Exhibit No.:	
Issue:	Prudence of Hedging Program Operation
Witness:	Wm. Edward Blunk
Type of Exhibit:	Additional Direct Testimony
Sponsoring Party:	KCP&L Greater Missouri Operations Company
Cases No.:	HC-2012-0259 and HC-2010-0235
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MISSOURI PUBLIC SERVICE COMMISSION

CASES NO.: HC-2012-0259 and HC-2010-0235

ADDITIONAL REBUTTAL TESTIMONY

OF

WM. EDWARD BLUNK

ON BEHALF OF

KCP&L GREATER MISSOURI OPERATIONS COMPANY

Kansas City, Missouri
June 2013

Certain Schedules Attached To This Testimony Designated "(HC)"
Have Been Removed
Pursuant To 4 CSR 240-2.135.

ADDITIONAL REBUTTAL TESTIMONY

OF

WM. EDWARD BLUNK

Cases No. HC-2012-0259 and HC-2010-0235

Q: Please state your name and business address.

A: My name is Wm. Edward Blunk. My business address is 1200 Main Street, Kansas City, Missouri 64105.

Q: Are you the same Wm. Edward Blunk who prefiled Direct and Rebuttal Testimony in this matter on behalf of KCP&L Greater Missouri Operations Company ("GMO" or the "Company") in Cases No. HC-2012-0259 and HC-2010-0235?

A: Yes.

Q: On whose behalf are you testifying?

A: I am testifying on behalf of KCP&L Greater Missouri Operations Company.

Q: What is the purpose of your Additional Rebuttal Testimony?

A: The primary purpose of my testimony is to rebut the Supplemental Direct Testimony (May 15, 2013) of Donald E. Johnstone on behalf of Ag Processing, Inc. ("AGP") at pages 9-11 that the costs of the natural gas hedging program should be zero. In responding to Mr. Johnstone's testimony, I apply the findings from the Commission's September 28, 2011 Report and Order in HC-2010-0235 ("Report and Order") to actual data. As the Commission noted at pages 19-20 of that Order,

> The record is not clear about how much net hedging costs Aquila would have incurred if it had properly forecast the amount of natural gas it needed to purchase to supply steam to its customers. Perhaps it would have incurred some costs even if it has been completely accurate in its forecasting. **Neither party presented any evidence that would allow the Commission to make that determination.** [emphasis added]

In this testimony, I identify the hedging program costs that were actually charged to GMO's steam customers for the 2006, 2007, and 2009 review periods. Then, I identify the hedging program costs that would have been charged to GMO's steam customers for those review periods had the forecast been completely accurate. In other words, I present the evidence that the Commission determined was missing in its Report and Order.

In reconciling my calculations with the amount Mr. Johnstone claimed for 2009 I discovered that GMO's 2009 steam hedge costs were understated. After further investigation we determined that the steam hedge costs for 2009 and 2010 were understated and that the understated amounts had been included in the GMO electric fuel cost account. I discuss the misclassification that caused GMO to undercharge the steam customers in this testimony. I also identify the hedge program costs that should have been charged to GMO's steam customers.

Finally, I show that the alleged imprudence does not qualify for a rate adjustment because neither the actual amounts charged to GMO's steam customers nor the corrected amounts exceed 10% of the total fuel costs incurred as required by the Quarterly Cost Adjustment ("QCA") Rider. This is the threshold that must be reached for a rate adjustment to occur.

Q: How is your testimony organized?

A: I. The Issue Under Review

II. AGP Has Overstated Its Claims

III. Hedge Costs If Forecasts Had Been Perfect

IV. The QCA Rider Does Not Permit AGP's Proposed Rate Adjustment

V. Customers Were Benefited And Not Harmed

VI. Puts as Part of GMO's Hedge Strategy

VII. How GMO's Hedges Worked

VIII. Summary

I. <u>THE ISSUE UNDER REVIEW</u>

Q: In your opinion, what is the fundamental question presented in this case?

A: As explained in detail by Company witness Dr. Nada Sanders, virtually all forecasts include errors. Nevertheless, it appears from Mr. Johnstone's Supplemental Direct Testimony (May 15, 2013), as well as from the Report and Order, that the fundamental question presented in this case is: What are the costs that exceed the costs that would have been incurred if forecasts had been completely accurate for the years in question?

In other words, if the Commission determines that GMO was obligated to be completely accurate in forecasting the natural gas needed to produce steam in 2006, 2007, and 2009 (which GMO believes is not the appropriate standard), what was the cost of the hedging program when the costs associated with perfect hedges are removed from the calculation?

Q: What led you to believe that this is the fundamental question in this case?

A: At page 4 of his Supplemental Direct Testimony (May 15, 2013) Mr. Johnstone asserts that it is the prudence of Aquila's administration of the steam hedge program that is being questioned.

> Q HAS THE COMMISSION FOUND FAULT WITH EITHER THEORY OR CONCEPT OF WHAT MR. CLEMENS DESCRIBED AS THE STEAM GAS HEDGING PROGRAM?
>
> A No. Not in 2006 and not in its final Report and Order in HC-2010-0235. It is the prudence of Aquila's administration of the program that has always been questioned.

Likewise, at page 11 of the Report and Order the Commission found: "Rather, the problem with Aquila's hedging program was with its implementation, not its design." Thus, the only question that AGP asserts is before the Commission is whether GMO operated or administered its hedging program prudently. This is consistent with the Commission's decision and the fact that its findings on the adoption and design of the hedging program were not disputed or appealed.

Q: Did the Commission identify any specific issues with GMO's operation of the hedging program?

A: Yes. At page 19 of the Report and Order the Commission stated that the issue with regard to the operation of the hedging program is that:

> Aquila hedged the purchase price of far more natural gas than it actually needed to use to produce steam to serve its customers.

Q: Did the Commission suggest in its Report and Order that any of the hedge costs might have been prudent?

A: Yes. At pages 19-20 of the Report and Order the Commission stated:

> Perhaps [GMO] would have incurred some costs even if it [had] been completely accurate in its forecasting. Neither party presented any evidence that would allow the Commission to make that determination.

Q: Would GMO have incurred any hedging costs if it had been completely accurate in its forecasting?

A: Yes. GMO would have incurred hedging costs even with a perfectly accurate forecast of its natural gas requirements. It would have incurred $414,809 in 2006, $1,520,593 in 2007, and $1,920,925 in 2009 of hedging costs with a perfectly accurate forecast of natural gas requirements.

II. AGP HAS OVERSTATED ITS CLAIMS

Q: Mr. Johnstone has identified hedging costs of $931,968 for 2006 and $1,953,488 for 2007 at page 30 of his November 2010 Rebuttal Testimony in HC-2010-0235, and hedging costs of $1,244,510 for 2009 at page 10 of his May 15, 2013 Supplemental Direct Testimony. Are those the amounts AGP was charged for hedge program costs?

A: No. Not only are those not the amounts AGP was charged, but those amounts were not charged to any or even all of GMO's steam customers.

Q: What do those amounts identified by Mr. Johnstone reflect?

A: The 2006 and 2007 amounts are the hedge costs included in the cost of fuel as modified by the Alignment Mechanism but not the Coal Performance Standard. Assuming Mr. Johnstone made a minor typographical error and meant $1,224,510 (not "$1,244,510"), the 2009 value reflects the total hedge costs included in the total cost of fuel incurred before the application of the Alignment Mechanism and the Coal Performance Standard.

Q: What are the Alignment Mechansim and the Coal Performance Standard?

A: These two concepts are defined in the QCA Tariff Rider and apply to the calculation of quarterly costs, including natural gas hedge costs.

Q: What is the Alignment Mechanism?

A: The Alignment Mechanism is a sharing mechanism by which only a specified portion of the actual fuel costs are included in the QCA rate adjustment. The portion included in the QCA rate adjustments through June 30, 2009 was 80%. It was 85% thereafter. The application of the Alignment Mechanism meant that GMO absorbed 20% of any increase in costs through June 30, 2009 and 15% thereafter. The QCA Rider effective March 6, 2006 is attached as Schedule WEB-14. The QCA Rider effective December 1, 2009 is attached as Schedule WEB-15.

Q: What is the Coal Performance Standard?

A: The second way the QCA modifies the costs charged or credited to customers is through the Coal Performance Standard. Paragraph 2 of the QCA Rider Details describes the Coal Performance Standard. In effect, the Coal Performance Standard is a sharing mechanism driven by plant performance. It replaces the cost of natural gas (including hedge costs) with the cost of coal "if coal generation falls below any defined minimum amount."

Q: How much did the Coal Performance Standard affect the hedge costs collected through the QCA?

A: The Coal Performance Standard removed $270,053 of the total hedge costs for 2006 and $404,164 for 2007 from the QCA. It did not affect 2009.

Q: Was AGP aware of the Coal Performance Standard adjustment?

A: Yes. Mr. Johnstone discusses how the Coal Performance Standard limited the fuel costs charged to the QCA customers at page 10 of his September 2010 Direct Testimony.

Q: Did Mr. Johnstone modify any of his claims regarding the amount of hedging costs collected from or credited to customers to reflect the impact of the Coal Performance Standard?

A: No. Mr. Johnstone did not reduce any of AGP's claimed hedging costs to reflect the Coal Performance Standard limitations on the hedge costs actually charged or credited to the QCA customers.

Q: Did Mr. Johnstone modify any of AGP's claims regarding the amount of hedging costs collected from or credited to customers to reflect the actual amount of hedging program costs charged to AGP?

A: No. Mr. Johnstone only testified as to total alleged hedging program costs. He provides no evidence as to AGP's alleged losses due to the program.

III. <u>HEDGE COSTS IF FORECASTS HAD BEEN PERFECT</u>

Q: Can you determine the hedging costs that would have been charged or credited to GMO's steam customers assuming a perfect forecast of natural gas requirements?

A: Yes.

Q: How did you calculate the hedging costs that would have been incurred assuming a perfect forecast?

A: My calculation is illustrated in Schedule WEB-16. I started with the total hedge adjustment shown in Column A. These are the amounts labled as "Hedge Costs" in the QCA workpapers filed every quarter in GMO's applications to change the QCA rate. I used the QCA model reflected in those QCA filings to identify how much of the total hedge costs were reduced and absorbed (i.e., not charged to customers) by the Coal Performance Standard. Those Coal Performance Standard modifications are shown in Column B. In Column C I subtracted the Coal Performance Standard modification amounts from the total hedge adjustment (cost) to calculate the amount of hedge adjustment before applying the Alignment Mechanism. Those values were then multiplied by the Alignment Mechanisms from the QCA Rider shown in Column D to identify the total hedge adjustment charged to the QCA Customers shown in Column E.

I then divided the actual natural gas volume in Column G by the budgeted natural gas volume in Column F to determine the actual volume as a percentage of the budgeted volume. Those percentages are shown in Column H. I multiplied those percentages by the hedge adjustment charged to QCA customers shown in Column E to determine what the QCA customers were charged or credited, assuming the hedge volumes were perfectly forecast. Those amounts that were charged to QCA customers based on completely accurate volumes are shown in Column I.

Q: Column J of Schedule WEB-16 shows an amount you labeled "Imperfect Hedge Cost Charged to QCA Customers." What does that column represent?

A: The "Imperfect Hedge Cost Charged to QCA Customers" shown in Column J of Schedule WEB-16 is the amount that is being questioned in this case. Given that the Commission has already found that GMO was prudent in adopting a hedging program, that the One-Third Strategy was prudently designed, and presumably that the hedge costs associated with a completely accurate forecast would have been prudent, what remains is the "Imperfect Hedge Cost Charged to QCA Customers" shown in Column J. These are the hedging program costs charged to the steam customers that exceed those costs that would have been incurred if the forecasts had been completely accurate for the years in question.

Q: Are the amounts in Column J of Schedule WEB-16 imprudent?

A: No. GMO witness Dr. Nada Sanders explains in detail that forecasts which rely upon customer information are generally prudent, and that forecasting errors do not mean that the forecasting was imprudent. Nevertheless, should the Commission find that GMO was subject to a standard of 100% forecasting accuracy in its operation of the hedging program, the amounts in Column J are the maximum amounts that could be viewed as imprudent, given the Commission's prior findings in its Report and Order.

To assume those amounts are imprudent one must use a prudence standard of perfection because the amounts in Column J represent the costs that exceeded the cost of perfect forecasts, as determined with the benefit of hindsight. I understand that the Commission's standard for prudence is not perfection, but reasonableness. Given that the Commission's standard for prudence is reasonableness, if any of the hedge costs are found to be imprudent, such amounts cannot exceed the amounts in Column J.

Q: Did you determine how much of the "Imperfect Hedge Cost" was charged to each customer?

A: I apportioned those hedge costs by customer based on the monthly sales to each customer. HIGHLY CONFIDENTIAL Schedule WEB-17 is an extension of Schedule WEB-16. It starts with the "Imperfect Hedge Cost Charged to QCA Customers" shown in Column J of Schedule WEB-16 and shows how I apportioned those costs by customer.

Q: Schedule WEB-16 shows a total hedge cost substantially different than the amounts claimed by Mr. Johnstone. Why are these numbers different than the amounts claimed by Mr. Johnstone?

A: There are two reasons why the amounts are different. First, Mr. Johnstone misapplies the QCA Rider's cost modification provisions, which I discussed earlier. Second, certain hedging program costs were misclassified in 2009.

