MEMORANDUM

TO: Missouri Public Service Commission Official Case File
Case No. GR-2006-0297, Empire/Aquila-MPS/L&P

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/s/ David M. Sommerer 12/17/07 — Project Coordinator
/s/ Lera L. Shemwell 12/17/2007 — General Counsel's Office

SUBJECT: Staff Recommendation in Empire/Aquila-MPS/L&P
2005/2006 Actual Cost Adjustment Filing.

DATE: December 17, 2007

In 2006, Empire District Gas Company (EDG) purchased Aquila, Inc.'s gas operations. On April 18, 2006, the Commission issued an Order in Case No. GO-2006-0205, with an effective date of May 1, 2006, in which EDG was granted a certificate of convenience and necessity to provide natural gas service as a gas corporation and public utility, subject to the jurisdiction of the Commission, in the service areas then served by Aquila, Inc. On June 1, 2006, EDG announced it had completed its purchase of the Missouri natural gas operations of Aquila, Inc.

The Procurement Analysis Department (Staff) has reviewed the 2005/2006 Actual Cost Adjustment (ACA) filing of Empire/Aquila, Inc. Empire/Aquila filed their PGA factors in Case No. GR-2006-0297. The 2005/2006 ACA filing was made on November 3, 2004, and was docketed as Case No. GR-2006-0297. Staff's review consisted of an analysis of the billed revenues and actual gas costs for the period of September 2005 to August 2006. Staff performed an examination of the Company's gas purchasing practices to evaluate the prudence of the Company's purchasing decisions. The Company's recovery balances include the ACA, Take-or-Pay (TOP), Transition Cost (TC), and Refund balances. There was no activity involving TOP and TC costs. Staff conducted a reliability analysis to determine if the Company had reasonable plans to meet its customers needs on the coldest days. Staff's analysis included a review of estimated peak day requirements and the capacity levels needed to meet those requirements. Staff also conducted a review of the Company's hedging policy for the 2005/2006 ACA.

Aquila historically separated its gas operations into a Southern system, a Northern system, and an L&P system. Subsequent to this ACA filing, EDG has renamed each of its three systems. The names of these systems were changed to South, North, and Northwest (formerly L&P). EDG references for the remainder of this memorandum will be stated as South, North, and Northwest systems. The systems are referenced as Southern, Northern, and L&P for Aquila's ownership. The larger communities served on the South system include Marshall, Higginsville, Lexington and Richmond in west-central Missouri and Platte City near Kansas City. On the North system the larger communities include Chillicothe, Marceline and Trenton in north-central Missouri. The Northwest system includes Maryville which is located in the northwest part of the state. Southern Star Central Pipeline (SSCP), formerly Williams Gas Pipeline Central, serves customers on the South system. Panhandle Eastern Pipeline Company (PEPL) serves customers on the North system while ANR Pipeline (ANR) serves customers on the Northwest system. For the 2005/2006 ACA review period, there were an average of 31,215 sales customers on the South system, 9,923 on the North system, and 5,927 on the Northwest system.

STORAGE

Consistent with its approach in prior ACA cases, Aquila included storage injection costs (included on the ANR invoices as ANRPL storage facilities costs) in its storage calculations during the months of September 2005 to January 2006. These storage injection costs were omitted during the months of April 2006 to August 2006. Staff believes that Empire should include all storage injection (commodity) costs in its storage inventory balances for all systems beginning with the 2006-2007 ACA period. Since the storage injection costs omitted in this case were small, Staff made no adjustment. In addition, Staff proposes no storage adjustments for the North and South systems.

INTERRUPTIBLE ACA BALANCES

At the close of 2006, EDG reduced all Interruptible ACA balances to zero; because, for the past several years, there were no Interruptible customers on the Northern and Southern systems. EDG's North and South system Interruptible ACA balances will be zero as reflected on the November 2007 PGA filing. The Interruptible ACA balances are included in a Goodwill account on EDG's books. Staff does not oppose EDG zeroing out of the Interruptible ACA account on this issue; however, Staff does reserve the right to address future ratemaking treatment or address this issue if circumstances change for the Interruptible class.

HEDGING ALLOCATION

Aquila participated in financial hedging activities during the 2005-2006 winter season (March – November) that included Put and Call options. Aquila allocated all premiums and settlements (gains/losses) resulting from these transactions to the Southern system. Staff's review determined that some of these option transactions, which occurred during the months of December of 2005, January of 2006, and February of 2006, were conducted for the Northern system and L&P system as well as for the Southern system. As a result, option gains/losses and premiums resulting from these transactions should be re-allocated from the Southern system to the Northern and L&P systems. The total hedging losses (including premiums) were $1,133,085. Staff believes that the South system hedging losses should be reduced by $203,450 ($1,133,085 - $929,635). These costs should then be re-allocated to the North system which would increase their costs by $83,970 and to the Northwest system which would increase their costs by $119,480. In its response to Data Request (DR) No. 116, Aquila acknowledges that these hedging costs should be re-allocated from the South system to the North and Northwest systems.

