of all your MMU work related activities in the SAP system so we can ascertain how many hours are required to complete the analyses.

Bridgid, let me know if you have any questions or concerns.



INTEROFFICE MEMORANDUM

Date: March 26, 2007
To: Joe Bowring
From: Audrey Zibelman
Subject: Friday Discussion

This is in response to your e-mail and accompanying memo regarding our discussion on Friday, March 23, 2007.

- Your summary does not accurately reflect the content of our discussion. I am forwarding (attached) Toby Mannheimer's summary for your reference which outlines what was covered.
- You question the authority of management to reassign the CDTF function from the MMU to Market Operations. This matter was reviewed by counsel. I requested Vince Duane to prepare a memo that specifically addresses your concern.
- As discussed, your allegations regarding Andy Ott's discussion with Frank Racioppi were not validated by Human Resources' investigation. You have been provided a copy of that report. If you wish to pursue this matter further, please advise Toby Mannheimer.
- I have requested that the position(s) supporting work for the CDTF be posted as soon as possible enabling Frank Racioppi or others to apply if they choose. This is in accord with standard PJM procedure.
- With respect to your other recommendations regarding MMU staffing, compensation, and organization (Section I, # 3 - #10; Section II, # 5- #7), I am assigning Lindsay Johnston, VP-Human Resources to review and evaluate.

Attachment

cc: P. Harris
T. Mannheimer

Bowring, Joseph

From: Mannheimer, Toby
Sent: Wednesday, March 21, 2007 5:36 PM
To: Bowring, Joseph
Subject: RE: MMU Issue

Joe,
 Suggest you discuss general questions about the MMU with Audrey. I understand that she's scheduled a meeting with the MMU staff on March 29th.
 TSM

-----Original Message-----

From: Bowring, Joseph
Sent: Wednesday, March 21, 2007 4:36 PM
To: Mannheimer, Toby
Subject: RE: MMU Issue

Toby,
 I appreciate the call this morning.
 However, I have not heard anyone tell me that PJM does not plan to disband the MMU.
 I would like a clear answer to that question.
 Thanks,
 Joe

-----Original Message-----

From: Mannheimer, Toby
Sent: Wednesday, March 21, 2007 8:04 AM
To: Bowring, Joseph
Cc: Zibelman, Audrey A.
Subject: MMU Issue

Joe,
 Audrey spoke to me about the issue you have raised regarding the transition of the CDTF and Frank Racioppi. Let's discuss today. Let me know when you are available.

TSM

Bowring, Joseph

From: Bowring, Joseph
Sent: Wednesday, March 21, 2007 6:12 PM
To: Zibelman, Audrey A.
Cc: Mannheimer, Toby
Subject: MMU questions

Audrey,

I have spoken with Toby who indicated that nothing would happen with the CDTF or Frank until a review had been completed. I am uncertain of the expected timeframe.

I have a couple of questions based on our meeting of Monday:

- Does PJM plan to disband the MMU?
- Do you plan to announce that the MMU will be disbanded at our meeting next week?
- I did not understand your point about data transfer in our meeting. We have a process in place to transfer responsibility for the data.
- I would appreciate clarification about exactly what you plan to announce regarding the data at next week's meeting.

Thanks,
Joe

Bowring, Joseph

From: Zibelman, Audrey A.
Sent: Wednesday, March 21, 2007 2:08 PM
To: Bowring, Joseph
Cc: Mannheimer, Toby; Harris, P.G.
Subject: Re: MMU questions

We need to clarify the cdtf responsibility is being transferred to andy - frank will continue in his current capacity under andy's direction and andy will post the position post haste. Frank will be free to apply in accordance with our standard policies. There is no decision made on the structure of the mmu. It is a board decision and we are recommending that the board look at all alternatives since no one, including you, believes the current structure is working. The board will make that decision after it hears from stakeholders and completes its own due diligence.

When we get together this week I will review with you what I intend to say when I meet with your staff.

-----Original Message-----

From: Bowring, Joseph
To: Zibelman, Audrey A.
CC: Mannheimer, Toby
Sent: Wed Mar 21 18:11:49 2007
Subject: MMU questions

Audrey,

I have spoken with Toby who indicated that nothing would happen with the CDTF or Frank until a review had been completed. I am uncertain of the expected timeframe.

I have a couple of questions based on our meeting of Monday:

- * Does PJM plan to disband the MMU?
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- * I would appreciate clarification about exactly what you plan to announce regarding the data at next week's meeting.

Thanks,
Joe

Bowring, Joseph

From: Bowring, Joseph
Sent: Monday, March 26, 2007 4:00 PM
To: Zibelman, Audrey A.
Cc: Mannheimer, Toby
Subject: RE: Friday discussion

Audrey,

I'm sorry if it is not what you said.

My goal was to clarify in writing - clearly I did not succeed. Can I talk to you or Toby for 10 minutes today some time so that I can get it right? Thanks, Joe

-----Original Message-----

From: Zibelman, Audrey A.
Sent: Monday, March 26, 2007 10:15 AM
To: Bowring, Joseph
Cc: Mannheimer, Toby
Subject: Re: Friday discussion

This is not what I said.

-----Original Message-----

From: Bowring, Joseph
To: Zibelman, Audrey A.
CC: Mannheimer, Toby
Sent: Mon Mar 26 10:13:39 2007
Subject: Friday discussion

Audrey,

I have attached a memo that spells out my view of what I believe was agreed upon at our meeting on Friday. It is my intent only to clarify and if I have misstated anything, I would appreciate a brief meeting so that we could mark up the document together. Again, this is a draft and it is my intent only to come to an agreement with you.

My overriding concern is that the MMU be permitted to do its work during any review period and that the level of tension between MMU and PJM be reduced.

Thanks,
Joe

DRAFT

Date: March 25, 2007

To: Audrey Zibelman

CC: Toby Mannheimer

From: Joe Bowring

Re: Meeting of March 23, 2007

Based on our meeting of March 23, 2007, I propose that we agree upon the following:

1. PJM is reviewing the role of market monitoring at PJM and that review will take at least several months and will allow for significant input from the market monitor;
2. That review period will be considered complete when PJM makes a recommendation to the members, the member review process is completed, a FERC filing or filings are made and FERC makes a decision about the appropriate structure for market monitoring at PJM;
3. During that review period, PJM will not attempt to hire additional MMU staff away from the MMU;
4. During that period, no additional actions will be taken related to the transfer of data from MMU to markets;
5. During that review period, Frank Racioppi will continue to be a member of the MMU and will also continue his role as facilitator of the CDTF, reporting, in that role, to wherever the CDTF responsibility is assigned;
6. Frank is playing a critical role for the MMU in implementing market power mitigation rules in RPM and losing this expertise will impair our ability to do that;
7. PJM will permit the MMU to immediately hire replacements for the two senior analysts who have been hired by Markets since last summer;
8. PJM will permit the MMU to immediately hire replacements for any additional staff who may depart during the review period;
9. PJM will permit the MMU to increase pay to selected members of the MMU staff as appropriate and as discussed with HR, as part of a staff retention policy, consistent with the matrix recently filled out by the MMU for HR;
10. During that time period Andy Ott, Vice President, Markets, will not approach MMU staff for any reason, but in particular not in an attempt to request or assign work or to hire them away from the MMU and neither will other PJM staff engage in such activities.

