POTOMAC ECONOMICS

QUARTERLY MARKET MONITORING REPORT
ON THE
PUBLIC SERVICE COMPANY OF NEW MEXICO

POTOMAC ECONOMICS, LTD.

INDEPENDENT MARKET MONITOR

Second Quarter of 2006

FOR PUBLIC RELEASE – CONFIDENTIAL MATERIAL REDACTED

Table of Contents

List of Figures

I. OVERVIEW

This is the market monitoring report for the second quarter of 2006 on the Public Service Company of New Mexico ("PNM" or "the Company"). In connection with PNM's acquisition of Texas-New Mexico Power Company[1] in FERC Docket No. EC05-29-000, the Federal Energy Regulatory Commission accepted PNM's market monitoring plan and PNM retained Potomac Economics as its independent market monitor.

The market monitoring plan is designed to detect any anticompetitive conduct by PNM from operation of the company's transmission system, including any transmission impacts from PNM's generation dispatch. As stated in the plan:

> The Market Monitor shall provide independent and impartial monitoring and reporting on: (i) generation dispatch of PNM … , and scheduled loadings on constrained transmission facilities in relevant areas (the "Relevant Areas"); (ii) details on binding transmission constraints in the Relevant Areas, such as transmission refusals, or other relevant information; (iii) operating guides and other procedures designed to relieve transmission constraints in the Relevant Areas and the effectiveness of these guides or procedures in relieving constraints; (iv) information concerning the volume of transactions and prices charged by PNM … in the electricity markets affected by these companies before and after the companies implement redispatch or other congestion management actions; (v) the calculation of Available Transmission Capability ("ATC") and Total Transfer Capability ("TTC") over transmission lines owned or controlled, in whole or in part, by PNM …, and PNM's … communication of data regarding such calculations to wesTTrans.net; and (vi) plans for the construction … [or] expansions to [its] non-ERCOT transmission facilities.

To execute the monitoring plan, Potomac Economics routinely receives data from PNM that allows us to monitor generation dispatch, transmission system congestion, and the Company's response to transmission congestion (both its operational response and its business activities). We also collect certain key data, including OASIS data and market pricing data.

The purpose of this report is to provide the results of our monitoring activities, including an evaluation of significant events on the PNM system during the second quarter of 2006.

[1] Herein, PNM refers to the merged entity, which includes Texas-New Mexico Power.

A. Market Monitoring

Potomac Economics performs the market monitoring function on a regular basis, as well as performing periodic reviews and special investigations. Our market monitoring is conducted primarily by way of regular analysis of market data relating to transmission outages and access, and wholesale market outcomes. This involves data on transmission outages, the disposition of transmission reservation requests, and other wholesale activities of the Company that aid in detecting anticompetitive conduct and evaluating whether market participants have full access to available transmission capability.

In addition to the regular monitoring of outages and reservations, we also remain alert to other significant events, such as price spikes, major generation outages, and extreme weather events that could adversely affect transmission system capability and give rise to anticompetitive conduct.

Our periodic review of market conditions and PNM operations is based on confidential operating data PNM provides us, as well as other public data that we collect on a routine basis. Our review is contained in this quarterly report, which is comprised of four parts. First, we evaluate regional prices and PNM transactions to provide an assessment of overall market conditions. Second, we summarize transmission congestion in order to detect potential competitive problems. Congestion is identified by loadings on the lines that flow into the Northern New Mexico Transmission System. The third area of analysis relates to transmission system access. For this analysis, we evaluate ATC issues and the disposition of transmission service requests to detect issues on the PNM system that may require closer analysis. The final area of analysis is our monitoring for anticompetitive conduct. In this analysis, we examine periods of congestion and evaluate whether PNM operating activities raise concerns that PNM may be engaging in anticompetitive conduct. The operating activities that we evaluate are: generation dispatch, wholesale purchases and sales, and hourly power flows coincident with instances of congestion.

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

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. The highest prices occurred in June when load in the Southwest were the highest. The lowest prices occurred in early May when demand was moderate and fuel prices were relatively low. Over the last four years, prices in April through June have generally moved in tandem with natural gas prices.

Sales and Purchases. PNM engages in wholesale purchases and sales of power on both a short-term and long-term basis. PNM's short-term wholesale purchase volumes initiated in the second quarter of 2006 fell short of short-term wholesale sales volumes by four percent. Since PNM's short-term sales and purchases were at a very similar price, there is less reason to conclude that PNM was able to manipulate these prices to their advantage. Although PNM engages in long-term transactions, these have less relevance to market power concerns.

2. Transmission Congestion

Curtailments. PNM manages congestion in northern New Mexico as laid out in the New Mexico Transmission Operating Procedures. Through these procedures, PNM can take action to curtail or reduce schedules in the event transmission limits are exceeded. PNM did not curtail any transactions in prior quarters, but it did in June when outages at the Escalante power plant causes a reduction in transfer capability across Path 48. We are in the process of obtaining curtailment and related scheduling data to allow us to evaluate any curtailments by PNM. Outside of these procedures, PNM can also operate load-side generation to manage congestion.

3. Transmission Access

We evaluated the ATC values across Path 48, the primary path into northern New Mexico. Our analysis of the ATC across the path indicates that PNM's practices for posting ATC are effective in utilizing the capability of the transmission system for this path.

We evaluate transmission requests and their disposition to determine whether market participants have had difficulty accessing the PNM transmission network. If requests for transmission service are frequently denied, this may indicate an attempt to restrict competition. Driven by

yearly requests, the volume of requests was much higher in 2006 than in 2005. Within 2005, the rates of approvals generally increased through the course of the year. During the period of study for this report, the approval rate was the high at 90%, but this is down from the prior 12 months that averaged 97%. Nevertheless, we do not find a pattern in the disposition of transmission requests that indicates restrictive access to transmission.

PNM is active in regional organizations that coordinate transmission planning and wholesale market enhancements. These activities improve transmission access.

4. Potential Anticompetitive Conduct

Wholesale Sales. We examined the sales by PNM initiated in the second quarter of 2006 using PNM sales records. We focus on short-term bilateral sales contracts because these best represent the spot price of electricity and will most closely reflect power prices that might arise on the PNM system under conditions most conducive to market power. Under a hypothesis of market power, we would expect high sales prices during times when short-term transmission service is unavailable. Daily average sales prices vary between $[redacted]/MWh and $[redacted]/MWh. On days when transmission service is refused, the prices being charged by PNM were slightly lower than on other days, and this observation does not support a hypothesis of market power.

Dispatch. To further evaluate potential market power or manipulation issues, we examine PNM's generation dispatch to determine the extent to which transmission congestion may be caused or exacerbated by uneconomic dispatch. Congestion can result naturally when PNM 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, this raises potential competitive concerns.

Using an estimated supply curve, we analyze PNM'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, we evaluate the circumstances more carefully to determine if the loadings impacted access to or across the PNM system.

The daily peak in out-of-merit quantities (which for our purposes include units on unplanned outage) averaged 68 MW. The level of daily peak out-of-merit quantities fluctuated considerably during the quarter. However, out-of-merit dispatch did not lead to increased transmission service refusals or reduced ATC into or across the PNM system. Hence, we conclude that out-of-merit dispatch by PNM does not raise concerns of reduced market access or anticompetitive conduct.

Transmission Outages. We evaluated PNM's transmission outage data and did not find evidence of anticompetitive conduct.

Power Flows. We analyze PNM power flows to determine whether congestion events are being managed properly. PNM manages congestion with curtailment of schedules and the operation of load-side generation. Otherwise, load-side generation was operated 16 percent of the time, but running load-side generation when not needed for transmission purposes does no harm. Our evaluation of power flows does not provide evidence of anticompetitive conduct.

