Exhibit No.:	
Issue:	*Rate of Return*
Witness:	*David Murray*
Sponsoring Party:	*MoPSC Staff*
Type of Exhibit:	*Rebuttal Testimony*
Case No.:	*GR-2009-0355*
Date Testimony Prepared:	*September 28, 2009*

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

REBUTTAL TESTIMONY

OF

DAVID MURRAY

MISSOURI GAS ENERGY,
a Division of Southern Union Company

CASE NO. GR-2009-0355

Jefferson City, Missouri
September 2009

TABLE OF CONTENTS

OF THE REBUTTAL TESTIMONY OF

DAVID MURRAY

MISSOURI GAS ENERGY
a Division of Southern Union Company

CASE NO. GR-2009-0355

REBUTTAL TESTIMONY

OF

DAVID MURRAY

MISSOURI GAS ENERGY
A division of Southern Union Company

CASE NO. GR-2009-0355

Q. Please state your name.

A. My name is David Murray.

Q. Are you the same David Murray who prepared the Rate of Return Section of the Staff's Cost of Service Report?

A. Yes, I am.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to respond to the direct testimony of Mr. Frank J. Hanley and Mr. Daniel J. Lawton. Mr. Hanley sponsored rate-of-return (ROR) testimony on behalf of MGE. Mr. Lawton sponsored ROR testimony on behalf of The Office of the Public Counsel (OPC). I will address the issues of appropriate capital structure, cost of common equity and cost of short-term debt to be applied to MGE's Missouri natural gas utility rate base for ratemaking purposes in this proceeding.

Q. Please summarize the parties' recommendations in this case.

A. Staff is recommending a cost of common equity of 9.25 percent to 9.75 percent using a hypothetical capital structure and hypothetical capital costs based on Staff's proxy group. Mr. Hanley is recommending a cost of common equity of 11.25 percent based on the mid-point of his range of cost of equity estimates of 9.82 percent to 12.36 percent. Mr. Hanley also proposes the use of a hypothetical capital structure and

hypothetical capital costs, but with the use of a much higher cost of short-term debt. Mr. Lawton recommends a cost of common equity of 10.0 percent (this cost of equity does not reflect his recommended reduction to the revenue requirement for a straight fixed variable rate design). Mr. Lawton recommends the use of Southern Union's consolidated capital structure with the use of consolidated debt costs.

EXECUTIVE SUMMARY OF REBUTTAL TESTIMONY

Q. Can you please summarize the main issues that Staff believes the Commission should consider when evaluating Mr. Hanley's and Mr. Lawton's recommendations in this case?

A. Yes. The main areas of Mr. Hanley's recommendation that deserve scrutiny are his risk premium estimates and his estimated cost of short-term debt. Mr. Hanley's risk premium estimates are beyond the range of any reasonable estimates used in the investment field and, therefore, should be dismissed. If the Commission dismisses Mr. Hanley's risk premium estimates, the Commission still can consider Mr. Hanley's DCF estimated cost of common equity of 9.82 percent, which is the basis for the low-end of his range of cost of equity estimates. Although this estimate is based on Mr. Hanley's proxy group, which includes non-regulated operations, Staff will show that this estimate is consistent not only with Staff's recommendation, but with costs of equity and expected market equity returns relied upon by those in the investment field.

Mr. Lawton's recommended ROR for MGE is based on the use of Southern Union's consolidated capital structure and associated consolidated embedded costs of debt. While Staff is not as concerned about this approach if the Commission includes Panhandle Energy costs in the authorized embedded cost of debt, Staff recognizes that in past cases the

Commission adopted the consolidated capital structure, but excluded Panhandle Energy debt costs. However, for a variety of reasons explained in Staff's Cost of Service Report, Staff decided the most suitable methodology considering Southern Union's financing activities and past Commission decisions was to estimate MGE's ROR using a hypothetical approach similar to Mr. Hanley's approach.

Mr. Lawton also proposes a direct revenue requirement reduction to consider MGE's straight-fixed variable (SFV) rate design. Staff does not object to the concept of making a downward adjustment to consider the proposed SFV rate design (Staff recommended the lower half of its estimated proxy group cost of equity to take this into consideration), but Staff believes the Commission should understand that using this methodology gives the appearance that Mr. Lawton is recommending a higher ROE than that which is implied after his proposed revenue requirement reduction is taken into account.

DIRECT TESTIMONY REVISIONS

Q. Do you have any revisions you need to make to the ROR section of the Cost of Service Report?

A. Yes. Staff is attaching to this rebuttal testimony an updated and corrected copy of Schedules 20-1 through 20-7 originally attached to Staff's Cost of Service Report.

In responding to data requests submitted by the Company, Staff discovered that it failed to include a cost of common equity rate of 9.40 percent used by an UBS Investment Research equity analyst in a November 13, 2008 report published on Atmos Energy Company. This increases the upper end of the range of costs of equity I provided on page 39, line 16 of the Staff's Cost of Service Report, from 8.50 percent to 9.40 percent.

Additionally, Staff discovered that the 8.50 percent cost of common equity Goldman Sachs used in its March 9, 2009 and July 17, 2008 natural gas industry report also applied to WGL Holdings, Inc. (WGL) and Atmos Energy Corporation (Atmos). Staff had already included this information for AGL Resources, Inc. (AGL). Attached to this rebuttal testimony is a corrected Schedule 20-7.

Finally, during Staff's preparation of rebuttal testimony, Staff discovered recent cost of common equity estimates provided by equity research analysts. UBS Investment Research published a research report on September 21, 2009, that provided an 8.8 percent estimated cost of common equity for Atmos. This same report provided a 9.4 percent estimated cost of common equity for Southwest Gas (one of Mr. Hanley's comparable companies, but not Staff's). Goldman Sachs also published a research report on August 31, 2009 that applied a cost of common equity of 9.0 percent to AGL, Atmos and WGL, which is 50 basis points higher than the cost of equity Goldman Sachs had used to value the stock of these companies in a March 9, 2009 report. Although Goldman Sachs increased its estimated cost of equity in its more recent analysis of AGL, Atmos and WGL, UBS decreased its estimated cost of equity in its more recent analysis of Atmos. Although these analysts differ on the direction of changes in their cost of equity, they are still firmly in the low eight to mid nine percent range for equity discount rates.