In addition, it is my view that:

1. The organizational goal is to ensure that the MMU continue to function effectively during the review period. I am concerned that if it wished, PJM could hire away significant MMU staff, making it difficult for the MMU to play its required role;
2. The CDTF role should remain with the MMU. The role of the CDTF is to recommend changes to the definition of marginal costs. Those costs are relevant only to offer capping units for local market power. The CDTF is not making market rules. The MMU is the appropriate organization to facilitate the CDTF because appropriate offer capping for local market power is in our issue area and in our area of expertise;
3. My position on the CDTF does not represent a change of position. I have consistently maintained that the function belongs with the MMU. While the function did reside

with Markets, it has been with the MMU for a number of years and we have done an excellent job with it. When asked, I stated to you that the transfer was not “ok” but it was my understanding at the time that you apparently had the authority to move the CDTF regardless of my views;

4. However, my review of the relevant PJM documents indicates that a change in responsibility for the CDTF requires a member process. The MMU’s CDTF role is defined in Manual M-15, Cost Development Guidelines and this role was the result of a member process. The CDTF Charter states that the market monitor is the chair of the CDTF. The Members Handbook states that the MRC is responsible for providing advice and recommendations regarding changes to manuals.
5. Frank Racioppi’s CDTF related work is very minor and involves his facilitation of the CDTF meetings, preparation of meeting agendas and preparation of meeting minutes. In 2005, this required at most one day of Frank’s time. On average, it requires three or four days of Frank’s time per year. The role of the CDTF is to permit members to make recommendations to the MRC for changes in the definition of marginal costs;
6. Frank’s work on the analysis of unit costs is completely unrelated to the CDTF work and is a core function of the MMU;
7. When and if Frank Racioppi should choose to leave the MMU, the MMU will retain its core functions of analyzing both cost-based and price-based offers and will retain its core function of analyzing cost-based and price-based offers in the capacity market and will fill that role.

Bowring, Joseph

From: Bowring, Joseph
Sent: Tuesday, March 27, 2007 7:00 AM
To: Zibelman, Audrey A.
Cc: Mannheimer, Toby
Subject: RE: Memos regarding 2

I appreciate your memos.

I would still also appreciate a meeting with you and Toby to clarify the plans going forward, at your convenience.

I also remain unclear about what you meant by your statement at our meeting that you would announce further actions related to data at the meeting of the MMU which you will attend on 2

Thanks,
Joe

-----Original Message-----

From: Zibelman, Audrey A.
Sent: Monday, March 26, 2007 5:20 PM
To: Bowring, Joseph
Cc: Harris, P.G.; Mannheimer, Toby; Zibelman, Audrey A.
Subject: Memos regarding 3-23-07

Joe,

Please find attached two documents concerning Friday, March 23 discussions.

If you have any questions regarding these memos please contact Toby or myself.

Audrey



INTEROFFICE MEMORANDUM

Date: March 23, 2007
To: File
From: Toby Mannheimer
Subject: Meeting Joe Bowring – March 23, 2007

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From: Audrey Zibelman
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- With respect to your other recommendations regarding MMU staffing, compensation, and organization (Section I, # 3 - #10; Section II, # 5- #7), I am assigning Lindsay Johnston, VP-Human Resources to review and evaluate.

Attachment

cc: P. Harris
T. Mannheimer

Bowring, Joseph

From: Wright, Dionne
Sent: Wednesday, March 28, 2007 8:59 AM
To: Bowring, Joseph
Subject: RE: HR issues

How about Dr P Please let me know.

Dionne

-----Original Message-----

From: Bowring, Joseph
Sent: Wednesday, March 28, 2007 10:20 AM
To: Wright, Dionne
Subject: HR issues

Can we talk, briefly, today?
I want to be sure that both hiring and retention are on track.
Thanks

Bowring, Joseph

From: Johnston, Lindsay
Sent: Friday, April 6, 2007 5:50 PM
To: Bowring, Joseph
Subject: Re: v mail

Joe, I have drafted a memo but as I discussed with you today I want to work some more on the retention program.

-----Original Message-----

From: Bowring, Joseph
To: Johnston, Lindsay
Sent: Fri Apr 06 16:46:33 2007
Subject: v mail

Lindsay,

I received your voice mail indicating that you would respond to my email with a memo. I have not seen anything. Did I miss an email? I have been out of the office.

I would really appreciate it if HR could act on my requests on Monday. Thanks, Joe

Cawley, Susan

Subject: Discuss the status of the MMU organization during the study of the MMU
Location: Sor Call In Number: 888-4Pass Reader Code Same #
Start: Mon 11PM
End: Mon 11PM
Recurrence: (none)
Meeting Status: Accepted
Required Attendees: Zibelman, Audrey A.; Bowring, Joseph; Bazar, Kevin; Bell, Francis; Blair, Tom; Cawley, Susan; Cummings, Bridgid M.; Engle, Andrew; Gockley, Beatrice; Haas, Howard; Kawiec, Ellen C.; Million, Mark A.; N, Grace; O'Neil, John; Racioppi, Frank; Scheidecker, Paul; Mannheimer, Toby; Johnston, Lindsay; Wright, Donne
RsSchedID: 0

Meeting being held to discuss the status of the MMU organization during the study of the MMU.

Bowring, Joseph

From: Johnston, Lindsay
Sent: Tuesday, April 02, 2007 1:02 PM
To: Bowring, Joseph
Cc: Wright, Donne
Subject: Open issues

Joe, we have a couple of open items. Frank R's transition Plan, posting of the Zadlo position, retention plan for MMU staff. When you get in tomorrow let's discuss.

J. Lindsay Johnston
Vice President Human Resources
PJM Interconnection, L.L.C.
955 Jefferson Avenue
Valley Forge Corporate Center
Norristown, PA 19403-2497
610-666-3195 Phone
610-666-4628 Fax
610-659-7868 Cell
johnsl@pjm.com

PJM Issues Statement on MMU Issues

PJM Interconnection issued a statement Friday regarding the April 5 assertions by PJM's Market Monitor. The text of the statement follows:

Since we announced to our members on April 6 that the Board of Managers decided to retain outside legal counsel to investigate assertions by the PJM Market Monitor that his independence has been infringed, we have received a number of queries requesting clarification.