C. Complaints and Special Investigations

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

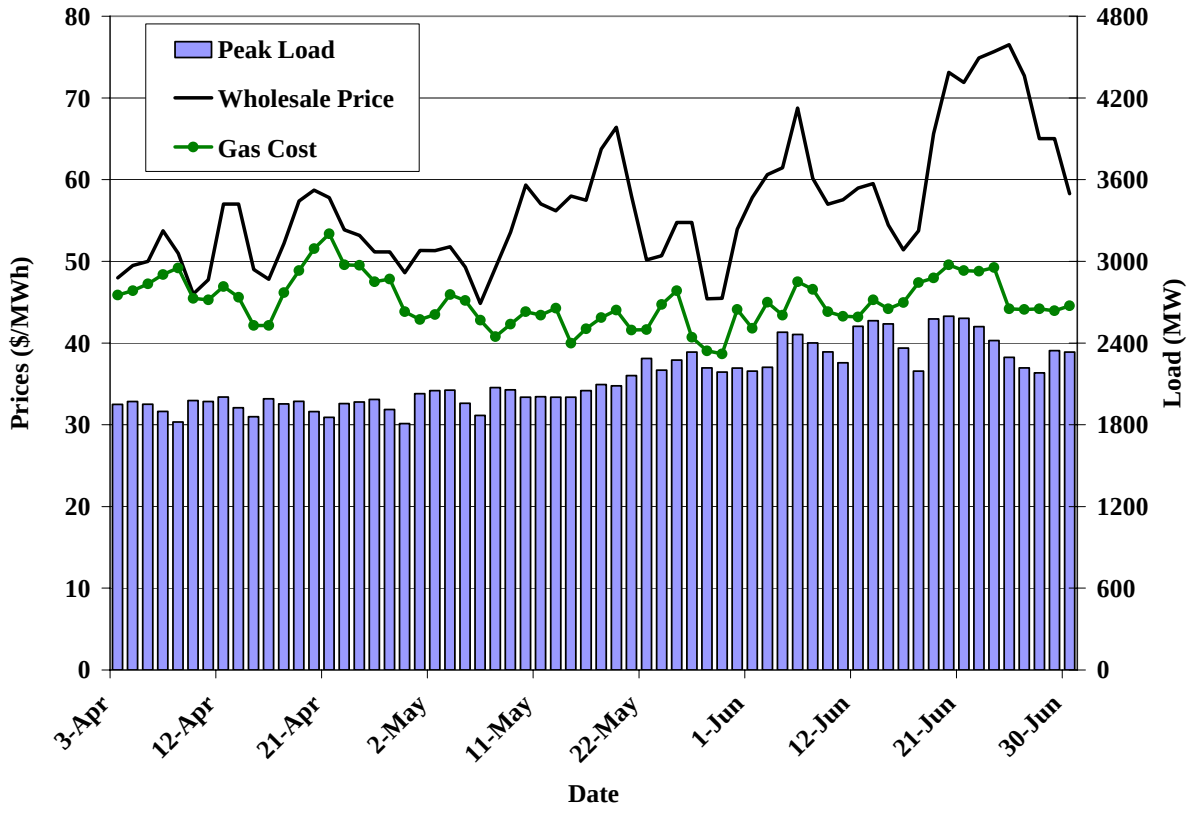
II. WHOLESALE PRICES AND TRANSACTIONS

A. Prices

We evaluate wholesale electricity prices in the PNM 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 the presence or absence of anticompetitive conduct.

PNM is not part of a centralized wholesale market with transparent spot prices. Wholesale trading in New Mexico is conducted under bilateral contracts. Prices for bilateral contract transactions are compiled for certain locations proximate to the PNM service territory. These are collected and published by commercial pricing surveys. One such survey is published by Platts and provides prices for a number of locations across the U.S. One of these locations, Four Corners is in the north-west corner of New Mexico in the PNM area of operation. The bilateral contract prices for Four Corners in the second quarter of 2006 are shown in Figure 1.

Figure 1: Wholesale Power Prices and Peak Load



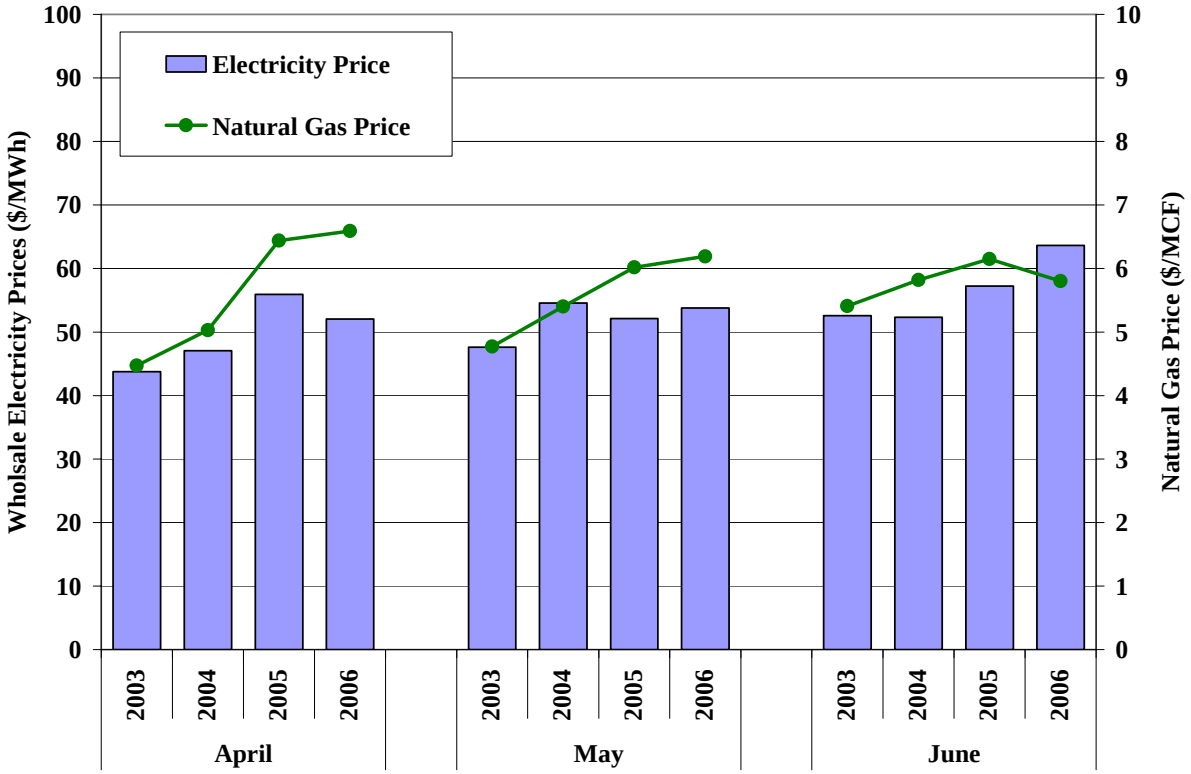
Because power prices are typically highly correlated with fuel cost and loads, Figure 1 also shows daily peak load and the daily cost of natural gas in the region. We use the natural gas prices at El Paso Permian and translate it to a power cost with an 8,000 btu/kWh conversion. This roughly corresponds to the fuel costs for a natural gas combined cycle power plant.

