Potomac Economics, Ltd.
701 City Center Drive
Carmel, IN 46032

POTOMAC ECONOMICS

Telephone: 317-249-5721
Facsimile: 317-249-5943

February 17, 2009

Members of Service List (EC05-110)

Re: Quarterly Market Monitoring Report

Dear Service List Member:

Please find attached the public (redacted) version of the Fourth Quarter 2008 Quarterly Market Monitoring Reports for MidAmerican Energy Company and Pacificorp.

Regards,

Michael W. Chiasson, P.E.
Vice President

Enclosures (2)

QUARTERLY MARKET MONITORING REPORT ON THE MIDAMERICAN ENERGY COMPANY

For the

Fourth Quarter 2008

Issued by:

Potomac Economics, Ltd.
Independent Market Monitor

CONFIDENTIAL MATERIAL REDACTED

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I. OVERVIEW

In connection with the acquisition by the MidAmerican Energy Holdings Company ("MEHC") of PacifiCorp ("PAC") in Federal Energy Regulatory Commission ("Commission") Docket No. EC05-110-000, the Commission accepted the market monitoring plans for the MidAmerican Energy Company ("MEC" or "the Company") and PAC, and Potomac Economics was retained as the independent market monitor for both companies. The plans established that separate reports would be produced for each company. This is the market monitoring report for the fourth quarter of 2008 for MEC.

The market monitoring plan for MEC is designed to detect any anticompetitive conduct from the operation of the Company's transmission system, including any transmission effects from the Company's generation dispatch. As stated in the plan:

> The Market Monitor shall provide independent and impartial monitoring and reporting on: (i) generation dispatch of MidAmerican, and scheduled loadings on constrained transmission facilities; (ii) information concerning the volume of transactions and prices charged by MidAmerican in the electricity markets affected by MidAmerican before and after MidAmerican implements redispatch or other congestion management actions; and (iii) MidAmerican's calculation of Available Transmission Capability ("ATC") and Total Transfer Capability ("TTC") over transmission lines owned or controlled, in whole or in part, by MidAmerican.

The calculation of ATC and TTC as set forth in item (iii) was to be monitored by Potomac Economics until a Transmission Service Coordinator ("TSC") became operational and began calculating the ATC and TTC for the MEC system. Effective September 1, 2006, TransServ International, Inc. became the TSC for MEC. Accordingly, Potomac Economics no longer monitors the calculation of ATC and TTC.

To execute the monitoring plan, Potomac Economics routinely receives data from MEC that allows us to monitor generation dispatch, transmission system congestion, and the Company's operations and commercial activity during periods of congestion. We also collect certain key data ourselves, including OASIS data and market pricing data.

The purpose of this report is to provide the results of our monitoring activities and significant events on the MEC system[1] for the fourth quarter of 2008.

A. Market Monitoring

Potomac Economics performs the market monitoring function on a routine basis, as well as performing periodic reviews and special investigations. Our primary market monitoring is conducted via regular examination of market data relating to transmission outages, congestion, and transmission access. This involves examination of data on transmission outages and curtailments or other actions taken by MEC to manage congestion. Analyses of these data aid in detecting congestion and whether market participants have full access to transmission service.

Aside from routine monitoring of transmission outages, we are sensitive to atypical events such as price spikes, severe weather, and major generation outages that could have a negative impact on the capability of the transmission system. These events warrant particular attention in our monitoring for potential anticompetitive conduct.

Our periodic review of market conditions and operations is based on operating data provided by MEC, as well as data that we collect. This report contains our review of the fourth quarter of 2008. We divide the report into three sections. In the first section, we evaluate regional prices to assess overall market conditions. In the second section, we summarize transmission congestion in order to detect potential competitive problems. Congestion is identified by Transmission Loading Relief ("TLR") procedures events of level 3 and higher on flowgates that are electrically close to the MEC transmission system. In the final section, we address potential anticompetitive conduct. These analyses examine periods of congestion and evaluate whether MEC operating activities may be anticompetitive. The operating activities that we evaluate are generation dispatch, wholesale purchases and sales, and transmission outages coincident with instances of congestion.