MR. HANLEY'S RECOMMENDED COST OF COMMON EQUITY FOR MGE

Q. Please summarize Mr. Hanley's recommended cost of common equity for MGE's natural gas utility operations in this case.

A. Mr. Hanley's recommended proxy group cost of common equity of 11.09 percent is based on the mid-point of a range (9.82% to 12.36%) of estimated costs of

common equity applying three methodologies—discounted cash flow (DCF), Capital Asset Pricing Model (CAPM), and risk premium methodology (RPM) to a proxy group of nine natural gas companies. Mr. Hanley also used a comparable earnings methodology (CEM), but these results were not included in his estimated cost of common equity range so Staff will not address the specifics of this methodology in its rebuttal testimony. Mr. Hanley made an upward adjustment of 15 basis points to his estimated proxy group cost of common equity to adjust for the smaller size of MGE relative to the average size of his proxy group. Mr. Hanley then rounded his final result by one basis point to arrive at a final estimated cost of common equity of 11.25 percent.

Mr. Hanley also provides an alternative estimated cost of common equity if the Commission were to rely on Southern Union's consolidated capital structure to set MGE's allowed rate of return. Using all four methodologies, Mr. Hanley recommends a cost of common equity of 15.25 percent if the Commission were to use Southern Union's consolidated capital structure. Although I am recommending the Commission no longer set MGE's allowed rate of return based on Southern Union's consolidated capital structure and associated embedded costs, if the Commission were to decide to continue to use Southern Union's capital structure, the Commission should disregard Mr. Hanley's ROE recommendation because it is based on Mr. Hanley's assessment of Southern Union's business risk. Even if the Commission should decide it is appropriate to consider Southern Union's business risk, Mr. Hanley's costs of equity estimates are well beyond any level of reasonableness.

A numerical summary of Mr. Hanley's primary and alternative cost of common equity analysis is presented on page 2 of Schedule FJH-1 attached to his direct testimony.

The results for Mr. Hanley's proxy group cost of common equity were as follows: DCF-9.82 percent, RPM-12.36 percent, CAPM-11.33 percent, and CEM-not meaningful (NMF). Mr. Hanley then added 15 basis points to the mid-point of these three results, to arrive at an estimated cost of common equity of 11.24 percent, which he rounded to 11.25 percent. The results for Mr. Hanley's cost of common equity analysis for Southern Union were as follows: DCF-13.74 percent, RPM-14.50 percent, CAPM-15.10 percent, CEM-15.50. Mr. Hanley used the mid-point of the range of these four results (14.62%) and added 65 basis points for a small size adjustment to arrive at an estimated cost of common equity of 15.27 percent, which he rounded to 15.25 percent.

Q. From page 34, line 6 through page 40, line 5 of Mr. Hanley's direct testimony, Mr. Hanley presents testimony concerning why he believes market-to-book ratios should be considered when determining a fair and reasonable allowed ROE. Most of this testimony is directed towards concerns Mr. Hanley has with the use of the DCF methodology to determine a reasonable ROE to authorize in context of a rate case. He believes that a DCF estimated cost of common equity is downward-biased when market values are in excess of book values. Do you agree with this conclusion?

A. No. Mr. Hanley believes that if market-to-book ratios are in excess of one, the DCF model will understate investors' required return on book value of equity. He maintains that because the DCF model relies on the stock price of a given company to determine investors' required returns, this causes problems when applying this rate of return to the book value of common equity because the return applied to this book value will not generate the return expected by investors on the market value of common equity.

While this argument may have some intuitive appeal, it does not address the reason investors will expect the market-to-book ratio to remain significantly above one. If utility companies' costs of equity are below their earned ROEs and these companies are allowed to continue to earn ROEs above the cost of equity, then it is only natural that investors will bid up the price of the stock to a point where the market-to-book ratio is above one. While investors may expect some commissions to continue to allow an ROE above a utility's cost of capital, I do not think this Commission should adopt upward adjustments to DCF results as suggested by Mr. Hanley because I believe that this would send a message to investors that if they bid the prices of utility stocks up, the Commission will make adjustments to support these higher market valuation levels.

Q. Are you aware of any sources that support the position that if the market-to-book ratio of a company is above one, then this means that a company is earning more than its cost of capital?

A. Yes. In the textbook by Aswath Damodaran, INVESTMENT VALUATION: Tools and Techniques for Determining the Value of *Any* Asset, 1996, there are many citations that indicate if a company is earning more than its cost of capital, then the market-to-book ratio for that company will be above one. Page 320 of this textbook states the following:

> The PBV [price/book value] ratio of a stable firm is determined by the differential between the return on equity and the required rate of return on its projects. If the return on equity exceeds the required rate of return, the price will exceed the book value of equity; if the return on equity is lower than the required rate of return, it will be lower than the book value of equity. The advantage of this formulation is that it can be used to estimate the PBV ratios for firms that do not pay out dividends.

Another relevant and applicable quotation in the same book on page 326 reads as follows:

> The PBV ratio is also influenced by the required rate of return, with higher required rates of return leading to lower PBV ratios. The influence of the return on equity and the required rate of return can be consolidated in one measure by taking the difference between the two rates. The larger the return on equity relative to the required rate of return, the greater the PBV ratio…

Q. Are you aware of any other sources that support the proposition that market-to-book ratios imply that utility companies are earning more than their cost of common equity?

A. Yes. This is also discussed in the Eugene F. Fama and Kenneth R. French (Fama and French) article, "The Equity Premium" published in the *Journal of Finance* in April 2002. Fama and French discuss the increased valuation levels of equities during the period 1951 to 2000 and conclude that investors have earned a return which is higher than their cost of common equity. Specifically, the authors' state: "Since, on average, the market value of equity is substantially higher than its book value, it seems safe to conclude that, on average, the expected return on investment exceeds the cost of capital."

Consequently, by no means is there an agreement in the financial literature about what inferences should be drawn from market-to-book ratios that are significantly above one.

Q. Are investors aware that authorized ROE's are normally applied to book value capital structures?

A. Yes. Therefore, if reasonable inputs are used in a traditional DCF analysis, a DCF-estimated cost of common equity should still provide a reliable estimate of investors' required ROE.

Q. Has Mr. Hanley sponsored rate-of-return testimony when market-to-book ratios were below one?

A. Yes. Mr. Hanley filed rate-of-return testimony on August 4, 1980 for Kentucky Power Company in Case No. 7900 before the Energy Regulatory Commission of Kentucky. This was a period in which utility industry market-to-book ratios were generally below one.

