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Witness:	H. Davis Rooney
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Case No.:	ER-2009-____
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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO.: ER-2009-____

DIRECT TESTIMONY

OF

H. DAVIS ROONEY

ON BEHALF OF

AQUILA, INC. dba
KCP&L GREATER MISSOURI OPERATIONS COMPANY

Kansas City, Missouri
September 2008

" [redacted] ****" Designates "Highly Confidential" Information**
Has Been Removed.
Certain Schedules Attached To This Testimony Designated "(HC)"
Have Been Removed
Pursuant To 4 CSR 240-2.135.

DIRECT TESTIMONY

OF

H. DAVIS ROONEY

Case No. ER-2009-____

Q. Please state your name and business address.

A. My name is Davis Rooney. My business address is 1201 Walnut, Kansas City, Missouri 64106.

Q. By whom and in what capacity are you employed?

A. I am employed by Kansas City Power & Light Company ("KCP&L") as Manager, CEP Business Operations.

Q. What are your responsibilities?

A. My responsibilities include business planning and analysis concerning infrastructure investment projects for KCP&L and Aquila, Inc. dba KCP&L Greater Missouri Operations Company ("GMO" or the "Company").

Q. Please describe your education, experience and employment history.

A. I graduated from the University of Kansas. I received a B.A., with distinction, in Mathematics (1982), and a B.S., with distinction, in Business (1983), with majors in Accounting and Business Administration and a concentration in Computer Science. I obtained my Certified Public Accountant certificate in 1983 and practiced in public accounting from 1983 to 1992. In 1992, I joined Aquila, Inc. as Controller of its WestPlains Energy division and held several positions focused on financial management and analysis including Director of Accounting and Finance for the Missouri Electric divisions of Aquila Networks. My last position at Aquila, Inc. was as Director of Resource Planning and Commodity Analysis.

Q. Have you previously testified in a proceeding at the Missouri Public Service Commission ("MPSC" or the "Commission") or before any other utility regulatory agency?

A. Yes. I have testified before the Commission and the Colorado Public Utilities Commission.

Q. What is the purpose of your Direct Testimony?

A. The purpose of my Direct Testimony is to support the energy costs and generation resources for GMO. GMO includes the former Missouri Public Service territory ("GMO-MPS") and the former St. Joseph Light and Power territory ("GMO-L&P").

Q. How is your direct testimony organized?

A. My direct testimony is organized as follows:

I. GMO Operations and Resources During 2007;

II. Annualized Fuel & Purchased Power Expense;

III. Fuel Prices for Power Generation;

IV. Hedge Program Impact;

V. Spot Market Purchased Power Prices;

VI. Capacity Needs; and

VII. Planning Requirements for Fuel Adjustment Clause ("FAC").

Q. Are you sponsoring any schedules?

A. Yes. I am sponsoring the following schedules –

- Schedule HDR-1 Comparison of Capacity Mix

- Schedule HDR-2 Comparison of Joint and Stand-alone Dispatch
- Schedule HDR-3 Cost of Gas
- Schedule HDR-4 Impact of Hedge Program
- Schedule HDR-5 Spot Market Purchased Power Prices
- Schedule HDR-6 Resource List from February 2007 IRP

EXECUTIVE SUMMARY

Q. Please provide a brief summary of your testimony.

A. In Section I, I describe the generation and supply resources of GMO. On Schedule HDR-1 I list the resources used to normalize the 2007 test year energy costs.

In Section II, I describe the general method used to normalize the test year energy costs. On Schedule HDR-2 (HC), I show the cost difference between jointly dispatching GMO-MPS and GMO-L&P and dispatching them on a stand-alone base.

In Section III, I describe the methodology used by GMO to arrive at a burner tip gas cost of **[redacted]** per mcf. The weighted average burner tip cost of gas and the underlying natural gas commodity cost are shown on Schedule HDR-3 (HC). This section also discusses GMO's approach to delivered coal prices.

Section IV supports the adjustment for GMO's hedging program. This adjustment reduces electric revenue requirements by approximately **[redacted]**. Schedule HDR-4 (HC) shows the impact of GMO's hedge positions that were in place at December 31, 2007. In arriving at this adjustment, it is important to use the same underlying cost of natural gas commodity as is used in the other normalizing adjustments for energy costs.

Section V describes GMO's approach to normalizing spot purchased power costs. GMO's approach normalizes purchased power costs for both weather (weather/load) and the underlying fuel costs of production. Schedule HDR-5 (HC) shows the weighted average cost of purchased power is **[redacted]** per MWh.

Section VI describes GMO's need for additional capacity. GMO is pursuing coal-fired base load capacity in the 2010 time frame through its participation in the new unit being constructed at the Iatan generating station ("Iatan 2"). GMO identified a need for additional peaking capacity in its 2007 Electric Utility Resource Plan, sometimes referred to as an integrated resource plan ("IRP"). GMO has included the Crossroads Energy Center ("Crossroads") to meet that identified need. In the normalized test year, approximately 82% of GMO's native load energy requirements were supplied from either base load generating plants or long-term base load purchase power contracts. GMO has included an additional 75 MW to address short-term needs. GMO's load grows by about 50 MW per year.

Section VII describes how GMO has met certain rules connected with the FAC, including having an IRP process and considering demand-side resources. Certain resource characteristics required are supplied on Schedule HDR-6 (HC).

