Q. Please explain the adjustment to operating expenses shown in Reference Schedule 1.24 of Rives Exhibit 1.

A. This adjustment to operating income is necessary to exclude the expenses incurred in the test year associated with the Company's mainframe computer, which was retired in November 2009. The mainframe has been retired because the Customer Care Solution system is now fully implemented and this mainframe, which housed the previous system, is no longer needed.

Q. Please explain the adjustment to operating expenses shown in Reference Schedule 1.31 of Rives Exhibit 1.

A. This adjustment to operating expenses is necessary to include the expenses incurred in conjunction with this electric base rate case and annualized amortization for expenses incurred in the most recent base rate case, Case No. 2008-00252. LG&E estimates the total electric rate case expense to be $725,000. The adjustment has been amortized over 3 years at a rate of $241,667 per year. This estimate was used only for the purpose of calculating the revenue requirement at the time of filing LG&E's Application. LG&E requests recovery of its actual rate case expenses in this case in accordance with Commission policy and requests that it be allowed to provide the Commission monthly updates to reflect its actual rate case expenses through Commission requests for information. The adjustment thus will be trued-up as actual expenditures are incurred. This adjustment is consistent with a similar adjustment in the revenue requirements analysis performed and found reasonable by the Commission in the Company's most recent base rate case, Case No. 2008-00252, and in Case No. 2003-00433 and Case No. 2000-00080. The adjustment also includes the anualization of the amortization of rate case expenses from the last rate case, as the Commission approved a three year amortization for those expenses in Case No. 2008-00252.

Q. Please explain the adjustment to operating revenues and expenses shown in Reference Schedule 1.34 of Rives Exhibit 1.

A. This adjustment is necessary to remove the settlement payments received from United States Gypsum Corporation ("USGC") as these payments are non-recurring. LG&E and USGC entered into a contract, which expired on December 31, 2009, under which USGC was required to either remove a certain amount of gypsum that LG&E produced or reimburse LG&E for the costs of hauling the gypsum and related landfill charges. As USGC did not remove the gypsum, USGC paid LG&E under the terms of the contract. These payments from USGC, which include non-recurring revenues and reductions of expenses, have been removed from operating income.

Q. Please explain the adjustment to operating expenses shown in Reference Schedule 1.35 of Rives Exhibit 1.

A. This adjustment to operating income is necessary to remove an out-of-period operating and maintenance expense for the annual administration charge of the FERC Hydropower Program. The test year included an adjustment from a prior period that is non-recurring. This adjustment is necessary to reflect the appropriate amount of FERC Hydropower Program expenses incurred in the test year.

Q. Please explain the adjustment to operating expenses shown in Reference Schedule 1.37 of Rives Exhibit 1.

A. This adjustment is necessary to correctly reclassify expenses related to Edison Electric Institute dues to the electric business from the gas business. This expense was erroneously recorded in the test year as a "common" expense and was allocated between the electric and gas businesses. This adjustment is to reclassify the $62,735 of expenses that were charged to the gas business to the electric business.

Capitalization

Q. Please explain the adjustment made in Rives Exhibit 2, Page 2, Column 8, "TC2 Joint Use Assets."

A. As described in the Companies' July 30, 2009 letter to the Commission's Executive Director, in December 2009, LG&E transferred to KU an interest in certain assets at the Trimble County Generating Station. These assets are necessary for the operation of TC2 ("TC2 Joint Use Assets"), in which unit KU owns 81% of the Companies' collective 75% ownership share pursuant to the Commission's Order in Case No. 2004-00507. KU previously held license and easement rights to, but no ownership interest in, the TC2 Joint Use Assets at the Trimble County Generating Station. The net book value of the assets transferred was $48.4 million. The transfer of the Joint Use Assets conforms the overall ownership interests to the allocation the Commission has already approved in Case No. 2004-00507. The reduction to capitalization associated with KU's ownership interest in the TC2 Joint Use Assets is shown in Rives Exhibit 2, Page 2, Column 8.

Gas Pro Forma Adjustments

Q. Please explain the adjustment to operating revenues shown in Reference Schedule 1.09 of Rives Exhibit 1.

A. This adjustment has been made to remove the effects of accrued gas supply clause and DSM revenues in FERC Accounts 480-482. The adjustment removes the effects of the accruals recorded in both the beginning and end of the test year. LG&E proposed a similar adjustment in its most recent base rate case, Case No. 2008-00252 and a similar adjustment was also approved by the Commission in Case No. 2003-00433.

Q. Please explain the adjustment to operating expenses shown in Reference Schedule 1.15 of Rives Exhibit 1.

A. This adjustment has been made to reflect annualized depreciation expenses. The purpose of this adjustment is to reflect a full year's depreciation expense on net plant in service, excluding depreciation on assets set up as asset retirement obligations, as of October, 31, 2009. The depreciation rates used in calculating the adjustment are those to which the parties agreed in the settlement of LG&E's last base rate case, Case No. 2008-00252, utilizing the Average Service Life methodology, which was found reasonable by the Commission.

Q. Please explain the adjustment to operating expenses shown in Reference Schedule 1.22 of Rives Exhibit 1.

A. This adjustment is made to normalize the expenses in Account 925 "Injuries and Damages" based on a ten-year average adjusted for inflation. Because a full year of data is not available for 2009, the 2009 expense is for twelve months ending October

31, 2009; all other expense years are calendar years. LG&E proposed a similar adjustment in its most recent base rate case, Case No. 2008-00252 and a similar adjustment was also approved by the Commission in Case No. 2003-00433.

Q. Please explain the adjustment to operating expenses shown in Reference Schedule 1.23 of Rives Exhibit 1.

A. This adjustment eliminates advertising expenses that are primarily institutional and promotional in nature. Commission regulation 807 KAR 5:016, Section 2(1) provides that a utility will be allowed to recover, for ratemaking purposes, only those advertising expenses which produce a "material benefit" to its ratepayers. LG&E proposed a similar adjustment in its most recent base rate case, Case No. 2008-00252 and a similar adjustment was also approved by the Commission in Case No. 2003-00433.

Q. Please explain the adjustment to operating expenses shown in Reference Schedule 1.24 of Rives Exhibit 1.

A. This adjustment to operating income is necessary to exclude the expenses incurred in the test year associated with the Company's mainframe computer, which was retired in November 2009. The mainframe has been retired because the Customer Care Solution system is now fully implemented and the mainframe, which housed the previous system, is no longer needed.

Q. Please explain the adjustment to operating expenses shown in Reference Schedule 1.31 of Rives Exhibit 1.

A. This adjustment to operating expenses is necessary to include the expenses incurred in conjunction with this gas base rate case and annualized amortization for expenses incurred in the most recent base rate case, Case No. 2008-00252. LG&E estimates the total gas rate case expense to be $240,000. The adjustment has been amortized over 3 years at a rate of $80,000 per year. This estimate was used only for the purpose of calculating the revenue requirement at the time of filing LG&E's Application. LG&E requests recovery of its actual rate case expenses in this case in accordance with Commission policy and requests that it be allowed to provide the Commission monthly updates to reflect its actual rate case expenses through Commission requests for information. The adjustment thus will be trued-up as actual expenditures are incurred. This adjustment is consistent with a similar adjustment in the revenue requirements analysis performed and found reasonable by the Commission in the Company's most recent base rate case, Case No. 2008-00252, and in Case No. 2003-00433 and Case No. 2000-00080. The adjustment also includes the anualization of the amortization of rate case expenses from the last rate case, as the Commission approved a three year amortization for those expenses in Case No. 2008-00252.

Q. Please explain the adjustment to operating expenses shown in Reference Schedule 1.37 of Rives Exhibit 1.

A. This adjustment is necessary to correctly reclassify expenses related to Edison Electric Institute dues to the electric business from the gas business. This expense was erroneously recorded in the test year as a "common" expense and was allocated between the electric and gas businesses. This adjustment is to reclassify the $62,735 of expenses that were charged to the gas business to the electric business.

Q. Does this conclude your testimony?

A. Yes, it does.

VERIFICATION

COMMONWEALTH OF KENTUCKY)
) **SS:**
COUNTY OF JEFFERSON)

The undersigned, **Shannon L. Charnas**, being duly sworn, deposes and says that she is Director – Utility Accounting and Reporting for E.ON U.S. Services, Inc., and that she has personal knowledge of the matters set forth in the foregoing testimony, and that the answers contained therein are true and correct to the best of her information, knowledge and belief.

Shannon L. Charnas
Shannon L. Charnas

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 22nd day of January 2010.

Tammy J. Elzy (SEAL)
Notary Public

My Commission Expires:

November 9, 2010

APPENDIX A

Shannon L. Charnas

Director, Utility Accounting & Reporting
E.ON U.S. Services Inc.
220 West Main Street
Louisville, KY 40202
(502) 627-4978

Professional Memberships

American Institute of Certified Public Accountants
Kentucky Society of Certified Public Accountants

Education

University of Louisville, Masters of Business Administration, 2000
University of Wisconsin Oshkosh, Bachelor of Business Administration with Majors in Accounting and Management Information Systems, 1993
Certified Public Accountant, Kentucky, 1995

Previous Positions

E.ON U.S.

2001 (Mar) - 2005 (Feb) - Manager, Finance & Budgeting - Energy Services
1999 (Sept) - 2001 (Apr) - Senior Budget Analyst
1995 (Aug) - 1999 (Sept) - Accounting Analyst, various positions

Arthur Andersen LLP

1995 – Senior Auditor
1993 – 1994 – Audit Staff

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR AN ADJUSTMENT OF ITS ELECTRIC AND GAS BASE RATES	))))	CASE NO. 2009-00549

TESTIMONY OF
RONALD L. MILLER
DIRECTOR, CORPORATE TAX
LOUISVILLE GAS AND ELECTRIC COMPANY

Filed: January 29, 2010

Q. Please state your name, position and business address.

A. My name is Ronald L. Miller. I am the Director of Corporate Tax for Louisville Gas and Electric Company ("LG&E" or the "Company") and an employee of E.ON U.S. Services, Inc., which provides services to LG&E and Kentucky Utilities Company ("KU"). My business address is 220 West Main Street, Louisville, Kentucky. A statement of my education and work experience is attached to this testimony as Appendix A.

Q. Have you previously testified before the regulatory commissions?

A. Yes. I filed direct testimony on behalf of KU and LG&E in Case Nos. 2007-00178 (KU) and 2007-00179 (LG&E) concerning an advanced coal project investment tax credit. I have also sponsored numerous data responses in previous rate cases and other regulatory proceedings on tax issues. I have also submitted testimony before the Virginia State Corporation Commission in KU's most recent rate case.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to support certain pro forma adjustments to LG&E's operating income and capital structure for the twelve months ended October 31, 2009. The pro forma adjustments are described on the Reference Schedules attached to Rives Exhibit 1 or on Rives Exhibit 2. My testimony demonstrates that these adjustments are known and measurable and, therefore, reasonable.

Pro Forma Adjustments

Q. Please explain the three adjustments to operating expenses shown in Reference Schedule 1.38 of Rives Exhibit 1.

A. Reference Schedule 1.38 contains three adjustments: the first removes the Kentucky coal credit received by the Company during the test year and applied to property tax expense; the second reduces property tax expense due to the resolution of a disputed property value assessment; and the third reduces property tax expense associated with assets KU purchased from LG&E related to their respective ownership shares in Trimble County Unit No. 2 ("TC2"). The first and third adjustments apply to LG&E electric operations only; the second applies to LG&E gas and electric operations.

Q. Please explain the first adjustment contained in Reference Schedule 1.38 of Rives Exhibit 1.

A. The coal credit was established by Kentucky Revised Statute 141.0405, and is contingent on the Company's annual level of Kentucky coal purchases versus its 1999 level of purchases. The Company must apply for the credit annually and, if approved, the coal tax credit must be applied first to income taxes, then any remaining credit may be applied to property taxes.

In addition to its contingent nature, this statutory credit is expiring, ending with Kentucky coal purchases made in calendar-year 2009 and therefore will not be a credit to tax expense on an ongoing forward basis. Calendar year 2000 was the first period wherein Kentucky coal purchases in excess of 1999 levels were eligible for the $2 per ton credit under KRS 141.0405. Under KRS 141.0406, Kentucky coal purchases in calendar year 2009 will be the last such purchases eligible for the credit.