Q. Did Mr. Hanley make downward adjustments to his DCF analysis in 1980 because the book value of equity was higher than the market value of equity?

A. No.

Q. Did Mr. Hanley comment on market-to-book ratios in his testimony in Case No. 7900?

A. Yes. On page 6, lines 20 through 25 of his direct testimony, Mr. Hanley stated the following:

> There is a correlation between adequate achieved return rates on book common equity and coverage of fixed charges, and market/book ratios. The return rate on book common equity provides the margin by which fixed charges are earned more than one time. **Because achieved earnings rates on the book equity of electric utilities have been too low, investors have been consistently discounting the prices of stocks to below book value.** (emphasis added)

Mr. Hanley's testimony in 1980 claims that because market-to-book ratios were below one, this meant that utilities were earning returns on their book equity that were too low. If one applies simple logic to this argument, then the opposite would be true when market-to-book ratios are above one…utility companies are earning returns on their book equity that are too high.

Mr. Hanley also stated that the market-to-book ratio is directly affected by regulatory decisions. Mr. Hanley specifically stated: "In the final analysis, the market/book ratio is the end result of regulatory decisions." If this is the case, then the only thing that will be accomplished by this Commission authorizing an ROE higher than the market cost of equity is to allow continued support of overearnings.

Q. What is the current average market-to-book ratio for Mr. Hanley's proxy group?

A. Based on the information that Mr. Hanley provided on page 4 of Schedule FJH-1 attached to his direct testimony, his proxy group has a market-to-book ratio of 1.74. This average market-to-book ratio implies that Mr. Hanley's proxy companies are earning well in excess of their cost of common equity.

Q. What is the average market-to-book ratio of your comparable companies?

A. As can be seen on Schedule 17 in Staff's Cost of Service Appendices, the average market-to-book ratio of my comparable companies is 1.64.

Q. What was the earned return on book common equity for 2008 for your comparable companies and what is the projected earned return on book common equity for 2009 for your comparable companies?

A. The earned return on book common equity for 2008 was 12.16 percent and the projected earned return on book common equity for 2009 is 11.79 percent.

Q. What does this imply?

A. These companies are earning more than their cost of common equity.

Q. Are you aware of any recent decisions by this Commission that rejected the logic that the allowed ROE should be adjusted to consider higher market-to-book ratios?

A. Yes. In the Commission's decision *In the Matter of Union Electric Company d/b/a AmerenUE's Tariffs Increasing Rates for Electric Service Provided to Customers in the Company's Missouri Service Area,* Case No. ER-2007-0002, the Commission clearly rejected any attempt by the company witnesses to imply an upward adjustment should be made to the cost of equity because the market value of the equity was higher than the book value of the equity. The Commission specifically stated the following:

> In large part, the overly high return on equity recommendations put forward by AmerenUE's witnesses result from their inclusion of a large financial risk resulting from the market value of common equity in AmerenUE's capital structure. The witnesses use this premium adjustment to increase McShane's return on equity recommendation by 100 basis points, and Vander Weide's by 70 basis points. But despite his advocacy of an adjustment to account for AmerenUE greater risk, Vander Weide acknowledged at the hearing that AmerenUE's risk is about average for the electric utility industry.
>
> In addition to the obvious incongruity of a large risk adjustment for a company with an average level of risk, the opposing experts convincingly explained that the proposed upward adjustment for financial risk was inappropriate for technical reasons as well. In particular, the Commission accepts as credible the testimony of MIEC's witness, Michael Gorman, who explains that AmerenUE's proposed adjustment for financial risk is an incomplete assessment of AmerenUE's overall risk because it ignores the difference in operating risk between AmerenUE and comparable companies, because it does not properly evaluate the financial risk differential between the proxy groups and AmerenUE, and because it fails to recognize that a company's book value financial risk is already captured in a company's stock price.
>
> In sum, the financial risk upward adjustment proposed by AmerenUE's witnesses appears to be a transparent effort to inflate the company's proposed return on equity to obtain a better bargaining position in the hope the Commission would simply split the difference between the extreme positions. Such efforts call into the question the credibility of these witnesses…

Q. Does Mr. Hanley propose a specific adjustment due to the higher market value of his comparable companies' equity compared to the book value?

A. No. However, Mr. Hanley uses this argument to discredit his DCF estimated cost of common equity.

Q. How does Mr. Hanley allow for an upward adjustment to his cost of common equity recommendation?

A. He maintains that his cost of common equity recommendation is made more reliable by the fact that he relies on two other methodologies, but as I will demonstrate, this simply allows him to adjust his cost of common equity recommendation higher using unreasonable inputs in his other methods.

Q. Do you have any concerns with Mr. Hanley's analysis using the Risk Premium Model (RPM)?

A. Yes, concerning Mr. Hanley's use of projected bond yields in his RPM analysis. I believe it is more appropriate to use current utility bond yields rather than projected bond yields. It is inappropriate to use projected bond yields in a risk premium analysis because this is akin to using projected stock prices in a DCF analysis. The rate of return witness is attempting to estimate investors' required returns to invest in equity, not what economists are projecting interest rates to be in the future. Regardless, current required returns on bonds already reflect investors' expectations about possible future changes in interest rates.

Q. Do you have any other concerns with Mr. Hanley's RPM analysis?

A. Yes. Mr. Hanley determined an average Moody's credit rating of "Baa1" for his proxy group. Based on my review of the credit ratings Mr. Hanley provided for his proxy group on page 2 of Schedule FJH-15, the credit ratings provided in the SEC Form 10-Q

Filings of his proxy group and Moody's credit ratings on various debt issuances of the comparable companies, I don't believe this average is reliable.

The Moody's credit ratings Mr. Hanley provided are based on Moody's evaluation of specific debt issuances, which may be secured or unsecured, and that are often issued by the subsidiary and not the parent company. Consequently, this average credit rating is not based on the average corporate credit rating of his proxy group. Because Mr. Hanley's determination of the average Moody's credit rating is based on a variety of types of debt issuances, this is not reflective of the overall risk of the issuers. However, Staff notes that to the extent that Moody's believes there is additional risk at the holding company level due to non-regulated operations; it is possible that if Moody's had rated the holding company or its debt, this rating may be lower.