Q: What was that misclassification?

A: In preparing my testimony I discovered that $1,391,820 of the hedge costs associated with the steam hedging program for 2009 and $62,370 for 2010 were not charged to the cost of steam generation as they should have been.

Q: Please describe that misclassification.

A: In February 2009 the broker the Company had been using for natural gas derivative transactions advised that it was dropping the Company's accounts. Starting on February 4, 2009, the positions were closed. The Company simultaneously opened equal positions with its new broker. Since the positions were closed and reopened at essentially the same price, there was no impact on the value of the hedges. The misclassification occurred when those transactions were recorded in Riskworks, Aquila's legacy system of record for such transactions. In that process the records of most of the open steam hedge positions were inadvertently reclassified as hedges for the Company's MPS electric operations. Because those hedges were misclassifed as MPS electric positions, they were included in the MPS electric customers' Fuel Adjustment Clause and not included in the Company's L&P steam customers' QCA.

Q: What time period does this misclassification affect?

A: The misclassifications affected hedges between March 2009 and November 2010. They did not affect hedges before March 2009 or after November 2010.

Q: How is GMO going to correct this misclassification?

A: The Company plans to correct the misclassification in upcoming FAC and QCA filings.

Q: Is the Staff of the Commission aware of this issue?

A: Yes. Staff was advised of the misclassification issue by GMO personnel in a conference call on June 12, 2013 in which I participated.

Q: Will those corrections affect your Schedules WEB-16 and HIGHLY CONFIDENTIAL WEB-17?

A: No. Schedules WEB-16 and HIGHLY CONFIDENTIAL WEB-17 show what was charged to the customers. Schedules WEB-18 and HIGHLY CONFIDENTIAL WEB-19 show what should have been charged. Although 2009 is impacted, Schedules WEB-18 and HIGHLY CONFIDENTIAL WEB-19 are the same as WEB-16 and HIGHLY CONFIDENTIAL WEB-17, except for the corrected values for 2009, which are highlighted in yellow. There is no change to 2006 or 2007.

Q: Do the explanations you gave earlier for how the numbers in Schedules WEB-16 and WEB-17 also apply to Schedules WEB-18 and WEB-19?

A: Yes.

IV. THE QCA RIDER DOES NOT PERMIT AGP'S PROPOSED RATE ADJUSTMENT

Q: At page 10 of his November 2010 Rebuttal Testimony in HC-2010-0235, Mr. Johnstone states that the QCA Rider limits prudence reviews. How does the QCA Rider limit rate adjustments pursuant to a prudence review?

A: The QCA Rider states in paragraph 9 on Sheet Nos. 6.4 and 6.9,

> Pursuant to any prudence review of fuel costs, whether by the Staff process or the complaint process [utilized here by AGP], there will be no rate adjustment unless the resulting prudence adjustment amount exceeds 10% of the total of the fuel costs incurred in an annual review period.

Q: Assuming that the Imperfect Hedge Costs represent the maximum prudence adjustment in this case, how do they compare to total fuel costs incurred for each annual review period?

A: Column K of Schedule WEB-16 shows the total fuel cost incurred. Column L shows the imperfect hedge cost charged to steam customers was 6.5% for 2006 and 5.1% for 2007 of total fuel cost incurred. Before correcting for the misclassification, it was 2.7% for 2009.

Q: Do the corrected Imperfect Hedge Costs also fail to exceed the 10% of total fuel costs incurred as required by the QCA Rider for a prudence adjustment?

A: Yes. The corrected Imperfect Hedge Costs also fail to exceed the 10% of total fuel costs incurred as required by the QCA Rider for a prudence adjustment. Column L of Schedule WEB-18 shows the imperfect hedge cost that should have been charged to QCA customers was 5.2% for 2009 of total fuel cost incurred. The 6.5% figure for 2006 and 5.1% figure for 2007 were not affected by the misclassification. The overall total for the years 2006, 2007, and 2009 was 5.5%.

Q: What is the consequence of these percentages of total fuel costs incurred?

A: If the Commission determined that all of the hedging program costs beyond those costs that would occur with a perfect forecast were imprudent, the QCA Rider would not permit any rate adjustment for any of these years. No rate adjustment is permitted because the percentage of total fuel costs incurred above the "perfect hedge costs" for each year in question falls below the QCA Rider's mandatory 10% threshold.

Q: Why does the QCA Rider limit the results of a prudence review?

A: Mr. Johnstone explained the reason for such limitation at page 10 of his November 2010 Rebuttal Testimony in HC-2010-0235:

> An imprudence adjustment is not allowed by the QCA if it would amount to less than 10% of the fuel costs in the review period. **From the AGP perspective the 10% is appropriate in consideration of 80/20 sharing to align financial interests.** This also provides a clear benchmark for the design of a hedge program. [emphasis added]

Q: How does the hedge cost associated with the imperfect part of the forecast, which you have referred to as the maximum amount that can be viewed as imprudent, compare to the hedge costs absorbed by the Company through the Alignment Mechanism and the Coal Performance Standard?

A: By subtracting the $4,504,075 hedge cost charged to the QCA customers shown in Column E of Schedule WEB-18 (which is corrected for the misclassification) from the total hedge cost of $6,223,150 shown in Column A, it is clear that in total for the three review periods in question, GMO will have absorbed $1,719,075 or 28% of the hedge costs. Coincidently, that is remarkably close to the $1,717,874 maximum amount that can arguably be construed as imprudent.

V. <u>CUSTOMERS WERE BENEFITTED AND NOT HARMED</u>

Q: Were the steam customers harmed because actual natural gas requirements were lower than forecast?

A: No. The QCA customers saved money because the amount of natural gas that GMO needed to purchase to supply steam to its customers was less than forecast.

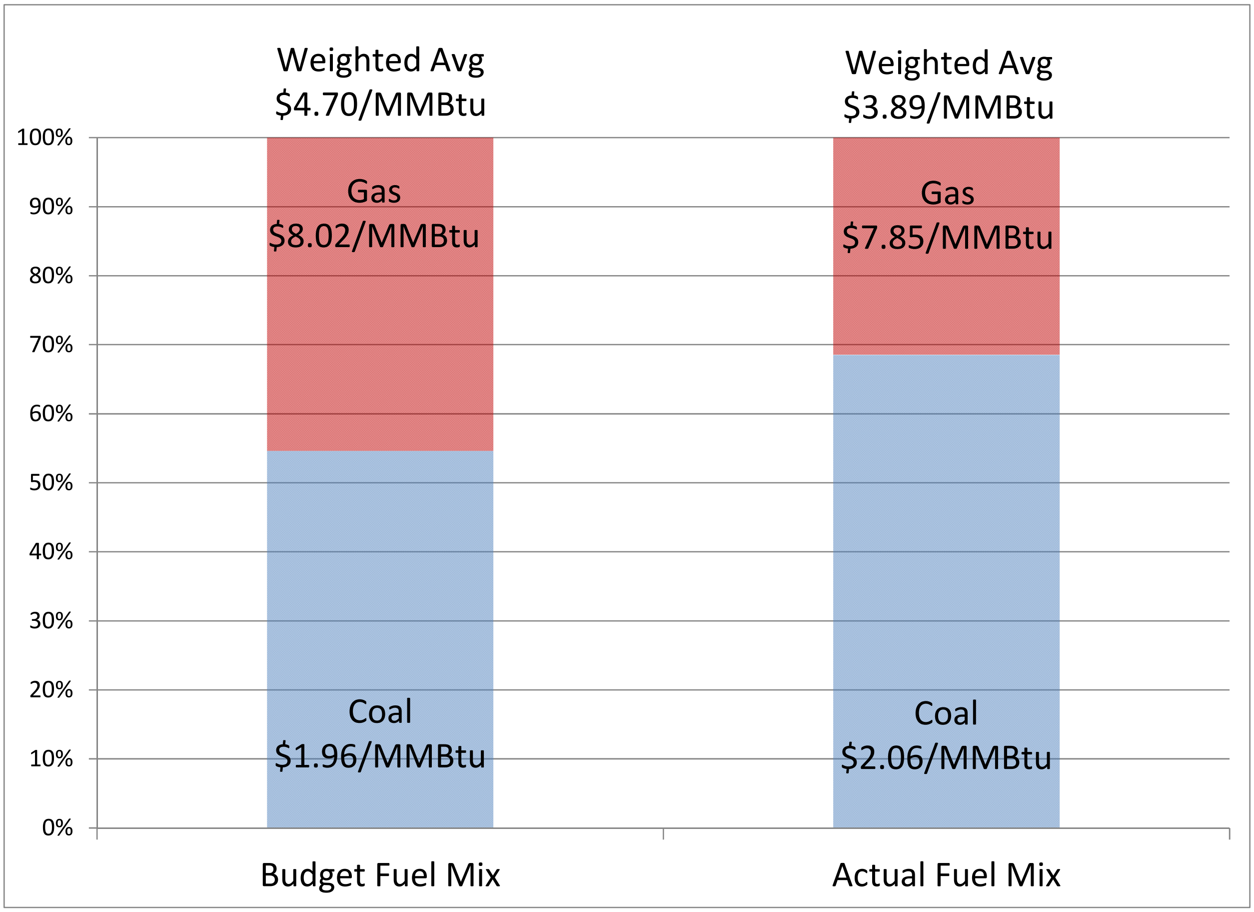
Q: Why do you say that steam customers saved money?

A: The lower volume of natural gas was in large part due to GMO's ability to operate the Lake Road Plant with a lower proportion of natural gas in the fuel mix than expected. Because natural gas is not the lowest priced fuel in the mix, replacing it with a lower priced fuel lowers the cost of producing steam.

Q: How did the budget fuel mix compare to the actual fuel mix?

A: Chart 1 below shows that total budgeted fuel mix for 2006, 2007, and 2009 was about 55% coal priced at $1.96/MMBtu and 45% natural gas priced at $8.02. Those proportions and prices combined to yield a weighted average cost of $4.70/MMBtu for fuel. GMO was able to produce the required level of steam with a mix of about 70% coal, 30% natural gas, and an insigificant amount of oil. That resulted in an actual weighted average cost of fuel, including the corrected hedge costs, of $3.89/MMBtu. The change in fuel mix was a substantial reason for the $0.81/MMBtu reduction in the cost of fuel.

Chart 1. Value of Changing Fuel Mix 2006, 2007 and 2009



Q: How much did GMO reduce the total cost of fuel incurred by replacing natural gas with coal?

A: By replacing natural gas with coal, GMO reduced the total cost of fuel incurred by $2,621,639 for 2006; $1,429,864 for 2007; and $248,802 for 2009. The total fuel cost savings for those three years was $4,300,306 of which $3,446,419 was passed on to the steam customers through the QCA.

Q: Mr. Johnstone uses October 2006 as an example to support AGP's argument that the operation of the hedging program was imprudent, claiming that such month was "so extremely bad that at first blush it is hard to comprehend." How was the total cost of fuel incurred for that month affected by replacing natural gas with coal?

A: If we look only at October 2006, which was the single worst month in the program (and for that exact reason, was a poor choice to analyze an entire program), $350,361 of the $479,200 hedge costs were offset by fuel cost savings from replacing natural gas with coal. If the three-month total of September, October, and November 2006 is examined, the $697,760 in hedge costs were more than offset by the $1,158,292 fuel cost savings from replacing natural gas with coal.

Q: Besides lowering the cost of producing steam, did replacing more expensive natural gas with less expensive coal have any other consequences?

A: Yes. Schedules WEB-20, 21, and 22 show that if natural gas had not been replaced with coal, GMO's actual natural gas requirements would have exceeded the volume of natural gas hedged for each year under review. That is, Schedules WEB-20, 21, and 22 show that GMO was not over-hedged in any year under review. If natural gas had not been replaced with coal, the amount of natural gas needed to supply steam to its customers would have exceeded the amount of hedges.

Q: How do Schedules WEB-20, 21, and 22 compare to Hearing Exhibit 109, attached to Mr. Johnstone's May 15, 2013 Supplemental Direct Testimony as Schedule 4 and discussed at pages 7-8 of that testimony?

A: Schedules WEB-20, 21, and 22 show how much natural gas was replaced with coal. They then compare the volume of price protecting hedges with what the level of natural gas burn would have been if GMO operated according to plan, rather than pursuing lower-cost operations. Hearing Exhibit 109 does not show how much natural gas was replaced with coal. Instead Hearing Exhibit 109 shows how little price protection would have been afforded to GMO's customers had GMO followed AGP's position that volumes hedged be based primarily on historical levels, as stated on page 12 of Mr. Johnstone's November 2010 Rebuttal Testimony in HC-2010-0235. Hearing Exhibit 109 shows that Mr. Johnstone's alternative approach to forecasting natural gas requirements would have exposed customers to more market risk than the Company's forecast.

Attachment A to the January 11, 2011 Initial Brief of GMO in HC-2010-0235, which I have attached as Schedule WEB-23, provides a more complete view of Hearing Exhibit 109. In addition to the low level of risk protection offered by Mr. Johnstone's alternative forecast, Schedule WEB-23 shows how well GMO's One-Third hedge strategy managed actual burn being less than forecast.