In addition to our periodic reviews, we may be requested to or deem it necessary to undertake a special investigation in response to specific circumstances or events. No such events occurred this quarter.

[1] As specified in the monitoring plan, a draft of the findings has been submitted to MEC prior to submission to the Commission. MEC had no comments.

B. Summary of Quarterly Report

1. Wholesale Prices and Transactions

Prices. We evaluate regional wholesale electricity prices in order to provide an overview of general market conditions. Wholesale prices have fluctuated throughout the quarter from $[redacted]/MWh to $[redacted]/MWh. Power prices generally moved in patterns consistent with the fluctuations in natural gas prices and load in the fourth quarter. This is consistent with expectations and the market results historically. Based on our evaluation of wholesale electricity prices in the MEC region, we did not identify a time period that merited a particular focus.

Sales and Purchases. MEC engages in wholesale purchases and sales of power on both a short-term and long-term basis. MEC short-term [redacted] Accordingly, we examine periods when such anticompetitive conduct may be possible.

2. Transmission Congestion

Curtailments. Congestion is managed on the MEC system by the Midwest ISO through the use of TLR procedures. MEC is under the umbrella of the Midwest ISO reliability authority. However, the Midwest ISO does not control its transmission assets, nor are its generating assets registered with the Midwest ISO. MEC serves as the balancing authority and transmission operator for its service territory. Monitoring and reporting on the effectiveness of the Midwest ISO in managing congestion does not fall within the scope of our monitoring. However, TLR events initiated by the Midwest ISO provide a useful measure of congestion on the MEC transmission system. During the period of study, there were 107 TLR events of a level 3 or higher within or electrically close to MEC's control area.

3. Potential Anticompetitive Conduct

Wholesale Sales and Purchases. We examine MEC sales and purchases delivered during the quarter. We focus on real-time bilateral contracts because these best represent the spot price of electricity and will most closely reflect power prices that might arise on the MEC system under conditions most conducive to market power. Under a hypothesis of market power, we would expect high sales prices or lower purchase prices during congested periods. Daily average

transaction prices are volatile, ranging between $[redacted]/MWh and $[redacted]/MWh. We focused our evaluation of MEC's generation and transmission on days with congestion that may have benefited MEC's net sales position. Our analysis indicated that MEC did not act anticompetitively to create the congestion.

Dispatch. To further evaluate potential market power or manipulation issues, we examine MEC's generation dispatch to determine the extent to which congestion may be caused or exacerbated by uneconomic dispatch. Congestion can result naturally when MEC or any utility dispatches its units in a least-cost manner. Such congestion does not raise competitive concerns. If a departure from least-cost dispatch ("out-of-merit" dispatch) occurs and causes congestion, and this departure is not justified, then this raises potential competitive concerns.

Using an estimated supply curve, we analyze MEC's actual dispatch to determine whether the actual dispatch departed significantly from what we estimate to be the most economic dispatch. In instances when dispatch departed substantially from the estimated optimal dispatch at the same time a congestion event occurred that may have been beneficial to MEC's short-term market positions, we evaluate the circumstances more carefully to determine if congestion was created and/or exploited by MEC. The out-of-merit quantities include units on unplanned outage and units that may not have been economic to commit. Hence, it will tend to overstate the quantity of generation that is truly out-of-merit. Our investigation found that all out-of-merit dispatch during the study period that had significant effects on transmission constraints was justified. Hence, we do not find evidence of anticompetitive conduct.

Transmission Outages. We evaluate MEC transmission outages in order to determine whether outages may have contributed to the congestion events that occurred during the study period. There were 125 transmission outages during the quarter. Of these, 42 were coincident with TLR events and appeared to be unplanned. We investigated these outages in detail.

We found that two of the outages significantly contributed to the congestion and were planned less than two weeks in advance. Investigation into the outages revealed that they were justified. Hence, we find no evidence of anticompetitive conduct related to the outages.

4. Conclusion

Our review did not detect any anticompetitive conduct associated with the Company's operation of its transmission system or generation.