Q. Did Mr. Hanley provide a credit rating for New Jersey Resources Corp. in determining the average Moody's credit rating for his proxy group?

A. No. Staff discovered that New Jersey Natural Gas Company, New Jersey Resources, Corp.'s natural gas distribution utility subsidiary**,** has a credit rating of "Aa3". Staff included this credit rating along with updated Moody's credit ratings to determine Staff's estimate of an average Moody's credit rating of A3 for Mr. Hanley's proxy group (see Schedule 1 attached to this testimony).

Q. What is the average S&P credit rating for Mr. Hanley's proxy group?

A. It is an "A", which is the equivalent to an "A2" Moody's credit rating. This is also shown in Schedule 1 attached to this rebuttal testimony.

Q. What do you conclude from your review of this information?

A. That the average credit rating Mr. Hanley should use for his risk premium analysis should be in the range of a Moody's credit rating of "A3" to "A2", which is the same as an S&P credit rating of "A-" to "A".

Q. Assuming it is more appropriate to use a current monthly average public utility bond yield for "A" rated bonds for purposes of Mr. Hanley's RPM, what was a recent monthly average yield for "A" rated utility bond?

A. The average "A" rated public utility bond yield was 5.97 percent for July 2009.

Q. How much would use of this current information reduce Mr. Hanley's RPM estimates if he had assumed MGE would have an "A" credit rating?

A. 52 basis points if one uses the July 2009 average "A" rated public utility bond yield to estimate MGE's cost of common equity.

Q. If you applied Mr. Hanley's risk premium methodology assuming MGE had an "A-" credit rating, how would this impact Mr. Hanley's RPM estimates?

A. It would increase the current bond yield by 20 basis points (1/3 of Mr. Hanley's normalized bond yield difference of 60 basis points). Consequently, his RPM estimates would have been 32 basis points lower.

Q. Do you believe Mr. Hanley's risk premium estimates have any merit?

A. No. Although Mr. Hanley provides much detail and uses several calculations to arrive at an estimated risk premium of 5.47 percent to be applied to the utility bond yield, I don't believe it is necessary to discuss all of the disagreements I have with the specifics of his methodologies to discredit his estimate.

Q. What information do you believe discredits Mr. Hanley's 5.47 percent risk premium to apply to estimated utility bond yields?

A. Equity analysts and institutional investors do not project market returns to be anywhere near those estimated by Mr. Hanley. Page 6 of Mr. Hanley's Schedule 15 indicates a market risk premium over "Aaa" and "Aa" corporate bonds of 9.71 percent. This risk premium is higher than the Missouri State Employees' Retirement System's (MOSER's) expected return for large cap domestic stocks of 8.50 percent. When Mr. Hanley's market risk premium of 9.71 percent is added to his projected bond yield of 6.89 percent, this results in an expected return for the broader markets of 16.60 percent, which is almost twice that used by MOSER's for its investment strategies.

Q. What risk premiums have equity analysts used for purposes of estimating the cost of common equity for natural gas distribution companies?

A. First, it should be noted that based on the reports that I reviewed the risk premiums did not use utility bond yields as the base rate. These analysts followed more traditional estimation methods by applying a risk premium to the risk-free rate to determine the cost of common equity. As can be seen in my revised and updated Schedules 20-1 through 20-7 attached to this rebuttal testimony, Citigroup used a risk premium for the broader markets in the range 5.00 percent to 6.45 percent. It is extremely important to understand that these risk premiums were applied to the risk-free rate, not an estimated utility bond yield, which contains a risk premium for default risk on the bond. As can be derived from the figures on Schedules 20-1 and 20-2, applying Citigroup's risk premiums to the risk-free rates used in their reports results in an overall estimated return for the broader

markets of 9.50 percent to 9.95 percent. After applying the beta of 0.75, the estimated cost of equity for the utilities was in the range of 8.25 percent to 8.34 percent.

Q. Do any of the utility specific risk premiums used by investment analysts support Mr. Hanley's estimated risk premium of 5.47 percent to apply to an estimated "Baa1" bond yield?

A. No. The risk premiums implied by the Citigroup estimates are as low as 3.75 percent and as high as 4.84 percent. Additionally, Brean Murray's risk premium estimates range from as low as 3.20 percent to as high as 4.40 percent. Once again, these risk premiums are being applied to the risk-free rate rather than a higher utility bond yield so the estimated costs of equity are much lower than those estimated by Mr. Hanley.

Q. Are you aware of any academic sources that contradict the reasonableness of applying a 5.47 percent risk premium to utility-specific bond yields to estimate the cost of common equity for a company?

A. Yes. According to the textbook *Analysis of Equity Investments: Valuation* (2002) by John D. Stowe, Thomas R. Robinson, Jerald E. Pinto and Dennis W. McLeavey (used as part of the curriculum in the Chartered Financial Analyst Program), a typical risk premium added to the yield-to-maturity (YTM) of a company's long-term debt is in the 3 to 4 percent range. Because utility stocks behave much like bonds, I wouldn't add more than a 3 percent risk premium to arrive at a rough estimate of the cost of common equity.

Because I am assuming that MGE's credit rating would be the same, or slightly higher than my proxy group, which is an "A" credit rating, this would indicate an approximate cost of common equity of 8.97 percent, which is below my recommended cost

of common equity, but very much in line with equity analysts' estimates of natural gas distribution companies' costs of equity.

If I applied this 3 percent risk premium to an estimated "A-" bond yield using Mr. Hanley's normalized spread of 60 basis points, this would indicate a cost of common equity of approximately 9.17 percent. Even if the Commission were to accept Mr. Hanley's average credit rating of "BBB+" credit rating, the indicated cost of common equity would only be 9.37 percent.

Q. The methodology suggested by the above-mentioned source seems very simplistic. Do you recommend that the cost of common equity be set based on this approach?

A. No, but I certainly believe this approach provides an element of common sense as to determining the reasonableness of a ROR witness' estimate of the cost of common equity. It is easy to complicate the estimation of the cost of common equity by compiling massive amounts of data and using many different methodologies, but sometimes it is important to perform simplifying tests of reasonableness to determine if an estimated cost of equity can be judged to be sound and reasonable. Staff has provided several sources of information that, if anything, seem to imply that Staff's estimated cost of equity is too high.