Q: What does Schedule WEB-23 show regarding how GMO's One-Third hedging program strategy managed actual burn being less than forecast?

A: Schedule WEB-23 shows that the One Third Strategy managed actual burn being less than forecast as it was designed to do. The second vertical bar on Schedule WEB-23, labeled "Actual Hedges," is divided into three parts. The bottom part in solid blue represents the 1/3 of the volume that was protected by futures contracts. The two parts above that taken together represent the 1/3 of the volume that was protected by options. The small part in the middle represents that part of the 1/3 protected by options where the put options were exercised (I will discuss puts in greater detail in the next section of my testimony). As a reminder, the owner of an options contract does not need to exercise that contract. When market prices are below the call option's strike price, GMO would not exercise that option. Because 1/3 of the forecast volume requirements was not hedged and the 1/3 headged with options contracts could float with fuel requirements, by design the hedging program had the capacity to manage downward volume risk of as much as 66%.

Thus, the horizontal line that extends from the top of the "Exercised Put Options" left to the "Actual Burn" bar demonstrates that the amount of natural gas GMO paid for under its hedging program was significantly less than the actual burn.

VI. PUTS AS PART OF GMO'S HEDGE STRATEGY

Q: At pages 4-6 of his May 15, 2013 Supplemental Direct Mr. Johnstone suggests that the sale of "puts" were not to be a part of GMO's hedge program. Do you agree?

A: No. The February 15, 2006, "SJLP Natural Gas Hedge for Steam Generation" strategy is the original definition and statement of the natural gas hedge program for steam generation. See Gottsch Direct at Schedule GLG-1 (HC-2010-0235) (Oct. 22, 2010). It was issued about two weeks before Company witness Gary Clemens's testimony at the Commission, cited in testimony by Mr. Johnstone. In the second paragraph, it states: "1/3 with options (either long calls or combination of long calls and **short puts**) [emphasis added]." The reference to "short puts" means that the natural gas hedge program for steam generation included the sale of puts. I describe the common practice of selling puts in detail in my Direct and Rebuttal Testimony. See Blunk Direct at 5-6, 10, 19-20 (HC-2010-0235) (Oct. 22, 2010); Blunk Rebuttal at 7, 13, 28-29 (HC-2012-0259) (July 2, 2012).

Q: Are there any other documents that discussed puts as part of GMO's hedge program for steam generation?

A: Yes. Mr. Johnstone attached an email from Mr. Williams dated February 15, 2006, as Schedule 2 to his Supplemental Direct Testimony (May 15, 2013). In the first paragraph of that email Mr. Williams, an Aquila employee, referred to "a policy similar to the one for electric volumes." Elsewhere in that email thread, Company witness Gary L. Gottsch (then an Aquila employee) wrote to Mr. Williams regarding the establishment of "a procedure similar to the plan already in place for Missouri Electric."

A copy of that plan for the electric operations was attached as Schedule WEB-5 to my Direct Testimony (HC-2010-0235) (Oct. 22, 2010). At page 10 of that testimony I noted that this plan had been submitted to the Commission as part of Staff witness Charles R. Hyneman's October 2005 Direct Testimony in Case No. ER-2005-0436. This policy for Aquila's Missouri electric operations stated on page 2: "An additional one-third of the monthly forecast quantity is proportionately procured using options (primarily participatory collar) form." As I described in my previous testimony in these AGP steam complaint cases, when a hedge combines the purchase of call options with the sale of put options, it creates a collar. See Blunk Direct at 5-7, 18-19 (HC-2010-0235) (Oct. 22, 2010); Blunk Rebuttal at 7, 14 (HC-2012-0259) (July 2, 2012).

In other words, it was known on February 15, 2006 that Aquila intended to use the sale of puts as part of its hedge program for steam generation.

Q: Why did Aquila, GMO's predecessor, include the sale of puts in its hedging program?

A: As I discussed in my HC-2010-0235 Direct Testimony (Oct. 22, 2010) at page 19:

Q: Why did Aquila sell put options?

A: Aquila sold or wrote put options and turned some of the call options it had purchased into collars as a means of mitigating the hedge program's premium expense.

Q: Is it a common practice for hedgers to sell puts so as to mitigate a hedge program's premium expense?

A: Yes. The practice is described in the February 24, 2006 *Joint Report on Natural Gas Market Conditions, PGA Rates, Customer Bills & Hedging Efforts of Missouri's Natural Gas Local Distribution Companies* as follows:

> Financial instruments can be used in combination to balance price risk or reduce the overall cost of hedging. One combination of financial instruments used by LDCs is a collar. A collar pairs a call option with a put option to set a ceiling and floor for the price of natural gas. A put option works as a floor on the price to be paid for natural gas whereas a call option places a ceiling on the price. For example, an LDC buys a call option with a strike price of $10/MMBtu for a premium of $0.50/MMBtu, and at the same time sells a put option with a strike price of $7/MMBtu for a premium of $0.20/MMBtu. This means that the LDC has basically "collared" the price of natural gas between $7 and $10/MMBtu, and **the premium received for the put option offsets part of the premium paid for the call option**. The call option sets the ceiling price and the put option sets the floor price for the covered volumes of gas. If the cost of the call option and the price of the put option are equal, the arrangement is known as a costless collar.

See Joint Report, Case No. GW-2006-0110 (Feb. 27, 2006) at 12 [emphasis added].

Q: Did the premiums Aquila received for the sale of puts in 2006 and 2007 offset part of the premiums paid for call options?

A: Yes. The net gain from the sale of puts in 2006 and 2007 was $38,940. That $38,940 offset part of the premiums paid for call options in that same time period.

Q: Were the losses or increased costs from the October 2006 put sales included in the net gain of $38,940?

A: Yes. October 2006 saw the single largest net loss from the put sales of any month GMO's program was in effect. The fact that this extreme one month loss was more than offset by the gains from the other months shows that the strategy of selling puts to offset part of the premium paid for calls was sound and did just what the Joint Report, Case No.

GW-2006-0110 (Feb. 27, 2006) said it would do, in that: "the premium received for the put option offsets part of the premium paid for the call option."

VII. HOW GMO'S HEDGES WORKED

Q: Do the hedge costs referred to by Mr. Johnstone and described above operate as an adjustment to total quarterly fuel costs?

A: Yes. The adjustment resulting from hedging costs can be either positive or negative. That is, there can be either a gain or a loss. For example, AGP has not complained about the 2008 hedge costs because there were gains. It is important to note this, because the hedging program that is the subject of this complaint is the same program that operated in 2008. Additionally, the hedge adjustment is always meant to be an adjustment to the cash cost it is protecting.

Q: What do you mean when you state that the hedge adjustment is always meant to be an adjustment to the cash cost it is protecting?

A: As I discussed at page 22 of my HC-2012-0259 Rebuttal (July 2, 2012), a hedge is constructed by linking a futures or derivate transaction with a similar cash or physical transaction. It is the simultaneous engagement of opposite and equal derivative and physical transactions that constitutes a hedge. The gain in one market offsets the loss in the other and vice versa. Mr. Johnstone did not show how that combination neutralized the market price risk in the physical market. Instead, he compared the cost of natural gas with and without hedges. In other words, Mr. Johnstone ignored the gain in the cash market that offset the loss in the derivative market.

Q: At pages 22-24 of your Rebuttal Testimony in HC-2012-0259, you illustrated how combining equal and opposite transactions in derivative and physical markets works to construct a hedge. Please show us how the hedges for 2006 and 2007 worked using actual prices and volumes.

A: Schedule WEB-24 is a bit more complicated than the "text book" example in my Rebuttal Testimony. Since Schedule WEB-24 is only intended to show the hedges, it does not include the 1/3 volume that was not hedged. Consequently, the "need" for 2,020,000 MMBtus of natural gas shown in cell B1 is the total amount hedged for 2006 and 2007. Cells C1 and C2 show how that 2,020,000 MMBtus were hedged with 101 futures contracts and 101 call option contracts. Cell C3 shows that 129 put option contracts were sold for $188,400 to offset some of the premiums for calls shown in cell C2. Overall, cells B2 through C4 show that GMO needed 2,020,000 MMBtus of natural gas and it expected to pay $16,330,492 for that gas. That requirement was hedged with 202 natural gas derivative contracts at a cost of $10,216,890.

Starting at line 5, Schedule WEB-24 shows how the hedge was closed or settled. Cell C5 shows that the 101 futures contracts were sold for a total value of $6,740,790. There was a gain of $6,890 from the call option contracts shown in cell C6. The put options, however, required payments of $149,460. The difference between the $188,400 put sale revenue in cell C3 and the $149,460 put payments in cell C7 was a $38,940 gain. That $38,940 net gain from the sale of puts offset part of the cost of the call option premiums in cell C2.

Overall, the Futures Market or derivative side of the hedge closed at a value of $6,598,220 for a derivative loss of $3,618,670. That Futures Market loss was more than offset by the gain in the Physical Market side of the hedge I will discuss shortly.

Closing the Physical Market side of the hedge is complicated by the fact that 541,513 MMBtus of the natural gas needed was replaced with coal. That effectively reduced the cash purchase price on those 541,513 MMBtus of natural gas need. The total cash purchase price of the 2,020,000 MMBtus of natural gas need was $11,043,139 shown in cell B8. The expected cost shown in cell B1, less actual cost in B8, yields the $5,287,354 gain in the Physical Market shown in cell B9.

Q: When both the Physical Market and Futures Market sides of GMO's natural gas hedges are considered, what was the net impact on the steam customers for 2006 and 2007?

A: The net change in value for 2006 and 2007 was a gain of $1,668,684. That is, the total cost of fuel incurred was $1,668,684 less than expected when GMO prepared its latest budgets for 2006 and 2007.

Q: You discussed earlier that the Coal Performance Standard and the Alignment Mechanism affect how much of the hedge cost the steam customers are charged or credited. Is that what you are showing on lines 10, 11, and 12 of Schedule WEB-24?

A: Yes. Line 10 shows how the hedges are affected by the Coal Performance Standard. Since the Coal Performance Standard limits the amount of fuel cost passed to the steam customers, it acts like a gain in the Physical Market. On the Futures Market side, it also represents a gain for the steam customer, which is portrayed in the Schedule as a negative loss. By summing the two gains in cells B10 and C10, it is clear that the Coal

Performance Standard increased the gain before modification by the Alignment Mechanism by $1,563,425 on the Physical Market side of the hedge, and it reduced the loss on the Futures Market side by $674,217. After applying the Alignment Mechanism modification, the total Net Change in Value that was passed to the steam customers was a gain of $3,125,060, as shown in cell D12.

Q: Can you show the net impact on the steam customers of the natural gas hedges for each of the annual review periods before the Commission?

A: Yes. Schedules WEB-25, 26, and 27 show the annual net change in value of the natural gas hedged for the steam customers. Below listed by year is a recap of the net change in value of natural gas hedged for the steam customers.

Annual Review Period	Net Change in Value of Natural Gas Hedged Passed to Steam Customers
2006	$1,744,835 GAIN
2007	$1,509,544 GAIN
2009	$897,721 GAIN
TOTAL	$4,134,100 GAIN

Q: For the annual review periods of 2006, 2007, and 2009, how much of the total cost of fuel incurred by steam operations was absorbed by GMO through application of the QCA's Alignment Mechanism and Coal Performance Standards?

A: Schedules WEB-25, 26, and 27 show substantial amounts being removed from the cost of fuel incurred before determining how much of the total fuel cost was charged to the QCA customers. For 2006, 2007, and 2009, the QCA's Alignment Mechanism and Coal Performance Standard caused GMO to absorb $2,790,653 of the total fuel cost incurred.

Q: Does that $2,790,653 of fuel costs that GMO has absorbed include any hedge costs?

A: Yes. It includes $1,482,791 of hedge costs. The other $1,307,863 represents the cost of coal, oil, and natural gas.

Q: When the Company corrects the hedge costs for the misclassification, will that change the amount of hedge costs it absorbs for 2006, 2007, and 2009?

A: Yes. While only 2009 is impacted by the misclassification, it will increase the amount of hedge costs the Company absorbs. The revised amount of hedge costs absorbed for 2006, 2007, and 2009 will be $1,719,075. The total amount of fuel costs absorbed will likewise increase to $3,026,938.

Q: At page 28 of his HC-2010-0235 Rebuttal Testimony, Mr. Johnstone addressess GMO's characterization of his testimony as "20/20 hindsight." What do you understand the term "hindsight" to mean?

A: Hindsight in the context of a prudence review means using data that was only available after the decision being reviewed was made. For example, Aquila's decision of how much gas to hedge for October 2007 was made June 22, 2006, when the budget was approved. It was not until after midnight October 31, 2007, that Aquila could know how much gas would actually be consumed for the month of October 2007. Aquila could only project usage based on the information provided by its steam customers, who are in the best position to forecast their needs. To use the actual consumption data to evaluate the hedge volume decision or to judge the prudence of the forecast is hindsight. As I understand the Commission's prudence standard, the Commission looks only at whether the conduct was reasonable at the time, under all the circumstances that existed at that time, and does not rely on hindsight.

Q: When was the "time" of the hedge volume decision?