HEDGING

During the heating season under review, weather was mild overall so actual delivered volumes to customers were less than expected in normal weather. The Company has individual gas supply portfolios for each of its three systems. Staff's comments are provided for each service area.

For the Southern System, Aquila used storage to hedge 23% of the normal requirements. Additionally, Aquila had financial hedges representing 58% of normal volumes. Combined storage and financial hedges, which included options and swaps, covered 81% of normal volumes. For the Northern and L&P systems, Aquila depended mostly on storage for its hedging strategies. For the Northern system, Aquila hedged about 72% of the normal requirements by using storage; while about 68% of the L&P system's normal requirements came from storage. Additionally, both the Northern and L&P systems utilized financial hedges representing 15 and 20%, respectively, of normal volumes. Combined storage and financial hedges represent 88% for the Northern system and also for the L&P system. The financial hedges included options.

Aquila's overall hedging coverage was appropriate for the 2005/2006 ACA. Nevertheless, EDG should also consider longer term horizons in its hedging strategy, given the increased impact of natural gas price summer volatility. Staff recommends EDG continue to keep abreast of market developments to make the best gas procurement decisions, and that it broaden its hedging evaluation practice to examine hedging opportunities several years in the future. EDG should give careful consideration to the amount of real price protection that is in place.

RELIABILITY ANALYSIS AND GAS SUPPLY PLANNING

As a gas corporation providing natural gas service to Missouri customers, Aquila was, and EDG is, responsible for conducting reasonable long-range supply planning to meet its customer needs. EDG must make prudent decisions based on that planning. One purpose of the ACA process is to examine the reliability of the Local Distribution Company's (LDC) gas supply, transportation, and storage capabilities. For this analysis, Staff reviews the LDCs' plans and decisions regarding estimated peak-day requirements and the LDC's pipeline capacity levels to meet those requirements, peak day reserve margin and the rationale for this reserve margin, and natural gas supply plans for various weather conditions.

Staff has the following comments and concerns regarding the reliability analysis:

1. Company Documentation

   For this ACA Review, Aquila did not provide complete or consistent documentation supporting its analyses.

a. For all systems, the Company must retain documentation supporting the analyses of the aforementioned for Staff review in the ACA review so that Staff has the data, analyses, and any other documentation considered by the Company when it was making decisions for the ACA period. The files must be maintained in a fully executable format.

b. In order for the Company to make plans to supply its customers, it must have a reasonable estimate of what its customers use in normal weather. For the 2005/2006 ACA, Aquila provided Staff three (3) different estimates of its normal requirements for the Southern System, as shown in the following table, with differences of 7.2% to 16.4%. Variation in estimated usage for different heating degree days is expected (normal weather, warm weather, cold weather scenarios) and can be estimated by the Company, but why the Company would have significant variation in the estimated usage for normal weather is not explained.

For the next ACA review, the 2006/2007 ACA, EDG should provide documentation supporting its monthly usage estimates for supply planning, including data, analyses, and findings/conclusions. EDG must document the methodology used to estimate usage in winter months (November through March) and usage in the summer months (April through October).

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c. For the next ACA review, the 2006/2007 ACA, EDG should provide documentation supporting its growth estimates used in its peak day estimates.

2. Aquila Methodology for Estimating Peak Day

a. As noted in the 2004/2005 ACA, GR-2005-0271, Aquila began considering data from two winters in its regression analysis beginning with the gas supply planning for the 2006/2007 winter. In using two years worth of data, Aquila must provide Staff the data it used to support the decisions it made prior to the ACA period being reviewed. In a prudence analysis Staff reviews the decisions the Company makes based on what the Company knew at the time it made its decisions, not after-the-fact justification. Thus, for the 2005/2006 review period, the Company's analysis, which includes data from 2005/2006, is unacceptable because this would have been an after-the-fact analysis and is not what Aquila actually used for planning purposes for the review period.

b. In its response to Staff for Peak Day system requirements, Aquila provided a peak day estimate that was based on summer-load usages in August of 2000, 2001, and 2002. Thus, Aquila is calculating the 2005/2006 peak day based on data going back to the year 2000. Not only is the data archaic, but as noted in Staff recommendation in the 2004/2005 ACA, GR-2005-0271, any estimate using a heatload factor from one set of data, and a baseload from another set of data will result in skewed estimates of usage. If Aquila is concerned that the smaller baseload factor from the analysis of winter data does not properly reflect cold day usage, there are other, more reasonable, ways of looking at the data to consider reasonable estimates of usage for cold days.