Q. Do you have concerns with Mr. Hanley's CAPM analysis?

A. Yes. My concerns about his CAPM analysis are much the same as my concerns about his risk premium analysis because he uses projected risk-free rates rather than current risk-free rates and most importantly, his estimated risk premiums are nowhere close to those used by investors and investment analysts. Because ROR witnesses are attempting

to determine investors' required rates of return, the type of evidence I have provided on equity analysts' discount rates and institutional investor's expected returns is informative for purposes of determining a zone of reasonableness. Because the Commission has also used average authorized ROEs from other states to determine a zone of reasonableness, I also provided this information in the Staff's Cost of Service Report. I urge the Commission to consider all of the data I have provided in determining the allowed ROE in this case. I believe that the data that I provided that is used for purposes of actual investment decisions is the data that should receive the most consideration.

Q. What equity risk premium did Mr. Hanley propose to use for his CAPM analysis?

A. 10.77 percent.

Q. Why is this equity risk premium higher than what he used in his risk premium analysis?

A. Because this risk premium is based on Mr. Hanley's projected stock market returns over the yields on 30-year Treasury bonds rather than over public utility bond yields, which are higher due to the inclusion of default risk.

Q. How much higher are Mr. Hanley's estimated equity risk premiums than those used by equity analysts?

A. Between 432 basis points to 577 basis points higher.

Q. How much higher are Mr. Hanley's estimated equity risk premiums than those implied by MOSER's expectations?

A. Based on a 30-Treasury bond yield of 4.40 percent, the current equity risk premium for U.S. markets is approximately 410 basis points, less than half of that used by Mr. Hanley and also less than that used by equity analysts.

Q. What concern do you have about Mr. Hanley's risk-free rate component?

A. Although his inflated risk premium estimates are by far the most glaring issues that should cause one to question the credibility of his recommendation, Mr. Hanley also uses projected risk-free rates in his analysis. As I discussed previously, this is akin to using projected stock prices to determine a DCF cost of equity. However, because we are trying to determine investors' expectations, the more relevant data are current yields because this data already captures these expectations.

Q. If Mr. Hanley's risk premium and CAPM estimates are beyond any zone of reasonableness, then is there anything in his cost of equity analysis the Commission should consider?

A. His DCF estimated cost of common equity of 9.82 percent which is approximately the mid-point of my cost of equity estimate for my proxy group.

Q. Should Mr. Hanley's DCF be adjusted for MGE's small size?

A. No. Mr. Hanley recommends an upward adjustment of 15 basis points because of MGE's smaller size. The adjustment for size premium that Mr. Hanley advocates is based on a study of all of the stocks in the New York Stock Exchange, the American Stock Exchange and the Nasdaq National Market. The study did not apply specifically to regulated utilities. Annie Wong, associate professor at Western Connecticut State University, performed a study that was published in the *Journal of the Midwest Finance Association*,

Volume 22, which refutes the need for an adjustment based upon the smaller size of public utilities. She indicates:

> First, given firm size, utility stocks are consistently less risky than industrial stocks. Second, industrial betas tend to decrease with firm size but utility betas do not. These findings may be attributed to the fact that all public utilities operate in an environment with regional monopolistic power and regulated financial structure. As a result, the business and financial risks are very similar among the utilities regardless of their size. Therefore, utility betas would not necessarily be expected to be related to firm size.

Because smaller utilities operate in a regulated environment, just as large utilities do, making an adjustment for firm size is not appropriate. Additionally, MGE is a division of a larger company and has access to capital through Southern Union. Consequently, even if the Commission were to consider a size adjustment, it would also need to consider that the study on size premium was done on publicly-traded companies, not divisions and/or subsidiaries of larger companies.

Q. Has Staff reviewed information in other rate cases that provides support that this adjustment is not made in practice by investors?

A. Yes. *In the Matter of Missouri-American Water Company`s request for Authority to Implement a General Rate Increase for Water Service provided in Missouri Service Areas,* Case No. WR-2007-0216, Staff filed highly confidential rebuttal testimony that provided information from Duff & Phelps that supported Staff's position that investors would not increase their required returns for small size if the company operates in a highly regulated industry, such as the utility industry.

Q. On page 7, lines 4 through 15 of his direct testimony, Mr. Hanley explains why he did not make an adjustment to his recommended cost of common equity to consider

MGE's Straight Fixed Variable (SFV) rate design. Did he provide accurate information to arrive at his conclusion?

A. No. According to Mr. Hanley, 84.5 percent of the average of the proxy group's revenues are partially or fully decoupled. While it is correct to state that the revenues of the regulated natural gas distribution operations of the comparable companies have been largely decoupled, it is not accurate to report that 84.5 percent of the proxy group's total revenues are decoupled.

Q. Why is this inaccurate?

A. He did not consider the proxy groups' total revenues, which include non-regulated revenues. A more balanced comparison of MGE's risk to that of the proxy group would have considered the percentage of decoupled revenues from the proxy groups' total revenues, inclusive of revenues other than natural gas distribution revenues.

Q. Should Mr. Hanley been aware of this information?

A. Yes. Mr. Hanley is an employee of AUS Consultants, which also publishes a monthly report, AUS Monthly Utility Reports, which provides various financial data on the utility industry. The financial data reported on the natural gas industry includes information on the percentage of revenues derived from the natural gas utility operations. According to the September 2009 report, Mr. Hanley's comparable companies only received 63 percent of their revenues from their gas utility operations.

Q. If Mr. Hanley had taken this into consideration, then what percentage of his proxy groups' revenues are derived from decoupled rates?

A. Only 53 percent (84% x 63%).

Q. Do you know if Mr. Hanley's decision not to make an adjustment to his recommended cost of common equity would change if he had provided this information in his direct testimony?

A. No, because he did not identify a threshold for percentage of revenues in which he would make a downward adjustment. However, if percentage of revenues is his criterion, then he should explain this in his surrebuttal testimony.

Q. Does the fact that Mr. Hanley's proxy group receives a significant percentage of its revenues from non-regulated activities make it inappropriate to use any of these companies to estimate the cost of common equity for MGE?

A. No. Many of the companies in both of our proxy group's derive a significant percentage of their revenues from non-regulated activities. However, due to the fact that these revenues are generated from the marketing of natural gas, which by its nature is a high volume business, does not mean that these companies' business risk profiles are not similar to natural gas distribution companies. However, if Mr. Hanley is going to support his decision not to adjust his ROE based on percentage of revenues, then he should have provided information on all of the operations of his proxy group.