C. Complaints and Special Investigations

We have not been contacted by the Commission or other entities regarding any special investigation into MEC's market behavior, nor have we detected any conduct or market conditions that would warrant a special investigation.

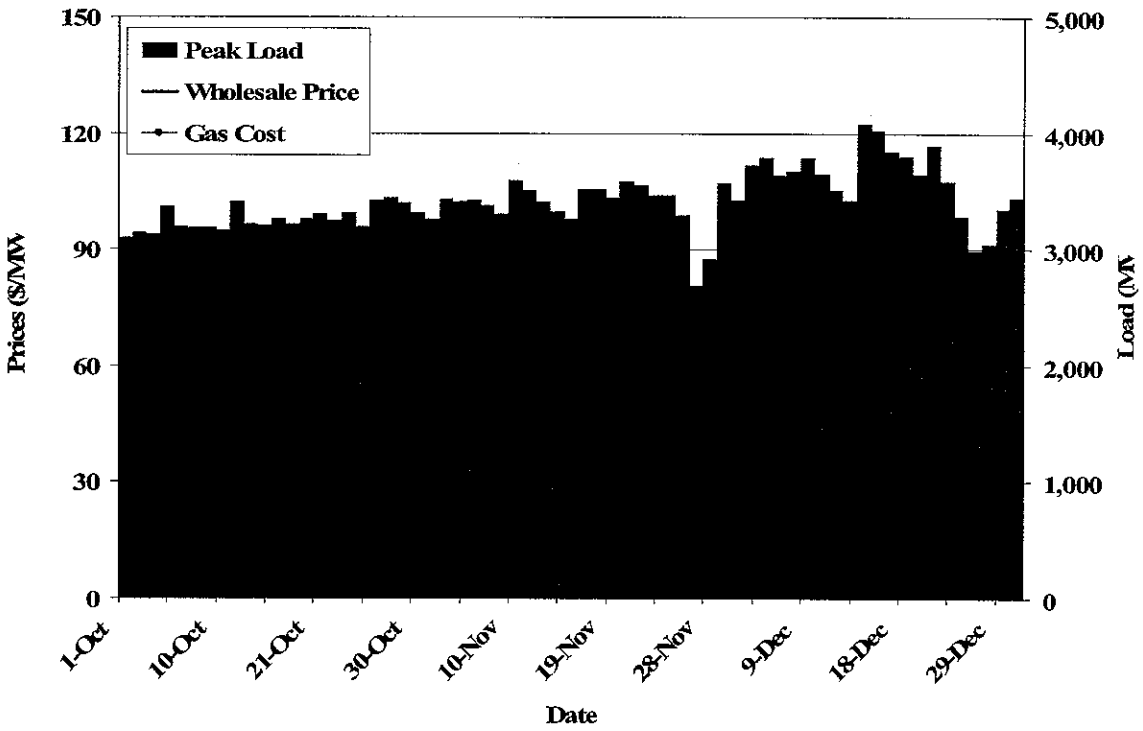
II. Wholesale Prices and Transactions

A. Prices

We evaluate wholesale electricity prices in the MEC region in order to provide an overview of general market conditions. Examining price movements can provide insight into specific time periods that may merit further investigation, although they are not definitive indicators of anticompetitive conduct.

MEC is not part of a centralized wholesale market where spot prices are produced transparently in real time. Wholesale trading in the areas where MEC operates is conducted through bilateral contracts. Figure 1 shows the bilateral contract prices as reported by Platts during the quarter for Mid-Continent Area Power Pool South ("MAPP South"), which is the pricing point most proximate to the MEC system.

Figure 1: Wholesale Prices and Peak Load
Fourth Quarter 2008



Because power prices are influenced by fuel cost and load levels, the figure also shows daily peak load and natural gas prices at the Chicago City Gate translated to a power cost with an assumed 8,000 btu/kWh heat rate. This value roughly corresponds to the marginal operating cost

of a natural gas-fired combined cycle power plant. Figure 1 shows that electricity prices were generally influenced by both natural gas prices and load during the quarter.

Figure 2 compares average Chicago City Gate natural gas prices with average MAPP South power prices for the months of October through December 2008 with average prices during the same period over the past three years.