First and foremost, we want to make it clear that PJM takes these assertions very seriously. The Board is acting expeditiously, and the Board and management are committed to a comprehensive and thorough investigation into the Market Monitor's assertions that the independence of the division was compromised. To ensure that the investigation is above any reproach, Chairman of the Board Phillip G. Harris, who in his role as president and CEO supervises the Market Monitor, recused himself from the investigation. The outside counsel will report directly to the Board.

Second, PJM is committed to the integrity of all of its operations, including the assurance to our members, regulators and other stakeholders that all reports and analyses produced by the organization are accurate and complete. With regard to the Market Monitoring division itself, PJM is committed to ensuring that its responsibilities are performed independently of the organization and, at the same time, reflect the same level of integrity and accuracy as all other PJM efforts.

We intend to cooperate fully in the investigation and ensure our stakeholders have absolute confidence in the veracity, completeness and accuracy of all reports and analysis of PJM and its Market Monitor. At the same time, PJM wants to make it clear that it believes the Market Monitoring Unit has been independent in fulfilling its obligation under our Federal Energy Regulatory Commission (FERC) tariff.

Finally, it has been erroneously asserted that PJM has already informed the Market Monitoring Unit that it intends to disband the group. As part of its recently published Strategic Report, PJM noted that a number of its stakeholders and regulators raised a concern that because the Market Monitoring Unit is an internal division to the organization, it does not have sufficient independence from the RTO. In response to these concerns, PJM is examining the "benefits and risks" of alternate structures in place in the other RTOs. PJM recognizes that this type of organizational examination creates concerns among the affected employees of the Market Monitoring Unit.

Prior to the issuance of the report, management met with the Market Monitor separately and with his staff to explain the nature of the examination and to voice commitment and support to the employees of the division so that they may continue to concentrate on their vital work as the organizational evaluation proceeds. Subsequent to the assertions of the Market Monitor and the announcement of the investigation, PJM met and will continue to meet with the employees of the division to further ensure that these valued employees can continue to perform their critical work for the RTO, its members, stakeholders and regulators.

Note: The following links provide additional information and context related to the independence of the market monitoring function. The [first link](#) relates to a statement at the April 5 FERC conference of PJM Executive Vice President and COO Audrey A. Zibelman, who discusses how the issue of market monitoring transcends the type of structure employed. The [second link](#) is to the PJM Strategic Report, which includes the recommendations on the market monitoring function within PJM.

Bowring, Joseph

From: Bowring, Joseph
Sent: Wednesday, April 18, 2007 7:10 PM
To: Johnston, Lindsay
Cc: Wright, Dionne; Haas, Howard
Subject: RE: We tried to get you on the phone at the appointed time

Lindsay,

- First, please coordinate with Howard and Susan for a time tomorrow, if you think such a meeting is essential. Howard must be at the meeting as I cannot be there tomorrow.
- Second, I believe, given recent events, that PJM should offer all MMU staff a significant single sum retention bonus, payable only if staff stays. I understand that Toby has denied this request. I am again asking you to resubmit this - it is critical in order for the MMU to survive the current situation.
- Third, I think that PJM should cease hiring MMU staff until the MMU issues are resolved. This is entirely consistent with your view that there should be a transition period. I believe that there needs to be an immediate stand down until the MMU issues are resolved.
- Fourth, PJM staff and management should immediately cease all efforts to recruit MMU staff. These conversations are occurring daily and they are inappropriate.
- Fifth, I think that PJM should guarantee every MMU employee a job at PJM should the MMU be eliminated. If you do not think this is appropriate for particular individuals, you should explain why in each case.
- I do not think the actions of PJM or of HR are helpful and in fact I believe that HR's actions are actively harming morale in the MMU. The level of uncertainty that has been created has substantially harmed the ability of the MMU to do its work and there needs to be an immediate remedy. The solutions you described to me when we met and that you plan to propose to MMU staff tomorrow are not adequate as a remedy to the problem created by PJM.
- It is not appropriate for you to tell either me or my staff that there will be a transition when neither the Board or FERC has reached such a conclusion. You and your staff have been assuming and stating in your conversations with MMU staff that there will be a transition that the MMU will not survive. That is neither correct or appropriate until a decision has been made by FERC.
- During this period of uncertainty I request that HR assist us in maintaining a viable and vibrant MMU rather than exacerbating uncertainty, offering condolences for events that have not occurred and encouraging staff to take other jobs in PJM.

Thanks,
Joe

-----Original Message-----

From: Johnston, Lindsay
Sent: Wednesday, April 18, 2007 4:43 PM
To: Bowring, Joseph
Cc: Wright, Dionne
Subject: We tried to get you on the phone at the appointed time

I will be here past 5pm, Dionne has a hard stop. If we don't catch you tonight we can talk by phone tomorrow but I want to meet with the staff tomorrow morning and we will include you by phone and of course Howard.

J. Lindsay Johnston
Vice President Human Resources
PJM Interconnection, L.L.C.
955 Jefferson Avenue

SMM - 01715

6/6/2007

Valley Forge Corporate Center
Norristown, PA 19403-2497
610-666-3195 Phone
610-666-4628 Fax
610-659-7868 Cell
johnsl@pjm.com

Bowring, Joseph

From: Johnston, Lindsay
Sent: Wednesday, April 18, 2007 12:08 PM
To: Bowring, Joseph
Subject: MMu Retention

Re: further info for you, favorable on retention package. Really feel we need to meet with MMU staff ASAP on this and your schedule and mine are not matching up next week. Want to discuss meeting with them this week, preferable today. Your cell phone is off which is why I am e-mailing you.

J. Lindsay Johnston
Vice President Human Resources
PJM Interconnection, L.L.C.
955 Jefferson Avenue
Valley Forge Corporate Center
Norristown, PA 19403-2497
610-666-3195 Phone
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johnsl@pjm.com

Bowring, Joseph

From: Johnston, Lindsay
Sent: Thursday, April 19, 2007 11:59 AM
To: Bowring, Joseph
Cc: Wright, Dionne; Haas, Howard
Subject: RE: We tried to get you on the phone at the appointed time

Joe, I am sorry you and I did not connect.

I did try several times but your cell phone voicemail would not accept any voicemails, hence my e mails. Dionne did talk to you and she thought that she had conveyed to you as I tried to that we were successful in getting the retention bonuses. So that should alleviate any of those concerns.

As I think I have exhibited, I have and, therefore, HR has the interests of the staff in mind and is striving to allay their concerns. Moreover, it is not in PJM's interests to interfere with or harm the effective functioning of the MMU since it is a very important function in PJM.

As we discussed on Monday, in person and in my office, part of the program we will discuss with the staff today will freeze the MMU and will provide incentives for them to remain in the MMU while the Board considers the Strategic report recommendations concerning the MMU structure. It has never been implied by me or my staff that the MMU will not survive to use your language. In fact I have been careful in all my discussions to describe this time period as the pendency of the study. If you have a different phraseology that you think is more accurate please let me know.