I. GMO-MPS AND GMO-L&P 2007 OPERATIONS AND RESOURCES

Q. Please describe the GMO-MPS electric utility operations.

A. GMO-MPS provides electric service in Western and North Central Missouri. In 2007, it had a non-coincident summer peak load of 1,525 MW compared to a coincident GMO-MPS/GMO-L&P peak load of 1,961 MW. The GMO-MPS and GMO-L&P peaks did not occur in the same hour. Therefore the coincident peak was slightly lower than the two individual peaks. GMO-MPS provided capacity and energy from its 17 generating units (21 with Crossroads) and purchases under its power purchase contracts, as well as purchases from short-term and spot market sources.

Q. Please describe the GMO-MPS generating resources.

A. The GMO-MPS generation resources consist of three coal-fired steam units at the Sibley Generation Station ("Sibley"), an eight percent share in each of the three coal-fired steam units at the Jeffrey Energy Center ("JEC"), three gas-fired combustion turbines at the South Harper Peaking Facility, ("South Harper"), four gas/#2 fuel oil-fired combustion turbines at the Greenwood Energy Center ("Greenwood"), two gas-fired jet engines at the TWA Overhaul Base ("KCI"), one gas-fired combustion turbine at the Ralph Green Station, one oil-fired combustion turbine at the Nevada substation, and four gas-fired combustion turbines at the Crossroads Energy Center in Clarksdale, Mississippi. GMO-MPS also receives energy from an ownership share (0.12 MW) of JEC wind generation.

Q. Please describe the GMO-MPS purchased power contracts.

A. GMO-MPS has long-term purchases sourced from Nebraska Public Power District ("NPPD Cooper") and the Gray County Kansas Wind Farm ("Gray County"). NPPD Cooper is a contract for base load power. In 2007, GMO-MPS also had a short-term purchased power capacity contract for 75 MW. Similar contracts will be used to bridge resource needs until the next capacity addition.

Q. Please describe the GMO-L&P electric utility operations.

A. GMO-L&P provides electric service in North Central and North West Missouri. In 2007, it had a summer peak load of 437 MW. GMO-L&P provided capacity and energy from its eight generating units and purchases under two power contracts as well as purchases under short-term and spot market sources.

Q. Please describe the GMO-L&P generating resources

A. The GMO-L&P generation resources consist of an 18% share of the Iatan 1 coal-fired steam unit and various units at its Lake Road Generation Plant comprising one coal-fired steam unit, three coal/natural gas-fired steam units, one natural gas-fired combustion turbine, and two oil-fired jet engines.

Q. Please describe the GMO-L&P purchased power contracts.

A. GMO-L&P has long-term purchases sourced from Nebraska Public Power District ("NPPD Gentleman") and Gray County. NPPD Gentleman is a contract for base load power.

Q. Were all of these resources used for normalization of the test period?

A. No. There were changes to the resource mix that were made in consideration of expiring purchased power contracts and adjustments to capabilities based on review and testing of the units. Schedule HDR-1 lists the resources used to adjust production and purchased power expenses as compared to the test year.

Q. Please explain the primary differences between the 2007 test year and the resources used in the adjusted test year.

A. The first column on Schedule HDR-1 shows the resources modeled and is labeled as "Adjusted Test Year." The second column is the actual resource capacity mix for 2007. The adjusted test year reflects minor adjustments by unit to reflect expected capabilities. Crossroads replaces the short-term contracts that expired in 2007 and to add capacity for load growth. Wind capacity has been reflected as zero. We are still taking the output from 60MW of wind at Gray County; however, current rules for counting capacity from wind have reduced this to essentially zero.

<u>II. ANNUALIZED GMO-MPS & GMO-L&P FUEL & PURCHASED POWER EXPENSE</u>

Q. For GMO-MPS and GMO-L&P what are the amounts and expenses for total fuel and purchases in the test case?

A. The costs of total fuel and purchases are included in Schedule RAK-4 in the testimony of GMO witness Ronald Klote.

Q. How do those costs relate to the proper amount of fuel and purchased energy expense to be used in setting rates for GMO-MPS and GMO-L&P?

A. The test year costs are based upon actual expenses that were dependent upon actual operating conditions during the test year. These costs have been adjusted. During the twelve-month period ending December 31, 2007, operating conditions occurred that resulted in several cost items being either too high or too low to properly represent normal expenses for a rate case test period. These include, for example, the resource mix adjustments shown in Schedule HDR–1 (HC) and adjustments in fuel and purchased power prices to reflect current markets. Because of abnormal conditions, it is necessary to adjust high and low expenses to develop an appropriate annualized fuel and purchased energy expense for the test period.

Q. What method for annualizing the test year fuel and purchased power expense do you recommend for purposes of this case?

A. The proper method for annualizing the test year fuel and purchased power expense is to normalize and annualize unit sales, system requirements, system peak demand, generating unit maintenance and forced outages, the availability and price of purchased power and energy, and the price paid for fuel. After doing this, the fuel and purchased energy should be dispatched by a reliable and accurate production cost computer model to develop the appropriate generation and purchased energy levels and the resulting amount of fuel burned. GMO uses the RealTime computer software for its production cost model.