A: The hedge volume decision was made when the budget volumes were approved or the forecasts revised. Company Witness Timothy Nelson discusses the timing of those decisions in his Additional Rebuttal Testimony. I believe that, based on the circumstances that existed at the time, including what Aquila knew or should have known about (a) the volatile price of natural gas, (b) the anticipated short supply of natural gas, (c) the expected sharp rise in natural gas price for the foreseeable future, and (d) the increase in load from Aquila's steam customers, Aquila made prudent natural gas hedge purchases for the years in question. Based upon my review of the record, Aquila and GMO prudently operated the natural gas hedging program for steam operations.

VIII. SUMMARY

Q: Please summarize the data you have presented for the combined three years in question.

A: By replacing some 1,075,538 MMBtus of more expensive natural gas with cheaper coal, GMO reduced the total cost of fuel incurred by $4,300,306. Replacing natural gas with coal caused the remaining quantity of natural gas burned to be less than the quantity of natural gas hedged for steam generation.

Had the Company perfectly forecast its customers' natural gas requirements and correctly classified all of its hedges, it would have charged the QCA customers $2,786,201 for natural gas hedges. In other words, in a perfect world, GMO's customers would still have borne $2,786,201 of hedging program costs for the years in question.

The total hedge costs that should have been charged to the QCA customers were $4,504,075, which leaves $1,717,874 of those hedge costs to be associated with an arguable "imperfect" forecast of natural gas volumes. That purported imperfection, which reflects the costs that exceed the hedging costs that would have been charged if GMO's forecast had been perfect, resulted in large part because the Company replaced more expensive natural gas with cheaper coal, saving $4,300,306 in total fuel cost. After correcting for the misclassification, that "imperfect" amount of $1,717,874 is the maximum potential prudence rate adjustment that can be considered if the Commission holds GMO to a prudence standard of perfection.

The maximum potential prudence rate adjustment for the three years combined is only 5.5% of total fuel cost incurred. Consequently, it does not exceed the 10% threshold under the QCA Rider that must be reached before a prudence adjustment can occur. Each individual year also fails to meet this threshold. The QCA Rider thus does not permit the adjustment proposed here by AGP.

Ironically, the $1,717,874 maximum potential prudence rate adjustment is very close to the $1,719,075 of hedge costs that the Company will absorb (and will not charge to steam customers after correcting for the misclassification) through the QCA's Alignment Mechanism and Coal Performance Standard. In addtion to the $1,719,075 of hedge costs absorbed by GMO, the QCA Rider's Alignment Mechansim and Coal Performance caused the Company to absorb another $1,307,863 of presumably prudently incurred fuel costs. That is, for 2006, 2007, and 2009, the QCA's Alignment Mechanism and Coal Performance Standard will have caused GMO to absorb $3,026,938 of the total fuel cost incurred.

Q: Does that conclude your testimony?

A: Yes.

BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

Ag Processing, Inc., Complainant,	)	
	)	Case No. HC-2010-0235
v.	)	Consolidated With
	)	Case No. HC-2012-0259
KCP&L Greater Missouri Operations Company, Respondent.	)	

AFFIDAVIT OF WILLIAM EDWARD BLUNK

STATE OF MISSOURI)
) ss
COUNTY OF JACKSON)

William Edward Blunk, appearing before me, affirms and states:

1. My name is William Edward Blunk. I work in Kansas City, Missouri, and I am employed by Kansas City Power & Light Company as Generation Planning Manager.

2. Attached hereto and made a part hereof for all purposes is my Additional Rebuttal Testimony on behalf of KCP&L Greater Missouri Operations Company consisting of twenty-seven (27) 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 affirm and state 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.

William Edward Blunk

Subscribed and affirmed before me this 14th day of June, 2013.

Nicole A. Wehry
Notary Public

My commission expires: Feb. 4, 2015

NICOLE A. WEHRY
Notary Public - Notary Seal
State of Missouri
Commissioned for Jackson County
My Commission Expires: February 04, 2015
Commission Number: 11391200

STATE OF MISSOURI, PUBLIC SERVICE COMMISSION
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Aquila, Inc., dba
AQUILA NETWORKS
KANSAS CITY, MO 64138
For St. Joseph, MO & Environs

QUARTERLY COST ADJUSTMENT RIDER
STEAM

AVAILABILITY

This Quarterly Cost Adjustment (QCA) Rider applies to all sales of steam service provided under all steam rate schedules and contracts.

The Company will file rate adjustments quarterly to reflect eighty percent (80%) of the change in the actual fuel costs above or below a base amount of $3.0050 per million BTU. The sum of the Current Quarterly Cost Adjustment (CQCA), plus the three (3) preceding CQCAs, plus reconciling adjustments, if any, plus the Reconciliation Rate will be billed in addition to all other charges under applicable tariff provisions.

CALCULATIONS

Current Quarterly Cost Adjustment (CQCA):
The CQCA is the rate adjustment component designed to reflect the customer share of the variation in fuel cost for the most recent quarter. In the computation of the CQCA the numerator is the portion of fuel costs to be collected or refunded based on costs incurred for the previous quarter. The denominator is the number of annual billing units used to compute the rate component.

CQCA = Customer Share of Fuel Cost Variation for the Preceding Quarter divided by Annual Billing Determinants

$$\text{Or, CQCA} = \frac{[AM \times (FCPM_{pq} - FCPM_{b})] \times BD_{pq}}{BD_{p12} + BDA_{f12}}$$

Or, using spreadsheet software math conventions, except substituting variables for cell references:

$$CQCA = ((AM * (FCPM_{pq} - FCPM_{b})) * BD_{pq}) /$$
$$IF (OR (BD_{pq} > BD_{pq-4} * 1.05, BD_{pq} < BD_{pq-4} * .95), BD_{p12} + BDA_{f12}, BD_{p12})$$

Where:

$CQCA$= Current Quarterly Cost Adjustment
AM= Alignment Mechanism = 80%
$FCPM_{pq}$= Fuel Cost per million BTU for the preceding quarter
$FCPM_{b}$= Base Fuel Cost per million BTU = $3.0050
BD_{pq}= Billing Determinants (million BTU delivered to retail customers) for the preceding quarter
BD_{pq-4} = Billing Determinants for the corresponding quarter one (1) year prior to the preceding quarter
BD_{p12}= Billing Determinants for the preceding year
BDA_{f12}= Billing Determinants Adjustment for the following year; provided, however, that this term shall be zero (0) unless BD_{pq} varies by more than five percent (5%) up or down from BD_{pq-4} and Company determines that an adjustment is appropriate.

Note: Billing determinants shall reflect usage corresponding to the period of fuel cost computations, regardless of the "billing" or "revenue month" in which such usage is billed.

Issued: February 28, 2006
Issued by: Gary Clemens, Regulatory Services

FILED
MO PSC

Effective: ~~March 30, 2006~~
March 6, 2006
HR-2005-0450

QUARTERLY COST ADJUSTMENT RIDER (Continued)
STEAM

Reconciling Adjustments and the Reconciliation Rate:

At the end of the twelve (12) months of collection of each CQCA, the over- or under-collection of the intended revenues (the numerator of the CQCA) will be applied to customers' bills thru a Reconciliation Rate. The Company shall use a collection/refund/credit amortization period of twelve (12) months, provided that an amortization period of twenty-four (24) months may be used, if needed in the Company's discretion, to minimize any extraordinary increases in energy charges. Other fuel cost refunds, or credits related to the operation of this rider may also flow through this reconciliation process, as ordered by the Commission. The Reconciliation Rate shall be calculated similarly to the CQCA, except that the amount shall not be multiplied by the Alignment Mechanism again. Any remaining over- or under-collection from the Reconciliation Rate shall be applied to the next Reconciliation Rate.

DETAILS

1. The cost of fuel will be the amounts expensed in account 501. The amounts expensed will continue to be based on the cost definitions currently used for the inclusion of costs in these accounts and on the currently used cost allocation methods, as explained in some additional detail: the cost of gas will include the cost of physical gas deliveries and financial instruments associated with gas delivered in the quarterly period. The cost of coal expenses to account 501 will continue to reflect the average cost of coal inventory and the cost allocation method(s) including but not limited to the following:

The fuel allocation is performed on a daily basis as is done in actual operations at the Lake Road Generating Station. Fuel expense is allocated based on the following equations:

$$F_S = [S / (E + S)] \times F$$
$$F_E = F - F_S$$

Where,

F is total 900-PSI boiler fuel
F_S is 900-PSI boiler fuel allocated to industrial steam sales
F_E is 900-PSI boiler fuel allocated to the electric turbines
S is industrial steam sales steam mmBtu from boilers
E is 900-PSI electric turbine steam mmBtu from boilers

The remaining fuel not allocated to the industrial steam sales system in the first equation is allocated to the electric system as shown in the second equation. Because the variable "F" shown above includes fuel burned for Lake Road plant auxiliary steam, fuel consumed for that purpose is properly allocated between the electric and industrial steam sales systems.

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KANSAS CITY, MO 64138

QUARTERLY COST ADJUSTMENT RIDER (Continued)
STEAM

2. There shall be defined minimum amounts of coal generation. The BTUs from coal, for the purposes of the Quarterly Cost Adjustment mechanism shall be the actual BTUs for the computation period, provided however, that in any period of computation for a rate adjustment, the BTU attributed to coal shall not be less than 495,695 million for the most recent three (3) months, shall not be less than 1, 052,814 million for the most recent six (6) months, shall not be less than 1,617,803 million for the most recent nine (9) months, and shall not be less than 2,184,104 million for the most recent twelve (12) months. If coal generation falls below any defined minimum amount, additional coal generation will be imputed for the computation period up to the defined minimum that produces the largest adjustment and the amount of gas fired generation for the computation period will be reduced for the purposes of the Quarterly Cost Adjustment by a like amount. The cost attributed to any coal BTU imputed as a result of this coal performance standard shall be either the cost used for BTU burned during the period that is the basis for the adjustment (the 3, 6, 9, or 12 month standard) or the cost from the most recent quarter in which coal was burned, whichever is less. The gas cost associated with any reduction in gas BTU occasioned by any coal imputation will be the average gas cost per BTU for the time period that is used to price any imputed coal usage. Aquila agrees that it will not seek an accounting authority order for fuel costs incurred, but not recovered, due to operation of this minimum coal provision.

3. Aquila will make quarterly rate filings with the Commission to adjust the Quarterly Cost Adjustment Rider. Each quarterly rate adjustment will include the fuel costs from the preceding quarter. The Current Quarterly Cost Adjustment factors will be calculated by dividing the fuel costs by the preceding twelve (12) month billing determinants; provided, however, that in the event that steam BTU billing units in a computation period increase or decrease by more than five percent (5%) compared to the corresponding period one year earlier Company may make an adjustment to the historic billing determinants for use in the denominator of the Current Quarterly Cost Adjustment rate computation. Each Quarterly Cost Adjustment will remain in effect for twelve (12) months.

4. There are provisions for prudence reviews and the true-up of revenues collected with costs intended for collection. The reconciliation account shall track, adjust and return true-up amounts and any prudence amounts not otherwise refunded. Fuel costs collected in rates will be refundable based on true-up results and findings in regard to prudence. Adjustments, if any, necessary by Commission order pursuant to any prudence review shall also be placed in the reconciliation account for collection unless a separate refund is ordered by the Commission. A reconciliation rate shall be established at a level designed to bring the reconciliation account to zero over a period of not less than twelve (12) months, provided that an amortization period of twenty-four (24) months may be used, if needed in the Company's discretion, to minimize any extraordinary increases in energy charges. Other fuel cost refunds, or credits related to the operation of this rider may also flow through this reconciliation process, as ordered by the Commission. The Reconciliation Rate shall be calculated similarly to the CQCA, except that the amount shall not be multiplied by the Alignment Mechanism again. Any remaining over- or under-collection from the Reconciliation Rate shall be applied to the next Reconciliation Rate.

5. The quarterly rate adjustments will not include carrying costs related to the timing of fuel cost recovery.

Issued: February 28, 2006 Effective: ~~March 30, 2006~~
Issued by: Gary Clemens, Regulatory Services March 6, 2006

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MO PSC
HR-2005-0450

QUARTERLY COST ADJUSTMENT RIDER (Continued)
STEAM

6. In consideration of the sharing provision of this Rider, and the intent to rely on an alignment of customer and Company interests in efficient operations, a two (2) step approach to the review of prudence review will be followed. In Step One, Commission Staff will review to ascertain:

6.1. that the concept of aligning of Company and customer interests is working as intended; and,

6.2. that no significant level of imprudent costs is apparent.

7. This review may be entirely a part of surveillance activity. Customers will be given timely notice of the results of the Step One review no later than 75 days after the end of each year. In consideration of Step One results, the Staff may proceed with Step Two, a full prudence review, if deemed necessary. A full prudence review, if pursued, shall be complete no later than 225 days after the end of each year. Such full prudence review shall be conducted no more often than once every twelve (12) months and shall concern the prior twelve (12) month period or calendar year only, provided however that the full prudence review addressing the first partial year, if pursued, will be included with a full prudence review of the first full calendar year of operation of this rate mechanism.

8. Any customer or group of customers may make application to initiate a complaint for the purpose of pursuing a prudence review by use of the existing complaint process. The application for the complaint and the complaint proceeding will not be prejudiced by the absence of a full (Step Two) prudence review by Staff.