I think the program we will discuss today with the staff will meet all the concerns you have raised: it will incent folks to stay in the MMU, it will promise no further changes to the MMU structure while the Board considers the recommendations and any further study that may be required, it will commit PJM to making its best efforts to place each employee in a position should there be a change to the MMU structure, and in the off chance that an employee cannot be placed the reasons why will certainly be discussed with that employee and he or she will be eligible for a very generous lack of work package (I must emphasize as I will today that PJM management perceives it to be extremely unlikely that the lack of work policy will be necessary); and I will emphasize as well that HR is in no way suggesting that the MMU will be disbanded or that it will not survive and that end result is merely one of several outcomes of the Board's consideration of the report recommendations. If I have overlooked any of your concerns please let me know and I will take care to address them.

My hope is that your schedule will permit you to join our meeting today by phone. I really feel it is important to address the concerns of the staff with this meeting and unfortunately your schedule did not permit a timely meeting with you in attendance.

Thanks for your message.

J. Lindsay Johnston
Vice President Human Resources
PJM Interconnection, L.L.C.
955 Jefferson Avenue
Valley Forge Corporate Center
Norristown, PA 19403-2497
610-666-3195 Phone
610-666-4628 Fax
610-659-7868 Cell
johnsl@pjm.com

SMM - 01718

6/6/2007

-----Original Message-----

From: Bowring, Joseph

Sent: Wednesday, April 18, 2007 7:10 PM

To: Johnston, Lindsay

Cc: Wright, Dionne; Haas, Howard

Subject: RE: We tried to get you on the phone at the appointed time

Lindsay,

- First, please coordinate with Howard and Susan for a time tomorrow, if you think such a meeting is essential. Howard must be at the meeting as I cannot be there tomorrow.
- Second, I believe, given recent events, that PJM should offer all MMU staff a significant single sum retention bonus, payable only if staff stays. I understand that Toby has denied this request. I am again asking you to resubmit this - it is critical in order for the MMU to survive the current situation.
- Third, I think that PJM should cease hiring MMU staff until the MMU issues are resolved. This is entirely consistent with your view that there should be a transition period. I believe that there needs to be an immediate stand down until the MMU issues are resolved.
- Fourth, PJM staff and management should immediately cease all efforts to recruit MMU staff. These conversations are occurring daily and they are inappropriate.
- Fifth, I think that PJM should guarantee every MMU employee a job at PJM should the MMU be eliminated. If you do not think this is appropriate for particular individuals, you should explain why in each case.
- I do not think the actions of PJM or of HR are helpful and in fact I believe that HR's actions are actively harming morale in the MMU. The level of uncertainty that has been created has substantially harmed the ability of the MMU to do its work and there needs to be an immediate remedy. The solutions you described to me when we met and that you plan to propose to MMU staff tomorrow are not adequate as a remedy to the problem created by PJM.
- It is not appropriate for you to tell either me or my staff that there will be a transition when neither the Board or FERC has reached such a conclusion. You and your staff have been assuming and stating in your conversations with MMU staff that there will be a transition that the MMU will not survive. That is neither correct or appropriate until a decision has been made by FERC.
- During this period of uncertainty I request that HR assist us in maintaining a viable and vibrant MMU rather than exacerbating uncertainty, offering condolences for events that have not occurred and encouraging staff to take other jobs in PJM.

Thanks,
Joe

-----Original Message-----

From: Johnston, Lindsay

Sent: Wednesday, April 18, 2007 4:43 PM

To: Bowring, Joseph

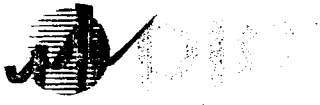
Cc: Wright, Dionne

Subject: We tried to get you on the phone at the appointed time

I will be here past 5pm, Dionne has a hard stop. If we don't catch you tonight we can talk by phone tomorrow but I want to meet with the staff tomorrow morning and we will include you by phone and of course Howard.

J. Lindsay Johnston
Vice President Human Resources
PJM Interconnection, L.L.C.
955 Jefferson Avenue
Valley Forge Corporate Center
Norristown, PA 19403-2497
610-666-3195 Phone

610-666-4628 Fax
610-659-7868 Cell
johnsl@pjim.com



INTEROFFICE MEMORANDUM

Date: 4/24/07
To: MMU employees
From: Lindsay Johnston
Subject: Retention Plan

As discussed, enclosed is a copy of the MMU Retention Plan and PJM Lack of Work Policy for your review.

The Frequently Asked Questions ("FAQ") document will be available for viewing by Friday, April 27, 2007.

If you should have any questions, please feel free to contact, Lindsay Johnston, VP, HR, ext. 3915 or Dionne Wright, HR Business Partner, ext 4618.

MMU Retention Plan

Purpose:

To enable MMU staff to work effectively during the consideration of a potential change to the structure of the MMU.

Retention Plan:

- Current Structure
 - No changes to the current MMU structure will be made while the structural study is being considered or conducted or until any required changes are accepted by FERC.
 - No further changes to MMU functions and responsibilities will be made while the structural study is being considered and conducted or until any required changes are accepted by FERC.
- Interim Postings
 - MMU Staff may review and consider all postings however, to afford MMU work continuity; staff will be encouraged to remain with MMU unless promotional opportunities are posted. Should MMU staff be the successful candidate for another PJM position outside the MMU, HR will work with Joe Bowring and the hiring manager to establish an appropriate transition plan.
- Post-Study Employee Placement
 - In order to allay some of the MMU staff concerns, PJM will commit to make every effort to match each MMU staff member to a comparable PJM position at the conclusion of the MMU Structural Study and when any required changes are accepted by FERC, if the end result is a modification of the MMU structure such that current MMU staff is not required to perform MMU functions.
- Project Completion Bonus
 - All MMU staff who remain employed in MMU through the completion of the consideration and conduct of the study and when any required changes are accepted by FERC, will receive a project completion bonus payment according to his or her band level.

Band 2 and 3 employees – \$10,000

Band 4 employees – \$15,000

Band 5 employees – \$20,000

- Severance
 - Although considered very unlikely, should PJM be unable to locate an equivalent position for an employee that is satisfactory to the employee, that employee will receive a severance pay continuation equivalent to three weeks per year of service, minimum 12 weeks severance, maximum 52 weeks.
 - Severance will include medical and dental coverage continuation for the severance period and outplacement.
 - In return for severance pay and benefits, a separation agreement and release will need to be signed.



CORPORATE POLICY

DIVISION: Corporate Services

Version Number: 3

DEPARTMENT: Human Resources

Version Issue Date: 7/23/03

SECTION:

Original Issue Date: 7/1/93

Lack of Work / Severance Pay Plan

**Policy
Statement**

It is the policy of PJM Interconnection to take into account the needs of both the business and the employees to be affected when confronted with the necessity to eliminate employment positions due to business requirements.