Q. What does RealTime do?

A. RealTime is a software package. This package has historically also been used by Staff. RealTime performs an hour by hour simulation of GMO's generating assets and purchased power resources. The hourly weather-normalized loads (customer usage) are an input to the model. Within the operating limitations identified by GMO to the model, RealTime will schedule units (supply the customers) in a least cost manner. This process of dispatching the lowest cost generating units before higher cost units is referred to as an economic dispatch.

Q. Are GMO-MPS and GMO-L&P systems dispatched from the same model?

A. Yes. The two systems are modeled in a joint dispatch. Two additional stand-alone production simulations are performed to demonstrate the cost of separate dispatch for each system.

Q. What was the difference in fuel cost between the joint and separately dispatched models?

A. The difference was a savings from joint dispatch of nearly **[redacted]** as reflected on Schedule HDR-2 (HC).

Q. Why did you prepare both stand-alone and joint dispatch models?

A. The joint dispatch model reflects the expected cost of our present day operating mode. It is performed to support the total dollar amounts we are submitting to be included in the cost of service. Stand-alone modeling is performed to demonstrate the continued benefits provided by the ability to joint dispatch the GMO-MPS and GMO-L&P systems as a result of the acquisition of GMO-L&P. In prior cases, the stand-alone models have also been used to allocate the total joint dispatch costs between GMO-MPS and GMO-L&P.

Q. Were the stand-alone models used to allocate costs in this case?

A. No. In this filing we have continued to use the same allocation basis as agreed to in the last rate case No. ER-2007-0004.

Q. Why is it important that the allocation used reflect the way actual costs are incurred and allocated on GMO's books?

A. If rates are designed differently from the way costs are recorded, it is possible for the actual cost recovery to be different from the way it is intended, particularly if rates contain a fuel adjustment clause.

Q. How were costs allocated in the last rate case?

A. In the last rate case it was agreed that certain fuel related costs would be allocated on an 81%/19% split to GMO-MPS and GMO-L&P, respectively. In order to match costs with rates, GMO makes a monthly adjustment to also allocate actual costs on the same 81%/19% split.

Q. During the test period, what expense items, if any, were adjusted as a result of annualizing fuel and purchased energy expense?

A. Adjustments were made to:

System requirements. Adjustments were made to peak load and energy to reflect normalized weather. System requirements are developed from load profiles and excess energy calculations. The weather normalized load adjustments are sponsored by GMO witness George McCollister and are found in his Direct Testimony.

Fuel Costs. Adjustments were made to reflect a normalized fuel market. Fuel cost adjustments are discussed in the next section of my testimony.

Purchased Power Costs. Adjustments were made to reflect a normalized purchased power market. Purchased power cost adjustments are discussed in a following section of my testimony.

III. FUEL PRICES FOR POWER GENERATION

Natural Gas Pricing for Generation

Q. As you discuss gas prices, what will be the basis for discussion?

A. The final average gas price described in this section will refer to the weighted average cost of gas at the burner tip as reflected in the dispatch model. This is the commodity cost of gas adjusted for basis and transportation costs appropriate for each plant, weighted by the amount of gas burned at each plant as dispatched in the dispatch model. The cost of the natural gas commodity is the largest component of the burner tip cost. The commodity cost component of the burner tip cost is based on the New York Mercantile Exchange ("NYMEX") commodity prices at the Henry Hub. This is the most widely used index in the gas industry. The NYMEX price does not include basis or transportation costs which must be added to the commodity price to determine the actual cost at the plant, that is, at the burner tip. Basis, which can be thought of as the price difference between two locations, can be either positive or negative. Generally, basis to our region has been negative. Adding a negative basis is the same as subtracting.

Q. What method of market price determination does GMO propose for this case?

A. In the previous case, GMO proposed burner-tip prices that were derived from a natural gas price curve based upon an average of NYMEX natural gas futures prices. GMO again proposes this method. The Company has calculated a 90-day average of the NYMEX futures market price for each individual month of the 2009 calendar year. The average was calculated using the prices that occurred on each day in the first three months of 2008. We will recalculate the 90-day average as part of the true-up process in this case.

Q. Please describe in greater detail.

A. For example, every day until June 2009, the market determines a market price for the delivery of natural gas in the month of June 2009. This market price is based on futures contracts executed between buyers and sellers. The market price for gas to be delivered in June 2009 can fluctuate every day. In order to eliminate the bias that might occur from picking a single day's price, while still reflecting prices that are reasonably current, we have averaged the daily prices that occurred over a three month period. In order to eliminate the bias that might occur from picking prices from a single day or using a spot price and applying it to the whole year, we calculated the averages for each month of 2009. These prices are known and represent average prices for actual market transactions for natural gas.

Q. What is a natural gas futures contract?

A. A futures contract is an exchange tradable contract that obligates each party to buy or sell a specific amount of a commodity (natural gas) at a specified price for delivery in a specified month, delivered at a specified delivery point.

Q. **What is a spot price?**

A. In its most general form, "spot price" simply means the current price of any commodity or contract. More narrowly, it can refer to either the day ahead price of natural gas or the first of month index price. The day ahead price is the price today for gas delivered tomorrow. The first of month index price is the price for equal amounts of gas to be delivered each day of the current month. When comparing futures contract prices to spot prices, spot price is generally referring to the first of month index price. The first of month index price refers to the average price during the last week of month for equal daily delivery of natural gas during the following month. The index price is typically tied to a specific natural gas pipeline.