9. Pursuant to any prudence review of fuel costs, whether by the Staff process or the complaint process, there will be no rate adjustment unless the resulting prudence adjustment amount exceeds 10% of the total of the fuel costs incurred in an annual review period.

STATE OF MISSOURI, PUBLIC SERVICE COMMISSION
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KANSAS CITY, MO 64138

QUARTERLY COST ADJUSTMENT RIDER (Continued)
STEAM

RATE:

Current Quarterly Cost Adjustment Table:

Period	First Effective Date	Last Effective Date	CQCA (by Quarter)
2007 Q3	12/1/2007	11/30/2008	$0.2005
2007 Q2	9/1/2007	8/31/2008	$0.1000
2007 Q1	6/1/2007	5/31/2008	$0.1952
2006 Q4	3/1/2007	2/29/2008	$0.2552

Reconciliation Table:

Period	First Effective Date	Months	Last Effective Date	Monthly Recon (by Quarter)
2007 Q3	12/1/2007	12	11/30/2008	$0.0003
2007 Q2				
2007 Q1				
2006 Q4				

Quarterly Cost Adjustment Table:

Period	First Effective Date	Last Effective Date	Monthly QCA
2007 Q3	12/1/2007	2/29/2008	$0.7512
2007 Q2	9/1/2007	11/30/2007	$0.4580
2007 Q1	6/1/2007	8/31/2007	$0.3655
2006 Q4	3/1/2007	5/31/2007	$0.1702
2006 Q3	12/1/2006	2/28/2007	($0.0850)
2006 Q2	9/1/2006	11/30/2006	$0.0074

Credits are shown in parentheses, e.g. ($.05).

Issued: October 12, 2007 Effective: December 1, 2007
Issued by: Gary Clemens, Regulatory Services

STATE OF MISSOURI, PUBLIC SERVICE COMMISSION

P.S.C. MO. No.	1	1st	Revised Sheet No.	6.6
Canceling P.S.C. MO. No.	1		Original Sheet No.	6.6

KCP&L Greater Missouri Operations Company — **For St. Joseph, MO & Environs**
KANSAS CITY, MO 64106

QUARTERLY COST ADJUSTMENT RIDER - STEAM

AVAILABILITY

This Quarterly Cost Adjustment (QCA) Rider applies to all sales of steam service provided under all steam rate schedules and contracts that occur on or after July 1, 2009.

The Company will file rate adjustments quarterly to reflect eighty-five percent (85%) of the change in the actual fuel costs above or below a base amount of $3.9500 per million BTU. The sum of the Current Quarterly Cost Adjustment (CQCA), plus the three (3) preceding CQCAs, plus reconciling adjustments, if any, plus the Reconciliation Rate will be billed in addition to all other charges under applicable tariff provisions.

CALCULATIONS

Current Quarterly Cost Adjustment (CQCA):
The CQCA is the rate adjustment component designed to reflect the customer share of the variation in fuel cost for the most recent quarter. In the computation of the CQCA the numerator is the portion of fuel costs to be collected or refunded based on costs incurred for the previous quarter. The denominator is the number of annual billing units used to compute the rate component.

CQCA = Customer Share of Fuel Cost Variation for the Preceding Quarter divided by Annual Billing Determinants

Or, CQCA =
$$\frac{[AM \times (FCPM_{pq} - FCPM_b)] \times FI_{pq}}{BD_{p12} + BDA_{f12}}$$

Or, using spreadsheet software math conventions, except substituting variables for cell references:
CQCA = $((AM * (FCPM_{pq} - FCPM_b)) * FI_{pq})$ /
$IF (OR (BD_{pq} > BD_{pq-4} * 1.05, BD_{pq} < BD_{pq-4} * .95), BD_{p12} + BDA_{f12}, BD_{p12})$

Where:
- CQCA= Current Quarterly Cost Adjustment
- AM= Alignment Mechanism = 85%
- $FCPM_{pq}$= Fuel Cost per million BTU for the preceding quarter
- $FCPM_b$= Base Fuel Cost per million BTU = $3.9500
- FI_{pq} = Fuel Input (million BTUs of fuel input to the steam system) during the preceding quarter
- BD_{pq}= Billing Determinants (million BTU delivered to retail customers) for the preceding quarter
- BD_{pq-4}= Billing Determinants for the corresponding quarter one (1) year prior to the preceding quarter
- BD_{p12}= Billing Determinants for the preceding four (4) quarters
- BDA_{f12}= Billing Determinants Adjustment for the following year; provided, however, that this term shall be zero (0) unless BD_{pq} varies by more than five percent (5%) up or down from BD_{pq-4} and Company determines that an adjustment is appropriate.

Note: Billing determinants shall reflect usage corresponding to the period of fuel cost computations, regardless of the "billing" or "revenue month" in which such usage is billed.

December 1, 2009

Issued: November 12, 2009 — Effective: ~~December 12, 2009~~
Issued by: Tim Rush, Director Regulatory Affairs

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Missouri Public
Service Commission
HR-2010-0028; YH-2010-0338

QUARTERLY COST ADJUSTMENT RIDER (Continued)
STEAM

Reconciling Adjustments and the Reconciliation Rate:

At the end of the twelve (12) months of collection of each CQCA, the over- or under-collection of the intended revenues (the numerator of the CQCA) will be applied to customers' bills through a Reconciliation Rate. The Company shall use a collection/refund/credit amortization period of twelve (12) months, provided that an amortization period of twenty-four (24) months may be used, if needed in the Company's discretion, to minimize any extraordinary increases in energy charges. Other fuel cost refunds, or credits related to the operation of this rider may also flow through this reconciliation process, as ordered by the Commission. The Reconciliation Rate shall be calculated similarly to the CQCA, except that the amount shall not be multiplied by the Alignment Mechanism again. Any remaining over- or under-collection from the Reconciliation Rate shall be applied to the next Reconciliation Rate.

DETAILS

1. The cost of fuel will be the amounts expensed in account 501. The amounts expensed will continue to be based on the cost definitions currently used for the inclusion of costs in these accounts and on the currently used cost allocation methods, as explained in some additional detail: the cost of gas will include the cost of physical gas deliveries and financial instruments associated with gas delivered in the quarterly period. The cost of coal expenses to account 501 will continue to reflect the average cost of coal inventory and the cost allocation method(s) including but not limited to the following:

The fuel allocation is performed on a daily basis as is done in actual operations at the Lake Road Generating Station. Fuel expense is allocated based on the following equations:

$$F_S = [\, S / (E + S) \,] \times F$$
$$F_E = F - F_S$$

Where,

F is total 900-PSI boiler fuel
F_S is 900-PSI boiler fuel allocated to industrial steam sales
F_E is 900-PSI boiler fuel allocated to the electric turbines
S is industrial steam sales steam mmBtu from boilers
E is 900-PSI electric turbine steam mmBtu from boilers

The remaining fuel not allocated to the industrial steam sales system in the first equation is allocated to the electric system as shown in the second equation. Because the variable "F" shown above includes fuel burned for Lake Road plant auxiliary steam, fuel consumed for that purpose is properly allocated between the electric and industrial steam sales systems.

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QUARTERLY COST ADJUSTMENT RIDER (Continued)
STEAM

2. Coal Performance Standard.

a. There shall be defined minimum amounts of coal generation. The BTUs from coal, for the purposes of the Quarterly Cost Adjustment mechanism shall be the actual BTUs for the computation period, provided however, that in any period of computation for a rate adjustment, the BTU attributed to coal shall not be less than 460,000 million for the most recent three (3) months, and shall not be less than 1,920,000 million for the most recent twelve (12) months. If coal generation falls below any defined minimum amount, additional coal generation will be imputed for the computation period up to the defined minimum that produces the largest adjustment and the amount of gas fired generation for the computation period will be reduced for the purposes of the Quarterly Cost Adjustment by a like amount.

b. For purposes of determining whether any such coal generation imputation is necessary, the 1,920,000 million BTU twelve-month coal performance standard and the 460,000 million BTU three-month coal performance standard will be reduced proportionately to the extent aggregate sales volumes (BD_{p12}) (billing determinants for the preceding twelve months) are less than 2,594,975 million BTUs. Should aggregate sales volumes exceed 2,594,975 million BTUs, the 1,920,000 million BTU twelve-month coal performance standard and the 460,000 million BTU three-month coal performance standard will remain unchanged.

c. In the event of a major scheduled outage for system maintenance and improvement, such as occurred in the last quarter of 2008, the Coal Performance Standard shall be subject to further adjustment as agreed upon by the Signatories herein, to reflect the reduced availability of the coal-fired boiler resulting from the scheduled outage. In such case, the three-month and twelve-month coal performance standards will be further adjusted proportionately as agreed to reflect any reduced availability of the Lake Road Boiler 5. As an example, should the coal-fired boiler be scheduled to be off line for 55 days in one quarter due to a major outage, the three-(3) month standard would be reduced to a level of 38.89% ((90-55)/90) of the three-(3) month standard. A corresponding adjustment of 84.93% ((365-55)/365) would be made to the twelve-(12) month standard.

d. Coal used in Lake Road Boiler 5 includes both high BTU coal and low BTU coal. These coals are blended for use in the boiler. If natural gas is less expensive than either coals used in Lake Road Boiler 5 and can be effectively used to lower the overall cost of fuels, then the BTU quantity of natural gas burned which would have otherwise been coal will be treated as coal BTU in determining the coal BTU used in comparison to the coal performance standard.

e. The cost attributed to any coal BTU imputed as a result of this coal performance standard shall be either the cost used for BTU burned during the period that is the basis for the adjustment (the 3 or 12 month standard) or the cost from the most recent quarter in which coal was burned, whichever is less.

f. The gas cost associated with any reduction in gas BTU occasioned by any coal imputation will be the average gas cost per BTU for the time period that is used to price any imputed coal usage.

g. The Company agrees that it will not seek an accounting authority order for fuel costs incurred, but not recovered, due to operation of this minimum coal provision.

DATE OF ISSUE: June 17, 2009 EFFECTIVE DATE: July 1, 2009
ISSUED BY: Chris Giles, Vice President Regulatory Affairs

STATE OF MISSOURI, PUBLIC SERVICE COMMISSION
P.S.C. MO. No. 1 Original Sheet No. 6.9
Canceling P.S.C. MO. No. Sheet No.
KCP&L Greater Missouri Operations Company For St. Joseph, MO & Environs
KANSAS CITY, MO 64106

QUARTERLY COST ADJUSTMENT RIDER (Continued)
STEAM

3. The Company will make quarterly rate filings with the Commission to adjust the Quarterly Cost Adjustment Rider. Each quarterly rate adjustment will include the fuel costs from the preceding quarter. The Current Quarterly Cost Adjustment factors will be calculated by dividing the fuel costs by the preceding twelve (12) month billing determinants; provided, however, that in the event that steam BTU billing units in a computation period increase or decrease by more than five percent (5%) compared to the corresponding period one year earlier Company may make an adjustment to the historic billing determinants for use in the denominator of the Current Quarterly Cost Adjustment rate computation. Each Quarterly Cost Adjustment will remain in effect for twelve (12) months.
4. There are provisions for prudence reviews and the true-up of revenues collected with costs intended for collection. The reconciliation account shall track, adjust and return true-up amounts and any prudence amounts not otherwise refunded. Fuel costs collected in rates will be refundable based on true-up results and findings in regard to prudence. Adjustments, if any, necessary by Commission order pursuant to any prudence review shall also be placed in the reconciliation account for collection unless a separate refund is ordered by the Commission. A reconciliation rate shall be established at a level designed to bring the reconciliation account to zero over a period of not less than twelve (12) months, provided that an amortization period of twenty-four (24) months may be used, if needed in the Company's discretion, to minimize any extraordinary increases in energy charges. Other fuel cost refunds, or credits related to the operation of this rider may also flow through this reconciliation process, as ordered by the Commission. The Reconciliation Rate shall be calculated similarly to the CQCA, except that the amount shall not be multiplied by the Alignment Mechanism again. Any remaining over- or under-collection from the Reconciliation Rate shall be applied to the next Reconciliation Rate.
5. The quarterly rate adjustments will not include carrying costs related to the timing of fuel cost recovery.
6. In consideration of the sharing provision of this Rider, and the intent to rely on an alignment of customer and Company interests in efficient operations, a two (2) step approach to the review of prudence review will be followed. In Step One, Commission Staff will review to ascertain:

6.1. that the concept of aligning of Company and customer interests is working as intended; and,

6.2. that no significant level of imprudent costs is apparent.

7. This review may be entirely a part of surveillance activity. Customers will be given timely notice of the results of the Step One review no later than 75 days after the end of each year. In consideration of Step One results, the Staff may proceed with Step Two, a full prudence review, if deemed necessary. A full prudence review, if pursued, shall be complete no later than 225 days after the end of each year. Such full prudence review shall be conducted no more often than once every twelve (12) months and shall concern the prior twelve (12) month period or calendar year only, provided however that the full prudence review addressing the first partial year, if pursued, will be included with a full prudence review of the first full calendar year of operation of this rate mechanism.
8. Any customer or group of customers may make application to initiate a complaint for the purpose of pursuing a prudence review by use of the existing complaint process. The application for the complaint and the complaint proceeding will not be prejudiced by the absence of a full (Step Two) prudence review by Staff.
9. Pursuant to any prudence review of fuel costs, whether by the Staff process or the complaint process, there will be no rate adjustment unless the resulting prudence adjustment amount exceeds 10% of the total of the fuel costs incurred in an annual review period.