MR. HANLEY'S RECOMMENDED COST OF SHORT-TERM DEBT FOR MGE

Q. Mr. Hanley recommends the use of projected three-month LIBOR rates plus a margin of 250 basis points and an up front fee of 100 basis points to determine a proxy cost of short-term debt for purposes of recommending a fair and reasonable recommended rate of return for MGE. Do you agree with this methodology?

A. No. Mr. Hanley's estimates are based on the assumption that his comparable companies must rely solely on these credit facilities for purposes of accessing short-term debt

capital. Staff reviewed the most recent SEC 10-Q Filings for each of its comparable companies and determined that five of its seven comparable companies (AGL, Atmos, New Jersey, Northwest and WGL) access the short-term debt by means of issuing commercial paper and use their credit facilities either to support their commercial paper borrowings or as a back-up. Seven of Mr. Hanley's nine comparable companies also access the commercial paper market. This group consists of the five companies in my comparable group as well as Southwest Gas Corporation and The Laclede Group.

Because Mr. Hanley's estimate of MGE's cost of capital is based on a hypothetical approach using aggregate data of his comparable companies, then in order to complete this approach, he should also attempt to emulate the cost of short-term funds for his comparable companies. Because his comparable companies are able to secure very low cost short-term debt through the issuance of commercial paper and Mr. Hanley is relying on his comparable group to estimate MGE's cost of capital, his recommended rate of return should reflect the reality of the cost of capital for his comparable companies.

Q. Is Staff aware of any additional information that supports the reasonableness of it recommended cost of short-term debt?

A. Yes. Southern Union itself is realizing a very low cost of short-term debt and it doesn't even issue commercial paper. According to MGE's response to Staff Data Request No. 0168, Southern Union's daily average interest rate associated with its revolving credit facility was 1.04 percent for the four months ending April 30, 2009. According to Southern Union's SEC Form 10-Q Filing for the quarter ended June 30, 2009, the effective interest rate on this facility was only 0.89 percent as of August 5, 2009.

Although it is uncertain how long these lower short-term lending rates will be available, it is important to capture these lower costs in the rate of return charged to ratepayers.

Q. Have utility companies experienced long periods of low cost of short-term capital in the past?

A. Yes. Short-term interest rates were quite low from 2002 through 2004. The average 3-month LIBOR rate was 1.56 percent for this 3-year period[1], while the average 90-day AA non-financial commercial paper rate was 1.40 percent for this same period[2]. The average 3-month LIBOR rate through the first eight months of 2009 was 0.98 percent, while the average 90-day AA non-financial commercial paper rate was 0.31 percent for this same period. Consequently, not only are current short-term interest rates extremely low, but for those with access to the commercial paper market, they are even more attractive. Ignoring this beneficial short-term interest rate environment in setting the allowed rate of return would result in a ROR higher than the cost of capital.

Q. Mr. Hanley proposes the addition of an upfront fee to the average cost of short-term debt to allow for issuance costs in the average cost of short-term debt. Do you agree that this should be included in a recommended cost of short-term debt?

A. Yes. This concept is similar to the calculation of an embedded cost of long-term debt, which includes issuance costs.

Q. Do you believe upfront costs will add 100 basis points to the cost of short-term debt?

[1] Copyright 2009 MoneyCafe.com
[2] http://www.federalreserve.gov/releases/h15/data/Annual/H15_NFCP_M3.txt

A. No. Many credit facilities used to either support the issuance of commercial paper or as a direct source of funds have a maturity in excess of one year. Therefore, any upfront costs should be amortized over this period.

Q. What is the typical maturity length for your proxy groups' various credit facilities?

A. Usually closer to five years, but they may be a shorter period such as one to three years.

Q. Did Southern Union provide you any information on the issuance costs associated with its own credit facilities?

A. Yes. Southern Union provided this information in response to Staff Data Request No. 0168.1 and Staff Data Request No. 0265.1.

Q. What types of credit facilities were these?

A. The information provided in response to Staff Data Request No. 0168.1 concerns Southern Union's 5-year revolving credit facility. The information provided in response to Staff Data Request No. 0265.1 is concerning Southern Union's 2-year term loan facility. Because revolving credit facilities are most often used to back up commercial paper issuance, Staff deemed the embedded costs associated with this facility to be the most relevant for purposes of determining any additional basis points that should be added to Staff's estimated cost of short-term debt.

In response to Staff Data Request No. 0168.1, MGE provided the average monthly amortization of short-term debt costs. Staff applied this to the average interest cost for this facility and determined that it only caused a 10 basis point increase to the cost of short-term debt. Consequently, Staff has increased its average cost of short-term debt from 0.89 percent

to 0.99 percent and simply rounded this cost to 1.00 percent. Please see Schedule 2 attached to this rebuttal testimony for Staff's revised ROR recommendation.

MR. LAWTON'S RECOMMENDED RATE OF RETURN FOR MGE

Q. Please summarize Mr. Lawton's recommended ROR for MGE.

A. Mr. Lawton recommends the use of Southern Union's capital structure as of December 31, 2008, which was provided in Mr. Hanley's direct testimony. Mr. Lawton uses the same costs Mr. Hanley provided for long-term debt, preferred stock and short-term debt. However, he recommended an ROE of 10.0 percent (prior to a reduction in revenue requirement for a SFV rate design) rather than the 15.25 percent ROE recommended by Mr. Hanley.

Q. What is you primary concern with Mr. Lawton's approach in this case?

A. That the Commission will not accept Mr. Lawton's recommendation to include the cost of Panhandle Energy debt when determining the appropriate ROR to authorize for MGE. It is important to also note that although Mr. Hanley only provided a recommended ROR for MGE based on Southern Union's consolidated capital structure as an alternative, his recommended ROR using this methodology included the Panhandle Energy debt costs as well. In MGE's past two rate cases, Case Nos. GR-2004-0209 and GR-2006-0422, the Commission has excluded the cost of Panhandle Energy debt from the rate of return calculation even though it was included in the capital structure. If the Commission continues to adopt Southern Union's capital structure to determine MGE's authorized ROR, then it should follow both witnesses' proposed use of Panhandle Energy's debt costs in determining the authorized ROR.