3. Comparison of Actual Cold Day Usage to Estimated Usage

In Aquila's review of customers' actual usage on cold days compared to that estimated by its model, there was as much as 29% variation from actual loads which, Aquila simply stated was within reasonable levels without any supporting reasoning. The 29% variation is significant enough that it should have caused Aquila to question whether it has the correct actual usage level or whether its model should be re-evaluated.

4. Supply Planning for Normal Weather, Warm Weather, and Cold Weather

Because the weather is not always normal, Aquila has provided a 25% warmer/colder plan for its Supply Planning. However, when considering thirty years of heating-degree-day data, there are months where 25% deviation from normal will not accommodate warmest or coolest extremes. Staff recommends that EDG consider both warm and cold extremes in planning its supply portfolio.

Aquila's supply plan does not detail how storage and winter supply will be varied in response to a month that has 25% warmer or colder weather. In other words, Aquila has estimated usage for 25% colder or warmer than normal, but provides no detailed plan on how it will adjust its supply to accommodate that plan.

Because Aquila is basing its gas purchases on normal weather, Staff is concerned that if the early winter months are extremely warm or the entire winter season is warmer than normal, storage balances will end up at higher levels than planned and/or Aquila will have to sell gas if storage is too full. For this ACA Review period, <u>both</u> instances occurred on the Southern system – storage at the end of the winter season was 43% full compared to the Company's normal plan of 5% in storage and Aquila had to sell gas supplies at less than it's purchase price. Staff recommends that EDG evaluate its supply plan for both normal and extreme weather situations. For the next ACA review, the 2006/2007 ACA, EDG should provide the details of its supply plan to address the above comments. If EDG has no such plans for the 2006/2007 ACA period, then Staff recommends that EDG submit those plans for the 2007/2008 ACA period and that those plans be submitted within 30 days.

5. Recommended Adjustment for Math Error in Aquila's Setup1105.xls Spreadsheet

Aquila had to sell gas supplies at less than the original purchase price in November 2005, January 2006, and March 2006. In response to Staff's question concerning the reasoning for the excess purchase Aquila admitted that it was a result of an error in a spreadsheet formula calculating gas supplies for the month. The Company failed to include one of its gas supply packages when it added its gas supply contracts together to determine what it had purchased for the winter. This error in the spreadsheet was on a term baseload gas supply package that encompassed the entire winter season (November 2005 through March 2006). Aquila states that this term purchase, a purchase that varied from 93,324 to 101,990 Dth per month for these winter months, was not included in the total term purchases in its spreadsheet, where the term purchases are subtracted from the monthly requirement to get the Net Missouri Requirement. Thus, Aquila's planning spreadsheet for meeting its Missouri requirement did not accurately reflect the volumes of gas that it had purchased. The error, although found in the month of November, impacted the subsequent months, resulting in Aquila contracting for too much gas for its normal winter plan.

Staff recommends that "safeguards" or "checks" are put in place to ensure that these types of errors cannot occur for future supply purchases. Staff is recommending the following adjustment for Supply Planning for this ACA Review period due to this error in Aquila's monthly supply planning requirements:

Southern System Adjustment						
Month	Nov	Dec	Jan	Feb	Mar	**Total**
Adjusted Qty.	62,632	0	97,898	93,324	101,990	**355,844**
Net Gain (Loss)	($189,329)	0	($133,726)	$2,350	($1,951)	($322,656)

Staff's adjustment considers that Aquila sold the excess gas at a gain in the month of February 2006. Staff's adjustment has been reduced for November, in consideration of the Southern Star Central Gas Pipeline Critical Notice issued for November 8th through the 11th for Shippers to flow their nominated and confirmed levels of gas. Aquila states that there would be benefit to customers on the Northern and L&P systems in purchasing this gas from the Southern system due to a comparison of the daily priced indexed gas versus the first of month index prices. However, Staff's review of Aquila's supply plans for these systems shows that Aquila already purchased the natural gas required to meet its normal requirements for the 2005/2006 winter months for both the Northern and L&P systems and thus, Aquila would not have pursued additional gas supply to meet its normal requirements. Additionally, because weather had been warm when these sales were made and Aquila's storage balances were ahead of the planned storage balances for both systems and because the pipelines for the Northern and L&P systems have restrictions on the volume of gas that can remain in storage at the end of the winter season, Aquila did not show that the circumstances warranted purchasing supplies beyond what it had already purchased for its normal supply plans.

Staff recommends an adjustment in the amount of $322,656 for the 31,215 Southern system customers (average cost of $10.34 per customer).