DATE OF ISSUE: June 17, 2009 EFFECTIVE DATE: July 1, 2009
ISSUED BY: Chris Giles, Vice President Regulatory Affairs

STATE OF MISSOURI, PUBLIC SERVICE COMMISSION
P.S.C. MO. No. 1 15th Revised Sheet No. 6.10
Canceling P.S.C. MO. No. 1 14th Revised Sheet No. 6.10
KCP&L Greater Missouri Operations Company **For St. Joseph, MO & Environs**
KANSAS CITY, MO 64105

QUARTERLY COST ADJUSTMENT RIDER (Continued)
STEAM

RATE:

Current Quarterly Cost Adjustment Table:

Period	First Effective Date	Last Effective Date	CQCA (by Quarter)
2012 Q4	3/1/2013	2/28/2014	($0.3674)
2012 Q3	12/1/2012	11/30/2013	($0.3812)
2012 Q2	9/1/2012	8/31/2013	($0.4209)
2012 Q1	6/1/2012	5/31/2013	($0.4865)

Reconciliation Table:

Period	First Effective Date	Months	Last Effective Date	Monthly Recon (by Quarter)
2012 Q4	3/1/2013	12	2/28/2014	$0.0453
2012 Q3	12/1/2012	12	11/30/2013	$0.0010
2012 Q2	9/1/2012	12	8/31/2013	($0.0085)
2012 Q1	6/1/2012	12	5/31/2013	($0.0099)

Quarterly Cost Adjustment Table:

Period	First Effective Date	Last Effective Date	Monthly QCA
2012 Q4	3/1/2013	5/31/2013	($1.6281)

Credits are shown in parentheses, e.g. ($.05).

Issued: January 14, 2013
Issued by: Tim Rush, Director Regulatory Affairs

Effective: March 1, 2013

FILED
Missouri Public
Service Commission
HT-2012-0344; YH-2013-0318

Schedule WEB-16

Perfect Hedge Costs Charged To Steam Customers

	A	B	C	D	E	F	G	H	I	J	K	L
source:	QCA workpapers	QCA model	(A + B)	tariff	(C * D)	DR 0013	QCA workpapers	(G / F)	(E * H)	(E - I)	QCA workpapers	(J / K)
	Total Hedge Cost	Hedge Cost Retained through Coal Performance Standard	Hedge Cost Before Alignment	Alignment Mechanism	Hedge Cost Charged to QCA Customers	Budget Volume MMBtus	Actual Volume MMBtus	Actual Volume as Percent of Budget Volume	Perfect Hedge Cost Charged to QCA Customers	Imperfect Hedge Cost Charged to QCA Customers	Total Fuel Cost Incurred	Percent of Total Fuel Cost
Jan-06												
Feb-06												
Mar-06												
Apr-06	$13,410	$0	$13,410	80.0%	$10,728	101,825	41,605	40.9%	$4,383	$6,345	$686,093	
May-06	$30,880	$0	$30,880	80.0%	$24,704	115,848	39,595	34.2%	$8,443	$16,261	$649,717	
Jun-06	$83,480	$0	$83,480	80.0%	$66,784	108,362	36,421	33.6%	$22,446	$44,338	$621,350	
Jul-06	$111,870	-$41,720	$70,150	80.0%	$56,120	150,458	55,337	36.8%	$20,640	$35,479	$718,562	
Aug-06	$53,400	-$61,274	-$7,874	80.0%	-$6,299	103,732	81,273	78.3%	-$4,936	-$1,364	$801,879	
Sep-06	$71,560	-$26,039	$45,521	80.0%	$36,417	94,400	34,538	36.6%	$13,324	$23,093	$642,378	
Oct-06	$479,200	-$37,879	$441,321	80.0%	$353,057	234,967	58,939	25.1%	$88,560	$264,497	$1,092,015	
Nov-06	$147,000	-$40,740	$106,260	80.0%	$85,008	156,487	63,391	40.5%	$34,436	$50,572	$948,293	
Dec-06	$174,160	-$62,400	$111,760	80.0%	$89,408	206,718	97,095	47.0%	$41,995	$47,413	$1,339,744	
Jan-07	$316,500	-$83,422	$233,078	80.0%	$186,462	110,490	93,433	84.6%	$157,677	$28,785	$1,196,862	
Feb-07	$201,480	-$79,639	$121,841	80.0%	$97,473	106,067	89,196	84.1%	$81,969	$15,504	$1,150,631	
Mar-07	$214,650	-$70,850	$143,800	80.0%	$115,040	115,656	79,352	68.6%	$78,929	$36,111	$1,130,442	
Apr-07	$59,510	$0	$59,510	80.0%	$47,608	107,984	59,162	54.8%	$26,083	$21,525	$846,706	
May-07	$114,390	$0	$114,390	80.0%	$91,512	110,727	49,812	45.0%	$41,168	$50,344	$770,721	
Jun-07	$79,510	$0	$79,510	80.0%	$63,608	110,282	60,492	54.9%	$34,890	$28,718	$834,043	
Jul-07	$155,630	-$3,990	$151,640	80.0%	$121,312	127,953	43,858	34.3%	$41,582	$79,730	$760,403	
Aug-07	$195,100	-$6,509	$188,591	80.0%	$150,873	148,114	71,546	48.3%	$72,878	$77,994	$885,312	
Sep-07	$279,450	-$6,705	$272,745	80.0%	$218,196	184,731	73,702	39.9%	$87,054	$131,142	$1,061,469	
Oct-07	$354,600	-$37,579	$317,021	80.0%	$253,616	241,187	85,875	35.6%	$90,301	$163,316	$1,286,945	
Nov-07	$188,550	-$46,419	$142,131	80.0%	$113,705	145,265	106,075	73.0%	$83,029	$30,675	$1,209,094	
Dec-07	$282,490	-$69,050	$213,440	80.0%	$170,752	156,098	157,790	101.1%	$172,603	-$1,851	$1,760,580	
Jan-09	$162,410	$0	$162,410	80.0%	$129,928	150,393	105,753	70.3%	$91,362	$38,566	$948,317	
Feb-09	$242,680	$0	$242,680	80.0%	$194,144	119,972	105,739	88.1%	$171,111	$23,033	$943,989	
Mar-09	$106,590	$0	$106,590	80.0%	$85,272	134,418	91,482	68.1%	$58,034	$27,238	$766,636	
Apr-09	$83,560	$0	$83,560	80.0%	$66,848	116,765	78,403	67.1%	$44,886	$21,962	$725,860	
May-09	$89,610	$0	$89,610	80.0%	$71,688	122,580	53,665	43.8%	$31,385	$40,303	$705,024	
Jun-09	$82,690	$0	$82,690	80.0%	$66,152	88,917	54,561	61.4%	$40,592	$25,560	$682,883	
Jul-09	$67,710	$0	$67,710	85.0%	$57,554	108,910	44,398	40.8%	$23,462	$34,091	$659,027	
Aug-09	$83,810	$0	$83,810	85.0%	$71,239	119,969	64,559	53.8%	$38,336	$32,903	$711,183	
Sep-09	$81,660	$0	$81,660	85.0%	$69,411	88,690	129,709	146.2%	$101,513	-$32,102	$649,196	
Oct-09	$90,860	$0	$90,860	85.0%	$77,231	191,494	107,650	56.2%	$43,416	$33,815	$937,329	
Nov-09	$70,540	$0	$70,540	85.0%	$59,959	111,924	92,592	82.7%	$49,603	$10,356	$877,294	
Dec-09	$62,390	$0	$62,390	85.0%	$53,032	131,272	122,986	93.7%	$49,684	$3,347	$876,497	
2006	$1,164,960	-$270,053	$894,907	80.0%	$715,926	1,272,797	508,194	39.9%	$229,293	$486,633	$7,500,030	6.5%
2007	$2,441,860	-$404,164	$2,037,696	80.0%	$1,630,157	1,664,552	970,293	58.3%	$968,164	$661,993	$12,893,207	5.1%
2009	$1,224,510	$0	$1,224,510	81.9%	$1,002,457	1,485,304	1,051,497	70.8%	$743,384	$259,072	$9,483,236	2.7%
Total 2006, 07, 09	**$4,831,330**	**-$674,217**	**$4,157,113**	80.5%	**$3,348,539**	**4,422,653**	**2,529,984**	**57.2%**	**$1,940,841**	**$1,407,698**	**$29,876,473**	4.7%

SCHEDULE WEB-17

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Schedule WEB-18

Correct Perfect Hedge Costs

	A	B	C	D	E	F	G	H	I	J	K	L
source:	QCA workpapers	QCA model	(A + B)	tariff	(C * D)	DR 0013	QCA workpapers	(G / F)	(E * H)	(E - I)	QCA workpapers	(J / K)
	Total Hedge Cost*	Hedge Cost Retained through Coal Performance Standard	Hedge Cost Before Alignment*	Alignment Mechanism	Hedge Cost Charged to QCA Customers*	Budget Volume MMBtus	Actual Volume MMBtus	Actual Volume as Percent of Budget Volume	Perfect Hedge Cost Charged to QCA Customers*	Imperfect Hedge Cost Charged to QCA Customers*	Total Fuel Cost Incurred*	Percent of Total Fuel Cost*
Jan-06												
Feb-06												
Mar-06												
Apr-06	$13,410	$0	$13,410	80.0%	$10,728	101,825	41,605	40.9%	$4,383	$6,345	$686,093	
May-06	$30,880	$0	$30,880	80.0%	$24,704	115,848	39,595	34.2%	$8,443	$16,261	$649,717	
Jun-06	$83,480	$0	$83,480	80.0%	$66,784	108,362	36,421	33.6%	$22,446	$44,338	$621,350	
Jul-06	$111,870	-$41,720	$70,150	80.0%	$56,120	150,458	55,337	36.8%	$20,640	$35,479	$718,562	
Aug-06	$53,400	-$61,274	-$7,874	80.0%	-$6,299	103,732	81,273	78.3%	-$4,936	-$1,364	$801,879	
Sep-06	$71,560	-$26,039	$45,521	80.0%	$36,417	94,400	34,538	36.6%	$13,324	$23,093	$642,378	
Oct-06	$479,200	-$37,879	$441,321	80.0%	$353,057	234,967	58,939	25.1%	$88,560	$264,497	$1,092,015	
Nov-06	$147,000	-$40,740	$106,260	80.0%	$85,008	156,487	63,391	40.5%	$34,436	$50,572	$948,293	
Dec-06	$174,160	-$62,400	$111,760	80.0%	$89,408	206,718	97,095	47.0%	$41,995	$47,413	$1,339,744	
Jan-07	$316,500	-$83,422	$233,078	80.0%	$186,462	110,490	93,433	84.6%	$157,677	$28,785	$1,196,862	
Feb-07	$201,480	-$79,639	$121,841	80.0%	$97,473	106,067	89,196	84.1%	$81,969	$15,504	$1,150,631	
Mar-07	$214,650	-$70,850	$143,800	80.0%	$115,040	115,656	79,352	68.6%	$78,929	$36,111	$1,130,442	
Apr-07	$59,510	$0	$59,510	80.0%	$47,608	107,984	59,162	54.8%	$26,083	$21,525	$846,706	
May-07	$114,390	$0	$114,390	80.0%	$91,512	110,727	49,812	45.0%	$41,168	$50,344	$770,721	
Jun-07	$79,510	$0	$79,510	80.0%	$63,608	110,282	60,492	54.9%	$34,890	$28,718	$834,043	
Jul-07	$155,630	-$3,990	$151,640	80.0%	$121,312	127,953	43,858	34.3%	$41,582	$79,730	$760,403	
Aug-07	$195,100	-$6,509	$188,591	80.0%	$150,873	148,114	71,546	48.3%	$72,878	$77,994	$885,312	
Sep-07	$279,450	-$6,705	$272,745	80.0%	$218,196	184,731	73,702	39.9%	$87,054	$131,142	$1,061,469	
Oct-07	$354,600	-$37,579	$317,021	80.0%	$253,616	241,187	85,875	35.6%	$90,301	$163,316	$1,286,945	
Nov-07	$188,550	-$46,419	$142,131	80.0%	$113,705	145,265	106,075	73.0%	$83,029	$30,675	$1,209,094	
Dec-07	$282,490	-$69,050	$213,440	80.0%	$170,752	156,098	157,790	101.1%	$172,603	-$1,851	$1,760,580	
Jan-09	$162,410	$0	$162,410	80.0%	$129,928	150,393	105,753	70.3%	$91,362	$38,566	$948,317	
Feb-09	$242,740	$0	$242,740	80.0%	$194,192	119,972	105,739	88.1%	$171,153	$23,039	$944,049	
Mar-09	$314,710	$0	$314,710	80.0%	$251,768	134,418	91,482	68.1%	$171,348	$80,420	$974,756	
Apr-09	$174,530	$0	$174,530	80.0%	$139,624	116,765	78,403	67.1%	$93,752	$45,872	$816,830	
May-09	$218,880	$0	$218,880	80.0%	$175,104	122,580	53,665	43.8%	$76,659	$98,445	$834,294	
Jun-09	$204,500	$0	$204,500	80.0%	$163,600	88,917	54,561	61.4%	$100,388	$63,212	$804,693	
Jul-09	$169,710	$0	$169,710	85.0%	$144,254	108,910	44,398	40.8%	$58,806	$85,447	$761,027	
Aug-09	$212,520	$0	$212,520	85.0%	$180,642	119,969	64,559	53.8%	$97,209	$83,433	$839,893	
Sep-09	$229,360	$0	$229,360	85.0%	$194,956	88,690	129,709	146.2%	$285,122	-$90,166	$796,896	
Oct-09	$258,280	$0	$258,280	85.0%	$219,538	191,494	107,650	56.2%	$123,415	$96,123	$1,104,749	
Nov-09	$234,620	$0	$234,620	85.0%	$199,427	111,924	92,592	82.7%	$164,981	$34,446	$1,041,374	
Dec-09	$194,070	$0	$194,070	85.0%	$164,960	131,272	122,986	93.7%	$154,547	$10,412	$1,008,177	
2006	$1,164,960	-$270,053	$894,907	80.0%	$715,926	1,272,797	508,194	39.9%	$229,293	$486,633	$7,500,030	6.5%
2007	$2,441,860	-$404,164	$2,037,696	80.0%	$1,630,157	1,664,552	970,293	58.3%	$968,164	$661,993	$12,893,207	5.1%
2009	$2,616,330	$0	$2,616,330	82.5%	$2,157,992	1,485,304	1,051,497	70.8%	$1,588,745	$569,248	$10,875,056	5.2%
Total 2006, 07, 09	**$6,223,150**	**-$674,217**	**$5,548,934**	81.2%	**$4,504,075**	**4,422,653**	**2,529,984**	**57.2%**	**$2,786,201**	**$1,717,874**	**$31,268,294**	5.5%

Note: *These values reflect the correction of the 2009 misclassification.