After that, the Companies will cease to be eligible for the credit. For that reason alone, the credit is not the kind of reoccurring reduction of tax expense appropriate to include in formulating base rates in this proceeding. Reference Schedule 1.38 of Rives Exhibit 1 contains the adjustment to remove this nonrecurring tax credit.

Q. Do you have a reasonable basis to believe that the Kentucky Coal Tax Credit will be extended or replaced upon its expiration?

A. No. The Company is not aware of any potential tax credit statutes or mechanisms that would replace or extend the current coal tax credit statute. I wish to note that in 2005 the Kentucky General Assembly enacted a statute for new clean coal facilities (KRS 141.428) that provides a $2 per ton credit for eligible Kentucky coal purchases. Facilities eligible for this "Kentucky Clean Coal Incentive" must be certified by the Environmental and Public Protection Cabinet. Because this new credit applies only to facilities beginning commercial operation after January 1, 2005, none of our present facilities qualify for this credit. While the Company is planning to pursue this new credit in connection with TC2, if and when the credit can be obtained is not known and or measurable. It is therefore not appropriate to adjust rates in any amount on the basis of an unknown and only speculative tax credit.

Q. Please explain the second adjustment contained in Reference Schedule 1.38 of Rives Exhibit 1.

A. LG&E received its 2009 Kentucky Property Tax assessment dated September 23, 2009. The Company believed that the assessment was excessive and on October 28, 2009 filed a formal protest with the Kentucky Department of Revenue. Following the submission of the protest, the Company and the state reached a settlement in late

December 2009. This pro-forma adjustment reduces test year property tax expense to the amount estimated for 2009 as a result of this settlement.

Q. Please explain the third adjustment contained in Reference Schedule 1.38 of Rives Exhibit 1.

A. In December 2009, KU purchased from LG&E a portion of certain assets at the Trimble County Generating Station previously used only by Trimble County Unit No. 1 ("TC1"), but which will be used by both TC1 and TC2 when TC2 becomes commercially operational ("Joint Use Assets"). The property tax expense related to Joint Use Assets sold to KU has been removed from LG&E's test year expense and correspondingly included in KU's test year expense.

Q. Please explain the adjustment to operating expenses shown in Reference Schedule 1.41 of Rives Exhibit 1.

A. Reference Schedule 1.41 shows the calculation of a composite federal and state income tax rate using a federal corporate income tax rate of 35%, and a Kentucky corporate income tax rate of 6%. The calculation includes a reduction of pre-tax income related to the domestic production activities deduction, enacted by the American Jobs Creation Act of 2004, and allowed by the Internal Revenue Code Section 199 (which was adopted by the state in Kentucky Revised Statutes 141.010), for both federal and state taxes. The current production activities deduction rate is 6%; however, the rate used in this adjustment is 9%, which is the rate effective beginning in January 2010. As shown on Reference Schedule 1.41 of Rives Exhibit 1, the composite federal and state income tax rate is 37.1912%, which applies to both LG&E gas and electric. The method for calculating the composite tax rate LG&E

uses in this schedule is similar to the method LG&E used its most recent base rate case, Case No. 2008-00252, and to the method the Commission approved in Case Nos. 2003-00433 and 2000-00080.

Q. Please explain the adjustment to operating expenses shown in Reference Schedule 1.42 of Rives Exhibit 1.

A. This adjustment, which applies to LG&E gas and electric, is for federal and state income taxes corresponding to the annualization and adjustment of year-end interest expense. The Commission has traditionally recognized the income tax effects of adjustments to interest expense through an "interest synchronization" adjustment. LG&E proposed a similar adjustment in its most recent base rate case, Case No. 2008-00252 and a similar adjustment was also approved by the Commission in Case Nos. 2003-00433 and 2000-00080. The total capitalization amount for LG&E is taken from Rives Exhibit 2 and is multiplied by LG&E's weighted cost of debt, and that amount is then compared to LG&E's interest per books (excluding other interest) to arrive at the interest synchronization amount. The composite federal and state income tax rate from Reference Schedule 1.41 of Rives Exhibit 1 has been applied to the interest synchronization amount. The adjustment will be trued-up as the weighted cost of debt is updated.

Q. Please explain the adjustment to operating expenses shown in Reference Schedule 1.43 of Rives Exhibit 1.

A. This adjustment, which applies to LG&E gas and electric, is for income tax true-ups related to the 2008 federal and state income tax returns and prior period adjustments booked to income tax expense during the test year. For LG&E electric only, this adjustment also removes the Kentucky coal tax credit from the test year income tax expense, as I explained above concerning Reference Schedule 1.38 of Rives Exhibit 1. LG&E proposed a similar adjustment in its most recent base rate case, Case No. 2008-00252 and a similar adjustment was also approved by the Commission in Case No. 2003-00433.

Q. Please explain the adjustment to operating expenses shown in Reference Schedule 1.44 of Rives Exhibit 1.

A. This adjustment, which applies only to LG&E electric, restates the test year income tax expenses for the production activities deduction. As mentioned above, the production activities deduction statutory rate in effect for the test year was 6%; the rate, however, will increase to 9% in calendar year 2010. This adjustment calculates the deduction based on the test year taxable income at the new 9% rate.

Q. Please explain the adjustments to operating expenses shown in Reference Schedule 1.45 of Rives Exhibit 1.

A. This adjustment, which applies only to LG&E electric operations, relates to the annual amount of the permanent reduction in depreciable tax basis required by Internal Revenue Code 50(c) and attributable to the Advanced Coal Investment Tax Credit ("ACITC") awarded to KU and LG&E for TC2.[1] The annual amount of the lost tax basis was determined based on the total amount of ACITC claimed and recorded as of October 31, 2009, then amortized over the financial statement lives for the TC2 assets. These are the same lives used to record book depreciation expense.

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[1] I discussed this requirement on page 9 of my May 4, 2007 Direct Testimony in Case No. 2007-00179, and the overall book and tax treatment of LG&E's portion of the credit in pages 7-10 of the same testimony. In 1972, LG&E elected a rate treatment under the tax code wherein LG&E would reduce its cost of service by the

Amortization of this permanent depreciation basis difference is then multiplied by the statutory combined federal and state tax rate of 38.9%.

Q. Please explain the adjustment to operating expenses shown in Reference Schedule 1.46 of Rives Exhibit 1.

A. Reference Schedule 1.46 contains two adjustments. The first adjustment, which applies only to LG&E electric operations, is made for the annual Investment Tax Credit ("ITC") amortization for TC2, which is scheduled to go into service in 2010. The amortization was based on the amount of ITC claimed and recorded as of October 31, 2009, and is amortized over the financial statement lives for the TC2 assets. These are the same lives used to record book depreciation expense. While the amortization will only begin once the plant is in service, currently anticipated in June 2010, it is appropriate to include this adjustment as the amortization will begin before the new rates are applied to customer bills. This is a similar adjustment to the inclusion of depreciation on TC2 which has been explained in Ms. Charnas' testimony.

The second adjustment, which applies to both LG&E gas and electric operations, adjusts LG&E's ITC amortization to a normal level. ITC is amortized over the financial statement lives of the underlying assets and declines over time as a vintage year is fully amortized. A $661,000 reduction of annual amortization associated with the normal roll-off of fully amortized vintages is projected for 2010.

Additionally, ITC amortization has been reduced by $154,000 in connection with the sale of the Joint Use Assets at the Trimble County Generating Station. These

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amount of the tax credit it amortizes each year. This rate treatment is referred to as the "ratable flow through" method."

assets, although previously used only by TC1, will be used by both TC1 and TC2 when TC2 becomes commercially operational.

Q. Please explain Reference Schedule 1.47 of Rives Exhibit 1.

A. This Reference Schedule illustrates the calculation of the net after-tax factor needed to gross up the net operating income deficiency on Rives Exhibit 8 to determine the overall revenue deficiency. The calculation begins with an assumed $100 pre-tax income and is adjusted by the following to determine the equivalent state taxable income: a factor for bad debt expense that is equal to the percent of net charged-off accounts to revenue during the test year; the Kentucky Public Service Commission assessment factor based on assessment from the Commonwealth of Kentucky Finance and Administrative Cabinet; and the Section 199 deduction related to domestic production activities from Reference Schedule 1.41 of Rives Exhibit 1. State income tax on the equivalent state taxable income is calculated using the statutory 6% rate. Equivalent federal taxable income is determined by deducting the state income tax from state taxable income.

Federal income tax on the equivalent federal taxable income is calculated using the statutory 35% rate. The difference between the assumed $100 pre-tax income and the total of the bad debt, Kentucky Public Service Commission assessment, and state and federal income tax factors is the gross up revenue factor.

This calculation is similar to the calculations presented in Case No. 2008-00252 and approved by the Commission in Case No. 2003-00433.

Capital Structure

Q. Please explain the adjustment shown in column 5 of page 2 of 2 of Rives Exhibit 2 for the Job Development Investment Tax Credit.

A. The Job Development Investment Tax Credit ("JDITC") was a type of investment tax credit available to companies beginning in 1971. LG&E proposed a similar adjustment for this item in Case No. 2008-00252. The increase in capitalization associated with the JDITC LG&E has received is shown in column 5 of page 2 of 2 of Rives Exhibit 2. The JDITC electric amount has been reduced by the amount in connection with the sale of the Joint Use Assets at the Trimble County Generating Station. The ITC related to these Joint Use Assets was transferred to KU along with the assets themselves.

Q. Please explain the adjustment shown in column 7 of page 2 of 2 of Rives Exhibit 2 for the Advanced Coal Investment Tax Credit.

A. As approved in the Commission's order in Case No. 2007-00179, it is proper for LG&E to include in its capitalization the amount of the ACITC it received in connection with construction costs of eligible assets for Trimble County Unit 2.[2] LG&E proposed a similar adjustment for this item in Case No. 2008-00252. The increase in capitalization associated with the investment tax credits LG&E has received is shown in column 7 of page 2 of 2 of Rives Exhibit 2.

Q. Does this conclude your testimony?

A. Yes, it does.

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[2] *In the Matter of Application of Louisville Gas and Electric Company for an Order Authorizing Inclusion of Investment Tax Credits in Calculation of Environmental Surcharge and Declaring Appropriate Rate-Making Methods for Base Rates*, Case No. 2007-00179, Order (September 7, 2007).

VERIFICATION

COMMONWEALTH OF KENTUCKY)
) **SS:**
COUNTY OF JEFFERSON)

The undersigned, **Ronald L. Miller**, being duly sworn, deposes and says that he is Director – Corporate Tax for E.ON U.S. Services, Inc., and that he has personal knowledge of the matters set forth in the foregoing testimony, and that the answers contained therein are true and correct to the best of his information, knowledge and belief.

Ronald L. Miller

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 22nd day of January 2010.

Tammy J. Ely (SEAL)
Notary Public

My Commission Expires:

November 9, 2010

APPENDIX A

Ronald L. Miller
Director, Corporate Tax
E.ON U.S. Services Inc.
220 West Main Street
Louisville, Kentucky 40202
Telephone: (502) 627-2687

Education

Eastern Kentucky University, BBA, Major in Accounting, 1979
Certified Public Accountant, Kentucky, 1981
University of Louisville – The Effective Executive, 1996
Licensed Kentucky Real Estate Agent, 1978
Accredited Investment Fiduciary, 2009
Continuing Professional Education – (over 40 hours annually)

Positions Held

E.ON U.S. Services Inc. (LG&E Energy Corp.), Louisville, Kentucky

Director, Corporate Tax	June 2001 – present
Director, Corporate Accounting and Tax	June 1998 – June 2001
Director, Corporate Tax	July 1994 – June 1998
Corporate Tax Administrator	January 1994 – July 1994
Corporate Tax Coordinator	February 1992 – December 1993

National City Bank, Louisville, Kentucky

Vice President, Corporate Treasury Officer and Manager-Tax and General Accounting	1984-1992

Ernst and Young CPA's, Louisville, Kentucky

Audit Supervisor	1983 – 1984
Audit Staff/Senior	1979 – 1983

Professional Memberships

Tax Executives Institute, (past local President and past National Board Member)
Edison Electric Institute, Tax Committee
Greater Louisville Inc., Tax Committee
Kentucky Association of Manufacturers, Tax Committee
Kentucky Chamber of Commerce, Tax Committee
Kentucky Society of Certified Public Accountants
American Institute of Certified Public Accountants

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR AN ADJUSTMENT OF ITS ELECTRIC AND GAS BASE RATES	))))	CASE NO. 2009-00549

TESTIMONY OF
DANIEL K. ARBOUGH
TREASURER
LOUISVILLE GAS AND ELECTRIC COMPANY

Filed: January 29, 2010

Q. Please state your name, position and business address.

A. My name is Daniel K. Arbough. I am the Treasurer for Louisville Gas and Electric Company ("LG&E" or the "Company") and an employee of E.ON U.S. Services Inc., which provides services to LG&E and Kentucky Utilities Company ("KU"). My business address is 220 West Main Street, Louisville, Kentucky. A statement of my education and work experience is attached to this testimony as Appendix A.