Q. **How does the price of a futures contract differ from the price of a spot market contract?**

A. The price of spot natural gas is the price you can buy natural gas for at the beginning of the month and have it delivered this month. The price of a futures contract is the price you can buy natural gas for today and have it delivered in a specified month in the future.

Q. **Is the price of a futures contract a prediction of the spot price in the future?**

A. No. The price of a futures contact should not be confused with the spot price of natural gas in the future. The price of a futures contract is the actual price of gas today for gas to be delivered in the future. Through the futures contract price, we can know what the price today is of gas delivered in the future. We cannot know today what the spot price on that future date will be. The spot price on that future date will reflect the actual impact of weather, wars, hurricanes, storage levels, production costs, delivery costs, supply, and demand on natural gas on that date. These factors will certainly be different than the expectations of today.

Q. Can a futures contract actually be used to buy natural gas for future delivery?

A. Yes. A futures contract is a contract for physical delivery of natural gas.

Q. Must physical delivery be taken of the natural gas under a futures contract?

A. No. The contract can also be settled financially by liquidating (selling) the position at any time before the settlement date. In fact such contracts are frequently settled financially, not physically.

Q. Can a spot contract actually be used to buy natural gas for future delivery?

A. No. A spot contract at today's prices would require delivery this month. By itself, a spot contract cannot be used for future delivery. It might be theoretically possible to couple a spot contract with a contract for gas storage. The storage costs would be relatively costly. However, in reality, you could not buy all of your gas needs for next year on today's spot market and store it until next year. The physical, contractual, and operating limits of natural gas storage facilities would prevent this from actually occurring.

Q. Is the purchase of a futures contract the only way to "lock in" the futures price?

A. No. There are a number of other contracts whose prices are determined by the futures price. These other contracts include swaps, calls, and puts. These contracts provide additional ways to lock in the futures contract price or hedge the price of natural gas.

Q. Is it appropriate to use the current NYMEX futures contract prices for normalizing the fuel and purchased power costs in this rate case?

A. Yes. GMO has entered into contracts that are based on the futures contract prices. Therefore the actual cost of our future natural gas commodity used is tied to the NYMEX futures contract prices.

Q. How are the average commodity prices calculated by GMO utilized?

A. In order to ensure consistency among the various normalizing adjustments, these commodity prices are used in several places. First, they are used as a major component of the cost of fuel burned in the gas-fired generators dispatched by the dispatch model. Second, these same prices are used to reflect the impact of the Company's hedging program. Third, these same prices are used as a major component in the cost of fuel used in the determination of the market price of purchased power from gas-fired generators. Electric utilities purchase power at a price derived from the cost of producing the power.

Q. What does GMO propose as the price of natural gas?

A. Attached is Schedule HDR-3 (HC). This schedule shows the NYMEX commodity component of burner tip gas, calculated as described above, and the monthly and annual weighted average burner tip cost of gas from the dispatch model. I have also included the commodity cost of gas for GMO's generating locations. This cost reflects the NYMEX cost adjusted for the basis differences described previously, but does not include transportation costs. I have included this cost as it is more comparable with the commodity gas cost emphasized by Staff in prior rate cases.

Q. Are there any independent studies, publicly available, that support GMO's natural gas prices?

A. Yes. The Department of Energy's Energy Information Administration ("EIA") reported in its April 2008 Short-Term Energy Outlook that market conditions indicated an

$8.32/Mcf average Henry Hub price for 2009. In its subsequent reports, the EIA has increased its expected price. In its July 8, 2008 report, the EIA's expected average Henry Hub price for 2008 is $11.86/Mcf and for 2009 is $11.62/Mcf.

Q. What is GMO's weighted average burner tip cost of gas from the dispatch model?

A. The burner tip cost of gas is shown on Schedule HDR-3 (HC) and is **[redacted]**/Mcf.

Coal Prices for Generation

Q. How were coal prices for the test year determined?

A. Coal prices for generation are taken from existing contracts, as are the coal transportation costs. The prices used are the prices required by the contracts as of March 31, 2009.

IV. IMPACT OF HEDGING PROGRAM

Q. What is the purpose of the hedging program?

A. The purpose of the hedging program is to reduce the impact of gas and purchased power price volatility. Reducing volatility does not necessarily mean reducing cost. When prices are rising the hedge program will reduce costs by producing offsetting gains. When prices are falling, the hedge program will produce offsetting costs.

Q. Briefly describe GMO's hedge program.

A. A portion of the hedges are from a prior hedge program. Additions to the hedges under this prior program were discontinued after March 27, 2007. Subsequently, a hedging approach based on programs from Kase and Company was adopted. Under the new hedging approach, 67% of the estimated volumes are still targeted for hedging. To the extent the targeted volumes were not hedged under the prior program, those volumes are hedged based on guidance from Kase and Company.

Q. How is the impact of the hedge program determined?

A. By comparing the hedge contract prices to the current cost of the underlying commodity the current value of the hedge program can be determined. When prices are higher, the hedge program will produce offsetting gains. When prices are lower, the hedge program will produce offsetting costs. In this way the volatility from price fluctuations can be partially mitigated.