Figure 2: Trends in Monthly Electricity and Natural Gas Prices October through December, 2005– 2008

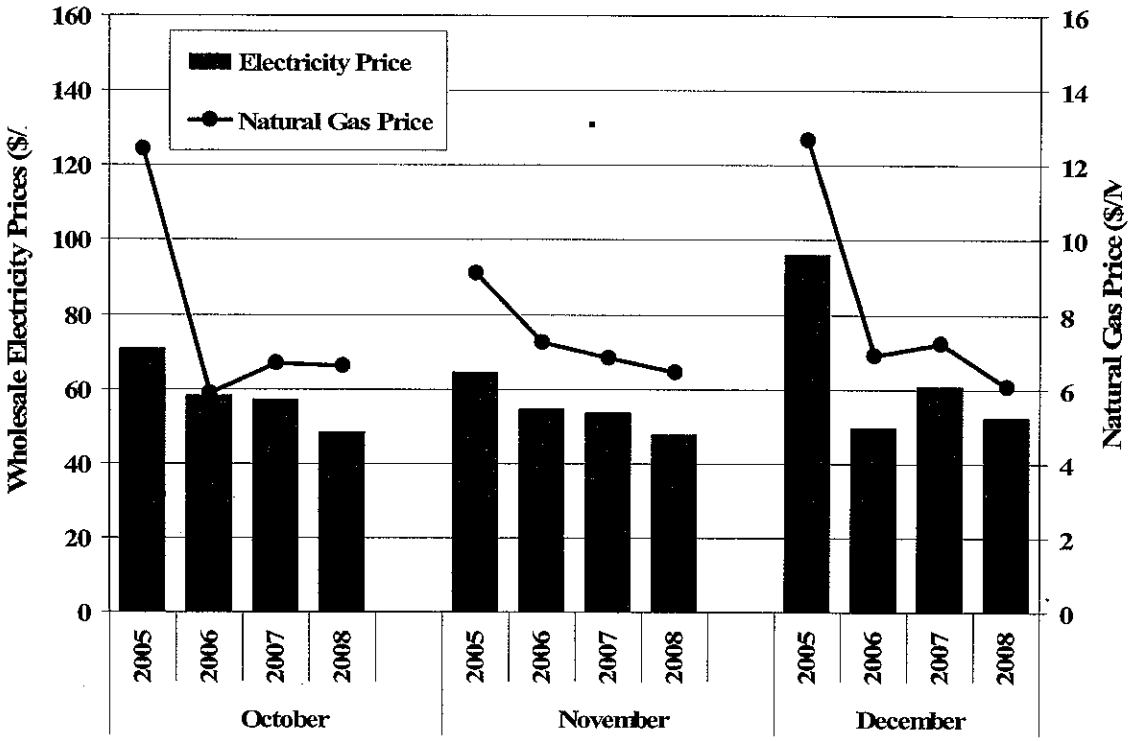


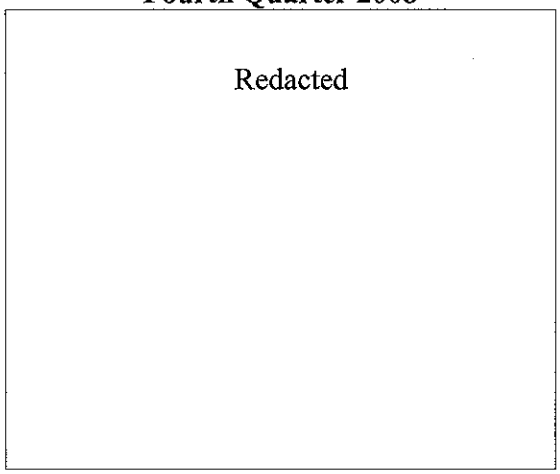
Figure 2 shows that electricity prices have generally moved with natural gas prices over time. Overall, our evaluation of wholesale electricity prices in the MEC region did not indicate a time period that warranted further investigation solely by virtue of price patterns.