Q. Have you previously testified before the Commission?

A. Since 2000, I have attested to the factual representations in each of LG&E's financing applications filed with the Kentucky Public Service Commission ("Commission") and have appeared before the Commission Staff on behalf of the Company on a regular basis. I have not, however, testified before the Commission previously.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to discuss LG&E's cost of debt, current and target capital structures, and bond financing issues. I am also sponsoring Reference Schedules 1.18 and 1.19 of Rives Exhibit 1 of the testimony of S. Bradford Rives, which describe pro-forma adjustments related to insurance costs of the Company, and Reference Schedule 1.36 of Rives Exhibit 1, which relates to a request for regulatory asset treatment for the costs associated with the termination of an interest rate swap.

Q. Please explain the capital structure of LG&E.

A. As LG&E's witnesses have stated in previous testimony before the Commission in Case Nos. 2003-00433 and 2008-00252, LG&E is firmly committed to maintaining the financial strength of the Company. The Company has a target capital structure of the midpoint of the range for "A" rated utilities published by Standard and Poor's ("S&P").

Q. What is the current target capital structure?

A. LG&E's current capital structure is established in accordance with the criteria set by S&P, an independent credit rating agency, to achieve an A rating. S&P issued guidelines for utility capital structures in an article entitled "*Utility Financial Targets Are Revised*" dated June 18, 1999. The debt to total capital range S&P established was 43 percent to 49.5 percent for A-rated utilities with a business position of 4. Prior to S&P's discontinuance of the business position ranking measure, LG&E was ranked with a business position of 4. This indicates an acceptable range for the equity component of capital of 50.5 percent to 57 percent.

More recently, S&P adopted a business and financial risk matrix structure in an article entitled, "*U.S. Utilities Ratings Analysis Now Portrayed in the S&P Corporate Ratings Matrix*," dated November 30, 2007. This article is attached as Arbough Exhibit 1. A copy of a November 26, 2008 article explaining the S&P methodology, "*Key Credit Factors: Business and Financial Risks in the Investor-Owned Utilities Industry*," is attached as Arbough Exhibit 2. The 2008 article explains that a utility's rating is a function of its "business risk profile" and its "financial risk profile." Table 1 from that article shows the relationship of S&P's assessments of the business and the financial risks for purposes of determining the credit rating of an investor-owned utility. LG&E's financial risk profile, according to S&P's assessment, fits the category between "Intermediate" and "Highly Leveraged" known as the "Aggressive" category for which S&P suggested (in the November

2007 article) a debt-to-total capital range of 45-60 percent. As the table in the same 2007 article shows, given LG&E's "Excellent" business risk profile, the utility must achieve an "Intermediate" financial risk profile to move from its current BBB+ rating to its desired A rating. To reach the Intermediate financial risk profile, LG&E must maintain a debt-to-total-capital ratio of 35-50 percent as measured by S&P. LG&E targets the upper end of this leverage range with a debt-to-total-capital ratio, as measured by S&P, of approximately 48 percent.

This translates into a targeted adjusted equity-to-total-capital ratio (including imputed debt for purchased power, leases, pensions, and other adjustments) of 52 percent. As shown on Rives Exhibit 2, column 2, the overall equity component of capital per books is 54.19 percent as of October 31, 2009. Including the debt adjustments for leases, pensions, and other adjustments set forth in S&P's April 3, 2009 report for the Company, the equity ratio decreases to 49.18 percent. The power purchase agreements adjustment listed in the S&P report was not included because, based on a discussion with S&P analysts, it is a duplication of adjustments already included under "other adjustments." Consistent with past practice, the Asset Retirement Obligation adjustment has not been included. The debt ratio is somewhat higher than the target due to the magnitude of the pension adjustment ($148.2 million at year-end 2008 versus $54 million at year-end 2007) resulting from a weak investment environment in the second half of 2008.

Q. Why does the Company include adjustments to its debt balances in determining the target capital structure?

A. The Company treats power purchase agreements, operating leases, and pension obligations as debt in determining the target capital structure because the rating agencies require such obligations to be treated as fixed obligations equivalent to debt. S&P's April 3, 2009 review of LG&E noted that it has imputed $232.2 million of debt equivalent to LG&E in 2008 for leases, pensions, and other adjustments. If this adjustment is made to the capital structure shown in Rives Exhibit 2, LG&E's debt-to-total-capital ratio increases to 50.82 percent, just above the targeted range published by S&P. This indicates an equity component of capital of 49.18 percent, just below the low end of the S&P guideline range. Disregarding the impact of the power purchase agreements, leases, and pension obligations could impact the Company's debt rating and limit its future access to attractively priced debt capital.

Q Has LG&E prepared an exhibit showing its capitalization as of October 31, 2009?

A. Yes. Rives Exhibit 2 to the testimony of S. Bradford Rives, page 1 shows LG&E's capitalization at October 31, 2009, for electric and gas operations. Page 2 of Rives Exhibit 2 presents the specific adjustments to capitalization included in column 7, page 1 of Rives Exhibit 2.

Q. Can you explain what is contained in Rives Exhibit 2?

A. Yes. Rives Exhibit 2 shows the calculation of LG&E's adjusted capitalization for gas and electric operations as of October 31, 2009, as well as the weighted average cost of capital to apply to the adjusted capitalization. Mr. Rives provides a fuller description of Rives Exhibit 2 in his testimony.

Q. Will you please explain the adjustments to capitalization contained in column 3, page 1 of 2 of Rives Exhibit 2?

A. Yes. In order to obtain lower interest rates on selected variable rate pollution control debt, LG&E used bond insurance and an auction mechanism periodically to reset the debt's variable interest rates. As LG&E explained in its most recent base rate case, the bond insurance companies insuring selected LG&E variable interest rate pollution control bonds have experienced credit downgrades. The credit downgrades have resulted from the bond insurers' diversification into insuring riskier types of debt, such as securities backed by sub-prime home mortgages. The downgrades have caused failed auctions, which result in the interest rate being set pursuant to formulas contained in the indenture. In some cases, these formulas can result in high interest rates. Due to the state of the auction bond market, LG&E is converting from auction mode interest rates to fixed rates, or another variable mode using additional liquidity or credit support facilities. The Commission approved refinancing the tax-exempt bonds in Case No. 2008-00131.

This adjustment is necessary to reflect the reacquired, but not retired, bonds that LG&E presently holds. In order to acquire these bonds, LG&E issued short-term debt, but the bonds will become long-term debt when they are reissued. Upon the reissuance, an equivalent amount of short-term debt will be retired. Because the amount of short-term debt was less than $163.2 million at October 31, 2009, the entire short-term debt balance of $150.7 million was eliminated. The long-term debt was increased by $163.2 million to reflect the expected reissuance of the bonds held. The $12.5 million difference between the actual short-term debt and the $163.2 million reduced the long-term debt and equity balances, and was allocated between the two based on the ratio of each in column 1 to the total of the two from column 1. This allocation is based on the recognition that all sources of capital provided the funds necessary to repay the $12.5 million.

Q. Please explain how the cost of debt was calculated in Rives Exhibit 2.

A. The cost of debt shown in Rives Exhibit 2 is a weighted-average cost of debt as of the end of October 2009. It includes all components of interest expense for each bond, including the interest paid to the bondholders, amortization of bond issuance costs, amortization of the losses associated with reacquiring bonds that were refinanced by the existing bonds, interest rate swaps, and credit enhancements that support each series, if applicable. The credit enhancement costs include any ongoing bond insurance fees and letter of credit fees paid to banks. The only instances where actual rates were not used are the two reacquired bonds that the Company currently holds. An estimate of the interest rate once the bonds are reissued was used based on market conditions at the beginning of December 2009 and the expected mode of each bond.

Pro Forma Adjustments

Q. Please describe the adjustment shown on Reference Schedule 1.18 of Rives Exhibit 1 relating to Property Insurance costs.

A. The Company renews its property insurance policy on November 1 each year. The adjustment reflected on the schedule shows the change in the insurance premium from the test year to the period of November 1, 2009, to October 31, 2010. The property insurance premium is determined by multiplying the premium rate times the estimated replacement cost of the insured facilities. The premium rate was unchanged for the new policy, but the estimated replacement cost was higher based on the application of the Handy-Whitman Index to the original asset cost, which resulted in the higher insurance cost. Reference Schedule 1.18 of Rives Exhibit 1 allocates the increased premium proportionally between gas and electric operating expenses.

Q. Please describe the adjustment shown on Reference Schedule 1.19 of Rives Exhibit 1 relating to liability insurance costs.

A. The adjustment in the liability insurance costs is related to a new pollution liability policy the Company purchased effective November 2009. The policy is designed to protect against all types of pollution risks, including chemical or lubricant spills at gas compressor stations and the risk of ash pond failures similar to that experienced by the Tennessee Valley Authority ("TVA") in December 2008 at its Kingston Fossil Plant. The Company believed its general liability policy with AEGIS would cover such an incident; however, AEGIS has denied coverage to TVA concerning the Kingston incident under a policy that mirrors the Company's. Although the Company is confident in the safety of its ash ponds, it was prudent to purchase a separate policy that would cover a situation similar to TVA's Kingston incident to avoid any issue of coverage. There was a prolonged due-diligence process to put the coverage in place, which culminated in binding coverage on November 24, 2009. Additional insurance capacity was bound in December 2009, bringing the total amount of the insurance to $170 million. The $170 million limit is available to the Company and KU, and the premium has been allocated equally between the two

Companies. The premium paid for this new policy represents 100% of the requested adjustment. Reference Schedule 1.19 of Rives Exhibit 1 allocates the new insurance premium proportionally between gas and electric operating expenses.

Q. Please describe the circumstances related to LG&E's request for regulatory asset treatment of the costs to terminate an interest rate swap, the recovery of which is reflected in an adjustment shown on Reference Schedule 1.36 of Rives Exhibit 1.

A. In December 2003, LG&E entered into a $32 million interest rate swap agreement with Wachovia Bank, N.A. as authorized by the Commission in Case No. 2003-00299 in connection with the issuance of tax-exempt bonds. This agreement was one of four swap agreements designed to hedge the interest expense related to LG&E's $128 million Jefferson County, Series 2003A variable rate bond; in other words, the agreements insulated LG&E and its customers from potentially volatile costs of variable interest rates. Under the terms of the agreement, LG&E paid Wachovia a monthly fixed rate payment of 3.648% on the $32 million and in return, Wachovia paid LG&E a monthly payment at a rate equal to 68% of the 1-month LIBOR on the $32 million. The monthly net payment due from LG&E or Wachovia was included in interest expense and recovered through rates.

The termination date of the swap agreement with Wachovia was October 1, 2033; however, the agreement listed several "optional termination dates" at which times either party could elect to opt out of the agreement before the scheduled termination date. Based on this provision, Wachovia elected to terminate the agreement effective December 16, 2008. As a result, LG&E was obligated to pay a termination fee to Wachovia of $9,950,000 as settlement of the mark-to-market value of the agreement as of the optional termination date. At the time the agreement was terminated, the mark-to-market value of the contract was in favor of Wachovia because interest rates had declined since the inception date of the swap agreement. If the swap had remained in place, LG&E would have been required to make ongoing monthly payments to Wachovia.

LG&E anticipates that future interest expense will be reduced as a result of the termination of the swap. Interest rates paid on the Jefferson County, Series 2003A bond have averaged less than 1.0% since the swap termination, which is significantly lower than the 3.648% fixed rate paid under the swap agreement. Economic conditions indicate that interest rates will remain low for the near future.