The policy intent is to maximize the capability of the business to effectively meet present and future needs and to treat the employees whose positions are eliminated fairly and with dignity.

Audience

This policy applies to all exempt and non-exempt employees of PJM.

**Revision
Reference**

[Ctrl Click here to view the Revision Reference.](#)

Policy

This policy shall be implemented by establishing and maintaining the following rules:

A lack of work situation exists when PJM decides that:

- There is no further need for a position.
- Position requirements have been so altered that the incumbent cannot meet them.
- Positions have been consolidated.
- No comparable position is available upon a scheduled return from an approved leave of absence of ninety (90) days or less.
- A general reduction in force is necessary.

Notification

- Regular employees are given as much advance verbal notice as practical when they are to be affected by a lack of work situation.
- Formal notification is to be made by letter from the PJM President or his designee.
- PJM endeavors to provide formal notification at least four (4) weeks before any expected layoff or other change in job assignment due to a lack of work situation, if circumstances permit.

Lack of Work / Severance Package

Retraining of Affected Employees

- Employees in a lack of work situation are permitted to bid on PJM available positions during their formal notice period.
- An employee can be considered for placement in PJM available jobs which he or she may not have previously held if there is reason to believe that the work could be performed satisfactorily within a reasonable time (e.g., 90 days).
- PJM will make reasonable training available to employees to assist them in learning the skills necessary to perform such jobs.

Layoff

- Employees in a lack of work situation who do not obtain another position within PJM by the end of their formal notice period will be laid off.
- Subject to the approval of PJM, an employee who is not in a lack of work situation may request that he or she be considered for layoff in place of another employee in the same or similar position who otherwise would be laid off.

Severance Benefits

- As provided in more detail in the PJM Interconnection Severance Pay Plan (Severance Plan), regular full-time and regular part-time employees with at least one year of service who are laid off due to a lack of work situation and who are not offered comparable positions by PJM generally receive severance benefits.
- The following description of the severance benefits is intended only to highlight some of the provisions which are more fully described in the Severance Plan.
- The formal Plan Document is the official document that governs severance benefits, and its terms take precedence over any inconsistent statements made in this policy or elsewhere.
- In general, an eligible employee receives severance pay equal to three weeks of base pay per year of service, but not less than twelve (12) weeks of base pay.
- The maximum severance amount is fifty-two (52) weeks of base pay.
- If a laid-off employee elects to continue medical and/or dental insurance coverage under COBRA, PJM provides continuation of its then-current contribution to the premiums for those benefits during the severance period, or until the employee becomes covered as a result of other employment, whichever occurs first.

Outplacement Services

- PJM generally provides outplacement services to those regular full-time and regular part-time employees who are laid off under the provisions of this policy to assist them in making the transition to new employment.
- The provider of those services and the extent of the services are selected by PJM.
- The outplacement services are provided at PJM's cost.

Exceptions

None.

Lack of Work / Severance Package

Related Documents

This policy has the following related documents:

Policy Title(s):	<u>Employee Benefits</u>
Standard Title(s):	None
Procedure Title(s):	None
Document Title(s):	<u>PJM Interconnection Severance Pay Plan</u>

Bowring, Joseph

From: Johnston, Lindsay
Sent: Friday, May 11, 2007 7:45 AM
To: Johnston, Lindsay; Bowring, Joseph
Cc: Wright, Dionne
Subject: Re: PJMDOCS-#419660-v1-MMU_memo.DOC

Joe, I do not have your reply.

-----Original Message-----

From: Johnston, Lindsay
To: Bowring, Joseph
CC: Wright, Dionne
Sent: Thu May 10 17:32:31 2007
Subject: PJMDOCS-#419660-v1-MMU_memo.DOC

Joe, please review the attached. While no final decision has been made regarding these enhancements, I wanted your feedback prior to sending it forward. I think this accurately portrays what you have requested for the MMU employees. Yesterday you told me that you did not want this enhancement to apply to you because you did not want your suggestions to appear self serving. Do you still feel this way and not want this to be applicable to you ?

Bowring, Joseph

From: Bowring, Joseph
Sent: Friday, May 11, 2007 11:08 AM
To: Johnston, Lindsay
Cc: Mannheimer, Toby
Subject: RE: PJMDOCS-#419660-v1-MMU_memo jeb.DOC

I strongly believe that the period should be six months, as initially included in your document. Six months, given statements about the quick resolution of the matter, is already quite a long time. Nine months sends a pretty negative signal.

Otherwise, I am fine with the attached.

-----Original Message-----

From: Johnston, Lindsay
Sent: Friday, May 11, 2007 11:04 AM
To: Bowring, Joseph
Cc: Mannheimer, Toby
Subject: PJMDOCS-#419660-v1-MMU_memo jeb.DOC

See attached. Based on my conversation with Toby, I made a few tweaks my self. Thanks for your comments. If you are ok with this I will send on for approval.

Bowring, Joseph

From: Johnston, Lindsay
Sent: Friday, May 11, 2007 11:17 AM
To: Bowring, Joseph
Cc: Mannheimer, Toby
Subject: RE: PJMDOCS-#419660-v1-MMU_memo jeb.DOC

Joe, Hear you, how about by the end of the year. That should be better. Also maybe we should leave 6 months in the we hope won't extend beyond 6 months but if extends past year end we will enhance????

J. Lindsay Johnston
Vice President Human Resources
PJM Interconnection, L.L.C.
955 Jefferson Avenue
Valley Forge Corporate Center
Norristown, PA 19403-2497
610-666-3195 Phone
610-666-4628 Fax
610-659-7868 Cell
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See attached. Based on my conversation with Toby, I made a few tweaks my self. Thanks for your comments. If you are ok with this I will send on for approval.

Bowring, Joseph

From: Bowring, Joseph
Sent: Friday, May 11, 2007 10:51 AM
To: Johnston, Lindsay
Subject: Draft MMU language

Lindsay,

I have attached my proposed edits to your language regarding job guarantees and retention bonuses.

Please be aware that this does not mean that I agree that the structural changes to the MMU currently under consideration by PJM management are acceptable.

I am available to discuss.

- Joe

Bowring, Joseph

From: Johnston, Lindsay
Sent: Friday, May 11, 2007 11:04 AM
To: Bowring, Joseph
Cc: Mannheimer, Toby
Subject: PJMDOCS-#419660-v1-MMU_memo jeb.DOC

See attached. Based on my conversation with Toby, I made a few tweaks my self. Thanks for your comments. If you are ok with this I will send on for approval.

Bowring, Joseph

From: Johnston, Lindsay
Sent: Friday, May 11, 2007 4:19 PM
To: Bowring, Joseph
Cc: Mannheimer, Toby; Wright, Dionne
Subject: PJMDOCS-#419756-v1-MMU_Retention_Memo.DOC

Joe, Attached is the approved enhanced retention program that is proposed for the MMU staff and which has incorporated your comments. Per your request to me and to Toby, it will not be individually applicable to you.