SUMMARY

The Staff has addressed the following concerns regarding Case No. GR-2006-0297 for Aquila-MPS/L&P:

1. EDG should include all storage injection (commodity) costs in its storage inventory balances for the North, South and Northwest (L&P) systems. Changes in Aquila's L&P storage injection costs were small, so no adjustment was made.

2. Aquila's filing reflects hedging losses that were fully allocated to the Southern system. Staff recommends that the Southern system hedging losses be reduced by $203,450 ($1,133,085 - $929,635). These costs should then be re-allocated to the Northern system increasing its costs by $83,970 and likewise to the L&P (Northwest) system increasing its costs by $119,480.

3 Interruptible ACA balances on EDG's North and South systems have been reduced to zero because there were no Interruptible customers on Aquila's Northern and Southern systems for several years. Staff reserves the right to address any ratemaking treatment of this issue in future reviews or if circumstances change for the Interruptible class.

4. Details of Aquila's hedging activity are described in the "Hedging" section of this recommendation. To reduce natural gas price upward volatility for its customers, Staff recommends that EDG should continue to pursue other hedging tools available to it, in particular for its South system, and consider longer term horizons. Overall, Aquila's hedging strategy appears to be appropriate for the 2005/2006 ACA period.

5. There is a $322,656 adjustment related to the Aquila MPS reliability analyses. Comments are documented in the Reliability Analysis and Gas Supply Planning section of this recommendation.

RECOMMENDATIONS

The Staff recommends that the Commission issue an order requiring EDG to:

1. Adjust the balances in its 2005/2006 ACA filing to reflect the ending (over)/under recovery balances for the ACA, TOP, TC, and Refund accounts per the following table:

Description (+) Under-recovery (-) Over-recovery	**8-31-06 Ending Balances Per Filing**	**Commission Approved Adjustments Prior to 2005-2006 ACA**	**Staff Adjustments For 2005-2006 ACA**	**Staff Recommended 8-31-06 Ending Balances**
South System: Firm ACA	$2,318,683	($39,727) (A)	($203,450) (B) ($322,656) (C)	$1,752,850
Interruptible ACA	($9,563)	$0	$9,563 (D)	$0
Take-or-Pay (TOP)	$0	$0		$0
Transition Cost (TC)	$0	$0		$0
Refund	($75,518)	$0		($75,518)
North System: Firm ACA	$105,488	($9,245) (A)	$83,970 (B)	$180,213
Interruptible ACA	$104,100	$0	($104,100) (D)	$0
Take-or-Pay (TOP)	$0	$0		$0
Transition Cost (TC)	$0	$0		$0
Refund	($12,346)	$0		($12,346)
Northwest System: Firm ACA	($115,450)	($42,586) (A)	$119,480 (B)	($38,556)
Interruptible ACA	$0	$0		$0
Take-or-Pay (TOP)	$0	$0		$0
Transition Cost (TC)	($2,586)	$0		($2,586)
Refund	$0	$0		$0

A) 8-31-05 beginning balance adjusted to prior year ending balances (See order in GR-2005-0271, effective July 6, 2007).
B) Hedging re-allocation from South system to North and Northwest systems.
C) Reliability Analysis and Gas Planning.
D) All Interruptible ACA balances were eliminated at the close of 2006. This is because there were no Interruptible customers on the Northern and Southern system for several years. EDG's North and South system Interruptible ACA balances are reflected on the November 2007 PGA filing as a zero balance.

2. Respond to the comments/concerns in the Reliability Analysis and Gas Supply Planning section of this memorandum within 30 days.

3. Respond to recommendations included herein within 30 days.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Aquila Network's Purchased Gas Adjustment Tariff Filing	))	Case No. GR-2006-0297

AFFIDAVIT OF DAVID M. SOMMERER

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

David M. Sommerer, being of lawful age, on his oath states: that as a Utility Regulatory Manager in the Procurement Analysis Department of the Utility Services Division, he has participated in the preparation of the foregoing report, consisting of 8 pages to be presented in the above case; that he has verified that the following Staff Memorandum was prepared by himself and Staff of the Commission that have knowledge of the matters set forth as described below; that he has verified with each of the Staff members listed below that the matters set forth in the Staff Memorandum are true and correct to the best of his knowledge and belief,

Phil S. Lock:	Billed Revenues and Actual Gas Costs
Derick Miles	Reliability Analysis and Gas Supply Planning
Lesa Jenkins:	Reliability Analysis and Gas Supply Planning
Kwang Y. Choe:	Hedging

that he has knowledge of the matters set forth in such report and that such matters are true to the best of his knowledge and belief.

David M. Sommerer

David M. Sommerer

Subscribed and sworn to before me this 17th day of December 2007.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
County of Cole
My Commission Exp. 07/01/2008

D Suzie Mankin

Notary Public