Because future interest expense is expected to be reduced, it is appropriate that LG&E be allowed to recover the $9.95 million swap termination cost less $650,449 that had been booked as a gain to Other Comprehensive Income for a total of $9,303,396. The Company requests that the cost be treated as a regulatory asset and recovered over 24.75 years (the remaining term of the swap that remained when it was terminated). The initial amortization amount of this regulatory asset would be $258,476, and that is the amount included in the Reference Schedule 1.36 of Rives Exhibit 1. The remaining amount of the regulatory asset and amortization will be adjusted in future rate cases to recover the expected amounts as shown in column J of Arbough Exhibit 3. The adjustment shown in Reference Schedule 1.36 of Rives Exhibit 1 reflects the annual amortization of the proposed regulatory asset, proportionally allocated to gas and electric expenses. The regulatory asset treatment of the termination fee is the only manner in which the full cost of the swap termination may be recovered.

Q. Does this conclude your testimony?

A. Yes, it does.

VERIFICATION

COMMONWEALTH OF KENTUCKY)
) SS:
COUNTY OF JEFFERSON)

The undersigned, **Daniel K. Arbough**, being duly sworn, deposes and says that he is Treasurer for Louisville Gas and Electric Company and an employee of E.ON U.S. Services, Inc., and that he has personal knowledge of the matters set forth in the foregoing testimony, and that the answers contained therein are true and correct to the best of his information, knowledge and belief.

Daniel K. Arbough

Daniel K. Arbough

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 22nd day of January 2010.

Tammy J. Elzy (SEAL)
Notary Public

My Commission Expires:

November 9, 2010

APPENDIX A

Daniel K. Arbough

Treasurer
E.ON U.S. Services Inc.
220 West Main Street
Louisville, Kentucky 40202
(502) 627-4956

Previous Positions

E.ON U.S. Director, Corporate Finance and Treasurer	January 2001 – September 2007
LG&E Energy Corp. Director, Corporate Finance	May 1998 – January 2001
LG&E Energy Corp. Manager, Corporate Finance	August 1996 – May 1998
LG&E Power Inc. Manager, Project Finance	June 1994 - August 1996
Conoco Inc., Houston, Texas Corporate Finance, Project Finance, and Credit Management	June 1988 - May 1994
Boise Cascade Office Products, Denver, Colorado Inventory Management	November 1983 - September 1987

Professional/Trade Memberships

National Association of Corporate Treasurers
Association for Financial Professionals

Education

Master of Business Administration – Finance - May 1988 – GPA 3.8
University of Denver

Bachelor of Science Business Administration – General Business
June 1983 – GPA 3.9 – Graduated Summa Cum Laude
Honors Program scholarship recipient
University of Denver

Civic Activities

Louisville Central Community Centers – President, Board of Directors
National Center for Family Literacy – Endowment Oversight Committee

Arbough Exhibit 1

STANDARD &POOR'S

Global Credit Portal
RatingsDirect®

November 30, 2007

U.S. Utilities Ratings Analysis Now Portrayed In The S&P Corporate Ratings Matrix

Primary Credit Analysts:
Todd A Shipman, CFA, New York (1) 212-438-7676; todd_shipman@standardandpoors.com
William Ferara, New York (1 212-438-1776; bill_ferara@standardandpoors.com
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Secondary Credit Analyst:
Michael Messer, New York (1) 212- 438-1618; michael_messer@standardandpoors.com

U.S. Utilities Ratings Analysis Now Portrayed In The S&P Corporate Ratings Matrix

The electric, gas, and water utility ratings ranking lists published today by Standard & Poor's U.S. Utilities & Infrastructure Ratings practice are categorized under the business risk/financial risk matrix used by the Corporate Ratings group. This is designed to present our rating conclusions in a clear and standardized manner across all corporate sectors. Incorporating utility ratings into a shared framework to communicate the fundamental credit analysis of a company furthers the goals of transparency and comparability in the ratings process. Table 1 shows the matrix.

Table 1

Business Risk/Financial Risk

	Financial Risk Profile				
Business Risk Profile	**Minimal**	**Modest**	**Intermediate**	**Aggressive**	**Highly leveraged**
Excellent	AAA	AA	A	BBB	BB
Strong	AA	A	A-	BBB-	BB-
Satisfactory	A	BBB+	BBB	BB+	B+
Weak	BBB	BBB-	BB+	BB-	B
Vulnerable	BB	B+	B+	B	B-

The utilities rating methodology remains unchanged, and the use of the corporate risk matrix has not resulted in any changes to ratings or outlooks. The same five factors that we analyzed to produce a business risk score in the familiar 10-point scale are used in determining whether a utility possesses an "Excellent," "Strong," "Satisfactory," "Weak," or "Vulnerable" business risk profile:

- Regulation,
- Markets,
- Operations,
- Competitiveness, and
- Management.

Regulated utilities and holding companies that are utility-focused virtually always fall in the upper range ("Excellent" or "Strong") of business risk profiles. The defining characteristics of most utilities--a legally defined service territory generally free of significant competition, the provision of an essential or near-essential service, and the presence of regulators that have an abiding interest in supporting a healthy utility financial profile--underpin the business risk profiles of the electric, gas, and water utilities.

As the matrix concisely illustrates, the business risk profile loosely determines the level of financial risk appropriate for any given rating. Financial risk is analyzed both qualitatively and quantitatively, mainly with financial ratios and other metrics that are calculated after various analytical adjustments are performed on financial statements prepared under GAAP. Financial risk is assessed for utilities using, in part, the indicative ratio ranges in table 2.

Table 2

Financial Risk Indicative Ratios - U.S. Utilities

(Fully adjusted, historically demonstrated, and expected to consistently continue)

	Cash flow		Debt leverage
	(FFO/debt) (%)	(FFO/interest) (x)	(Total debt/capital) (%)
Modest	40 - 60	4.0 - 6.0	25 - 40
Intermediate	25 - 45	3.0 - 4.5	35 - 50
Aggressive	10 - 30	2.0 - 3.5	45 - 60
Highly leveraged	Below 15	2.5 or less	Over 50

The indicative ranges for utilities differ somewhat from the guidelines used for their unregulated counterparts because of several factors that distinguish the financial policy and profile of regulated entities. Utilities tend to finance with long-maturity capital and fixed rates. Financial performance is typically more uniform over time, avoiding the volatility of unregulated industrial entities. Also, utilities fare comparatively well in many of the less-quantitative aspects of financial risk. Financial flexibility is generally quite robust, given good access to capital, ample short-term liquidity, and the like. Utilities that exhibit such favorable credit characteristics will often see ratings based on the more accommodative end of the indicative ratio ranges, especially when the company's business risk profile is solidly within its category. Conversely, a utility that follows an atypical financial policy or manages its balance sheet less conservatively, or falls along the lower end of its business risk designation, would have to demonstrate an ability to achieve financial metrics along the more stringent end of the ratio ranges to reach a given rating.

Note that even after we assign a company a business risk and financial risk, the committee does not arrive by rote at a rating based on the matrix. The matrix is a guide--it is not intended to convey precision in the ratings process or reduce the decision to plotting intersections on a graph. Many small positives and negatives that affect credit quality can lead a committee to a different conclusion than what is indicated in the matrix. Most outcomes will fall within one notch on either side of the indicated rating. Larger exceptions for utilities would typically involve the influence of related unregulated entities or extraordinary disruptions in the regulatory environment.

We will use the matrix, the ranking list, and individual company reports to communicate the relative position of a company within its business risk peer group and the other factors that produce the ratings.

Arbough Exhibit 2

Criteria | Corporates | Utilities:

Key Credit Factors: Business And Financial Risks In The Investor-Owned Utilities Industry

Primary Credit Analyst:
Todd A Shipman, CFA, New York (1) 212-438-7676; todd_shipman@standardandpoors.com

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Criteria | Corporates | Utilities:

Key Credit Factors: Business And Financial Risks In The Investor-Owned Utilities Industry

(Editor's Note: Table 1 in this article is no longer current. It has been superseded by the table found in "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," published May 27, 2009, on RatingsDirect.)

Standard & Poor's Ratings Services' analytic framework for companies in all sectors, including investor-owned utilities, is divided into two major segments: The first part is the fundamental business risk analysis. This step forms the basis and provides the industry and business contexts for the second segment of the analysis, an in-depth financial risk analysis of the company.

An integrated utility is often a part of a larger holding company structure that also owns other businesses, including unregulated power generation. This fact does not alter how we analyze the regulated utility, but it may affect the ultimate rating outcome because of any higher risk credit drag that the unregulated activities may have on the utility. Such considerations include the freedom and practice of management with respect to shifting cash resources among subsidiaries and the presence of ring-fencing mechanisms that may protect the utility.

Relationship Between Business And Financial Risks

Prior to discussing the specific risk factors we analyze within our framework, it is important to understand how we view the relationship between business and financial risks. Table 1 displays this relationship and its implications for a company's rating.

Table 1

Business And Financial Risk Profile Matrix

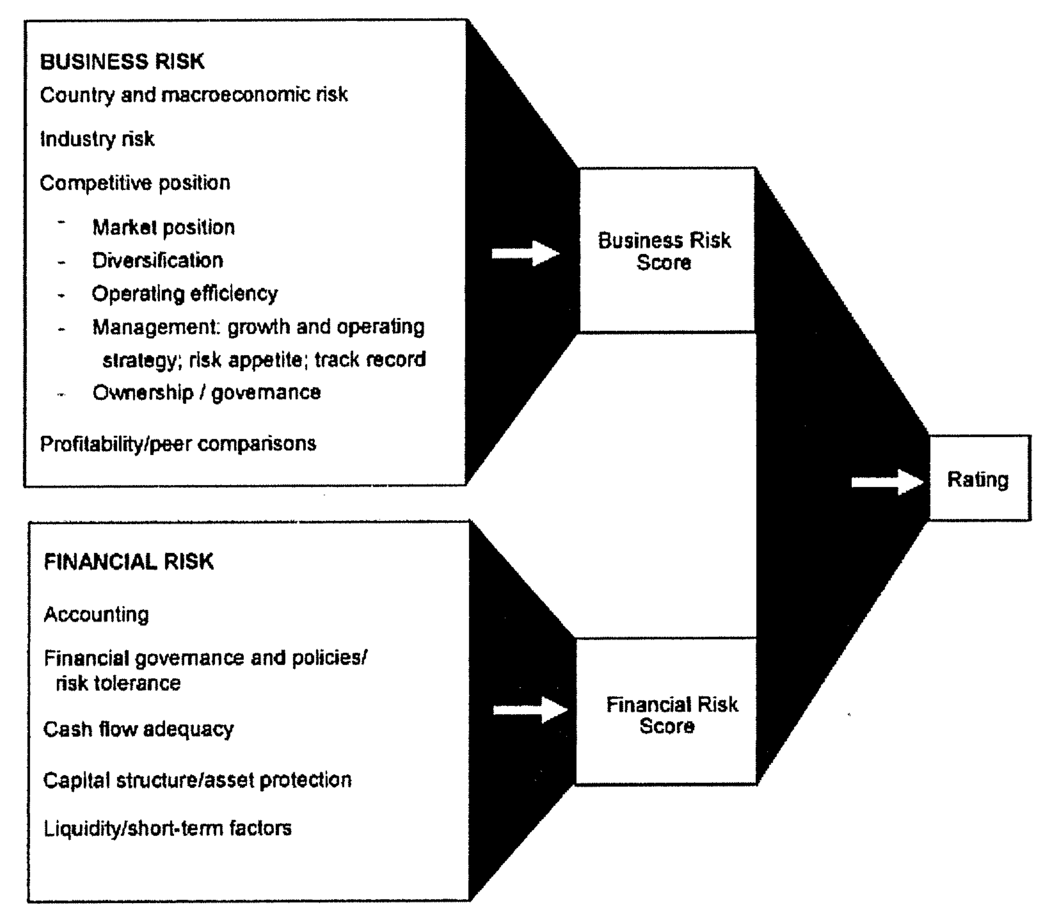
Business Risk Profile		Financial Risk Profile				
		Minimal	Modest	Intermediate	Aggressive	Highly leveraged
		(AAA/AA)	(A)	(BBB)	(BB)	(B)
Excellent	(AAA/AA)	AAA	AA	A	BBB	BB
Strong	(A)	AA	A	A-	BBB-	BB-
Satisfactory	(BBB)	A	BBB+	BBB	BB+	B+
Weak	(BB)	BBB	BBB-	BB+	BB-	B
Vulnerable	(B)	BB	B+	B+	B	B-

These rating outcomes are shown for guidance purposes only. Other qualitative and quantitative rating factors may override these measures.