SCHEDULE WEB-19

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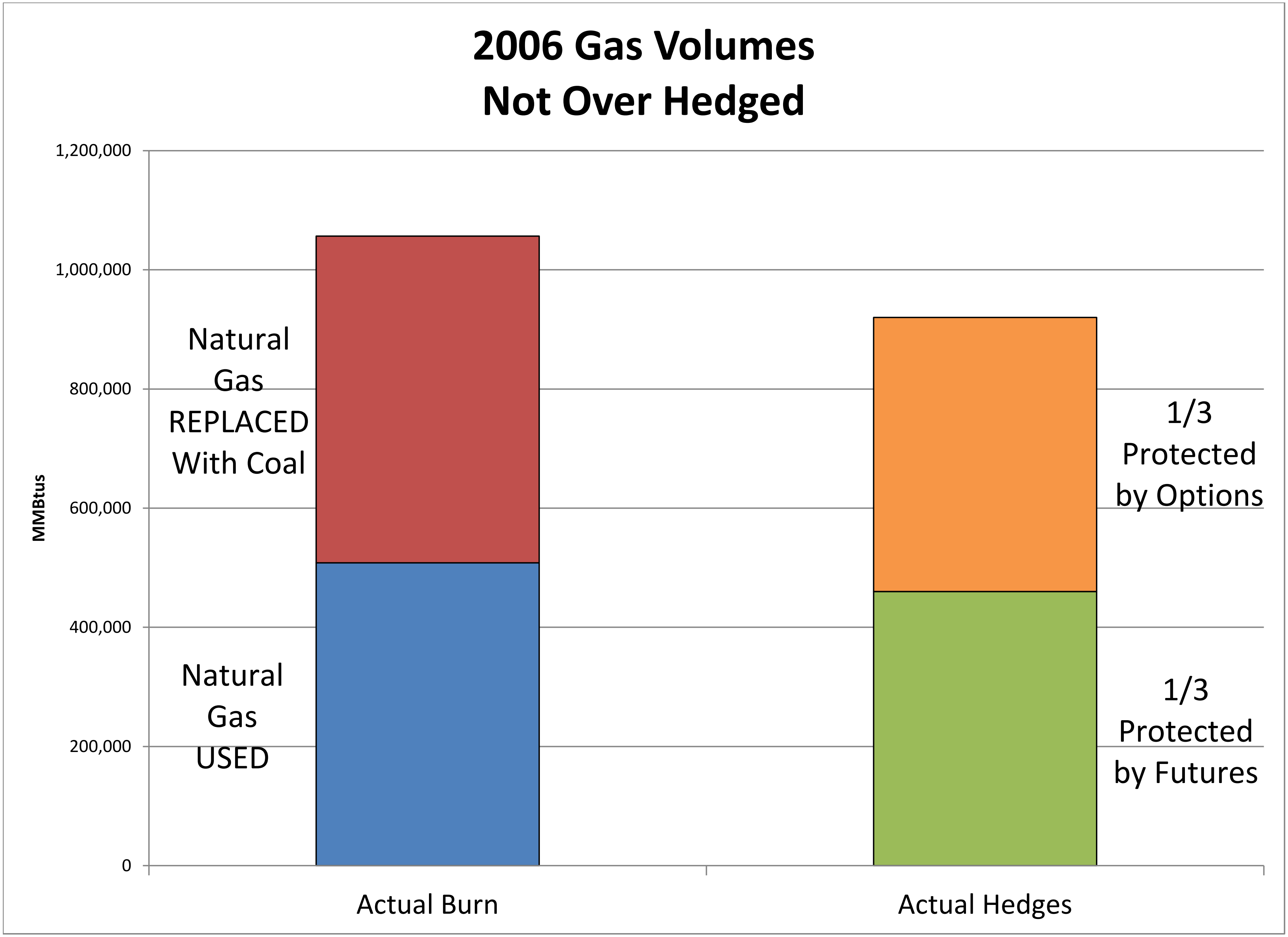
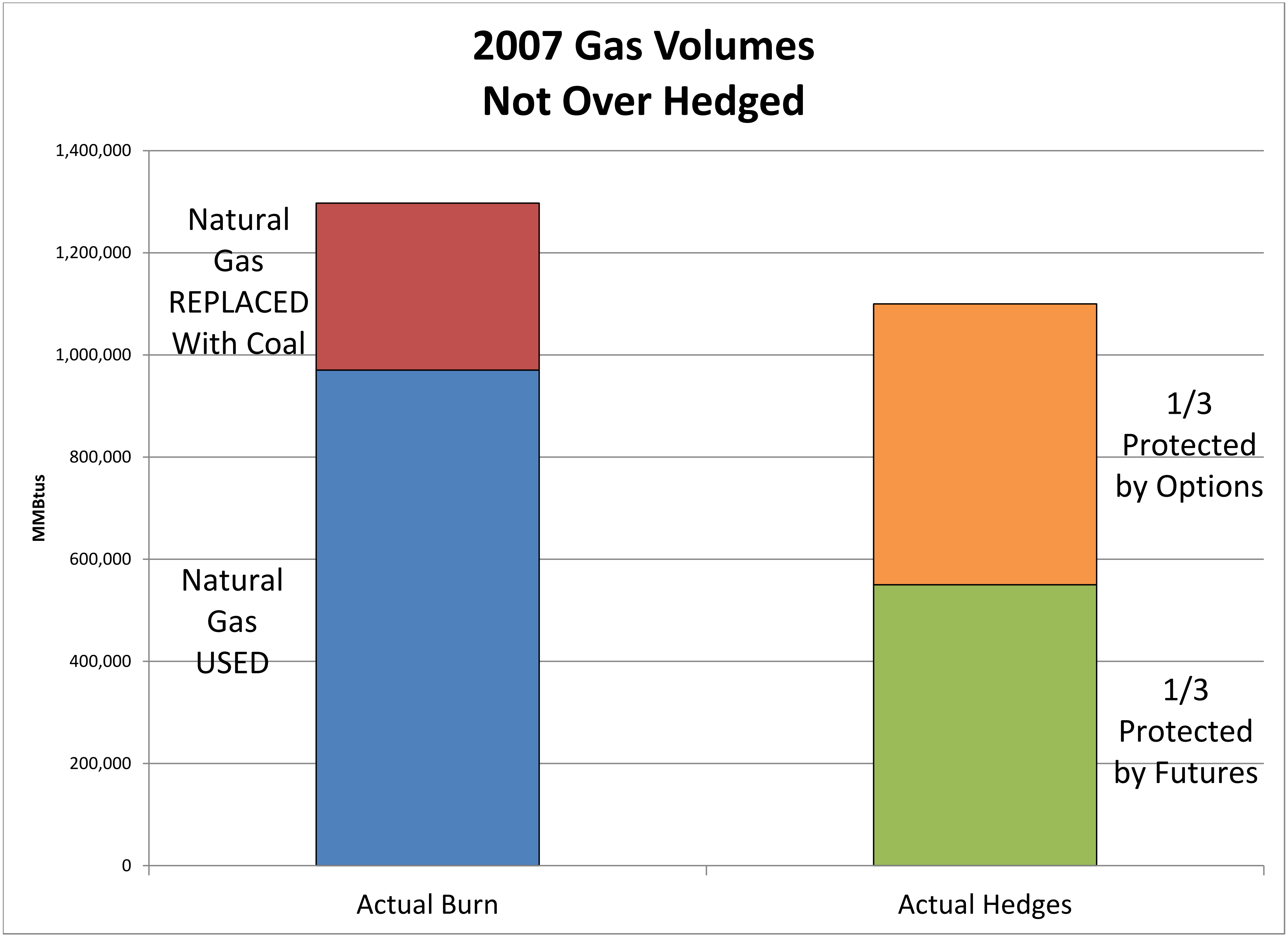
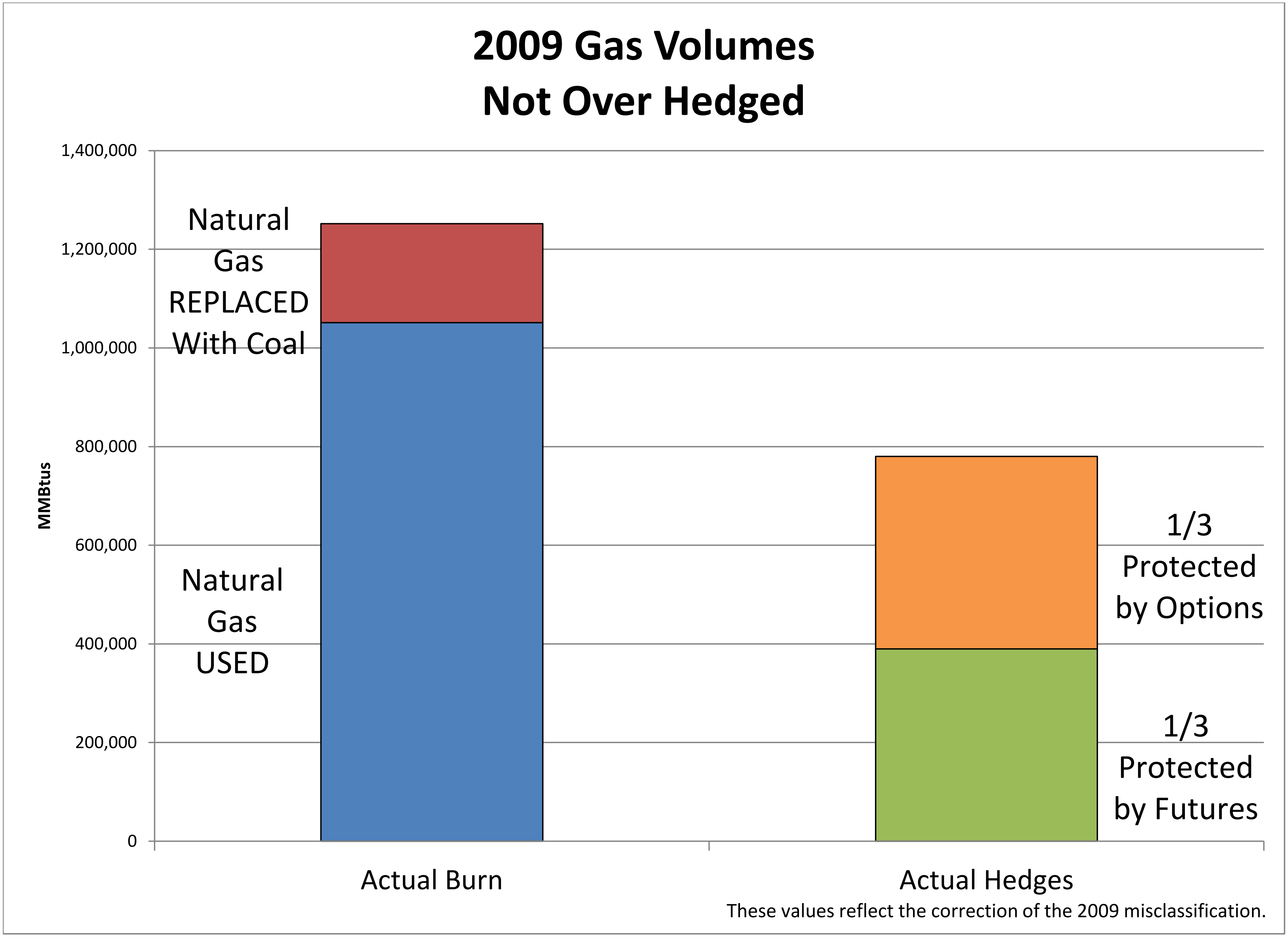
Schedule WEB-20