Figure 1 shows a weak correlation (29 percent correlation coefficient) between power prices and natural gas prices, and a moderate correlation between power prices and load (59 percent correlation coefficient). The weak correlation between wholesale prices and natural gas well-head prices is historically unusual. During the previous quarter, this correlation was nearly perfect at 94 percent.

Explanations for price behavior at Four Corners require looking past conditions at PNM. The price of power at Four Corners is driven by conditions in the west as a whole, such as the way the hydroelectric system was operated, and the aggregate supply and demand patterns of the many participants in the Western Electricity Coordinating Council ("WECC") area. Price volatility during June was understandable because regional loads were high enough to fully load combined cycle power plants, which in general puts combustion turbine power plants on the margin. The combustion turbines are of the highest cost resources in the generation stack.

The next analysis compares the average prices for the second quarter of 2006 with average prices during the same period over the past three years. These results are shown in Figure 2 together with the average well-head natural gas prices. As the figure shows, electricity prices have generally been correlated with natural gas prices over time. Both the price of electricity and the natural gas price for April and May of 2006 were close to their corresponding values in April and May of 2005. June 2006 was unusual in that the price of electricity was 11 percent higher and the natural gas price was 6 percent lower compared to June of 2005. June 2006 was an unusually warm month, especially in neighboring Arizona. Lower natural gas prices were not enough to offset the upward pressure of high demand on power prices.

Figure 2: Trends in Monthly Electricity and Natural Gas Prices
Second Quarter, 2003– 2006



Note: Natural gas data from Energy Information Administration representing average well-head prices.

B. Short-Term Sales and Purchases

PNM engages in wholesale purchases and sales of power. These transactions are both firm and non-firm in nature. Table 1 shows a summary of PNM's sales and purchases for trades that were initiated during the second quarter of 2006. We consider only short-term trades (trades of less than one month in duration) because we are interested in transactions made by PNM that could have allowed PNM to benefit from potential market abuse during this time period. Short-term transaction prices are the best indicators of market conditions during periods of congestion.

Table 1: Summary of PNM Sales and Purchases

Redacted

As Table 1 shows, PNM is currently a short-term [redacted]. Short-term purchase volumes [redacted] short-term sales volumes by [redacted]. Also, the average selling price was [redacted] than the average purchase price for short-term transactions. In the previous quarter, PNM was [redacted]. Over time, PNM sales and purchases are roughly [redacted]. We also focus on short-term sales because they reveal the spot market conditions in the PNM region. If PNM did have market power and were exercising it, one would generally expect that PNM would be selling more electricity than it buys and selling at relatively high prices. [redacted]. In Section V, we evaluate the prices at which these sales are executed to detect any significant correlation between prices and congestion.

III. TRANSMISSION CONGESTION

PNM is a member of the WECC where regional congestion is primarily managed by ensuring that the scheduled flows do not exceed flow limits on specified paths.[2] However, because actual flows sometimes exceed scheduled flows due to loop flow (or parallel path flow), additional congestion management procedures are employed.

Power flows in the WECC follow a relatively predictable pattern. The network is most capable of transmitting flows on the high-voltage facilities that roughly corresponds to the geographic perimeter of the WECC. The transmission system in the interior of the WECC boundaries operates at a lower voltage and carries less power. This causes power to circulate around the perimeter of the system. Typically, power transfers from the Pacific Northwest are scheduled south to California. However, this sometimes results in unscheduled increases in flow around the perimeter of the WECC system in the clockwise direction, arriving in California from the west through Arizona.

The transmission system serving New Mexico is connected in a radial manner from the high-voltage facilities that carry the main flow of WECC. Accordingly, the PNM system does not experience significant loop flows from other regional entities. There are two main transmission paths that connect New Mexico to the high-voltage facilities in the rest of WECC: Path 47 and Path 48. Path 48 facilitates power transfers into the northern portion of New Mexico and Path 47 facilitates transfers into the southern portion of New Mexico. PNM manages congestion on Path 48 in accordance with the New Mexico Transmission Operating Procedures. Path 47 is managed by El Paso Electric using the same procedures. Neither Path 47 nor Path 48 is a "qualified path" under the Unscheduled Flow Reduction Procedures used by WECC.[3]

[2] This is in contrast to how congestion is managed in the Eastern Interconnect where congestion management is focused on actual flows on flowgates as opposed to scheduled flows on contract paths.

[3] WECC uses Unscheduled Flow Reduction Procedures ("UFRP") when actual flow exceeds scheduled flow on a "qualified path". There are only a limited number of qualified paths. These paths are identified based on certain qualification criteria that include, among other things, the path having a history of unscheduled flow. The UFRP consist of a series of nine steps that are intended to relieve the congestion through the operation of equipment and, ultimately, the curtailment of schedules.

The New Mexico Transmission Operating Procedures ("NMTOP") comprise an agreement among PNM (including TNMP), El Paso Electric, and Tri-State Generation and Transmission Association. A primary objective of the procedures is to determine the responsibility for operation of the facilities that transmit power into New Mexico from the Western Interconnect. As described above, these facilities form a radial path into New Mexico from the high-voltage network in WECC. According to the NMTOP, PNM and El Paso are responsible for managing congestion caused by imports into New Mexico. The procedures require PNM to monitor actual flows at specified buses that comprise the Northern New Mexico Transmission System and take action when imports exceed available transmission capacity. These actions include curtailments and reduction of schedules.

This operational authority and PNM's control of generation and voltage control devices may place PNM in the position to artificially limit transfers on Path 48 that would allow it to profit by making sales to wholesale buyers in New Mexico at above-market prices. Accordingly, we monitor the management of this responsibility to detect instances of manipulation.

PNM did not impose any schedule reductions or curtailments in prior quarters. However, PNM did implement schedule reductions and curtailments on Path 48, as provided for in the NMTOP, in June of this quarter. We discuss these curtailments in Section IV.A. of this report. The curtailments were initiated by making adjustments to ATC. Adjustments to ATC also lead to refusals of transmission service requests. These refusals are important for our analysis in Section V where we determine whether transmission service refusals are the result of anticompetitive activities.