I would like Dionne to set up a meeting with MMU staff for Monday so we can discuss it with the staff live. Please do not share this with anyone in advance of that meeting so everyone will hear about it at the same time. Of course you can share with Howard, just make sure he does not share it.

Thanks. Call me on my cell if any questions.

To reduce anxiety and distraction in the MMU during this period of uncertainty, PJM guarantees a position in PJM, or any successor organization to the MMU, to all MMU staff as of May 11, 2007. This guarantee is contingent on maintaining acceptable performance as evaluated by the Market Monitor and remaining in the MMU through the duration of the study and its implementation. Each employee will have the choice whether to accept the offered position. If the employee chooses not to accept the position, he or she will be eligible for the severance package previously outlined.

Deleted: June 1

Deleted: who remain

Deleted: and maintains acceptable performance as evaluated by the Market Monitor.

At this time PJM is hopeful that the entire process will not take any longer than six months. In the event that it extends beyond the end of the year PJM will enhance the previously announced completion bonuses by \$10,000 in recognition of the extended period of uncertainty.

Bowring, Joseph

From: Bowring, Joseph
Sent: Friday, May 11, 2007 4:27 PM
To: Johnston, Lindsay
Subject: RE: PJMDOCS-#419756-v1-MMU_Retention_Memo.DOC

My statement was that the job guarantee was not for my job.
The application of the bonus is up to you.

-----Original Message-----

From: Johnston, Lindsay
Sent: Friday, May 11, 2007 4:19 PM
To: Bowring, Joseph
Cc: Mannheimer, Toby; Wright, Dionne
Subject: PJMDOCS-#419756-v1-MMU_Retention_Memo.DOC

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Thanks. Call me on my cell if any questions.

Bowring, Joseph

From: Bowring, Joseph
Sent: Monday, May 14, 2007 2:18 PM
To: Johnston, Lindsay
Cc: Wright, Dionne
Subject: Retention policy

Lindsay,

Could you please provide the written policy in standard memo format with a cc to each MMU member, signed by you and with a cc to Toby.

In addition, given the question that arose today, I think it would add clarity to state that the guaranteed position will be comparable to the current position. Without such a statement, the guarantee is almost meaningless.

Thanks,

Joe

Bowring, Joseph

From: Johnston, Lindsay
Sent: Tuesday, May 15, 2007 12:09 PM
To: Bowring, Joseph
Cc: Wright, Dionne
Subject: RE: Retention policy

Joe, I am working on a memo.

J. Lindsay Johnston
Vice President Human Resources
 PJM Interconnection, L.L.C.
 955 Jefferson Avenue
 Valley Forge Corporate Center
 Norristown, PA 19403-2497
 610-666-3195 Phone
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 Thanks,
 Joe

Bowring, Joseph

From: Bowring, Joseph
Sent: Wednesday, May 16, 2007 6:19 AM
To: Johnston, Lindsay
Cc: Wright, Dionne
Subject: RE: PJMDOCS-#420163-v1-Enhancements_to_MMU_Retention_Plan.DOC

See my attached edits.

I made the date June 10 to ensure that Cindy is covered, per our discussion.

I am available to talk today.

Thanks

-----Original Message-----

From: Johnston, Lindsay
Sent: Tuesday, May 15, 2007 5:31 PM
To: Bowring, Joseph
Cc: Wright, Dionne
Subject: PJMDOCS-#420163-v1-Enhancements_to_MMU_Retention_Plan.DOC

Attached is the draft memo you requested. The previously announced plan will be attached to this. Please review for edits and I will send out tomorrow.



INTEROFFICE MEMORANDUM

Date: May 15, 2007
To: MMU Staff
From: Toby Mannheimer
cc: Audrey Zibelman, Joe Bowring, Dionne Wright
RE: Enhancements to Retention Program

In recognition of the unique circumstances, PJM has elected to enhance the previously announced MMU retention program which is attached.

To reduce anxiety and distraction in the MMU during this period of uncertainty, PJM guarantees a comparable position in PJM or any successor organization to the MMU, to all MMU staff as of June 10, 2007. This guarantee is contingent on maintaining acceptable performance as evaluated by the Market Monitor and remaining in the MMU through the duration of the study and its implementation.

Deleted: The company will, to its best to ensure that any offered position is an equivalent one

Each employee will have the choice whether to accept the offered position. If the employee chooses not to accept the position, he or she will be eligible for the severance package previously outlined.

At this time PJM is hopeful that the entire process will not take any longer than six months. In the event that there is not a FERC decision on the structure of the MMU by the end of the 2007, PJM will enhance the previously announced completion bonuses by \$10,000 in recognition of the extended period of uncertainty.

Deleted: it extends beyond

Deleted: year

	Completion Bonus	Enhanced Bonus (eff. 1/1/08)	Potential Total
Band 2 and 3 Employees	\$10,000	+ \$10,000	= \$20,000
Band 4 Employees	\$15,000	+ \$10,000	= \$25,000
Band 5 Employees	\$20,000	+ \$10,000	= \$30,000

PJM DOCS #420163

Bowring, Joseph

From: Johnston, Lindsay
Sent: Wednesday, May 16, 2007 12:50 PM
To: Bowring, Joseph
Cc: Wright, Dionne
Subject: RE: PJMDOCS-#420163-v1-Enhancements_to_MMU_Retention_Plan.DOC

Joe I am ok with these edits except the comparable position as this was not agreed to. The compromise was to allow the employee to refuse the position and get a package. Most companies do not do that if offered a position at all.

J. Lindsay Johnston
Vice President Human Resources
PJM Interconnection, L.L.C.
955 Jefferson Avenue
Valley Forge Corporate Center
Norristown, PA 19403-2497
610-666-3195 Phone
610-666-4628 Fax
610-659-7868 Cell
johnsl@pjm.com

-----Original Message-----

From: Bowring, Joseph
Sent: Wednesday, May 16, 2007 6:19 AM
To: Johnston, Lindsay
Cc: Wright, Dionne
Subject: RE: PJMDOCS-#420163-v1-Enhancements_to_MMU_Retention_Plan.DOC

See my attached edits.
I made the date June 10 to ensure that Cindy is covered, per our discussion.
I am available to talk today.
Thanks

-----Original Message-----

From: Johnston, Lindsay
Sent: Tuesday, May 15, 2007 5:31 PM
To: Bowring, Joseph
Cc: Wright, Dionne
Subject: PJMDOCS-#420163-v1-Enhancements_to_MMU_Retention_Plan.DOC

Attached is the draft memo you requested. The previously announced plan will be attached to this. Please review for edits and I will send out tomorrow.