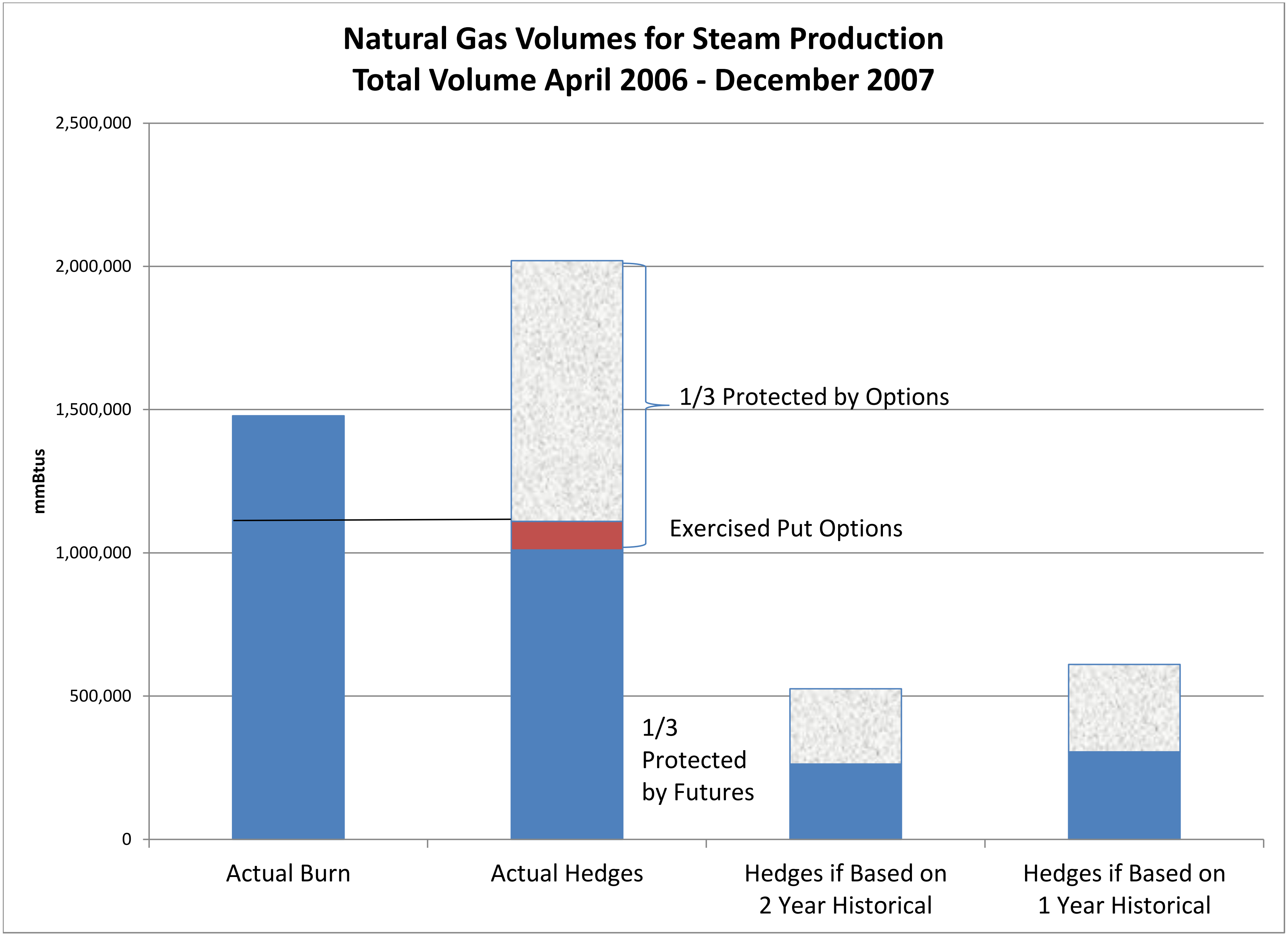
Schedule WEB-21



Schedule WEB-22



Schedule WEB-23



Schedule WEB-24

2006-2007
Mechanics of Natural Gas Hedges for Steam Production

	A	B				MMBtu /Contract	C				D Net Change in Value
		Physical Market					Futures Market				
1	Place hedge	**NEED:**	2,020,000	MMBtus		10,000	**BUY:**	101	futures		
		Avg forecast price	$8.084	/MMBtus			Avg purchase price	$8.798	/MMBtu		
		Value	$16,330,492				Value	$8,886,090			
2							**BUY:**	101	calls		
							Avg purchase price	$1.504	/MMBtu		
							Value	$1,519,200			
3							**SELL:**	-129	puts		
							Avg purchase price	$0.146	/MMBtu		
							Value	-$188,400			
4		**Total Need**	**2,020,000**	**MMBtus**			**Total Hedge**	**202**	**contracts**		
		Total Need	**$16,330,492**				**Total Hedge**	**$10,216,890**			
5	Close hedge	**BUY: Nat Gas**	1,478,487	MMBtus		10,000	**SELL:**	101	futures		
		Avg purchase price	$6.786	/MMBtus			Avg sale price	$6.674	/MMBtu		
		Value	$10,032,971				Value	$6,740,790			
6		**BUY: Coal**	541,513	MMBtus			**SELL:**	101	calls		
		Avg purchase price	$1.865	/MMBtus			Avg sale price	$0.007	/MMBtu		
		Value	$1,010,168				Value	$6,890			
7							**BUY:**	-129	puts		
							Avg sale price	$0.116	/MMBtu		
							Value	-$149,460			
8		**Total Purchase**	**2,020,000**	**MMBtus**			**Total Hedge**	**202**	**contracts**		
		Total Purchase	**$11,043,139**				**Total Hedge**	**$6,598,220**			
9	**Change** **=Place - Close**	**GAIN:**	**$5,287,354**				**LOSS:**	**$3,618,670**			**$1,668,684 GAIN**
10	**QCA Coal Performance Standard Adjustment**		$1,563,425					-$674,217			
11			**$6,850,779**					**$2,944,453**			
	Alignment Mechanism		80%					80%			
12	**Impact on QCA Customers**	**GAIN:**	**$5,480,623**				**LOSS:**	**$2,355,563**			**$3,125,060 GAIN**

Notes:
Futures contracts only, excludes options
Contracts = MMBtu Equivalent / 10,000

Schedule WEB-25

2006
Mechanics of Natural Gas Hedges for Steam Production

	A	B			MMBtu /Contract	C			D
		Physical Market				Futures Market			Net Change in Value
1	Place hedge	**NEED:**	920,000	MMBtus	10,000	**BUY:**	46	futures	
		Avg forecast price	$7.156	/MMBtus		Avg purchase price	$8.148	/MMBtu	
		Value	$6,583,564			Value	$3,747,900		
2						**BUY:**	46	calls	
						Avg purchase price	$0.899	/MMBtu	
						Value	$413,600		
3						**SELL:**	-46	puts	
						Avg purchase price	$0.198	/MMBtu	
						Value	-$91,200		
4		**Total Need**	**920,000**	**MMBtus**		**Total Hedge**	**92**	**contracts**	
		Total Need	**$6,583,564**			**Total Hedge**	**$4,070,300**		
5	Close hedge	**BUY: Nat Gas**	508,194	MMBtus	10,000	**SELL:**	46	futures	
		Avg purchase price	$6.957	/MMBtus		Avg sale price	$6.568	/MMBtu	
		Value	$3,535,451			Value	$3,021,280		
6		**BUY: Coal**	411,806	MMBtus		**SELL:**	46	calls	
		Avg purchase price	$1.864	/MMBtus		Avg sale price	$0.000	/MMBtu	
		Value	$767,427			Value	$0		
7						**BUY:**	-46	puts	
						Avg sale price	$0.277	/MMBtu	
						Value	-$127,520		
8		**Total Purchase**	**920,000**	**MMBtus**		**Total Hedge**	**92**	**contracts**	
		Total Purchase	**$4,302,878**			**Total Hedge**	**$2,893,760**		
9	**Change** **=Place - Close**	**GAIN:**	**$2,280,686**			**LOSS:**	**$1,176,540**		**$1,104,146 GAIN**
10	**QCA Coal Performance Standard Adjustment**		$806,845				-$270,053		
11			**$3,087,531**				**$906,487**		
	Alignment Mechanism		80%				80%		
12	**Impact on QCA Customers**	**GAIN:**	**$2,470,025**			**LOSS:**	**$725,190**		**$1,744,835 GAIN**

Notes:
Futures contracts only, excludes options
Contracts = MMBtu Equivalent / 10,000

Schedule WEB-26

2007
Mechanics of Natural Gas Hedges for Steam Production

	A	B			MMBtu /Contract	C			D
		Physical Market				Futures Market			Net Change in Value
1	Place hedge	**NEED:**	1,100,000	MMBtus	10,000	**BUY:**	55	futures	
		Avg forecast price	$8.960	/MMBtus		Avg purchase price	$9.342	/MMBtu	
		Value	$9,856,130			Value	$5,138,190		
2						**BUY:**	55	calls	
						Avg purchase price	$2.010	/MMBtu	
						Value	$1,105,600		
3						**SELL:**	-83	puts	
						Avg purchase price	$0.117	/MMBtu	
						Value	-$97,200		
4		**Total Need**	**1,100,000**	**MMBtus**		**Total Hedge**	**110**	**contracts**	
		Total Need	**$9,856,130**			**Total Hedge**	**$6,146,590**		
5	Close hedge	**BUY: Nat Gas**	970,293	MMBtus	10,000	**SELL:**	55	futures	
		Avg purchase price	$6.643	/MMBtus		Avg sale price	$6.763	/MMBtu	
		Value	$6,445,675			Value	$3,719,510		
6		**BUY: Coal**	129,707	MMBtus		**SELL:**	55	calls	
		Avg purchase price	$1.867	/MMBtus		Avg sale price	$0.013	/MMBtu	
		Value	$242,139			Value	$6,890		
7						**BUY:**	-83	puts	
						Avg sale price	$0.026	/MMBtu	
						Value	-$21,940		
8		**Total Purchase**	**1,100,000**	**MMBtus**		**Total Hedge**	**110**	**contracts**	
		Total Purchase	**$6,687,814**			**Total Hedge**	**$3,704,460**		
9	**Change** **=Place - Close**	**GAIN:**	**$3,168,316**			**LOSS:**	**$2,442,130**		**$726,186 GAIN**
10	**QCA Coal Performance Standard Adjustment**								
			$756,580				-$404,164		
11			**$3,924,896**				**$2,037,966**		
	Alignment Mechanism		80%				80%		
12	**Impact on QCA Customers**								
		GAIN:	**$3,139,917**			**LOSS:**	**$1,630,373**		**$1,509,544 GAIN**

Notes:
Futures contracts only, excludes options
Contracts = MMBtu Equivalent / 10,000

Schedule WEB-27

2009
Mechanics of Natural Gas Hedges for Steam Production

	A	B				C			D
		Physical Market			MMBtu /Contract	Futures Market			Net Change in Value
1	Place hedge	**NEED:**	780,000	MMBtus	10,000	**BUY:**	39	futures	
		Avg forecast price	$7.851	/MMBtus		Avg purchase price	$8.298	/MMBtu	
		Value	$6,123,398			Value	$3,236,240		
2						**BUY:**	39	calls	
						Avg purchase price	$1.717	/MMBtu	
						Value	$669,500		
3						**SELL:**	-34	puts	
						Avg purchase price	$0.145	/MMBtu	
						Value	-$49,200		
4		**Total Need**	**780,000**	**MMBtus**		**Total Hedge**	**78**	**contracts**	
		Total Need	**$6,123,398**			**Total Hedge**	**$3,856,540**		
5	Close hedge	**BUY: Nat Gas**	780,000	MMBtus	10,000	**SELL:**	39	futures	
		Avg purchase price	$3.261	/MMBtus		Avg sale price	$3.990	/MMBtu	
		Value	$2,543,515			Value	$1,556,100		
6		**BUY: Coal**	0	MMBtus		**SELL:**	39	calls	
		Avg purchase price	$2.401	/MMBtus		Avg sale price	$0.000	/MMBtu	
		Value	$0			Value	$0		
7						**BUY:**	-34	puts	
						Avg sale price	$0.929	/MMBtu	
						Value	-$315,890		
8		**Total Purchase**	**780,000**	**MMBtus**		**Total Hedge**	**78**	**contracts**	
		Total Purchase	**$2,543,515**			**Total Hedge**	**$1,240,210**		
9	**Change** =Place - Close	**GAIN:**	**$3,579,884**			**LOSS:**	**$2,616,330**		**$963,553 GAIN**
10	**QCA Coal Performance Standard Adjustment**		$103,012				$0		
11			**$3,682,896**				**$2,616,330**		
	Alignment Mechanism		82.5%				82.5%		
12	**Impact on QCA Customers**	**GAIN:**	**$3,037,713**			**LOSS:**	**$2,157,992**		**$879,721 GAIN**

Notes:
- Futures contracts only, excludes options
- Contracts = MMBtu Equivalent / 10,000
- Alignment Mechanism changed from 80% to 85% 7/1/2009
- These values reflect the correction of the 2009 misclassification.