Q. Why did the Commission exclude the PEPL cost of debt in the last two rate cases?

A. In the Report and Order in Case No. GR-2004-0209, the Commission stated the following reasons:

> Panhandle Eastern's debt is the debt of a subsidiary company and is not the debt of Southern Union. That debt was raised by Panhandle Eastern for its own purposes and is rated separately by the rating agencies. Furthermore, that debt is non-recourse to Southern Union. That means that the debt restricts the assets that the debt holder can use to satisfy the debt. In other words, if Panhandle Eastern were to default on its debt, the debt holders would not be able to seize the assets of Southern Union to collect the debt. In addition, a stipulation and agreement entered into by Southern Union, Staff, Public Counsel, and other parties in Case No. GM-2003-0238 – the case in which this Commission approved Southern Union's acquisition of Panhandle Eastern – provides that MGE is to be insulated from the impact of the acquisition of Panhandle Eastern. For all these reasons, the Commission finds that the cost of long-term debt of Panhandle Eastern is properly excluded from the calculation of Southern Union's cost of long-term debt.

Q. Did Staff follow the Commission's methodology in MGE's last rate case, Case No. GR-2006-0422?

A. Yes. Because the Staff did not have any additional evidence to provide the Commission that it didn't already provide in Case No. GR-2004-0209, Staff chose not to challenge the Commission's previous decision.

Q. If Staff had chosen to recommend the use of Southern Union's capital structure in this case, would it have included the Panhandle Energy debt in its recommended cost of long-term debt?

A. Yes. As the Staff fully explained on pages 24 through 26 of the Staff Cost of Service Report, Staff discovered new evidence that proves that Southern Union's and Panhandle Energy's financing activities are becoming more blurred with time.

Q. If there is new evidence that supports the inclusion of Panhandle Energy's debt costs, then why didn't Staff revert back to its original methodology proposed in the 2004 rate case, which was the use of the consolidated capital structure along with the consolidated capital costs?

A. Because of Staff's experience with estimating a fair and reasonable ROR for the MPS and L&P operations previously owned by Aquila, Inc. Although Southern Union still has an investment grade credit rating, because Southern Union has other riskier operations that may impact the cost of capital available to MGE, Staff believes the hypothetical approach better addresses any "cost of capital drift" that may be caused by Southern Union's other operations.

Q. Isn't it true that the comparable companies used by all the ROR witnesses in this case have some degree of non-regulated operations that could impact their cost of capital?

A. Yes. However, this impact can be minimized by selecting companies that are predominately regulated natural-gas distribution companies.

Q. Do you have any other concerns with Mr. Lawton's recommendation in this case?

A. He hasn't updated Southern Union's cost of short-term debt. The cost of short-term debt has declined considerably since December 31, 2008 and has continued to decline month-over-month since the beginning of the year. If natural gas distribution companies are experiencing lower costs of service due to their low costs of short-term debt, then this should be reflected in the authorized ROR.

Q. Did Mr. Lawton make a downward adjustment to his recommended ROE to account for MGE's SFV rate design?

A. Not directly. Mr. Lawton chose instead to recommend an absolute dollar reduction in the revenue requirement to account for rate design. Although the translation of this recommended reduction in ROE terms depends on the authorized rate base, Staff estimates this reduction to be approximately 50 basis points. Therefore, if Mr. Lawton had chosen to reflect his risk adjustment directly within his ROE analysis, his recommended ROE would have been approximately 9.50 percent.

Q. Does Mr. Lawton's direct revenue requirement reduction recommendation for a SFV rate design illustrate possible problems with relying on allowed ROEs in Missouri rate cases?

A. Yes. If other jurisdictions have followed a similar approach, then a simple comparison to allowed ROEs will not reflect the reduction in revenue requirement that these jurisdictions made to account for rate design.

SUMMARY AND CONCLUSIONS

Q. Please summarize the conclusions of your rebuttal testimony.

A. My conclusions regarding the capital structure and cost of common equity are listed below.

1. The Commission should adopt a hypothetical capital structure because of financing decisions made by Southern Union. This capital structure is fair as long as reasonable capital costs are applied to the capital components. This capital structure should be trued-up through

September 30, 2009 when this information becomes available for the comparable companies.

2. A cost of common equity recommendation of 9.25 percent to 9.75 percent should be adopted. This cost of common equity is consistent with Mr. Hanley's DCF estimated cost of common equity and is consistent with costs of equity and expected returns used by those in the investment field.

3. The cost of short-term debt should be based on the comparable companies' actual cost of short-term debt, which is based on rates being achieved in the commercial paper market. However, Staff has revised its recommendation to allow for a 10 basis point adder for an estimate of the amortization of embedded costs. Staff's revised recommended ROR range is 7.20 percent to 7.46 percent (see Schedule 2).

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Missouri Gas Energy and Its Tariff Filing to Implement a General Rate Increase for Natural Gas Service	))))	Case No. GR-2009-0355

AFFIDAVIT OF DAVID MURRAY

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

David Murray, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Rebuttal Testimony in question and answer form, consisting of 30 pages to be presented in the above case; that the answers in the foregoing Rebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.

David Murray

Subscribed and sworn to before me this 25th day of September, 2009.

NIKKI SENN
Notary Public - Notary Seal
State of Missouri
Commissioned for Osage County
My Commission Expires: October 01, 2011
Commission Number: 07287016

Notary Public

MISSOURI GAS ENERGY
CASE NO. GR-2009-0355
Comparison of Bond Ratings for the
Proxy Group of Nine Value Line Natural Gas Distribution Companies

	Moody's Bond Rating September 2009		S&P's Corporate Credit Rating September 2009	
Proxy Group of Nine Value Line Natural Gas Distribution Companies	Bond Rating	Numerical Weighting	Credit Rating	Numerical Weighting
AGL Resources Inc.	Baa1	8.0	A-	7.0
Atmos Energy Corp.	Baa2	9.0	BBB+	8.0
The Laclede Group, Inc.	A2	6.0	A	6.0
New Jersey Resources Corp.	Aa3	4.0	A	6.0
Northwest Natural Gas Co.	A1	5.0	AA-	4.0
Piedmont Natural Gas Co., Inc.	A3	7.0	A	6.0
South Jersey Industries, Inc.	A2	6.0	BBB+	8.0
Southwest Gas Corporation	Baa3	10.0	BBB	9.0
WGL Holdings, Inc.	A2	6.0	AA-	4.0
AVERAGE	A3	6.8	A	6.4