Q. What is the hedge program impact reflected in this case?

A. Schedule HDR-4 (HC) shows the impact of the hedging program using the same commodity prices as used for native generation. For each month of 2009, the hedges were valued against the current commodity price for that month. If a different view of the current price were determined, the hedges would have a different value. To be consistent and accurately reflect the impact of hedging, the same prices must be used 1) to value the hedges; 2) to price for fuel used for generation in the dispatch model; and 3) to price the fuel underlying purchased power generation. Electric utilities purchase power at a price derived from the cost of producing the power.

V. SPOT MARKET PURCHASED POWER PRICES

Q. In developing the annualized purchased energy expense in this case, did GMO adjust the price paid for spot-market energy from what was actually paid during the test year?

A. Yes, an adjustment was made to normalize hourly purchased power prices and reflect current fuel prices and economic conditions.

Q. What was the result of normalizing the hourly purchased power prices?

A. Schedule HDR-5 (HC) shows the weighted average monthly and annual purchased power prices as dispatched from the dispatch model using the hourly prices developed with the MIDAS software.

Q. What are the drivers of spot purchased power prices?

A. Electric utilities purchase power at a price derived from the cost of producing the power. The key drivers of the price for power are: existing and proposed generation, current load profiles and load growth, transmission constraints, and the current level of fuel costs with fuel price movements. Technological advancements to the production of power can have an impact over time, but have a minimal impact in the test year power price estimates. Therefore those advances are left out of the price determination model.

Q. Please describe the method used to develop the power market price estimates.

A. GMO used the Global Energy Decisions ("GED") MIDAS Gold™ analysis package ("MIDAS"). The analysis package includes functionality and power plant operating parameters for developing spot market purchased power prices for market regions. GMO used this functionality to develop market prices for the region in which it operates, specifically, the Southwest Power Pool ("SPP"), Northern Subregion ("SPPN").

Q. How does MIDAS develop these prices?

A. MIDAS utilizes a national database of power production from GED that is specially formatted for use in MIDAS. MIDAS has as its source the current GED Energy Velocity™ database. The MIDAS Gold™ database contains unit specific operating data on every operating plant within the North American Electric Reliability Corporation ("NERC"). These operating data include unit capacity, heat rate, fuel type, variable operation and maintenance ("O&M") costs, fixed plant costs, etc. GED compiles these data from published resources such as Federal Energy Regulatory Commission ("FERC") Form 1 submissions and quarterly continuous emission monitoring system ("CEMS") data compiled by the U.S. Environmental Protection Agency ("EPA").

Regional loads are included in the MIDAS Gold™ dataset. Regional loads and 10-year expected loads are reported by NERC region in the EIA-411. GED collects this information and breaks down present load and growth by market area. The MIDAS Gold™ data set uses this information to simulate the load growth of all regions and market areas in NERC. For the test year, neighboring systems' load profiles were modeled from the information for each neighboring utility and region submitted to NERC.

The MIDAS Gold™ software can be used in a variety of ways. When used for price modeling, the model is being used in the "multi-area" mode. The multi-area mode of analysis is basically an application of a transportation linear programming model. All regions of the country are condensed into market areas, each with a load profile and a set of generation resources. Within each market area, loads and resources are matched 8760 hourly periods per year.

The market areas are connected in the model by a series of transmission lines, each subject to a transmission constraint. Price differences in market areas connected with an unconstrained transmission path will cause the model to assume a power flow between the two areas, the effect of which will be to lower the cost in the high price area and increase the cost in the low cost area. This assumed power flow increases until the two market prices have equilibrated at an identical level or the transmission line has reached its limit. Market prices are simultaneously determined for all regions within the model study.

Q. Is MIDAS similar to the RealTime dispatch model used by Staff and GMO to normalize production costs?

A. Yes, in a number of ways. Both are models that can perform economic dispatch calculations for power plants. Both models use normalized loads to normalize production costs for weather, adjust for load changes, and adjust for changes in fuel costs. They differ in several important ways. RealTime comes "empty". GMO must input and describe each of GMO's generating units, system loads, fuel costs and operating parameters in order to model production costs. It is very good and very flexible in this regard. MIDAS, in contrast, comes "full". It is pre-populated with every power plant in NERC already set up with operating parameters, loads for each company and region, transmission line capacities, and fuel costs. RealTime can do an economic dispatch for a company. MIDAS can perform an economic dispatch for a market region, or even the nation. RealTime, by performing an economic dispatch of a company's resources, can determine the production cost to supply the next MWh of load. MIDAS, by performing the economic dispatch for a market region, can determine the production cost to supply the next MWh of purchased power.

Q. Does GED test the spot market price model used by MIDAS?

A. Yes. GED has communicated to us that it periodically performs a "back cast" to test its spot market price model. To do this, the actual historical reported loads and the actual historical spot energy prices are used to project the spot market purchased power prices. The projected prices are compared to the actual spot purchased power prices. GED uses this process to continually calibrate its model to actual market conditions and refine its modeling accuracy.

Q. Does GMO modify the MIDAS dataset?

A. GMO may adjust for current fuel costs assumptions; however, GMO did not modify any other pre-supplied information in the production of the spot market price curve for power.

Q. Please explain which fuel costs are used in power price determination.

A. The power market price estimating methods used by GMO are concerned with only a few types of primary energy source costs. Nuclear fuel, coal, hydro, natural gas and fuel oil are the fuels that have a material impact on the ultimate market price for power.