B. Sales and Purchases

MEC engages in wholesale purchases and wholesale sales of power. These transactions are both firm and non-firm in nature. Figure 3 summarizes MEC's sales and purchase activity for trades that had deliveries during the fourth quarter of 2008. We consider only short-term trades because we are interested in transactions made by MEC that could provide MEC the opportunity to benefit from anticompetitive behavior. Short-term transactions include all transactions that

are less than one month in duration. Longer-term transactions generally occur at predetermined prices that would not be directly affected by transitory periods of congestion that could be created with anticompetitive actions. Additionally, short-term transaction prices are good indicators of wholesale market conditions as they reflect the expectations of the market participants.

Figure 3: Summary of MEC Sales and Purchases
Fourth Quarter 2008



As the figure shows, MEC's [redacted] At a broad level, the fact that MEC's short-term [redacted] In general, a market participant exercising market power would be a short-term net seller making short-term sales at high prices. In Section IV, we evaluate the prices during congested periods to detect potential anticompetitive conduct.

III. TRANSMISSION CONGESTION

A. Overview

MEC is within the region for which the Midwest ISO serves as the reliability coordinator. However, neither its transmission assets nor its generating assets are controlled by the Midwest ISO. Moreover, it is not subject to the monitoring and market power mitigation measures in the Midwest ISO Tariff. MEC serves as the control area operator and transmission operator for its own service territory.

B. Congestion

Congestion is primarily monitored and managed through the use of TLR procedures. These procedures invoke schedule curtailments, system reconfiguration, generation re-dispatch, and load shedding as necessary to relieve congestion by reducing flows below the first-contingency transmission limits on all transmission facilities. The Midwest ISO, in its role as reliability coordinator for the region, manages all TLR procedures. Hence, the Midwest ISO monitors the power flows on all of MEC's transmission facilities (or "flowgates") and invokes a TLR event when the flow rises to within 95 percent of the transmission limit. MEC is only minimally involved in the TLR process and, therefore, the initiation of TLR events is not an area of monitoring concern. We evaluate TLR events in order to identify periods of congestion and determine whether MEC actions may have caused or exploited such events.

For the purposes of our analysis, we define an hour as congested when a TLR event of level 3 or higher is invoked during that hour on a flowgate that is significant to MEC's operations. We consider a flowgate significant to MEC's operations if (1) the associated transmission facilities are in one of the following control areas: MEC, Alliant Energy Corporate Services, LLC-West, or Dairyland Power Cooperative; (2) MEC, Alliant Energy, or Dairyland Power Cooperative is the transmission provider on the facilities, or (3) MEC's generation affects the flowgate significantly (as defined by a generation shift factor that is higher than three percent or lower than negative three percent). For the period of study, we identified 107 such TLR events. These 107 TLR events affected 22 flowgates.

In Section IV, we examine MEC's operating activities to determine whether they may have engaged in anticompetitive conduct to cause the congestion, and whether MEC was able to profit from it.

IV. MONITORING FOR ANTICOMPETITIVE CONDUCT

In this section, we evaluate the available market and operating data to identify any evidence of anticompetitive conduct or market manipulation. The market monitoring plan calls for the market monitor to identify anticompetitive conduct, which includes the operation of either MEC's transmission assets or its generation assets to create transmission congestion and erect barriers to rival suppliers, thereby raising wholesale electricity prices. To identify potential concerns, we analyze MEC's wholesales sales in the first subsection below, its dispatch of its generation assets in the second subsection, and its transmission outages in the third subsection.

A. Wholesale Sales and Purchases

In this subsection, we examine transaction data to determine whether the prices at which MEC made sales or purchases may raise concerns regarding anticompetitive conduct that would warrant further investigation. We are particularly interested in periods when transmission congestion arises. If MEC was engaging in anticompetitive conduct to create the congestion, it could benefit by making sales at higher prices in the constrained areas or purchases at lower prices in areas adjacent to constrained areas.