Cawley, Susan

From: Mannheimer, Toby
Sent: Friday, May 18 2007 4:00 PM
To: Market Monitoring Unit
Cc: Belman, Audrey A.; Wright, Dionne
Subject: Enhancements to Retention Program



PJMDOCS-#415235
-v7-MMU_Retenti...

The enhanced MMU Retention Program discussed on Monday, May 14, 2007 is attached.

TSM

MMU Retention Plan

Purpose

To enable MMU staff to work effectively during the consideration of a potential change to the structure of the MMU.

Retention Plan

- Current Structure
 - No changes to the current MMU structure will be made while the structural study is being considered or conducted or until any required changes are accepted by FERC.
 - No further changes to MMU functions and responsibilities will be made while the structural study is being considered and conducted or until any required changes are accepted by FERC.
- Interim Postings
 - MMU Staff may review and consider all postings however, to afford MMU work continuity; staff will be encouraged to remain with MMU unless promotional opportunities are posted. Should MMU staff be the successful candidate for another PJM position outside the MMU, HR will work with Joe Bowring and the hiring manager to establish an appropriate transition plan.
- Post-Study Employee Placement
 - In order to allay some of the MMU staff concerns, PJM will commit to make every effort to match each MMU staff member to a comparable PJM position at the conclusion of the MMU Structural Study and when any required changes are accepted by FERC, if the end result is a modification of the MMU structure such that current MMU staff is not required to perform MMU functions.
- Project Completion Bonus
 - All MMU staff who remain employed in MMU through the completion of the consideration and conduct of the study and when any required changes are accepted by FERC, will receive a project completion bonus payment according to his or her band level.

Band 2 and 3 employees:	\$10,000
Band 4 employees:	\$15,000
Band 5 employees:	\$20,000

- Severance
 - Although considered very unlikely, should PJM be unable to locate an equivalent position for an employee that is satisfactory to the employee, that employee will receive a severance pay continuation equivalent to three weeks per year of service, minimum 12 weeks severance, maximum 52 weeks.
 - Severance will include medical and dental coverage continuation for the severance period and outplacement.
 - In return for severance pay and benefits, a separation agreement and release will need to be signed.



INTEROFFICE MEMORANDUM

Date: May 18, 2007
To: MMU Staff
From: Toby Mannheimer
Subject: Enhancements to MMU Retention Program

In recognition of the unique circumstances, PJM will enhance the previously announced MMU retention program.

To reduce anxiety and distraction in the MMU during this period of uncertainty, PJM guarantees a position in PJM or any successor organization to the MMU, to all MMU staff employed as of June 1, 2007. This guarantee is contingent on maintaining acceptable performance as evaluated by the Market Monitor and remaining in the MMU through the duration of the study and its implementation. The company will do its best to provide equivalent positions.

Employees will have the choice whether to accept the offered position. If an employee elects not to accept the position, he or she will be eligible for the severance package previously outlined.

At this time PJM is hopeful that the process be completed within six months. In the event that it extends beyond the end of the year, PJM will enhance the previously announced completion bonuses by \$10,000 in recognition of the extended period of uncertainty.

	Completion Bonus	Enhanced Bonus (eff. 1/1/08)	Potential Total
Band 2 and 3 Employees	\$10,000	+ \$10,000	= \$20,000
Band 4 Employees	\$15,000	+ \$10,000	= \$25,000
Band 5 Employees	\$20,000	+ \$10,000	= \$30,000

cc: Audrey Zibelman
Joe Bowring
Dionne Wright

Zibelman, Audrey A.

From: Bowring, Joseph
Sent: Tuesday, March 20, 2007 10:01 PM
To: Zibelman, Audrey A.
Cc: Johnston, Lindsay
Subject: Issue

Audrey,

I don't know if you are aware of the following, but you need to be.

Andy Ott had Frank Racioppi, one of my recently promoted supervisors, summoned to his office this morning. Andy proceeded to threaten Frank in forceful terms, demanding that he transfer from the MMU to Markets, stating that Frank would not have a job with PJM if he should refuse and stating that you would be announcing the disbanding of the MMU at the MMU meeting to which I invited you next week.

I have several issues with this:

- Based on the meeting that you had with me and Andy on Monday, you had stated that you wanted to move responsibility for the CDTF to Andy. You also indicated that you wanted Frank to continue his CDTF role for a transition period until Andy could hire someone to handle the issue. I explained that the CDTF role for Frank was a minor one, taking perhaps one percent of his time and that there were other PJM staff who could fill the CDTF role. While I don't agree that moving the CDTF or requiring one of my staff to fill that role is appropriate, all that is very different from what Andy told Frank today.
- In addition, you recognized that Frank was just promoted to be a supervisor in the MMU and that he plays a core role in the MMU and that his cost analyses have nothing to do with his CDTF role and that his CDTF duties are an extremely minor part of his overall job.
- Also based on the meeting that you had with me and Andy on Monday, you did not state that you would be disbanding the MMU or announcing such a move at our scheduled meeting next week. Rather, you indicated that the Strategy Report would call for further study.
- Andy's threatening behavior towards Frank is inconsistent with PJM core values and violates one or more PJM policies governing the interactions between officers of the company and employees and management of the company and employees.
- Andy's behavior constituted a threat towards Frank and caused Frank to be frightened and extremely upset.
- Frank has expressed no interest in moving to Markets and no job opening has been posted. Coercion is an inappropriate recruiting behavior.
- I regard this, in addition, as an attack on the independence of the MMU and on our ability to do our FERC-mandated jobs. We cannot do our jobs in an independent manner if this type of threat is permitted.
- This is the second recent incident that I have reported regarding Andy's threatening behavior towards members of the MMU.
- Andy's statement to Frank that the MMU would be disbanded is entirely inappropriate. If policy steps are to be taken on market monitoring, I would hope that I would be informed in a professional manner.

I appreciate your attention to this matter.

- Joe

3/23/2007

SMM - 01742

Zibelman, Audrey A.

From: Mannheimer, Toby
Sent: Wednesday, March 21, 2007 5:36 PM
To: Zibelman, Audrey A.
Subject: FW: MMU Issue

-----Original Message-----

From: Mannheimer, Toby
Sent: Wednesday, March 21, 2007 5:36 PM
To: Bowring, Joseph
Subject: RE: MMU Issue

Joe,
Suggest you discuss general questions about the MMU with Audrey. I understand that she's scheduled a meeting with the MMU staff on March 29th.
TSM

-----Original Message-----

From: Bowring, Joseph
Sent: Wednesday, March 21, 2007 4:36 PM
To: Mannheimer, Toby
Subject: RE: MMU Issue

Toby,
I appreciate the call this morning.
However, I have not heard anyone tell me that PJM does not plan to disband the MMU.
I would like a clear answer to that question.
Thanks,
Joe

-----Original Message-----

From: Mannheimer, Toby
Sent: Wednesday, March 21, 2007 8:04 AM
To: Bowring, Joseph
Cc: Zibelman, Audrey A.
Subject: MMU Issue

Joe,
Audrey spoke to me about the issue you have raised regarding the transition of the CDTF and Frank Racioppi. Let's discuss today. Let me know when you are available.