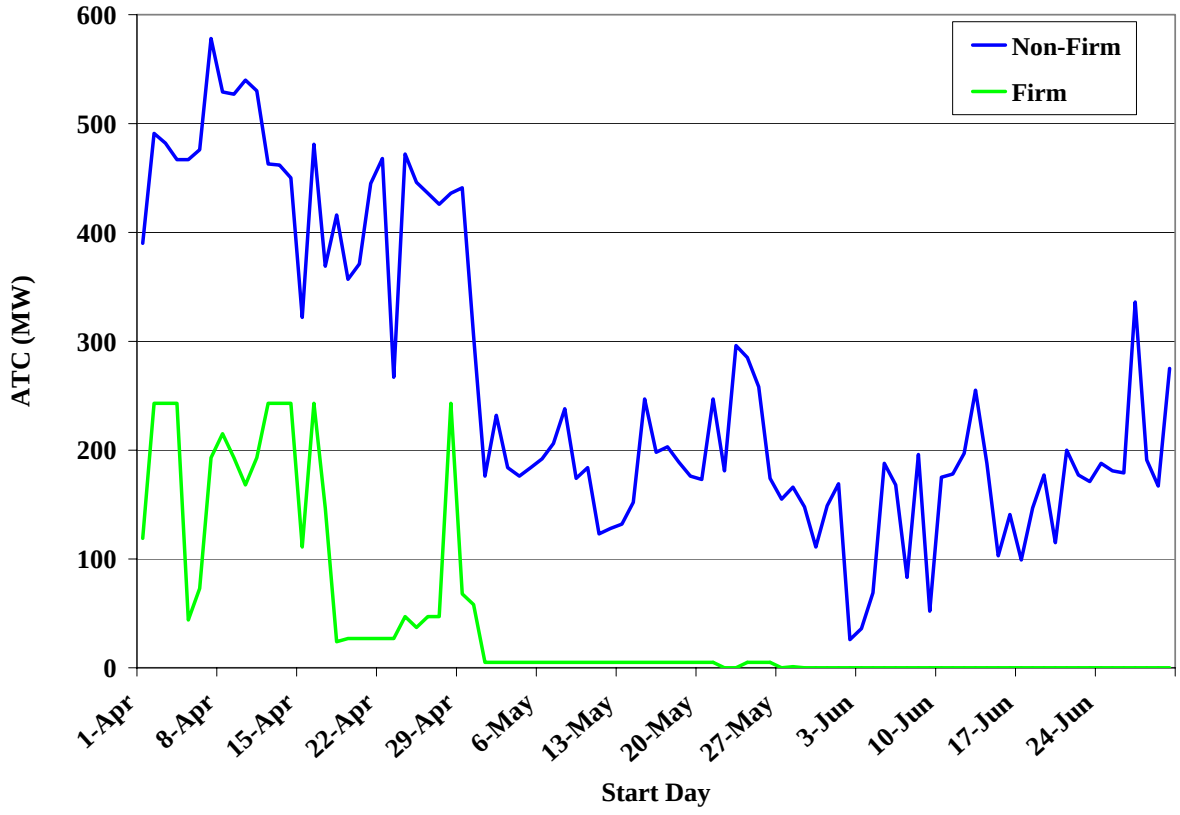
IV. TRANSMISSION ACCESS

A main component of the PNM market monitoring plan is to evaluate transmission availability on the PNM system. In this section, we evaluate access to the transmission network by analyzing Available Transmission Capability ("ATC") and the disposition of transmission requests. The patterns of transmission requests and their disposition are helpful in determining whether market participants have been unreasonably restricted in accessing the PNM transmission network.

A. Available Transmission Capability

A critical element of transmission access is determining ATC. Figure 3 shows the minimum daily firm and non-firm ATC postings for Four Corners 345 kV to West Mesa 345 kV transmission path, a main path into the Albuquerque load center.

Figure 3: Daily Minimum of Hourly Firm and Non-Firm ATC
Four Corners to West Mesa, Second Quarter of 2006



We analyze ATC on this path because it is directly correlated with the ATC on Path 48, which is one of the key paths in the WECC reliability management system. The Four Corners to West

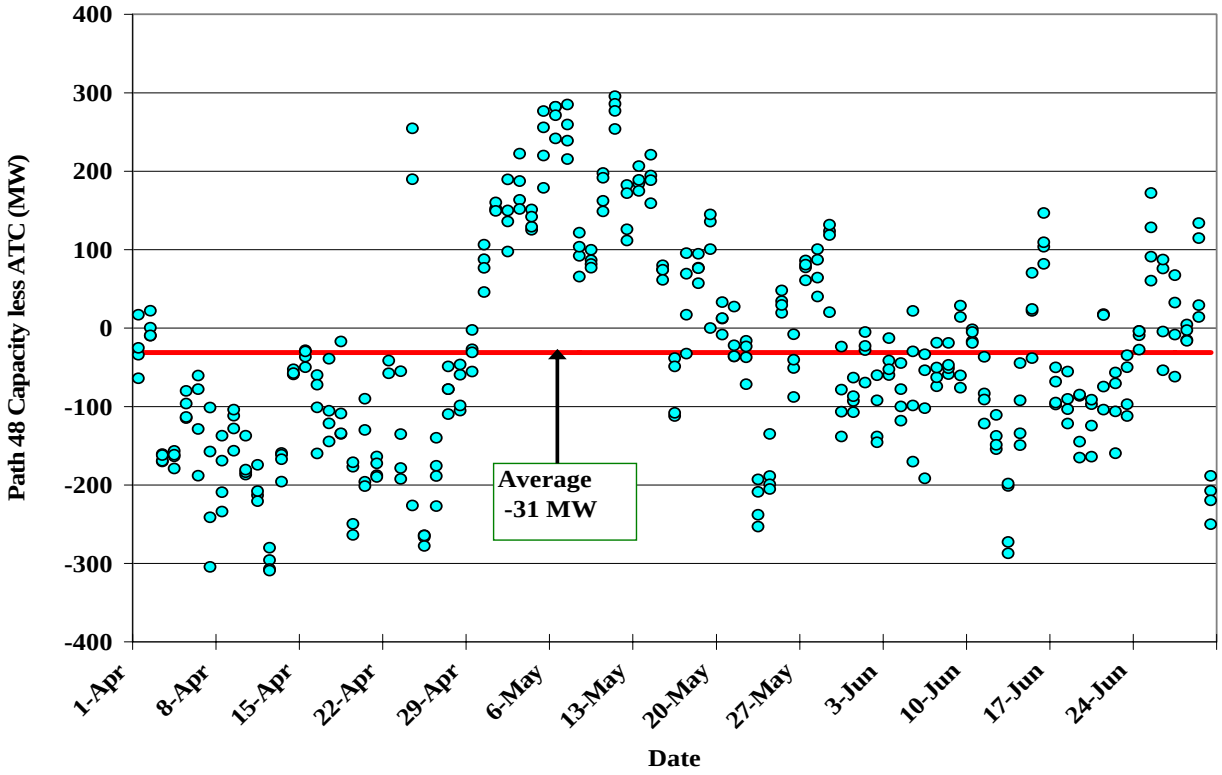
Mesa path is also a building block for virtual paths, such as the Four Corners to Blackwater path, which extends further east to SPP. Demand for service on the Four Corners to West Mesa path is not particularly high, but there has been occasional high demand on paths that depend on it, such as the Four Corners to Blackwater path.

Figure 4 shows the daily minimum of the firm hourly ATC declined to nearly zero (less than 10 MWs) for most days from May 1 to June 30. The daily average firm hourly ATC was generally higher than zero, but the minimum is more relevant for customers requesting service over this path. Non-firm ATC was posted as available during the entire quarter.

The magnitude of the non-firm ATC posted across the Four Corners to West Mesa path was high for several days in June because a reduction in Path 48 transfer capability was managed by reducing the ATC on the Albuquerque to Blackwater path. PNM indicated that this was done because the non-firm schedules targeted for curtailment on the Blackwater path went through Path 48, and there were no other non-firm schedules on Path 48. PNM did not want to impact the firm schedules on Path 48. This caused ATC to be over stated for Path 48 (to Albuquerque) and understated from Albuquerque to Blackwater. However, this has no impact because all the TSRs to Blackwater have a point-of-delivery on the upstream side of Path 48. We have not had access to the scheduling and curtailment data needed to fully evaluate this, but expect to receive this data in the near future.

As a further analysis, we assess the accuracy of ATC postings by examining the non-firm ATC compared to physical transmission capacity and flows. For each hour, we subtract non-firm hourly ATC from "Headroom", which we define as the physical transmission capacity less the physical flows. This analysis is shown in Figure 4. We only included the peak load hours from 14:00 to 18:00 because the demand for service and the value of the capability is generally highest in these hours.