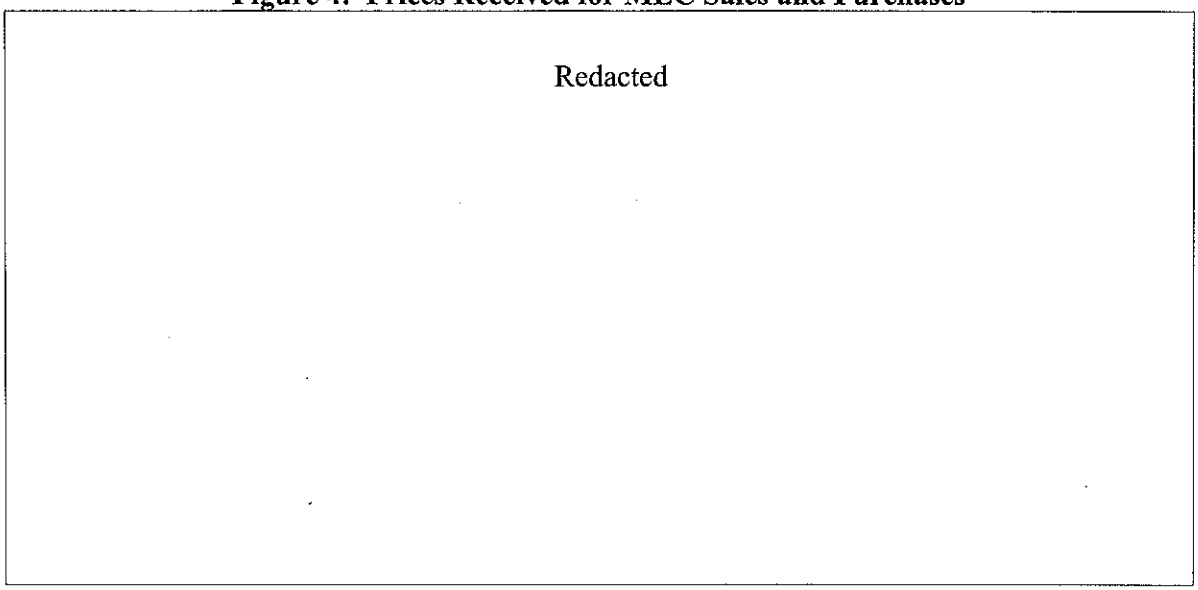
We examined the real-time bilateral transactions made by MEC using MEC internal sales records. We focus on real-time transactions (traded the same day) because they best represent the spot price of electricity and would be more likely to reflect any effort to exercise market power. We would expect relatively high-priced sales or low-priced purchases during periods of transmission congestion if anticompetitive conduct was occurring.

Figure 4 shows the daily average prices received by MEC for real-time bilateral sales and purchases. The blue shading indicates days when curtailments occurred that could have potentially benefited MEC's position in the real-time bilateral markets.

To link curtailment events with days when curtailments could have potentially benefited MEC's position in the real-time bilateral markets, we calculate a measurement called the maximum daily effective market position ("Max Effect"). The Max Effect indicates the trade volume likely affected by a particular curtailment. Periods with curtailments and high Max Effect levels are further evaluated to determine if the transactions were done at pricing levels that raise potential competitive concerns.

The Max Effect is calculated in two steps. First, for each hour, constraint, and delivery point, we calculate a shift-factor-weighted[2] volume of trades by summing the product of the shift factors and the net trade volumes (purchases minus sales). These values represent the implied flows across each constraint that are caused by all of MEC's purchases and sales. For each hour and each constraint, the values are summed across all delivery points. Second, from this set of values, we select the highest hourly value of the day for any single constraint. If the highest value is positive, it appears on Figure 4 as the Max Effect.

Figure 4: Prices Received for MEC Sales and Purchases



The weighted average daily prices of MEC's sales range between $[redacted]/MWh and $[redacted]/MWh. The volume-weighted average daily sales price was $[redacted]/MWh. On days with curtailments that may have benefited MEC's net sales position, the average sales price was $[redacted]/MWh. The weighted average daily prices of MEC's purchases range between $[redacted]/MWh and $[redacted]/MWh. The volume-weighted average daily purchase price was $[redacted]/MWh. On days with potentially beneficial curtailments, the average purchase price was $[redacted]/MWh. At a broad level, MEC's weighted average purchase prices and sales prices during times of potentially beneficial congestion were about the same other times during the quarter. During these times, the sales prices were about $[redacted]/MWh higher and the purchase prices were about $[redacted]/MWh higher then average. Overall these statistics do not raise significant competitive concerns.