Q. Please describe the method of updating primary fuel source prices.

A. Fuel costs assumptions vary by the fuel being considered. The methods used for determining the cost of each primary energy source are considered separately.

Q. Describe the method used to model nuclear, coal, and hydro fuel costs.

A. The majority of the energy produced in the country is generated by base loaded plants most of which use nuclear, coal, or hydro fuels (stable cost) as their primary energy source. The costs of these sources have two features in common. First, the cost is heavily dependent upon the individual plant. The costs for fuel at these plants vary due to a large number of factors, including refueling schedules, coal and delivery contracts, and water usage constraints. The second feature these fuel costs have in common is that, compared to natural gas, they are relatively stable and do not generally exhibit high levels of volatility. Therefore, the fuel cost estimate for actual fuel purchased costs contained in GED's Energy Velocity™ database for each individual plant is likely to hold throughout the timeframe of the test year. Therefore, for test year adjustment purposes, GMO did not modify GED's costs for these fuels.

Q. Have coal and coal transportation costs changed over the past several years?

A. Yes. Over the past several years significant increases have occurred in both coal prices and transportation costs. These increases tend to be reflected in utility costs as contracts terminate and are replaced. Electric utilities purchase power at a price derived from the cost of producing the power. The underlying cost of coal is one cost of producing the power.

Q. Please explain how natural gas prices are adjusted for current market conditions.

A. Natural gas is a significant cost component for power produced from natural gas-fired generating units. Natural gas prices are highly volatile. In recent experience and on multiple occasions, natural gas prices have increased by double or triple and also dropped by half or more. Unlike nuclear, coal, or hydro plants, the cost of producing power from natural gas-fired plants cannot be characterized as slowly rising or steady. Due to the volatile nature of the price of natural gas and the increasing percentage of time that natural gas-fired generating units are the marginal price unit, purchased power prices must be adjusted to reflect the current price expectation for natural gas.

The current price expectation for natural gas prices was developed using the method described in my testimony above. Essentially an average of the natural gas futures over a three month period was developed.

Q. Is natural gas the only driver of spot purchased power prices?

A. No. However, it certainly is one of the most volatile. As noted above, purchased power prices are impacted by more than just natural gas prices. Purchased power can be priced from base load units or from peaking (including intermediate) load units. Peaking units are predominately gas-fired and are heavily influenced by the price of gas. Base load power prices are not generally gas-fired and those prices move somewhat differently. However, there is a natural tendency, for all the fossil fuels to move together, either as a result of fuel substitution, competitive/opportunistic pricing, or increased production and transportation costs. For example, the cost of delivered coal has increased as a result of higher diesel costs for rail transportation.

Q. How are fuel oil prices estimated?

A. Fuel oil appears to drive power prices for certain months of the years in certain areas of the country, primarily Florida and the Northeast. In general, the impact of fuel oil price movements to the power market prices in the Midwest is insignificant. However, fuel oil prices should not be ignored if natural gas prices are modified. An appropriate price relationship between natural gas and fuel oil should be maintained. For purposes of modeling current purchased power prices, we reviewed the fuel oil data in the MIDAS model. We determined that the MIDAS fuel oil data did not require adjustment. Therefore we left the fuel oil data unchanged.

Q. Does MIDAS include a current market price curve for natural gas prices?

A. Yes.

Q. Why did GMO not use that price curve?

A. The MIDAS dataset is not frequently updated. The MIDAS price curve may be appropriate at the time the dataset is published. The price curve in MIDAS may not represent either the current price expectation or the price expectation that may exist at a true-up date. Therefore, GMO developed a method for establishing the current market prices that can be updated as needed.

Q. What level of purchased power did GMO make available in its dispatch model?

A. In all months we modeled 450 MW.

VI. CAPACITY NEEDS

Q. How does GMO determine how to address its capacity needs in the long term?

A. GMO utilizes the principles of least cost utility planning. Least cost utility planning is an economic analysis method with the lowest total system operating cost as the objective target. Least cost utility planning methods are applied to an Electric Utility Resource Plan, sometimes known as an Integrated Resource Plan ("IRP"). The IRP is the result of testing available and hypothetical resource candidates under various scenarios and determining which of those candidates most economically meets the needs of the system.

Q. Did the IRP consider a mix of coal and gas-fired resources?

A. Yes. A need for coal-fired generation in the 2010 time frame was identified in the April 2005 IRP. GMO is participating in the Iatan 2 generating facility.

Q. Why is coal not used to meet all of GMO's capacity needs?

A. GMO's load profile and the results of the modeling indicate that additional gas-fired peaking is most economical at this time. While coal-fired power plants have a low fuel cost per megawatt hour of electricity produced, they have a relatively higher cost of construction. The total cost of these plants to the customer is lowest when the high cost of construction can be spread over a large number of megawatt hours of electricity. This requires the plants to be able to operate a high percentage of the time to cost effectively serve native load customers.

Q. How much of GMO's load is served by base load plants?

A. In the normalized test year, approximately 82% of GMO's native load energy requirements were supplied from either base load generating plants or long-term base load purchase power contracts.

Q. How would you describe the 18% not served by base load?

A. This portion is not a steady load. It occurs in a relatively small percentage of the hours of the year. This portion is best served by intermediate load generation or peaking generation. Intermediate and peaking generation has a lower cost of construction compared to base load units. The trade-off is a higher energy cost. These units are normally powered by natural gas or oil.