Source Information: Reuters
Standard & Poor's Global Utilities Rating Service

SCHEDULE 1

MISSOURI GAS ENERGY
CASE NO. GR-2009-0355

Weighted Cost of Capital for Missouri Gas Energy

Capital Component	Percentage of Capital	Embedded Cost	Weighted Cost of Capital Using Common Equity Return of: 9.25%	9.50%	9.75%
Common Stock Equity	51.06%	-----	4.72%	4.85%	4.98%
Long-Term Debt	40.47%	5.92%	2.40%	2.40%	2.40%
Short-Term Debt	8.47%	1.00%	0.08%	0.08%	0.08%
	100.00%		**7.20%**	**7.33%**	**7.46%**

SCHEDULE 2

MISSOURI GAS ENERGY
CASE NO. GR-2009-0355

Costs of Equity Used in Equity Research Reports for AGL Resources Inc.

Investment Company	Date of Report	**Discount Rate (Cost of Equity)**	Terminal Growth	Equity Risk Premium	Risk-free rate	Beta
Goldman Sachs	8/31/2009	**9.00%**	2.00%	NA	NA	NA
	3/9/2009	**8.50%**	2.00%	NA	NA	NA
	7/17/2008	**8.50%**	2.00%	NA	NA	NA
Citigroup	3/29/2009	**8.34%**	NA	6.45%	3.50%	0.75
	10/15/2008	**8.25%**	NA	5.00%	4.50%	0.75

Notes:
NA = Not available

CORRECTED SCHEDULE 20-1

MISSOURI GAS ENERGY
CASE NO. GR-2009-0355

Costs of Equity Used in Equity Research Reports for Atmos Energy Corp.

Investment Company	Date of Report	**Discount Rate (Cost of Equity)**	DDM Growth Rate	Equity Risk Premium	Risk-free rate	Beta
Citigroup	3/29/2009	**8.34%**	NA	6.45%	3.50%	0.75
	10/15/2008	**8.25%**	NA	5.00%	4.50%	0.75
Brean Murray	2/5/2009	**8.40%**	3.50%[1]	4.40%	4.00%	NA
	8/6/2008	**8.20%**	4.00%[1]	3.70%	4.50%	NA
Goldman Sachs	8/31/2009	**9.00%**	2.00%[2]	NA	NA	NA
	3/9/2009	**8.50%**	2.00%[2]	NA	NA	NA
	7/17/2008	**8.50%**	2.00%[2]	NA	NA	NA
UBS Investment Research	9/21/2009	**9.00%**	2.00%[2]	NA	NA	NA
	11/13/2008	**9.40%**	2.00%[2]	NA	NA	NA

Notes:
1. Used in a single-stage DDM model.
2. Terminal stage in multi-stage DDM model.

NA = Not available

CORRECTED SCHEDULE 20-2

CORRECTED SCHEDULE 20-2

MISSOURI GAS ENERGY
CASE NO. GR-2009-0355

Costs of Equity Used in Equity Research Reports for New Jersey Resources Corp.

Investment Company	Date of Report	**Discount Rate (Cost of Equity)**	Single-stage DDM Growth Rate	Equity Risk Premium	Risk-free rate	Beta
Brean Murray	7/29/2009	**8.00%**	5.00%	4.00%	4.00%	NA
	11/14/2008	**7.45%**	4.50%	3.20%	4.25%	NA
	8/6/2008	**7.80%**	4.50%	3.30%	4.50%	NA

Notes:
NA= Not Available

CCORRECTED SCHEDULE 20-3

MISSOURI GAS ENERGY
CASE NO. GR-2009-0355

Costs of Equity Used in Equity Research Reports for Northwest Natural Gas Company

Investment Company	Date of Report	**Discount Rate (Cost of Equity)**	Single-stage DDM Growth Rate	Equity Risk Premium	Risk-free rate	Beta
Brean Murray	8/4/2009	**7.75%**	5.00%	3.50%	4.25%	NA
	10/13/2008	**7.75%**	5.00%	3.50%	4.25%	NA

Notes:
NA= Not Available

CCORRECTED SCHEDULE 20-4

MISSOURI GAS ENERGY
CASE NO. GR-2009-0355

Costs of Equity Used in Equity Research Reports for Piedmont Natural Gas Company

Investment Company	Date of Report	**Discount Rate (Cost of Equity)**	Single-stage DDM Growth Rate	Equity Risk Premium	Risk-free rate	Beta
Brean Murray	7/30/2009	**7.30%**	4.00%	3.30%	4.00%	NA
	1/6/2009	**7.80%**	4.50%	3.80%	4.00%	NA
	10/13/2008	**7.45%**	4.50%	3.20%	4.25%	NA
	2/5/2008	**7.70%**	4.00%	3.20%	4.50%	NA

Notes:
NA= Not Available

CCORRECTED SCHEDULE 20-5

MISSOURI GAS ENERGY
CASE NO. GR-2009-0355

Costs of Equity Used in Equity Research Reports for South Jersey Industries, Inc.

Investment Company	Date of Report	**Discount Rate (Cost of Equity)**	Single-stage DDM Growth Rate	Equity Risk Premium	Risk-free rate	Beta
Brean Murray	8/7/2009	**8.00%**	5.00%	4.00%	4.00%	NA
	8/8/2008	**8.30%**	5.50%	3.80%	4.50%	NA

Notes:
NA= Not Available

CCORRECTED SCHEDULE 20-6

MISSOURI GAS ENERGY
CASE NO. GR-2009-0355

Costs of Equity Used in Equity Research Reports for WGL Holdings, Inc.

Investment Company	Date of Report	**Discount Rate (Cost of Equity)**	Single-stage DDM Growth Rate	Equity Risk Premium	Risk-free rate	Beta
Brean Murray	11/14/2008	**7.75%**	4.00%	3.50%	4.25%	NA
	8/5/2008	**8.00%**	4.00%	3.50%	4.50%	NA
Goldman Sachs	8/31/2009	**9.00%**	2.00%	NA	NA	NA
	3/9/2009	**8.50%**	2.00%	NA	NA	NA
	7/17/2008	**8.50%**	2.00%	NA	NA	NA

Notes:
NA= Not Available

CCORRECTED SCHEDULE 20-7