Figure 4: Path 48 Capacity less Non-Firm ATC on Four Corners-West Mesa
Hours 14:00 to 18:00



A value close to zero indicates a close correspondence between posted non-firm ATC and the capability actually available on the path.[4] A negative value suggests that PNM overestimated ATC, which generally is not a cause for concern. A positive value may indicate that PNM offered less access to its system then was actually available in real time. The average difference was -31 MWs for these four hours while the average difference was -81 MWs for all 24 hours. Hence, the difference is smaller for these peak load hours than for other times during the day

We do not emphasize the significance of the comparison of Headroom and ATC because they are somewhat different in nature. Headroom is based in the integration of real-time operating data over an hour. The transmission capacity is calculated from real-time dynamic nomogram equations for Path 48 that are incorporated in the Energy Management System. These

[4] We did not evaluate firm ATC. Firm ATC is more difficult to evaluate because TRM (Transmission Reliability Margin) is included in the calculation, and counter-flows are not included. As with non-firm ATC, reservations are used instead of schedules for service past the operating horizon. This causes committed uses to not equate to physical flows. However, the benefits of regular network and native load forecasts with hourly granularity discussed above for non-firm ATC also apply to firm-ATC.

nomogram equations utilize metered real-time system conditions (e.g., real/reactive power flows, status of shunt capacitor/reactive, etc.) to determine Path 48 limits on a one-minute basis. These equations take into account seasonal and time-of-day variations in system conditions. By contrast, the process for determining ATC is based on contract paths rather then flows. The TTC is not a dynamic number and the reductions to TTC are composed of schedules reservations, and forecasts of network and native load.

Some of the things that contribute to differences in the values of Headroom and ATC are as follows:

- TTC is based on an estimated maximum transmission capacity achievable with full operation of voltage control equipment. The actual transmission capacity is less because it is based on the real-time status of the voltage control equipment. This is a main contributor to the appearance of ATC being overstated, especially during off-peak hours.
- Holders of non-firm reservation rights do not always fully schedule these rights. This is a main contributor to the appearance of ATC being understated.
- Network and native loads are based on forecasts, which inherently are not fully accurate.
- The power production from wind turbine and other power plants to lesser degree is not fully predictable

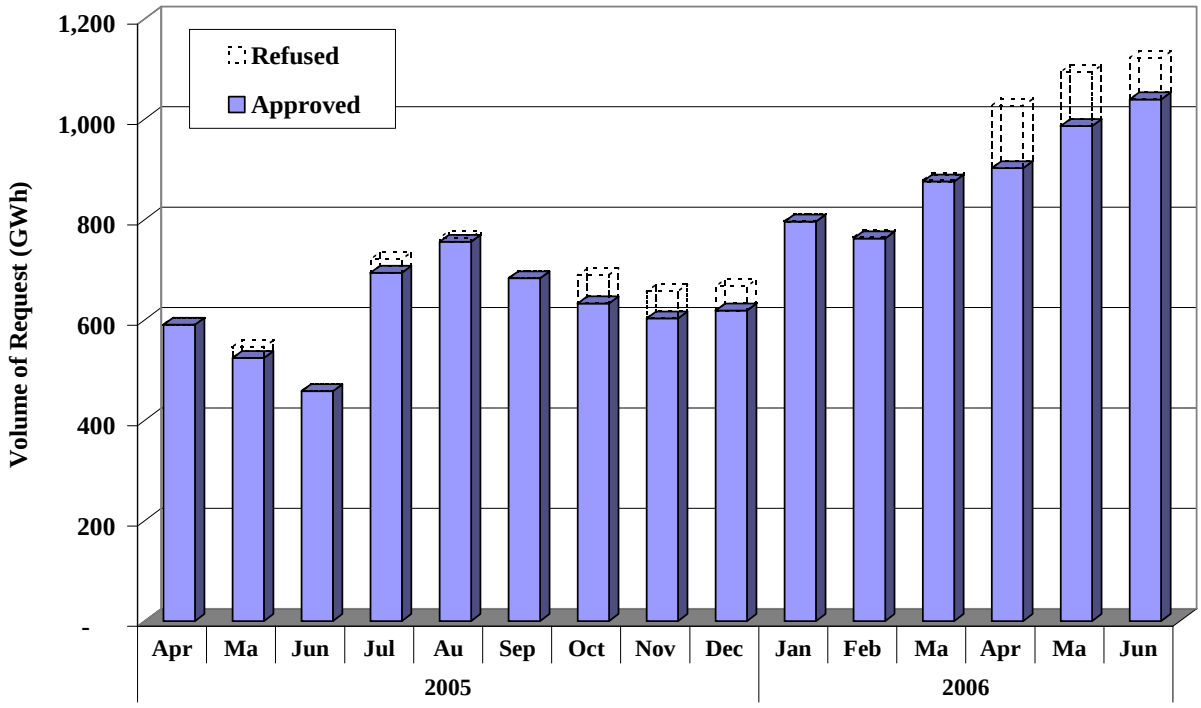
With these limitations in mind, Figure 5 is provided to show general trends. Overall, this does not raise concerns of market access being limited by ATC being understated. There is a period of time in early May when the differences were over 100MW. Our investigation was inconclusive because we at this time do not have access to the scheduling and curtailment data needed to fully analyze the values. We intend to acquire the data needed to evaluate this in the near future.

B. Disposition of Transmission Requests

Our next analysis of transmission access is an evaluation of the disposition of transmission requests. This analysis determines whether market participants have had difficulty accessing the PNM transmission system. In order to make this evaluation, we calculate the volume of requested capacity that spanned the time period under study. For example, if a request was approved in January for service in June, we categorize that as an approval for June. Because requests vary in magnitude and duration, we assign a total monthly volume (GWh) associated

with a request, which provides a common measure for all types of requests. Hence, a yearly request for 100 MW has rights for every hour of the month for which the request spans, just like a monthly request. A request covering less than the entire month is assigned the hours between its stop and start date. Figure 5 shows the breakdown of transmission service requests in each month from April 2005 to June 2006 and summarizes the disposition of the requests.

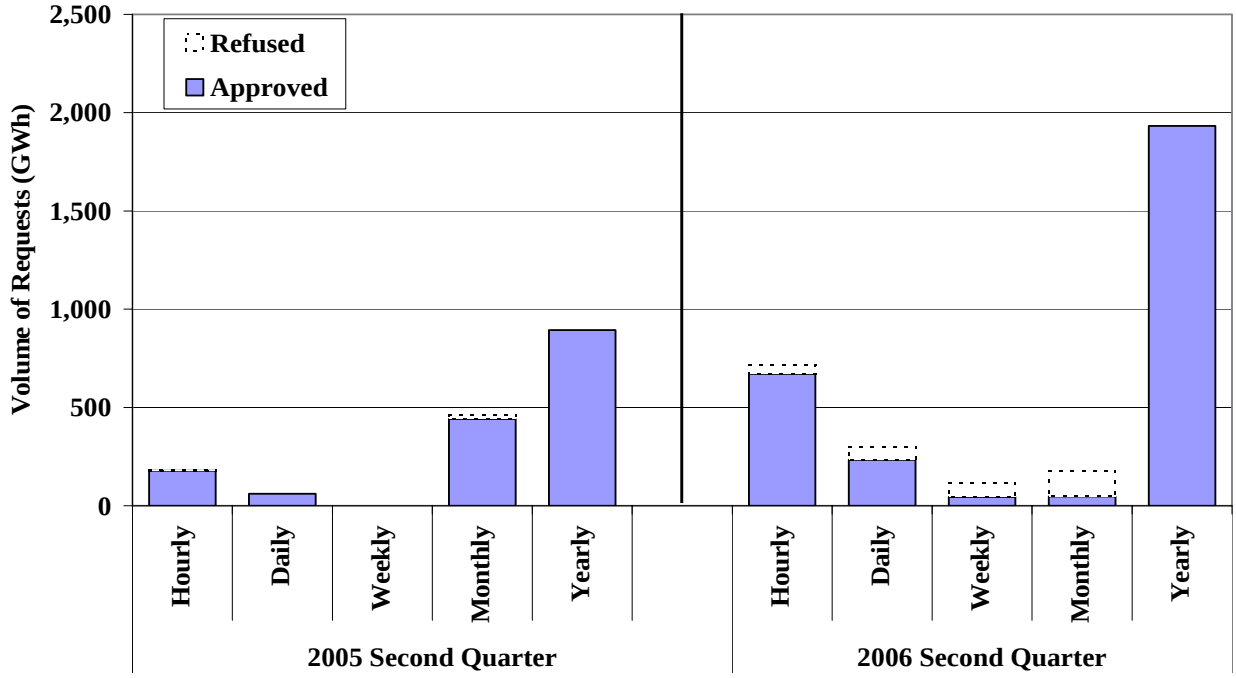
Figure 5: Disposition of Requests for Transmission Service on the PNM System April 2005 – June 2006