Chart 1 summarizes the ratings process.

Chart 1

Scoring And Rating Determination Process



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Part 1--Business Risk Analysis

Business risk is analyzed in four categories: country risk, industry risk, competitive position, and profitability. We determine a score for the overall business risk based on the scale shown in table 2.

Table 2

Business Risk Measures

Description	Rating equivalent
Excellent	AAA/AA
Strong	A
Satisfactory	BBB
Weak	BB
Vulnerable	B/CCC

Analysis of business risk factors is supported by factual data, including statistics, but ultimately involves a fair amount of subjective judgment. Understanding business risk provides a context in which to judge financial risk, which covers analysis of cash flow generation, capitalization, and liquidity. In all cases, the analysis uses historical experience to make estimates of future performance and risk.

In the U.S., regulated utilities and holding companies that are utility-focused virtually always fall in the upper range (Excellent or Strong) of business risk profiles. The defining characteristics of most utilities--a legally defined service territory generally free of significant competition, the provision of an essential or near-essential service, and the presence of regulators that have an abiding interest in supporting a healthy utility financial profile--underpin the business risk profiles of the electric, gas, and water utilities.

1. Country risk and macroeconomic factors (economic, political, and social environments)

Country risk plays a critical role in determining all ratings on companies in a given national domicile. Sovereign-related stress can have an overwhelming effect on company creditworthiness, both directly and indirectly.

Sovereign credit ratings suggest the general risk local entities face, but the ratings may not fully capture the risk applicable to the private sector. As a result, when rating a corporation, we look beyond the sovereign rating to evaluate the specific economic or country risks that may affect the entity's creditworthiness. Such risks pertain to the effect of government policies and other country risk factors on the obligor's business and financial environments, and an entity's ability to insulate itself from these risks.

2. Industry business and credit risk characteristics

In establishing a view of the degree of credit risk in a given industry for rating purposes, it is useful to consider how its risk profile compares to that of other industries. Although the industry risk characteristic categories are broadly similar across industries, the effect of these factors on credit risk can vary markedly among industries. Chart 2 illustrates how the effects of these credit-risk factors vary among some major industries. The key industry factors are scored as follows: High risk (H), medium/high risk (M/H), medium risk (M), low/medium risk (L/M), and low risk (L).

Chart 2

Key Industry Characteristics And Drivers Of Credit Risk

	Utilities regulated	Competitive power	Oil & gas downstream	Autos	Airlines
Industry dynamics and competitive environment					
Industry cyclicality	M	H	H	H	H
Ease of entry	L	M/H	H	M/H	M/H
Product cycle/obsolescence	L	L	L	H	L
Level of product quality	L	L	M	H	M
Disintermediation/substitution	L	L	L	L/M	L
Competition/commoditization	L/M	H	M	H	H
Pricing inflexibility	M	H	M	H	H
Business model stability	M	M/H	L	L/M	M
Demographic trends	L	L	M	H	L
Growth and profitability					
Growth outlook	L	M	L	M/H	L/M
Profit margin pressure/outlook	M	M/H	M	M/H	H
Earnings volatility	M	M/H	H	H	H
Operating considerations and costs					
Technological risk/change	L	L	L/M	L/M	L/M
Cost efficiency/pressures	M	H	M	H	H
Operating leverage	M/H	H	H	H	H
R&D costs	L	L	L	H	L
Energy cost sensitivity	H	H	H	H	H
Raw material cost sensitivity	H	H	H	H	L
Labor costs	M	M	M	H	H
Labor inflexibility/unrest	L	L	M	H	H
Pension costs/contingents	M	L	L/M	H	M/H
Environmental impact/costs	H	L	H	H	M/H
Marketing costs	L	L	M	H	L/M
Customer concentration	L	M	L	L	L
Supplier concentration	H	H	H	M	M
Risk management	M	H	M	M	M
Asset/plant quality and age/upkeep	M	H	H	M	M/H
Event risk sensitivity	M/H	H	H	M/H	H
Financial market volatility/sensitivity	M	M/H	L	M	M
Fashion/fad/design sensitivity	L	L	L	H	L/M
Capital and financing characteristics					
Capital intensity	H	H	H	H	H
Borrowing requirement	H	H	L/M	H	H
Interest rate sensitivity	L/M	L/M	L/M	H	L/M
Government, regulatory, and legal environments					
Regulation/deregulation	H	H	M	M/H	H
Government microeconomic and social policies	H	H	H	H	M/H
Litigiousness/legal risk	L	H	M	M	M

Industry strengths:

- Material barriers to entry because of government-granted franchises, despite deregulatory trends;
- Strategically important to national and regional economies; key pillar of the consumer and commercial economy;
- Improving management focus industry-wide on operating efficiency in recent years; and
- Cross-border growth opportunities in Europe and industrializing emerging markets.

Industry challenges/risks:

- Maturity, with a weak growth outlook in developed countries;
- Highly politicized and burdensome regulatory (i.e., rate setting and investment recovery) process; and
- Risks of "legacy cost drag" as wholesale and retail markets move toward greater deregulation.

Major global risk issues facing the utilities industry:

- Increased volatility in the regulatory environment and competitive landscape leading to greater uncertainty regarding adequacy of pricing and return on capital;
- Longer-term impact of, and ability to absorb, significant secular upturn in fuel costs, which is the industry's major operating expense;
- Ability to recover massive investment costs that will likely be necessary to replace aging industry infrastructure in a harsher cost and regulatory environment; and
- The debate over global warming will continue far beyond 2008. What the ultimate outcome will be is unclear, but growing legislation addressing carbon emissions and other greenhouse gases is probable in the near future. Utilities' ability to recover environmentally mandated costs in authorized rates and consumers' willingness to pay them could impact the industry's future credit strength.

Industry business model and risk profile in transition

Regulated utilities are in many developed countries transitioning away from quasi-monopolies toward more open competitive environments.

The level of business and credit risk associated with the investor-owned regulated utilities has historically proven in most countries to be lower (risk) than for many other industries. This has been because of the existence of government policy and related regulation that created significant barriers to entry limiting competition, and regulatory rate setting designed to provide an opportunity to achieve a specific level of profitability. The credit quality of most vertically integrated utilities in developed countries has historically been, and remains, solidly investment grade. This, to reiterate, is primarily a function of the existence of protective regulation.

The risks of, and rationale for, deregulation

The traditional protected and privileged utilities industry business model with its marked monopolistic characteristics is in many countries undergoing transition to a more competitive and open framework. This transition process, known as deregulation or liberalization, is weakening the business and credit risk profile of the industry. While the impact of these changes may prove positive in the longer term for more efficient industry players, it is important to bear in mind that economic history is littered with the vestiges of industries and enterprises that once flourished under the protection of government-created barriers and other protections. The shift is being driven by introduction in many countries of policies to encourage the entrance of new competitors and to reduce the traditional regulatory protections and privileges enjoyed by incumbents. Historically, the regulated investor-owned utilities were usually granted exclusive franchises. Because of the significant risks associated with the capital-intense nature of the utility investment, including massive sunk/fixed costs and long-term break-even horizons, governments in many countries created legal and regulatory frameworks that granted exclusivity to one operator in a given geographic area. To offset the monopolistic pricing power this exclusivity created, a system of heavy regulation was typically developed, which included the setting of pricing. The model often set pricing on a "cost-plus-basis", i.e., the margin over cost allowing for a perceived fair return to shareholders of investor-owned utilities. One major weakness of this system is that it created little incentive for utilities to efficiently manage costs. In recent years as many governments have adopted more liberal open market economic philosophies and related policies focused on the creation of greater competition—in an effort to foster improved economic growth and pricing efficiency throughout the economy—the traditional utility models in many countries have come under increasing political scrutiny and pressure.

A major public policy and political risk, as well as a credit risk, associated with deregulation of protected industries, is that existing incumbents often experience significant challenges in readjusting their management strategies, cultures, and expense basis to be able to compete effectively in the new environment.

The turmoil and bankruptcies in the U.S. in the nonregulated power marketing and trading arena between 2000 and 2002 arose subsequent to a major government initiative to deregulate the wholesale market. These failures, as well as other high-profile problems arising from deregulation elsewhere in the world, have given governments pause as to the desirability of a headlong rush into deregulation. In the U.S., for example, there is currently little impetus to carry deregulation any further.

Regulation and deregulation in the U.S.

While considerable attention has been focused on companies in states that deregulated in the late 1990s and the early part of this decade, and the related consequences of disaggregation and nonregulated generation, 27 states (plus four that formally reversed, suspended, or delayed restructuring) have retained the traditional regulated model. For utilities operating in those states, the quality of regulation and management loom considerably larger than markets, operations, and competitiveness in shaping overall financial performance. Policies and practices among state and federal regulatory bodies will be key credit determinants. Likewise, the quality of management, defined by its posture towards creditworthiness, strategic decisions, execution and consistency, and its ability to sustain a good working relationship with regulators, will be key. Importantly, however, it is virtually impossible to completely segregate each of these characteristics from the others; to some extent they are all interrelated.

Fragmentation of original model emerges in the U.S.

- Traditional regulated, vertically integrated utilities (generation, transmission, and distribution);
- Transmission and distribution;
- Diversified;
- Transmission; and
- Merchant generation.

We view a company that owns regulated generation, transmission, and distribution operations as positioned between companies with relatively low-risk transmission and distribution operations and companies with higher-risk diversified activities on the business profile spectrum. What typically distinguishes one vertically integrated utility's business profile score from another is the quality of regulation and management, which are the two leading drivers of credit quality.

Deregulation in the U.S. creates a new volatile industry subsector

The birth of large-scale, nonregulated power generators created the opportunity--and the need--for companies to market and broker power. Power marketers, independent power producers, and unregulated subsidiaries of utility companies offer power-supply alternatives to other utilities in the wholesale market as well as to large industrial customers. Power marketing operations have been formed by energy companies (many with experience in marketing natural gas), utility subsidiaries, and independents. As with the gas industry, electric power marketers expected to develop an efficient market by straddling the gulf between electricity generators and their customers, who have become "free agents" in the newly competitive environment.

Deregulation creates tiering of industry, business and credit risk profiles in Europe

The regional differences in market liberalization across Western Europe result in material variations in industry and business risk profiles for the utilities industry at the national level. The U.K. and Nordic markets, in particular, are substantially deregulated and open, and consequently present higher risks than other markets that are less open, including France and the Iberian market. Ratings therefore generally are lower in these more deregulated markets. The less-liberalized markets may face more regulatory risk going forward, particularly if efforts by the EU to advance the internal market by increasing the extent of market liberalization across the EU continue.

Legal action against companies that infringe on competition laws should be expected--particularly against those that move to prevent new entry and limit customer choice (for example, through the tying of markets and capacity hoarding) or collude with other incumbents to do so. The European Commission (EC) can fine companies that have violated antitrust laws up to 10% of their global annual turnover and, under certain conditions, impose structural remedies. Particular emphasis would be placed on increasing the effective unbundling of network and supply activities and on diminishing market concentration and barriers to entry.

The EC has publicly stated is intention to pursue, as a priority, abuses of the dominant position of vertically integrated companies (called vertical foreclosure). Behavioral remedies, such as energy release programs, are expected to be imposed by the EC for which such abuses, or collusion, are proved. The commission could also enforce structural measures when behavioral remedies are deemed insufficient.

3. Company competitive position and keys to competitive success

In analyzing a company's competitive position, we consider the following:

- Regulation;
- Markets;
- Diversification;
- Operations;
- Management, including growth strategy;
- Governance; and
- Profitability.

We are most concerned about how these elements contribute individually and in aggregate to the predictability and sustainability of financial performance, particularly cash flow generation relative to fixed obligations.

Regulation.

Critical success factors include:

- Consistency and predictability of decisions;
- Support for recovery of fuel and investment costs;
- History of timely and consistent rate treatment, permitting satisfactory profit margins and timely return on investment; and
- Support for a reasonable cash return on investment.