Q. Please describe GMO's most recent resource plan.

A. In February 2007, GMO filed its IRP in Case No. EO-2007-0298. The preferred resource plan, which was also the least cost plan, was to construct 225 MW of combustion turbine capacity in 2010.

Q. Did GMO issue a request for proposals ("RFP") for the combustion turbines?

A. In the spring of 2007, GMO issued an ("RFP") for its short-term and long-term resource needs. During the IRP review process, concerns were raised about significant changes in construction prices. Concerns were also raised because the IRP analysis was based on estimated resource costs, not actual market proposals. To more fully survey available market resources and, in part, to address these concerns, the RFP was not limited to combustion turbine resources for 2010.

Q. Did Staff review and comment on the RFP before it was issued?

A. Yes. We incorporated Staff's suggestions in the RFP that was issued.

Q. How did you analyze the RFP?

A. GMO received both short-term and long-term proposals representing a variety of third-party suppliers and fuel sources. GMO also submitted self-build proposals based on updated construction costs. Crossroads was bid into the RFP by the corporate division of GMO. These proposals were analyzed using the IRP model. Updates were made to key variables to reflect current information. Some of the variables updated included the load forecast, capacity values, potential unit retirements, and fuel prices. Various managers, including the combustion turbine plant manager and generation dispatch manager and the environmental director, participated in discussions of the top candidate proposals.

Q. What was the result of the analysis?

A. Combustion turbines were still the preferred technology. The top two options were both General Electric 7EA combustion turbines. One option was to construct a power plant at a site near Sedalia, Missouri. The other option was for the Missouri regulated utility to acquire Crossroads. Crossroads is both the least cost and the preferred option.

Q. Why was Crossroads preferred?

A. Both options were evaluated on an equivalent basis with the same expected in-service date in 2010. Crossroads is the least cost option. Crossroads has additional advantages, including being already constructed. As an already constructed asset, Crossroads is not subject to the construction related risks currently occurring in the market that might impact construction costs and timing of completion. As an already constructed asset, there is also an opportunity to place it into utility service before 2010 and reduce the need for short-term purchased power.

Q. Can you describe Crossroads?

A. Crossroads consists of four General Electric 7EA units with approximately 300 MW of total capacity. It was installed in 2002. The units are owned by the City of Clarksdale, Mississippi in a property tax abatement structure somewhat like Missouri's Chapter 100. The units are operated by Clarksdale Public Utilities ("CPU"). The units connect to Entergy's transmission system through the Mississippi Delta Energy Agency ("MDEA") 230 kV line from Clarksdale to Moon Lake as well as through the CPU 115 kV tie at Clarksdale.

Q. How is Crossroads controlled?

A. The units are controlled through a long-term toll to 2032 with the right to extend the term for two additional five-year periods.

Q. What entity holds the long-term toll?

A. To clearly understand this one must first understand the corporate structure of Aquila, Inc., now GMO.

Q. Please describe the Aquila, Inc. corporate structure.

A. The Aquila, Inc. corporate structure consisted of a number of divisions and a number of legal subsidiaries. One of the subsidiaries was Aquila Merchant Services. The divisions included the operating utility divisions such as the Iowa gas utility, the GMO-MPS electric division in Missouri, or the GMO-L&P division in Missouri. There was also a corporate division. Some costs in the corporate division, for example accounting, were allocated to the operating utility divisions. Some costs were not allocated to the utility divisions.

Q. What entity originally held the long-term toll?

A. Crossroads was originally constructed for and held by Aquila Merchant Services.

Q. What entity now holds the long-term toll?

A. In one step to simplify the ownership structure, the toll was transferred to Aquila, Inc. from Aquila Merchant Services on March 31, 2007. At the time of this transfer, Crossroads was held in the corporate division and was not transferred to a utility division. The toll was then bid into the RFP issued by the Missouri electric utility division. As an additional step subsequent to the RFP response, a purchase option agreement was obtained from the City of Clarksdale. The option agreement allows the units to be purchased at anytime for $1,000. However, if exercised, the favorable property tax treatment will be discontinued. Certain existing agreements continue after the option is exercised, but may be discontinued for a buy-out payment.

Q. When will Crossroads be transferred to the Missouri utility division?

A. We expect that Crossroads will be transferred to GMO-MPS prior to the true-up date in the rate case.

Q. How does the power get from Crossroads to Missouri?

A. In order to secure long-term annual transmission, GMO made a 20-year transmission request to Entergy and a 20-year transmission request to SPP. These requests were made in early 2007. Both requests need to be confirmed in order to establish long-term transmission from Crossroads to Missouri.

Q. What is the status of the Entergy transmission study?

A. Entergy revised its study on August 8, 2008 and expects transmission service to be available by December 1, 2011 at its point-to-point tariff rate. This is the same rate assumed in the economic analysis of Crossroads. Entergy has indicated that several options may be available to provide transmission as of an earlier date. These options are being evaluated.