[2] The relationship between constrained paths and market delivery points is determined through shift factors, which are the portion of power injected at the market delivery point that flows over the constrained transmission path. Shift factors between -.01 and .01 are set to zero.

We evaluated the six days that had a positive Max Effect greater than 25MW in more detail and found the following:

- **October 10, 2008:** The congestion was on flowgate [redacted][3] At the time of the high Max Effect, [redacted]
- **October 11, 2008:** The congestion was on flowgate [redacted]. At the time of the high Max Effect, [redacted]
- **October 12, 2008:** The congestion was on flowgate [redacted]. At the time of the high Max Effect [redacted].
- **October 15, 2008:** The congestion was on flowgate [redacted]. At the time of the high Max Effect, there were no sales at prices greater than the weighed average sales price for the quarter and no purchases at prices less than the weighted average purchase price for the quarter.
- **October 30, 2008**: The congestion was on flowgate [redacted]. At the time of the high Max Effect, [redacted]
- **November 27, 2008:** The congestion was on flowgate [redacted].[4] At the time of the high Max Effect, [redacted]

Except for October 12 and November 27, the transactions were not at prices significantly more favorable than the prevailing prices during the days immediately before and after when the curtailments were in effect. Hence, the curtailments do not indicate potential competitive concerns. Our primary concern is whether MEC created the congestion anticompetitively through generation and transmission operations. Accordingly, we focus particular attention on

3 Flowgate [redacted]

4 Flowgate [redacted]

October 12 and November 27 when we evaluate MEC's generation dispatch and transmission outages in the remainder of this section.

B. Generation Dispatch

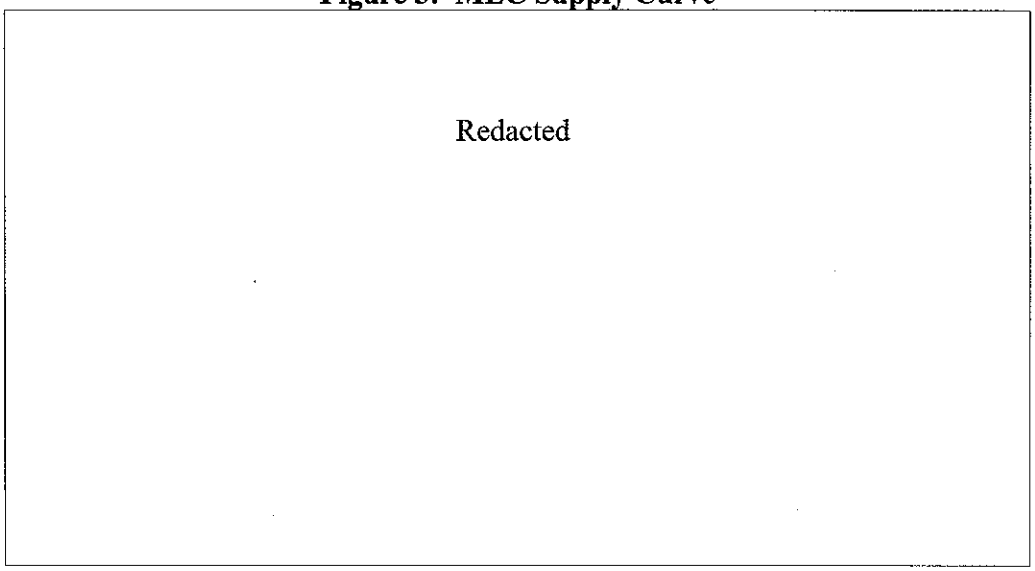
In this subsection, we examine the Company's generation dispatch to determine the extent to which congestion may have been the result of uneconomic dispatch. Therefore, we first evaluate MEC's dispatch during the study period to determine whether it was consistent with the least-cost use of its resources. Congestion can result naturally when MEC or any utility attempts to dispatch its units in a least-cost manner. This does not raise competitive concerns. If a departure from least-cost dispatch ("out-of-merit" dispatch) occurs unjustifiably and it causes congestion, this can raise potential competitive concerns. We consider a unit to be out-of-merit when it is dispatched, but could have been replaced by lower-cost generation that was not dispatched.