TSM

1.) 9:30 AM BC 1 Meeting with Phil (originally scheduled as with Phil Harris)

- 1.) "All monitors external." Later corrected "Hybrids with internal and external".
- 2.) "OPSI States wanted it"
- 3.) The current structure is not working.
- 4.) Need to move
- 5.) "Why all the long faces?"
- 6.) "Need to be mature and professional"
- 7.) "Valued employees, lots of opportunities within the company."

IMPLICATION: The MMU function is going to move out of the company. The future of the employees at PJM was uncertain. Find positions now if you want certainty.

2.) April 9, 2007 2 pm Meeting with Audrey Z.

"Retention bonus" was mentioned, as a severance package.

Again a foregone conclusion about the MMU was implied, but hoped to keep the MMU together during the transition. Guaranteed employment beyond the transition would require finding another job at PJM.

3.) Since that time, attempts to get replacement hires as full time employees has met resistance from HR. Why? Because full time employees would be eligible for the "severance package."

What does this directly imply: There is a foregone conclusion that the MMU will cease to exist and that full time MMU employees have no guarantees of continued employment at PJM.

4.) April 3, 2006 Webcast.

 PJM Issues Statement on MMU Issues: Monday | April 16, 2007

PJM Interconnection issued a statement Friday regarding the April 5 assertions by PJM's Market Monitor. The text of the statement follows:

Since we announced to our members on April 6 that the Board of Managers decided to retain outside legal counsel to investigate assertions by the PJM Market Monitor that his independence has been infringed, we have received a number of queries requesting clarification.

First and foremost, we want to make it clear that PJM takes these assertions very seriously. The Board is acting expeditiously, and the Board and management are committed to a comprehensive and thorough investigation into the Market Monitor's assertions that the independence of the division was compromised. To ensure that the investigation is above any reproach, Chairman of the Board Phillip G. Harris, who in his role as president and CEO supervises the Market Monitor, recused himself from the investigation. The outside counsel will report directly to the Board.

Second, PJM is committed to the integrity of all of its operations, including the assurance to our members, regulators and other stakeholders that all reports and analyses produced by the organization are accurate and complete. With regard to the Market Monitoring division itself, PJM is committed to ensuring that its responsibilities are performed independently of the organization and, at the same time, reflect the same level of integrity and accuracy as all other PJM efforts.



STAFFING REQUISITION FORM
Job req. 569
Sr. Lead Engineer – Performance Compliance Dept.
HR Fax #: 610.666.4570

Requisition Number:	569
Title:	Sr. Lead Engineer
Career Band:	VCT
Department/Division:	Market Services / Performance Compliance
Date of posting:	March 30, 2007
Date of closing:	April 6, 2007
Date of submission:	
Name of Candidate:	
Address:	
Phone Number:	

GENERAL POSITION SUMMARY:

The essential duties and responsibilities of the Sr. Lead Engineer, Performance Compliance includes the following:

- Develop and coordinate analysis regarding transmission needs, services and activities
- Perform analyses relative to generator net revenue and financial position. This activity includes, but is not limited to the accumulation and maintenance of all specific generator data detail database information public sources, not from generation owners
- Perform analyses relative to generator mark up, generator cost and market offer bid (primarily energy, parameters and ancillary services).
- Perform analyses relative to RPM Capacity Market; this includes avoided costs as well as net revenue.
- Perform analyses relative to theoretical generator net revenues while developing a "perfect" and reasonable dispatch scenarios to provide financial expectations of participation in historical PJM energy and ancillary service markets.
- Develop generator financial position based on Forward Energy Market "OTC" (Over the counter) contracts
- Partner with appropriate departments to provide analysis relative to peak loads, supply curve developments, PJM total net capacity as well as operating reserves and mark up.
- Coordinate the analysis activities of less experienced engineers/analyst to review results of analysis and offer feedback
- Apply sound engineering and analytical practices to ascertain if analysis is accurate and timely in approach and operation

- Prepare reports, presentations and additional information relative to assigned analytics and/or CDTF – Cost Development Task Force
- Assist team with projects, review of information as well as dissemination of data
- Over see and maintain records of changes and recommendations as a results of analysis and peer interaction

DIVISION/DEPARTMENT SUMMARY:

The Performance Compliance Department develops and evaluates operations, markets and planning related performance indices. It monitors compliance with industry and self-imposed standards, and provides analysis of actual system operations with respect to those standards. The department evaluates organizational processes related to planning and operating procedures and develops and recommends courses of action to improve performance. The department provides routine and special reports concerning system and market operations.

STAFFING REQUISITION FORM		HR USE ONLY	
Required		Meets	Does Not Meet
Requirement #1: BS Degree in economics, engineering (electrical), statistics or equivalent working experience required. How do you meet the qualification?			
Requirement #2: Strong analytical skills with demonstrated work product and analysis How do you meet the qualification?			
Requirement #3: Strong customer service background with follow up capability How do you meet the qualification?			
Requirement #4: Ability to partner and provide concise information to end-users How do you meet the qualification?			
Requirement #5: Strong computer skills with the ability to work with all applications of MSOffice, SAS, SQL, JAVA How do you meet the qualification?			
Requirement #6: Experience with various power system analysis software How do you meet the Qualification?			
Requirement #7: Demonstrated ability to communicate effectively			

SMM - 01746

How do you meet the qualification?		
Requirement #8: Strong technical writing and editing skills		
How do you meet the qualification?		
Requirement #9: Demonstrated ability to visualize and solve complex problems		
How do you meet the qualification?		

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STAFFING REQUISITION FORM		Meets	Does Not Meet
Preferred			
Preferred #1: Masters degree (MBA, MIS, Math, etc).			
How do you meet the qualification?			
Preferred #2: 8 years direct Supervisory or management experience			
How do you meet the qualification?			
Preferred #3: Extensive knowledge of PJM and familiarity with tariffs, operating agreement, etc.			
How do you meet the qualification?			
Preferred #4: Understanding of advanced modeling techniques			
How do you meet the qualification?			
Preferred #5: Knowledge of power system engineering concepts, principles, theories, regulations, standards, reliability concepts and techniques especially as they apply to PJM operations and planning.			
How do you meet the qualification?			
Preferred #6: A detailed understanding of PJM operations and planning functions.			
How do you meet the qualification?			
Preferred #7: Experience using PSS/e (power system analysis program)			
How do you meet the qualification?			
Preferred #8: Ability to apply expertise in analyzing complex information and providing insightful analysis for review.			
How do you meet the qualification?			

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