The figure shows that approvals for this quarter are up 73 percent over what they were during the second quarter of 2005. The figure also shows that refusals, while still rare and small relative to approved requests, have grown much larger in the second quarter of 2006. The general trend is for more requests and more demand on limited transmission resources.

To evaluate the disposition of transmission requests further, we examine the volume of transmission service over the entire study period by service increment and compare it to the corresponding period of the previous year. This is shown in Figure 6 which reports the volume of requests for transmission service of varying service increments, comparing the second quarter of 2005 with the second quarter of 2006.

Figure 6: Disposition of Transmission Requests by Duration of Service
Second Quarter, 2005-2006

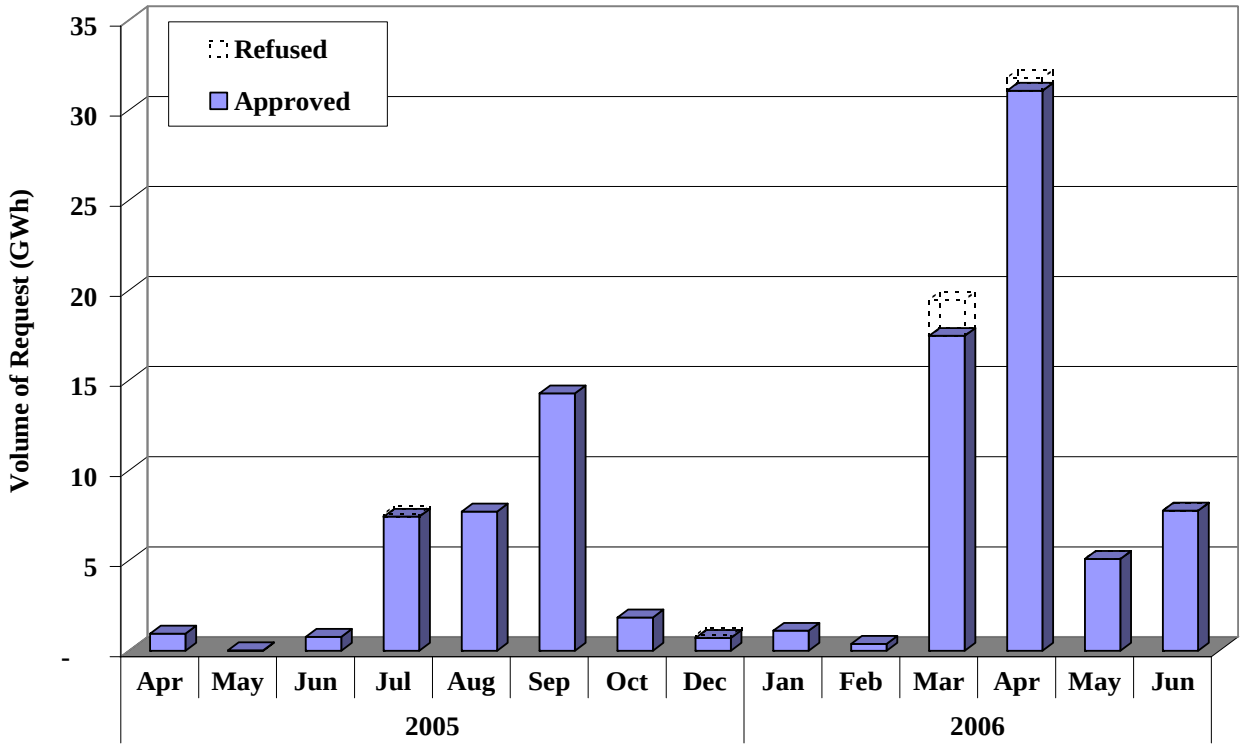


The figure shows the increase in approvals is driven by yearly service. In aggregate, the total GWh of approved requests increased from 893 GWh in 2005 to 1933 GWh in 2006. There has been a corresponding fall in monthly approved requests. In 2006, 73 percent of monthly requests were refused. The increase in yearly requests resulted in a crowding out of firm monthly ATC on the Four Corners to West Mesa path. As a result, most monthly and weekly requests that required this path were refused. There was a large increase in hourly requests as well.

The rate of refusals increased dramatically compared to the second quarter of 2005 (from 1 percent to 10 percent of all requests). In the second quarter of 2006, 81 percent of the refusals (87 GWh) were for the Four Corners to Blackwater path.

Figure 7 below shows that there has been a significant increase in demand for service to Black Water in April of 2006. The level of approvals on this path indicates that access to the paths has not been withheld. The increased refusals, therefore, can be attributed to the increased demand for the path. Based on our analysis of requests and their disposition, we do not find evidence of attempts to restrict access to transmission by PNM.

Figure 7: Disposition of Requests for Transmission Service to Black Water 230
April 2005 – June 2006



C. Regional Transmission Planning and Coordination

PNM has been active in the Southwest Area Transmission ("SWAT") group that coordinates transmission planning and expansion. SWAT activities include performing studies on the impact of generation additions, including large amounts of wind generation in eastern New Mexico. Also studied are transmission constraints such as WECC Path 47 which limits imports from eastern Arizona and northern New Mexico into southern New Mexico. PNM supports SWAT becoming more formalized by arranging sponsorship for it as a planning organization under WestConnect. PNM is active in WestConnect, which addresses wholesale market enhancements. An example of this is a two-year experiment with a non-pancaked rate structure for hourly and daily transmission service products.

V. MONITORING FOR ANTICOMPETITIVE CONDUCT

In this section, we evaluate 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 PNM's transmission assets or its generation assets to create transmission congestion and erect barriers to rival suppliers, which ultimately result in higher electricity prices. To identify potential concerns, we analyze PNM's wholesale sales in the first subsection below, the dispatch of its generation assets in the second subsection, and PNM's transmission flows and congestion in the third subsection.

A. Wholesale Sales

In this subsection, we examine sales data to determine whether the prices at which PNM sold power may raise concerns regarding anticompetitive conduct that would warrant further investigation. We are interested in periods when requests for short-term transmission service were refused. It is during these periods of reduced transmission access that PNM could benefit by making sales at higher prices.

We examine the sales by PNM in short-term bilateral transactions using PNM internal sales records. We focus on short-term sales because they best represent the spot price of electricity and are a primary indicator of whether PNM may have benefited during periods of congestion. We would expect high prices during time periods when short-term transmission service requests are refused if there were significant anticompetitive concerns. Figure 8 shows the daily average prices received by PNM for short-term bilateral contract sales. The figure also indicates days when requests short-term transmission services are refused.