In order to identify out-of-merit dispatch, we first estimate MEC's marginal cost curve or "supply curve".[5] To estimate marginal costs, we used incremental heat rate curves, fuel cost, and other variable operations and maintenance cost data provided by MEC. This allowed us to calculate marginal costs for all of MEC's units. We ordered the marginal cost segments for each of the units from lowest cost to highest cost to represent the least-cost method of meeting various levels of demand. For our analysis, the curve is re-calculated daily to account for fuel price changes, planned maintenance outages, and planned deratings. Figure 5 shows the estimated supply curve for a representative day during the time period studied.

As Figure 5 shows, the marginal cost of supply increases as more units are required to meet demand, as expected. We used each day's estimated marginal cost curve as the basis for estimating MEC's least-cost dispatch for each hour in the quarter. In general, this will not be the exact level of least-cost dispatch because we do not consider all operating constraints that may require MEC to depart from what our method identifies as the most economic use of its resources.

[5] We use the term marginal cost loosely in this context. The value we calculate is actually the incremental production cost and does not include opportunity costs, risks, and other factors not reflected in the incremental production cost.

Figure 5: MEC Supply Curve



For example, our analysis does not model generator commitments, assuming instead that all available generators are online. While market monitoring resources could have been expended to refine the estimated generator commitment and dispatch to make it correspond more closely to actual operating parameters (i.e., start costs, run-time and down-time constraints, etc.), we believe this simplified incremental-operating-cost approach is adequate to detect instances of significant out-of-merit dispatch that would have a material effect on the market.

When a unit with relatively low running costs is justifiably not committed, our least-cost dispatch will overstate the out-of-merit quantities because it will identify the more expensive unit being dispatched in its place as out-of-merit. This may result in higher levels of out-of-merit dispatch during low-load periods when it is not economic to commit certain units.

Other justifiable operating factors that cause the out-of-merit dispatch to be overstated are energy limitations, ancillary services, and ramp rates. An example of an energy limitation is the governmental imposition of environmental permits that only allow a plant to operate for a specific number of hours per year. Because the plant is still capable of operating at full load for a shorter time period, the condition does not result in a planned outage or derating. The necessity to limit operating hours can cause the out-of-merit values to be overstated.

Ancillary services requirements such as spinning reserves, system ramp rate limitations, and AGC control requirements can make it operationally necessary to dispatch a number of units at part load rather than having the least expensive unit fully-loaded. These operational

requirements can cause the out-of-merit values to be overstated. For our analysis, the accuracy of a single point is not as important as the trend or any substantial departures from the typical levels.

Our analysis does not model ramp rates[6]. We attempt to avoid ramping periods by focusing on on-peak hours from hour ending 12 to hour ending 22. However, in the event of a unit returning from outage during peak hours, our analysis may overstate the out of merit quantity because the unit is not immediately available at full capacity.

Figure 6 shows the daily maximum out-of-merit dispatch for the peak hours of each day in the study period. Also shown in the figure are days with congestion (i.e., a TLR event rated 3a or higher in effect) represented as blue bars. For these days, the out-of-merit dispatch displayed corresponds to the hour when the impact of the out-of-merit dispatch on the congested path was at its daily maximum. The figure also shows "Path Impact" (red bars). This is a calculation of the power flow change on the congested facilities as a result of the out-of-merit dispatch. In other words, if dispatch had been "in-merit", flow on the congested path would have been lower by the amount shown. The impact was determined using generation shift factors.[7]

6 Ramp rate is defined as the expected response rate of a generator measured in MW/minute and is used to determine the amount of time necessary for a unit to change output levels.

7 Generation Shift Factors are defined as the incremental increase or decrease in flow on a flowgate divided by an incremental increase or decrease in a Generation Resource's output.