Regulation is the most critical aspect that underlies regulated integrated utilities' creditworthiness. Regulatory decisions can profoundly affect financial performance. Our assessment of the regulatory environments in which a utility operates is guided by certain principles, most prominently consistency and predictability, as well as efficiency and timeliness. For a regulatory process to be considered supportive of credit quality, it must limit uncertainty in the recovery of a utility's investment. They must also eliminate, or at least greatly reduce, the issue of rate-case lag, especially when a utility engages in a sizable capital expenditure program.

Our evaluation encompasses the administrative, judicial, and legislative processes involved in state and national government regulation, and includes the political environment in which commissions render decisions. Regulation is assessed in terms of its ability to satisfy the particular needs of individual utilities. Rate-setting actions are reviewed case by case with regard to the potential effect on credit quality.

Evaluation of regulation focuses on the ability of regulation to provide utilities with the opportunity to generate cash flow and earnings quality and stability adequate to:

- Meet investment needs;
- Service debt and maintain a satisfactory rating profile; and
- Generate a competitive rate of return to investors.

To achieve this, regulation must allow for:

- Timely recognition of volatile cost components such as fuel and satisfactory returns on invested capital and equity;
- Ability to enter into long-term arrangements at negotiated rates without having to seek regulatory approval for each contract; and
- Ability to recover costs in new investment over a reasonable time frame.

Because the bulk of a utility's operating expenses relate to fuel and purchased power, of primary importance to rating stability is the level of support that state regulators provide to utilities for fuel cost recovery, particularly as gas and coal costs have risen. Utilities that are operating under rate moratoriums, or without access to fuel and purchased-power adjustment clauses, or face significant regulatory lag, also are subject to reduced operating margins, increased cash flow volatility, and greater demand for working capital. Companies that are granted fuel true-ups may be required to spread recovery over many years to ease the pain for the consumer. In addition to fuel cost recovery filings, regulators will have to address significant rate increase requests related to new generating capacity additions, environmental modifications, and reliability upgrades. Current cash recovery and/or return by means of construction work in progress support what would otherwise sometimes be a significant cash flow drain and reduces the utility's need to issue debt during construction.

Markets/market position.
Critical success factors include:

- A healthy and growing economy;
- Growth in population and residential and commercial customer base;
- An attractive business environment;
- An above-average residential base; and
- Limited bypass risk.

The importance of diversification and size.
Critical success factors include:

- Regional and cross-border market diversification (mitigates economic, demographic, and political risk concentration);

- Industrial customer diversification;
- Fuel supplier diversification;
- Retail, compared with wholesale;
- Regulatory regime diversification; and
- Generating facility diversification.

Operations (operating strategy, capability, and performance efficiency).
Critical success factors include:

- Low cost structure;
- Well-maintained assets;
- Solid plant performance;
- Adequate generating reserves, and compliance with environmental standards; and
- Limited environmental exposures.

Management evaluation.
Utilities are complex specialized businesses requiring experienced and successful management teams to have a strong mix of the aforementioned disciplines. Critical elements of management success include:

- Commitment to credit quality;
- Operating efficiency and cost control;
- Maintaining a competitive asset base, i.e., power plant construction project management, and plant upkeep and renovation;
- Regulatory track record, process, and relationship management;
- M&A experience in successfully identifying, executing, and integrating acquisitions;
- Credibility and strong corporate governance;
- Conservative financial policies, especially regarding non-regulated activities; and
- Ability and track record in repositioning and transforming business to not just survive, but prosper in a more open market environment.

Management is assessed for its ability to run and expand the business efficiently, while mitigating inherent business and financial risks. The evaluation also focuses on the credibility of management's strategy and projections, its operating and financial track record, and its appetite for assuming business and financial risk.

The management assessment is based on tenure, turnover, industry experience, financial track record, corporate governance, a grasp of industry issues, and knowledge of regulation, the impact of deregulation, of customers, and their needs. Management's ability and willingness to develop workable strategies to address system needs, and to execute reasonable and effective long-term plans are assessed. Management quality is also indicated by thoughtful balancing of multiple priorities; a record of credibility; and effective communication with the public, regulatory bodies, and the financial community.

We also focus on management's ability to achieve cost-effective operations and commitment to maintaining credit quality. This can be assessed by evaluating accounting and financial practices, capitalization and common dividend objectives, and the company's philosophy regarding growth and risk-taking.

4. Profitability/peer comparison

Regulated.

Traditionally, the lower levels of risk in utilities because of the highly regulated environment has resulted in lower profitability and return on capital than in many other industrial sectors. In the regulated marketplace the level and margin of profitability has often primarily been a function of regulatory leeway, with the contribution of operating efficiency and revenue growth taking more of a back seat.

Deregulated/liberalized environments.

In deregulated markets, cost efficiency and flexibility, and internal growth, are the major profitability drivers. The development of a robust risk management culture and infrastructure are also keys to creating stability of earnings, because the company no longer has recourse to the regulator to cover costs or losses—a recourse that usually protects from downside earnings surprises in the regulated sector.

Whether generated by the regulated or deregulated side of the business, profitability is critical for utilities because of the need to fund investment-generating capacity, maintain access to external debt and equity capital, and make acquisitions. Profit potential and stability is a critical determinant of credit protection. A company that generates higher operating margins and returns on capital also has a greater ability to fund growth internally, attract capital externally, and withstand business adversity. Earnings power ultimately attests to the value of the company's assets, as well. In fact, a company's profit performance offers a litmus test of its fundamental health and competitive position. Accordingly, the conclusions about profitability should confirm the assessment of business risk, including the degree of advantage provided by the regulatory environment.

Part 2—Financial Risk Analysis

Having evaluated a company's competitive position, operating environment, and earnings quality, our analysis proceeds to several financial categories. Financial risk is portrayed largely through quantitative means, particularly by using financial ratios.

We analyze five risk categories: accounting characteristics; financial governance/policies and risk tolerance; cash flow adequacy; capital structure and leverage; and liquidity/short-term factors. We then determine a score for overall financial risk using the following scale:

Table 3

Financial Risk Measures

Description	Rating equivalent
Minimal	AAA/AA
Modest	A
Intermediate	BBB
Aggressive	BB
Highly leveraged	B

The major goal of financial risk analysis is to determine the quality of cash resources from operations and other major sources available to service the debt and other financial liabilities, including any new debt. An integral part of this analysis is to form an understanding of the debt structure, including the mix of senior versus subordinated, fixed versus floating debt, as well as its maturity structure. It is also important to analyze and form an opinion of management's financial policy, accounting elections, and risk appetite. Using cash flow analysis as a building block, it is further necessary to establish the company's liquidity profile and flexibility. While closely interrelated, the analysis of a company's liquidity differs from that of its cash flow as it also incorporates the evaluation of other sources and uses of funds, such as committed undrawn bank facilities, as well as contingent liabilities (e.g., guarantees, triggers, regulatory issues, and legal settlements).

1. Accounting characteristics

Financial statements and related footnotes are the primary source of information about a company's financial condition and performance. The analysis begins with a review of accounting characteristics to determine whether ratios and statistics derived from the statements adequately measure a company's performance and position relative to those of both its direct peer group and the universe of industrial companies. This assessment is important in providing a common frame of reference and in helping the analyst determine the quality of disclosure and the reliability of the reported numbers. We focus on the following areas:

- Analytical adjustments and areas of potential concern;
- Significant transactions and notable events that have accounting implications.
- Significant accounting and financial reporting policies and the underlying assumptions.
- History of nonoperating results and extraordinary charges or adjustments and underlying accounting treatment, disclosure, and explanation.

2. Financial governance/policies and risk tolerance

The robustness of management's financial and accounting strategies and related implementation processes is a key element in credit risk evaluation. We attach great importance to management's philosophies and policies involving financial risk.

Financial policies are also important because companies with more conservative balance sheets and the credit capacity to pursue the necessary investments or acquisitions gain an advantage. Overly aggressive capital structures can leave very little capacity to absorb unexpected negative developments and will certainly leave little capacity to make future strategic investments. Companies with the credit capacity to support strategic investments will be better positioned to both evolve with industry change and to withstand inevitable downturns.

Understanding management's strategy for raising its share price, including its financial performance objectives, e.g., return on equity, can provide invaluable insight about the financial and business risk appetite.

3. Cash flow adequacy

Cash-flow analysis is one of the most critical elements of all credit rating decisions. Although there usually is a strong relationship between cash flow and profitability, many transactions and accounting entries affect one and not the other. Analysis of cash-flow patterns can reveal a level of debt-servicing capability that is either stronger or weaker than might be apparent from earnings. Focusing on the source and quality/volatility of cash flow is also important (e.g., regulated/deregulated; generation/transmission/trading).

A review of cash flow historically, as well as needs on a forward-looking basis, should take into account levels of capital expenditures for new generation plants. In periods where elevated new construction occurs in anticipation of a rise in power demand, cash outflows will be high.

It is particularly important to evaluate capital-intensive businesses, such as utility companies, on the basis of how much cash they generate and absorb. Debt service is an especially important use of cash flow.

Cash-flow ratios.
Ratios show the relationship of cash flow to debt and debt service, and also to the company's needs. Because there are calls on cash flow other than repaying debt, it is important to know the extent to which those requirements will allow cash to be used for debt service or, alternatively, lead to greater need for borrowing. The most important cash flow ratios we look at for the investor-owned utilities are:

- Funds from operations (FFO)/Total debt;
- FFO/Income;
- Funds from operations/Total debt (adjusted for off-balance-sheet liabilities);
- EBITDA/Interest; and
- Net cash flow/Capital spending requirements.

4. Capital structure and leverage
For utilities, the long-term nature of capital commitments and extended breakeven periods on investment, make the type of financing required by these companies to finance these needs to be similar in many ways to the financing needs of other long-term asset-intensive businesses. Our analysts review projections of future CAPEX, debt, and FFO levels to make a determination of the likely level of leverage and debt over the medium term, and the companies' ability to sustain them. The valuation of the debt amortization scheduled is tied into projections of profitability breakeven, and the underlying assets becoming cash-flow-positive, are key components of the combined cash flow and leverage analysis.

Capitalization ratios.
When analyzing a utility's balance sheet, a key element is analysis of capitalization ratios. The main factors influencing the level of debt are the level of capital expenditures, particularly construction expenditures, and the cost of debt. Companies with strong balance sheets will have more flexibility to further reduce their debt, and/or increase their dividends. The following are useful indicators of leverage:

- Total debt*/total debt + equity; and
- Total debt* + off-balance-sheet liabilities/total debt + off-balance-sheet liabilities + equity.

*Power purchase agreement-adjusted total debt. Fully adjusted, historically demonstrated, and expected to consistently continue.

Debt leverage, and interest and amortization coverage ratios are the key drivers of the financial risk score.

5. Liquidity/working capital/short-term factors:
Our liquidity analysis starts with operating cash flow and cash on hand, and then looks forward at other actual and contingent sources and uses of funds in the short term that could either provide or drain cash under given circumstances.

A key source of liquidity is bank lines. Key factors reviewed are total amount of facilities; whether they are contractually committed; facility expiration date(s); current and expected usage and estimated availability; bank group quality; evidence of support/lack of support of bank group; and covenant and trigger analysis. Financial covenant analysis is critical for speculative-grade credits. We request copies of all bank loan agreements and bond terms and conditions for rated entities, and review supplemental information provided by issuers for listing of financial covenants and stipulated compliance levels. We review covenant compliance as indicated in compliance certificates, as well as expected future compliance and covenant headroom levels. Entities that have already tripped or are expected to trip financial covenants need to be subject to special scrutiny and are reviewed for their ability to obtain waivers or modifications need to be subject to special scrutiny and are reviewed for their ability to obtain waivers or modifications to covenants. Tripping covenants can have a double negative effect on a company's liquidity. It may preclude it from borrowing further under its credit line, and may also lead to a contractual acceleration of repayment and increased interest rates.