Figure 8 indicates that the (weighted average daily) prices of PNM sales vary between $[redacted]/MWh and $[redacted]/MWh. The figure also shows that days with transmission service request refusals do not coincide with days when PNM charged higher prices. We find no significant difference between sales prices on days with refusals versus all other days, in fact, the price on average was slightly lower ($[redacted]/MWh versus $[redacted]/MWh) on days with refusals. Accordingly, we do not find evidence of anticompetitive conduct.

Figure 8: Prices Received for PNM Sales
Second Quarter 2006

Redacted

B. Generation Dispatch

To further evaluate whether PNM's conduct raises any anticompetitive concerns, we examine the company's generation dispatch to determine the extent to which service refusals may have been the result of uneconomic dispatch of generation by PNM. Therefore, we first evaluate PNM's dispatch during the quarter to determine whether it was consistent with the least-cost use of its resources. If a departure from least-cost dispatch ("out-of-merit" dispatch) is unjustified, then this raises potential competitive concerns. PNM's main congestion issues are associated with Path 48, which separates the base-load generation from the Albuquerque load center where the more expensive generation is located. As a result, the most extreme cases of out-of-merit dispatch tend to relieve congestion rather than cause it. 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 PNM's marginal cost curve.[5] To estimate marginal costs, we use incremental heat rate curves, fuel cost, and other variable operations and maintenance cost data provided by PNM. This allows us to calculate marginal cost segments among all units. We ordered each of these marginal cost segments from lowest cost to highest cost to represent the cost of meeting various load levels, assuming lower-cost units are used before higher-cost units. For our analysis, the curve is re-calculated daily to account for fuel price changes, planned maintenance outages, and planned deratings. Figure 9 shows the estimated supply curve for a representative day during the time period studied.

Figure 9: Illustrative PNM Supply Curve
June 30, 2006

Redacted

As the figure shows, the marginal cost of supply increases as more units are required to meet demand. The PNM supply curve shows a lack of intermediate cost generation units. At ■ MW, the supply curve jumps from base load units to peaking units. The highest marginal cost is over

[5] We use the term marginal cost loosely in this context. The value we calculate is actually the *variable production cost* and does not include opportunity costs, which may include factors such as outage risks, lost sales in other markets, and other factors not reflected in the variable production cost.

$[redacted] /MWh. On most days during the second quarter of 2006, PNM total load was below the [redacted] MW threshold.

We used each day's estimated supply curve as the basis for estimating PNM'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 such as start-up costs and minimum run constraints that may require PNM to depart from what our method identifies as the most economic use of its resources.

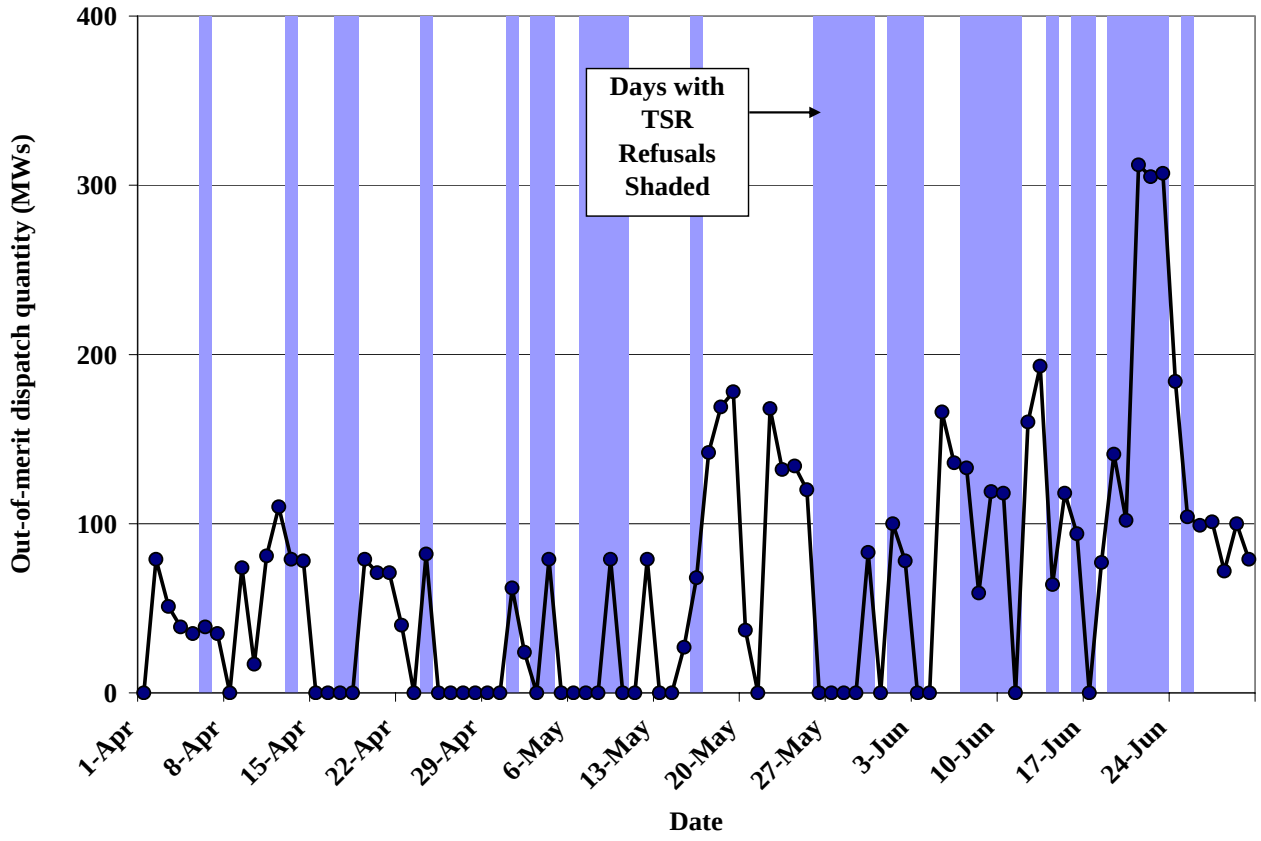
This analysis does not model generator commitments, assuming instead that all available generators are online. While additional resources could have been dedicated to refining the estimated generator commitment and dispatch to make it correspond more closely to actual operating parameters (i.e., start costs , run-time and down-time constraints, etc.), we deemed the simple incremental-operating-cost approach as adequate to detect significant out-of-merit dispatch that would have a material effect on the market.

When a unit with relatively low running costs is 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.

We compare the actual PNM dispatch to the estimated supply curve to determine whether the actual dispatch departed significantly from the estimated least-cost dispatch.[6] In instances when dispatch did depart from the estimated optimal dispatch, we evaluated these hours more carefully to determine whether congestion was created leading to denials of transmission service requests. Figure 10 shows the daily maximum "out-of-merit" dispatch for each day in the study period and refused transmission service requests.

[6] When comparing the actual dispatch to the estimated dispatch, we remove units that are identified as on planned outage based on PNM outage data.

Figure 10: Out-of-Merit Dispatch
Second Quarter 2006



The maximum daily out-of-merit quantities were variable and average 68 MW. PNM has some generators located in the Albuquerque vicinity (load-side generation) which provide voltage support for the load Albuquerque center and reduce the loading on Path 48. From May 15 onwards, PNM regularly ran the load-side generators during the peak flow hours of the day, averaging 27 MWs in the peak hours between 14:00 and 18:00. On five of these days, the generation was run solely for to provide support to the transmission system. Events of running load-side generation contribute to the out-of-merit quantities, but these events help to relieve congestion rather than cause it.