Q. What is the status of the SPP transmission study?

A. SPP has not completed its transmission study. GMO submitted its transmission request in January 2007. SPP has multiple studies in its queue. Each study in the queue must be finalized before the next study may be finalized. There is one study in the queue ahead of the January 2007 study that contains Crossroads. SPP updates all studies in the queue whenever there are significant changes in the preceding studies. SPP has revised the study that includes Crossroads 10 times. All revisions have indicated that transmission will be available at SPP's point-to-point tariff rate. This is the same rate assumed in the economic analysis of Crossroads. The July 14, 2008 revision indicates that transmission is available beginning October 1, 2009, with appropriate redispatch agreements. Without redispatch agreements, transmission is available beginning June 1, 2013. Eight of the prior nine studies indicated transmission would be available on either June 1, 2011 or June 1, 2010 without redispatch agreements.

Q. How will power get from Crossroads to Missouri until the long-term transmission path is confirmed?

A. For the past several years, GMO has been successful in obtaining monthly firm transmission capacity for the summer months (June, July, August, and September) from the Entergy system to GMO's system. Since Crossroads is comprised of peaking plants, it is needed for meeting the summer peak. For 2008, GMO has transmission for the summer months. Because of the transmission market design, monthly transmission can only be purchased less than 18 months in advance. GMO has acquired part of the transmission for the summer of 2009 and is working to increase that to 300 MW. GMO intends to continue obtaining monthly firm transmission until the long-term annual transmission requests are accepted and confirmed.

Q. How has Crossroads been reflected in this case?

A. Crossroads has been included in rate base at the depreciated net book value, which is approximately the price at which it was bid into the RFP. Operating costs, including the cost of 2008 summer transmission, have been included based on current costs. These costs are reflected in Schedule RAK-4 included in the testimony of witness Ronald Klote.

VII. PLANNING REQUIREMENTS FOR FUEL ADJUSTMENT CLAUSE

Q. What is the purpose of this section of your testimony?

A. The purpose is to describe how GMO has complied with certain requirements of the Commission's rules regarding a fuel adjustment clause.

Q. Does GMO comply with rule 4 CSR 240-3.161(3)(R)?

A. Yes. GMO has a long-term resource planning process. The electric utility resource plan produced by this process is also sometimes known as an integrated resource plan ("IRP"). An objective of this planning process is to identify the least cost and preferred resource plans while maintaining adequate capacity reserves for reliability.

Q. Does GMO comply with rule 4 CSR 240-3.161(3)(P)?

A. Yes. GMO's IRP considered demand-side resources as well as supply-side resources.

Q. Why are the resources in the IRP appropriate for dispatch?

A. As stated above, one objective of the planning process is to identify the least cost resources. These resources are dispatched in the IRP on an economic basis. This means the least cost resources are dispatched before higher cost resources.

Q. When was GMO's last IRP prepared?

A. GMO prepared its last IRP report in February 2007.

Q. When will the next IRP be prepared?

A. The next IRP is scheduled for completion in August 2009.

Q. Did the February 2007 IRP consider both demand-side and supply-side resources?

A. Yes. An outside consultant was engaged to recommend demand-side resource programs. The February 2007 IRP recommended pursuing the cost effective programs. These were considered in the IRP plan.

Q. What planning horizon was used in the February 2007 IRP?

A. The February 2007 IRP evaluated resources over a 20-year horizon.

Q. How do the IRP resources differ from the dispatch model resources?

A. Although both the IRP and the dispatch model used for the rate case are production cost models, they differ in their purposes. The IRP model is based on the MIDAS Gold software. GMO uses MIDAS for its long range planning. The dispatch model used for the rate case uses the RealTime model. This is also the model historically used by Staff. GMO uses the RealTime model for short-term planning such as rate cases and budgeting. The resources used in RealTime typically reflect currently existing supply-side resources. Occasionally, placeholder supply-side resources are also modeled. GMO uses MIDAS to model long-term generic or candidate resources including demand-side resources.

Q. What are the expected supply-side and demand-side resource characteristics for years 2008-2012 shown in the February 2007 IRP?

A. The February 2007 IRP identified the resources and characteristics shown on Schedule HDR-6 (HC).

Q. Do the demand-side and supply-side resources identified in the IRP remain static over time?

A. No. As implementation schedules change, new candidate resources are identified, and as other conditions change, GMO may evaluate these changes and deviate from the published IRP plan.

Q. Does this conclude your direct testimony?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Application of Aquila, Inc. dba)
KCP&L Greater Missouri Operations Company to) Case No. ER-2009-____
Modify Its Electric Tariffs to Effectuate a Rate Increase)

AFFIDAVIT OF H. DAVIS ROONEY

STATE OF MISSOURI)
) ss
COUNTY OF JACKSON)

H. Davis Rooney, being first duly sworn on his oath, states:

1. My name is H. Davis Rooney. I work in Kansas City, Missouri, and I am employed by Kansas City Power & Light Company as Manager, CEP Business Operations.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Aquila, Inc. dba KCP&L Greater Missouri Operations Company consisting of thirty-one (31) pages, having been prepared in written form for introduction into evidence in the above-captioned docket.

3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.

H. Davis Rooney
H. Davis Rooney

Subscribed and sworn before me this 5th day of ~~August~~ September 2008.

Nicole A. Wehry
Notary Public

My commission expires: Feb 4, 2011

" NOTARY SEAL "
Nicole A. Wehry, Notary Public
Jackson County, State of Missouri
My Commission Expires 2/4/2011
Commission Number 07391200

SCHEDULES HDR-1 THROUGH HDR-6

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