The McGraw·Hill Companies

LOUISVILLE GAS AND ELECTRIC COMPANY
Analysis of Terminated Swap Agreement

	Calculation Based on Continuation of Swap Agreement				Calculation of Proposed Amortization Methodology					
	A	B	C	D	E	F	G	H	I	J
Year	Notional Amount	LG&E Pays Fixed Rate of 3.648%	Wachovia Pays Floating Rate 68% of LIBOR*	Difference (B - C)	Est. Interest Paid on Termination Balance (F x 1 month LIBOR)	Remaining Balance of Termination Amount (F + E - D)	Amortization of Swap Termination Payment (D - E)	Annual Recovery If No Reg Asset (F x 1 month LIBOR)	Amortization of Frozen OCI Gain	Additional Recoverable ((D - (H+I))
0						9,950,000			1,093	
1	32,000,000	1,167,360	605,690	561,670	276,958	9,665,288	284,712	276,958	26,236	258,476
2	32,000,000	1,167,360	605,690	561,670	269,033	9,372,651	292,637	269,033	26,236	266,401
3	32,000,000	1,167,360	605,690	561,670	260,888	9,071,868	300,783	260,888	26,236	274,546
4	32,000,000	1,167,360	605,690	561,670	252,515	8,762,713	309,155	252,515	26,236	282,919
5	32,000,000	1,167,360	605,690	561,670	243,910	8,444,953	317,760	243,910	26,236	291,524
6	32,000,000	1,167,360	605,690	561,670	235,065	8,118,348	326,605	235,065	26,236	300,369
7	32,000,000	1,167,360	605,690	561,670	225,974	7,782,652	335,696	225,974	26,236	309,460
8	32,000,000	1,167,360	605,690	561,670	216,630	7,437,611	345,040	216,630	26,236	318,804
9	32,000,000	1,167,360	605,690	561,670	207,026	7,082,967	354,644	207,026	26,236	328,408
10	32,000,000	1,167,360	605,690	561,670	197,154	6,718,451	364,516	197,154	26,236	338,280
11	32,000,000	1,167,360	605,690	561,670	187,008	6,343,788	374,662	187,008	26,236	348,426
12	32,000,000	1,167,360	605,690	561,670	176,579	5,958,697	385,091	176,579	26,236	358,855
13	32,000,000	1,167,360	605,690	561,670	165,860	5,562,887	395,810	165,860	26,236	369,574
14	32,000,000	1,167,360	605,690	561,670	154,843	5,156,060	406,827	154,843	26,236	380,591
15	32,000,000	1,167,360	605,690	561,670	143,519	4,737,908	418,151	143,519	26,236	391,915
16	32,000,000	1,167,360	605,690	561,670	131,880	4,308,118	429,791	131,880	26,236	403,554
17	32,000,000	1,167,360	605,690	561,670	119,916	3,866,364	441,754	119,916	26,236	415,518
18	32,000,000	1,167,360	605,690	561,670	107,620	3,412,314	454,050	107,620	26,236	427,814
19	32,000,000	1,167,360	605,690	561,670	94,982	2,945,625	466,689	94,982	26,236	440,452
20	32,000,000	1,167,360	605,690	561,670	81,991	2,465,946	479,679	81,991	26,236	453,442
21	32,000,000	1,167,360	605,690	561,670	68,640	1,972,915	493,031	68,640	26,236	466,794
22	32,000,000	1,167,360	605,690	561,670	54,916	1,466,161	506,754	54,916	26,236	480,518
23	32,000,000	1,167,360	605,690	561,670	40,811	945,301	520,860	40,811	26,236	494,623
24	32,000,000	1,167,360	605,690	561,670	26,312	409,943	535,358	26,312	26,236	509,122
25	32,000,000	875,520	454,267	421,253	8,558	-	409,943	8,558	19,681	393,013
				13,901,342						
			NPV=	$9,949,949	3,948,591		9,950,000	3,948,591	650,449	9,303,396

* Assumes 1 month LIBOR rate = 2.7835%
68% of LIBOR = 1.8928%

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLCATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR AN ADJUSTMENT OF ITS ELECTRIC AND GAS BASE RATES	)))))	**CASE NO. 2009-00549**

DIRECT TESTIMONY

OF

WILLIAM E. AVERA

on behalf of

LOUISVILLE GAS AND ELECTRIC COMPANY

Filed: January 29, 2010

DIRECT TESTIMONY OF WILLIAM E. AVERA

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. William E. Avera, 3907 Red River, Austin, Texas, 78751.

Q. IN WHAT CAPACITY ARE YOU EMPLOYED?

A. I am the President of FINCAP, Inc., a firm providing financial, economic, and policy consulting services to business and government.

A. Qualifications

Q. PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE.

A. I received a B.A. degree with a major in economics from Emory University. After serving in the U.S. Navy, I entered the doctoral program in economics at the University of North Carolina at Chapel Hill. Upon receiving my Ph.D., I joined the faculty at the University of North Carolina and taught finance in the Graduate School of Business. I subsequently accepted a position at the University of Texas at Austin where I taught courses in financial management and investment analysis. I then went to work for International Paper Company in New York City as Manager of Financial Education, a position in which I had responsibility for all corporate education programs in finance, accounting, and economics.

In 1977, I joined the staff of the Public Utility Commission of Texas ("PUCT") as Director of the Economic Research Division. During my tenure at the PUCT, I managed a division responsible for financial analysis, cost allocation and rate design, economic and financial research, and data processing systems, and I testified in cases on a variety of financial and economic issues. Since leaving the PUCT, I have been engaged as a consultant. I have participated in a wide range of assignments involving utility-related matters on behalf of utilities, industrial customers, municipalities, and regulatory commissions. I have previously testified before the Federal Energy Regulatory Commission ("FERC"), as well as the Federal Communications Commission, the Surface Transportation Board (and its predecessor, the Interstate Commerce Commission), the Canadian Radio-Television and Telecommunications Commission, and regulatory agencies, courts, and legislative committees in over 40 states, including the Public Service Commission of the Commonwealth of Kentucky ("KPSC" or "the Commission").

In 1995, I was appointed by the PUCT to the Synchronous Interconnection Committee to advise the Texas legislature on the costs and benefits of connecting Texas to the national electric transmission grid. In addition, I served as an outside director of Georgia System Operations Corporation, the system operator for electric cooperatives in Georgia.

I have served as Lecturer in the Finance Department at the University of Texas at Austin and taught in the evening graduate program at St. Edward's University for twenty years. In addition, I have lectured on economic and regulatory topics in programs sponsored by universities and industry groups. I have taught in hundreds of educational programs for financial analysts in programs sponsored by the Association for Investment Management and Research, the Financial Analysts Review, and local financial analysts societies. These programs have been presented in Asia, Europe, and North America, including the Financial Analysts Seminar at Northwestern University. I hold the Chartered Financial Analyst (CFA®) designation and have served as Vice President for Membership of the Financial Management Association. I have also served on the Board of Directors of the North Carolina Society of Financial Analysts. I was elected Vice Chairman of the National Association of Regulatory Commissioners ("NARUC") Subcommittee on Economics and appointed to NARUC's Technical Subcommittee on the National

Energy Act. I have also served as an officer of various other professional organizations and societies. A resume containing the details of my experience and qualifications is attached as Exhibit WEA-1.

B. Overview

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to present to the KPSC my independent assessment of the fair rate of return on equity ("ROE") that Louisville Gas and Electric Company ("LGE" or "the Company") should be authorized to earn on its investment in providing electric and gas utility service. In addition, I also examined the reasonableness of LGE's capital structure, considering both the specific risks faced by the Company, as well as other industry guidelines.

Q. PLEASE SUMMARIZE THE BASIS OF YOUR KNOWLEDGE AND CONCLUSIONS CONCERNING THE ISSUES TO WHICH YOU ARE TESTIFYING IN THIS CASE.

A. To prepare my testimony, I used information from a variety of sources that would normally be relied upon by a person in my capacity. In connection with the present filing, I considered and relied upon corporate disclosures, publicly available financial reports and filings, and other published information relating to LGE. I also reviewed information relating generally to capital market conditions and specifically to investor perceptions, requirements, and expectations for electric utilities. These sources, coupled with my experience in the fields of finance and utility regulation, have given me a working knowledge of the issues relevant to investors' required return for LGE, and they form the basis of my analyses and conclusions.

Q. WHAT IS THE ROLE OF THE ROE IN SETTING UTILITY RATES?

A. The ROE compensates common equity investors for the use of their capital to finance the plant and equipment necessary to provide utility service. Investors commit capital only if they expect to earn a return on their investment commensurate with returns available from alternative investments with comparable risks. To be consistent with sound regulatory economics and the standards set forth by the Supreme Court in the *Bluefield*[1] and *Hope*[2] cases, a utility's allowed ROE should be sufficient to: (1) fairly compensate investors for capital invested in the utility, (2) enable the utility to offer a return adequate to attract new capital on reasonable terms, and (3) maintain the utility's financial integrity.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. I first reviewed the operations and finances of LGE and the current conditions in the utility industry and the capital markets. With this as a background, I conducted various well-accepted quantitative analyses to estimate the current cost of equity, including alternative applications of the discounted cash flow ("DCF") model and the Capital Asset Pricing Model ("CAPM"), as well as reference to expected earned rates of return for utilities. Based on the cost of equity estimates indicated by my analyses, LGE's ROE was evaluated taking into account the specific risks and potential challenges for its jurisdictional utility operations in Kentucky, as well as other factors (*e.g.*, flotation costs) that are properly considered in setting a fair rate of return on equity.

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[1] *Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n*, 262 U.S. 679 (1923).
[2] Fed. Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591 (1944).

C. Summary of Conclusions

Q. WHAT ARE YOUR FINDINGS REGARDING THE FAIR RATE OF RETURN ON EQUITY FOR LGE?

A. Based on the results of my analyses and the economic requirements necessary to support continuous access to capital, I recommend an ROE for LGE from the middle of my 10.5 percent to 12.5 percent reasonable range, or 11.5 percent. The bases for my conclusion are summarized below:

- In order to reflect the risks and prospects associated with LGE's jurisdictional utility operations, my analyses focused on a proxy group of fourteen other utilities with comparable investment risks. Consistent with the fact that utilities must compete for capital with firms outside their own industry, I also referenced a proxy group of comparable risk companies in the non-utility sector of the economy;
- Because investors' required return on equity is unobservable and no single method should be viewed in isolation, I applied both the DCF and CAPM methods, as well as the expected earnings approach, to estimate a fair ROE for LGE;
- Based on my evaluation of the strength of the various methods, I concluded that the cost of equity for the proxy groups of utilities and non-utility companies is in the 10.5 percent to 12.5 percent range;
- Investors view existing cost recovery mechanisms as supportive of LGE's financial integrity, but there is no evidence that these provisions will result in a measurable change in the Company's investment risk or ROE relative to the proxy companies;
- The reasonableness of an 11.5 percent ROE for LGE is also supported by the need to consider flotation costs and support access to capital.

Q. WHAT OTHER EVIDENCE DID YOU CONSIDER IN EVALUATING YOUR ROE RECOMMENDATION IN THIS CASE?

A. My recommendation is reinforced by the following findings:

- Sensitivity to financial market and regulatory uncertainties has increased dramatically and investors recognize that constructive regulation is a key ingredient in supporting utility credit standing and financial integrity; and,

- Providing LGE with the opportunity to earn a return that reflects these realities is an essential ingredient to support the Company's financial position, which ultimately benefits customers by ensuring reliable service at lower long-run costs.

Q. WHAT IS YOUR CONCLUSION AS TO THE REASONABLENESS OF THE COMPANY'S CAPITAL STRUCTURE?

A. Based on my evaluation, I concluded that a common equity ratio of 53.86 percent represents a reasonable basis from which to calculate LGE's overall rate of return. This conclusion was based on the following findings:

- LGE's common equity ratio is consistent with the range of capitalizations maintained by the firms in the proxy group of utilities and electric utility operating companies based on data at year-end 2008 and near-term expectations;

- The additional leverage implied by LGE's purchased power commitments, leases, and pension obligations warrant a more conservative financial posture; and,

- The requested capitalization reflects the need to support the credit standing and financial flexibility of LGE as the Company seeks to fund system investments and meet the requirements of customers.

II. FUNDAMENTAL ANALYSES

Q. WHAT IS THE PURPOSE OF THIS SECTION?

A. As a predicate to subsequent quantitative analyses, this section briefly reviews the operations and finances of LGE. In addition, it examines the risks and prospects for the utility industry and conditions in the capital markets and the general economy. An understanding of the fundamental factors driving the risks and prospects of electric utilities is essential in developing an informed opinion of investors' expectations and requirements that are the basis of a fair rate of return.