There is no indication that the out-of merit dispatch events limited access across Path 48 or anywhere else. There are two facts in particular that indicate that the out-of-merit dispatch was used to reduce load congestion. First, 56 percent of the out-of-merit dispatch was a shift from coal generation to natural gas generation. Due to the location of the coal generation relative to the constrained paths, any reduction in coal generation relieves congestion. Second, 41 percent

of all out-of-merit generation is the load-side generators which we know relieve congestion over Path 48 into the Albuquerque load center.

The other major shift in generation due to out-of-merit dispatch (15 percent of all out-of-merit dispatch) was a shift from Afton to Lordsburg which are both located in southern New Mexico. This shift was between units that were very similar in operating costs and their geographic location would have meant that the shift would have had only a small impact on Path 48, which is in northern New Mexico. If we see an increase in refusals for access to southern New Mexico paths, we will have to determine exactly what impact a shift from Afton to Lordsburg would have on flows on these paths, but for now there is no reason to think this shift has any important impact.

Looking at these shifts in generation due to out-of-merit dispatch, there is no evidence that any of these shifts had an adverse impact on access to PNM's system. In fact, the evidence suggests that much, if not all, of the out-of-merit dispatch was generated specifically to increase import capability into the system and relieve congestion.

C. Transmission Outages

We evaluate PNM transmission outages in order to determine whether the outages may have led to the congestion events experienced during the time period of our report. We have reviewed PNM transmission outage messages posted to the Westtrans Common OASIS web site, which indicate the date, duration, and nature of the system transmission outages. There were 127 transmission outage log entries during the time period of the report.

Of these we focused on the 71 outages that were unplanned, lasted for at least 3 hours, impacted on-peak hours, and coincided with TSR refusals. The outages in this group that were significant to the market were associated with the Blackwater converter. We investigated these outages further and were satisfied the equipment was forced out due to legitimate equipment malfunctions. There were also a number of deratings taken on the transmission line to Blackwater for the sake of reducing the flow across Path 48 for the reasons discussed above in Section IV.A.

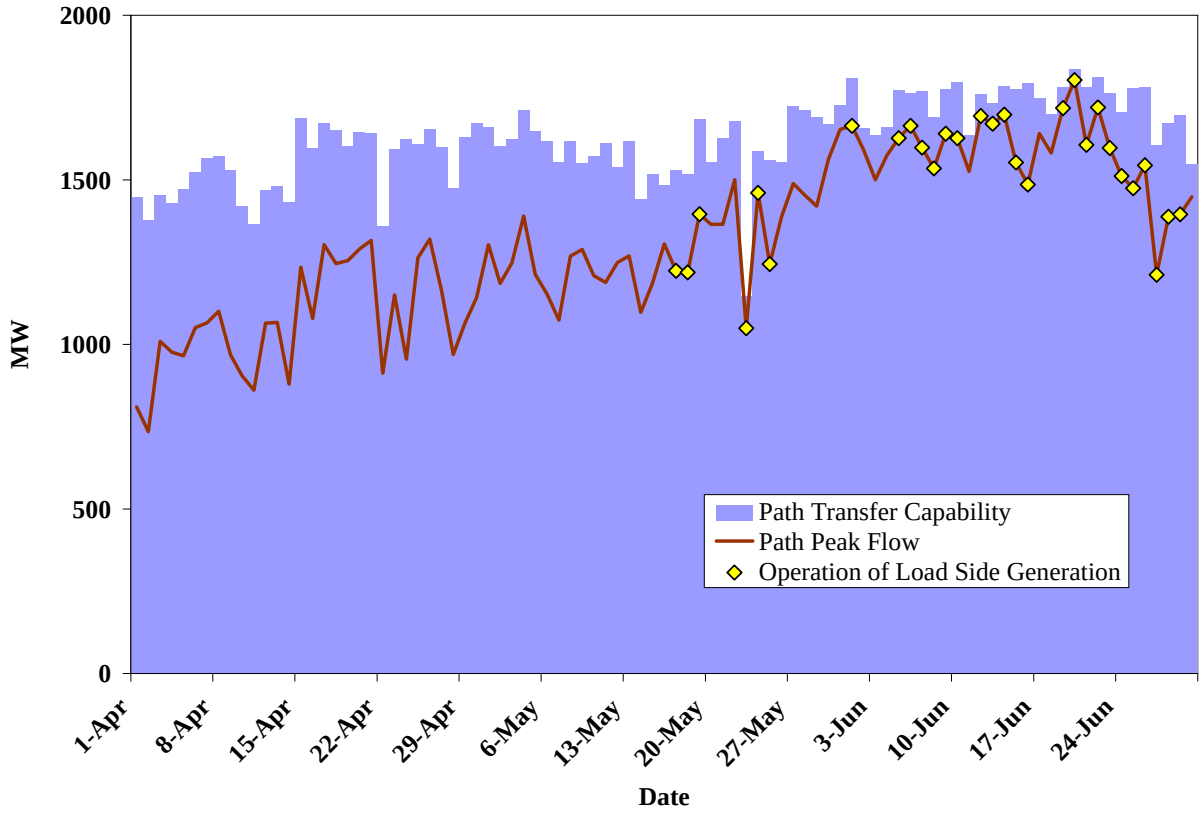
D. Analysis of Power Flows

Under the New Mexico Transmission Operating Procedures, if Path 48 flows exceed the transfer limits, PNM can issue curtailments. This can provide the opportunity for anticompetitive conduct, including initiating curtailments when they are not necessary or not initiating them when they are necessary. By selectively initiating these procedures, PNM may have the ability to benefit its own generation and influence power prices in the region.

Accordingly, we analyze PNM's power flows to determine whether curtailments are being initiated properly. In the study period, we were informed that there were curtailments while the Escalante power plant was in outage, but did not have access to the schedule and curtailment data, which we will be acquiring shortly. PNM can avoid curtailments by operating load side generation, which raises transfer capability can eliminate the need for a curtailment. PNM keeps track of when load-side generation is operated for the purpose of managing transmission congestion. During the period of study, load-side generation was operated for such purposes on May 23, May 24, June 13 and June 15. Sometimes load-side generation is operated for reasons other than transmission congestion, and had it not been operating, would have been needed to avoid curtailments. We do not interpret these instances as transmission congestion.

We use hourly data on power flows over Path 48 and determine whether the operation of load-side generation coincided with periods when flows are close to the path limits. We observe the level of flows to see if flows exceeded the limit. If flows exceeded the limit, then we may conclude that load side generation should have been operated or curtailments should have been issued. Either case can give rise to potential operational concerns. Figure 11 shows the daily peak flows and transfer capability on Path 48.

Figure 11: Peak Demand, Transfer Capability, and Load-Side Generation
Second Quarter 2006



The transfer capability on Path 48 is based on a dynamic "Nomogram", which depends on over forty real-time inputs, including the operation of load-side generation. As Figure 11 shows, the flows on Path 48 never exceeded the path limit during the study period; however it did get near this limit during June, 2006 and also on May 23, 2006. Load-side generation occurred on days marked by a diamond. The graph indicates that load-side generation typically ran when flow on the path was near the limit. This does not raise concerns regarding anticompetitive conduct because out-of-merit dispatch of load-side generation has no detrimental impact on access to transmission capability over Path 48 or into any other area that we reviewed. Moreover, the path was not overloaded, curtailments were not called, and load-side generation was not withheld when needed for transmission purposes.

In light of our analysis, we conclude that PNM has properly managed Path 48 and has not engaged in conduct that would limit transmission access to other wholesale market participants.