A. Louisville Gas and Electric Company

Q. BRIEFLY DESCRIBE LGE.

A. Along with Kentucky Utilities Company ("KU"), LGE is a wholly owned subsidiary of E.ON U.S. LLC ("E.ON U.S."), which in turn is an indirect subsidiary of E.ON AG ("E.ON"). Headquartered in Louisville, Kentucky, LGE is principally engaged in providing regulated electric and gas utility service in Louisville and adjacent areas. The Company serves approximately 391,000 electric customers and provides gas service to approximately 317,000 customers.

Although LGE and KU are separate operating subsidiaries, they are operated as a single, fully integrated system. The Company's utility facilities include over 3,200 megawatts ("MW") of generating capacity. Coal-fired generating stations account for approximately 76 percent of LGE's total generating capacity and produced 97 percent of the electricity generated by the Company in 2008. . In addition to company-owned generation, the Company purchases power under long-term contracts with various suppliers and meets a portion of its energy needs by purchases of additional supplies in the wholesale electricity markets. LGE's transmission and distribution system includes approximately 7,000 miles of lines. At October 31, 2009, the Company had total assets of $3.4 billion, with annual revenues totaling approximately $1.4 billion. LGE's retail electric operations are subject to the jurisdiction of the KPSC, with FERC regulating the Company's interstate transmission and wholesale operations.

Q. HOW ARE FLUCTUATIONS IN THE COMPANY'S OPERATING EXPENSES CAUSED BY VARYING ENERGY MARKET CONDITIONS ACCOMMODATED IN ITS RATES?

A. LGE's retail electric rates in Kentucky contain a fuel adjustment clause ("FAC"), whereby increases and decreases in the cost of fuel for electric generation are reflected in the rates charged to retail electric customers. The KPSC requires public hearings at six-month intervals to examine past fuel adjustments, and at two-year intervals to review past operations of the fuel clause and transfer of the then current fuel adjustment charge or credit to the base charges. The Commission also requires that electric utilities, including LGE, file documents relating to fuel procurement and the purchase of power and energy from other utilities.

With respect to its gas utility operations, LGE is allowed to adjust natural gas rates on a periodic basis for the difference between the actual gas costs and those collected from customers. These adjustments under the provisions of LGE's Gas Supply Clause ("GSC") are subject to applicable regulatory review by the KPSC. The GSC provides for quarterly rate adjustments to reflect the expected cost of natural gas supply in that quarter. In addition, the GSC contains a mechanism whereby any over- or under-recoveries of natural gas supply cost from prior quarters are to be refunded to or recovered from customers through the adjustment factor determined for subsequent quarters.

Q. ARE THERE OTHER MECHANISMS THAT AFFECT LGE'S RATES FOR UTILITY SERVICE?

A. Yes. The KPSC has approved an environmental cost recovery mechanism ("ECR") for the Company that allows for recovery of related costs required to comply with federal and state environmental statutes. In addition, LGE utilizes a KPSC-approved weather normalization adjustment ("WNA") that partially adjusts natural gas utility revenues for the effect of weather extremes by accounting for differences in consumption due to deviations from normal weather patterns during the heating season months of November through April. As discussed in the testimony of witness Seelye, LGE is also proposing to implement a Straight Fixed Variable ("SFV") rate design that would apply to residential gas distribution service. The

SFV rate design separates the recovery of fixed costs from gas sales volumes in order to better accommodate changes in residential customers' usage attributable to natural gas conservation, energy efficiency, and price elasticity.

Q. WHERE DOES LGE OBTAIN THE CAPITAL USED TO FINANCE ITS INVESTMENT IN ELECTRIC UTILITY PLANT?

A. As a wholly-owned subsidiary of E.ON U.S., LGE ultimately obtains equity capital and most of its debt capital solely from the parent corporation, E.ON, whose common stock is included as one of the 30 members of the DAX stock index of major German companies. Although not presently listed on a major U.S. stock exchange, E.ON shares also trade in the U.S. through the American Depository Receipt system. In addition to capital supplied by E.ON, LGE also issues tax-exempt debt securities in its own name.

Q. WHAT CREDIT RATINGS ARE ASSIGNED TO LGE?

A. Currently, LGE is assigned a corporate credit rating of "BBB+" by Standard & Poor's Corporation ("S&P"), while Moody's Investors Service ("Moody's") has assigned the Company an issuer rating of "A2".

B. Risks for LGE

Q. HOW HAVE INVESTORS' RISK PERCEPTIONS FOR THE UTILITY INDUSTRY EVOLVED?

A. Implementation of structural change and related events caused investors to rethink their assessment of the relative risks associated with the utility industry. The past decade witnessed steady erosion in credit quality throughout the utility industry, both as a result of revised perceptions of the risks in the industry and the weakened finances of the utilities themselves. S&P recently reported that the majority of the companies in the utility sector now fall in the triple-B rating category.[3] Going forward, S&P observed that:

> Looming costs associated with environmental compliance, slack demand caused by economic weakness, the potential for permanent demand destruction caused by changes in consumer behavior and closing of manufacturing facilities, and numerous regulatory filings seeking recovery of costs are some of the significant challenges the industry has to deal with.[4]

Q. DOES LGE ANTICIPATE THE NEED FOR ADDITIONAL CAPITAL GOING FORWARD?

A. Yes. LGE will require capital investment to provide for necessary maintenance and replacements of its utility infrastructure, as well as to fund new investment in electric generation, transmission and distribution facilities. Total capital expenditures for the Company are expected to be approximately $783 million over the 2010-2012 period, with Moody's noting the challenges associated with "supporting the level of demand in its service territory and maintaining an adequate reserve margin."[5] Similarly, S&P noted that the "[h]eavy construction program to meet environmental requirements and new generating capacity" places pressure on LGE's credit profile,[6] and concluded that external financing will be required to meet these obligations.[7] Support for LGE's financial integrity and flexibility will be instrumental in attracting the capital necessary to fund its share of these projects in an effective manner.

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[3] Standard & Poor's Corporation, "Industry Report Card: U.S. Electric Utility Sector's Liquidity Remains Adequate In Third Quarter 2009," (Sep. 21, 2009).

[4] Standard & Poor's Corporation, "U.S. Regulated Electric Utilities Head Into 2010 With Familiar Concerns," *RatingsDirect* (Dec. 28, 2009).

[5] Moody's Investors Service, "Credit Opinion: Louisville Gas & Electric Co.," *Global Credit Research* (May 4, 2009).

[6] Standard & Poor's Corporation, "Louisville Gas & Electric Co.," *RatingsDirect* (Apr. 3, 2009).

[7] Standard & Poor's Corporation, "Louisville Gas & Electric Co.," *RatingsDirect* (Aug. 18, 2009).

Q. IS THE POTENTIAL FOR ENERGY MARKET VOLATILITY AN ONGOING CONCERN FOR INVESTORS?

A. Yes. In recent years utilities and their customers have had to contend with dramatic fluctuations in energy costs due to ongoing price volatility in the spot markets, and investors recognize the prospect of further turmoil in energy markets. Moody's has warned investors of ongoing exposure to "extremely volatile" energy commodity costs, including purchased power prices, which are heavily influenced by fuel costs,[8] and Fitch noted that rapidly rising energy costs created vulnerability in the utility industry.[9]

For example, while coal has historically provided relative stability with respect to fuel costs, the Energy Information Administration ("EIA"), a statistical agency of the U.S. Department of Energy ("DOE"), reported that prices for Central and Northern Appalachia coal spiked from approximately $45 per ton in June 2007 to over $140 per ton in September 2008, before falling back into the $40 to $50 range in September 2009.[10] The utility industry and its customers have also had to contend with dramatic fluctuations in gas costs due to ongoing price volatility in the spot markets. Fitch has also highlighted the challenges that fluctuations in gas prices can have for utilities and noted that:

> From their September 2007 low of $5.29, spot natural gas prices as reported at Henry Hub rose 150% to $13.31 in early July 2008 and declined 57% to $5.68 per million British thermal unit (mmBtu) on Dec. 10, 2008. The sharp run-up and subsequent collapse of natural

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[8] Moody's Investors Service, "Storm Clouds Gathering on the Horizon for the North American Electric Utility Sector," *Special Comment* at 6 (Aug. 2007).

[9] Fitch Ratings Ltd., "Staying Afloat: Downstream Liquidity in the Energy and Power Sectors," *Oil & Gas / Global Power Special Report* (June 16, 2008).

[10] Energy Information Administration, *Coal News and Markets* (Jun. 20 & Sep. 26, 2008, Oct. 13, 2009).

> gas prices in 2008 is emblematic of the extreme price volatility that characterizes the commodity and is likely to persist in the future.[11]

Moody's concluded that natural gas "remains highly volatile," and warned that such price fluctuations "could have a significant impact on a utility's liquidity profile."[12]

While expectations for significantly lower power prices reflect weaker fundamentals affecting current load and fuel prices, investors recognize the potential that such trends could quickly reverse. Indeed, Fitch highlighted the challenges that such dramatic fluctuations in commodity prices can have for utilities and their investors and recently noted that "uncertainty regarding fuel prices, in particular natural gas costs, has made planning for the future even more problematic."[13] Besides discouraging potential customers from choosing natural gas, causing certain existing users to substitute alternative fuels, and leading to decreased customer usage, volatile natural gas prices have increased the risks of investing in natural gas distribution utilities and placed additional pressure on their bond ratings. The rapid rise in customers' bills that can result from higher wholesale energy prices has also heightened investor concerns over the implications for regulatory uncertainty. S&P noted that, while timely cost recovery was paramount to maintaining credit quality for utilities, an "environment of rising customer tariffs, coupled with a sluggish economy, portend a difficult regulatory environment in coming years."[14]

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[11] Fitch Ratings, Ltd., "U.S. Utilities, Power and Gas 2009 Outlook," *Global Power North American Special Report* (Dec. 22, 2008).

[12] Moody's Investors Service, "Carbon Risks Becoming More Imminent for U.S. Electric Utility Sector," *Special Comment* (March 2009).

[13] Fitch Ratings, Ltd., "Electric Utility Capital Spending: The Show Will Go On," *Global Power U.S. and Canada Special Report* (Oct. 14, 2009).

[14] Standard & Poor's Corporation, "Top 10 U.S. Electric Utility Credit Issues For 2008 And Beyond," *RatingsDirect* (Jan. 28, 2008).

Q. DO THE KPSC'S ADJUSTMENT MECHANISMS PROTECT LGE FROM EXPOSURE TO FLUCTUATIONS IN POWER SUPPLY AND GAS COSTS?

A. To a limited extent, yes. The investment community views LGE's ability to periodically adjust retail rates to accommodate fluctuations in fuel, purchased power, and gas costs as an important source of support for LGE's financial integrity. Nevertheless, they also recognize that there can be a lag between the time LGE actually incurs the expenditure and when it is recovered from ratepayers. As a result, LGE is not insulated from the need to finance deferred power production and energy supply costs. Indeed, despite the significant investment of resources to manage energy procurement, investors are aware that the best that LGE can do is to recover its actual costs. In other words, LGE earns no return on fuel, purchased power, or natural gas supply costs and is exposed to disallowances for imprudence in its energy procurement.

Q. WHAT OTHER FINANCIAL PRESSURES IMPACT INVESTORS' RISK ASSESSMENT OF LGE?

A. Investors are aware of the financial and regulatory pressures faced by utilities associated with rising costs and the need to undertake significant capital investments. As Moody's observed:

> [P]ressures are building. Utilities are facing rising operating costs and infrastructure investment needs that are prompting them to seek more-frequent requests for rate relief. Meanwhile, as energy (and other commodity) costs rise, so does the risk of a consumer backlash over electric rates that could prompt legislative intervention or a more contentious atmosphere between utilities and their regulators.[15]

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[15] Moody's Investors Service, "U.S. Investor-Owned Electric Utilities: Six-Month Industry Update," *Industry Outlook* (July 2008).

Similarly, S&P noted that "heavy construction programs," along with rising operating and maintenance costs and volatile fuel costs, were a significant challenge to the utility industry.[16] Fitch echoed this assessment, concluding:

> Continued access to capital at reasonable rates in 2009 remains uncertain at a time when many utility holding groups have historically high capital investment programs and will require ongoing access to reasonably priced capital in order to fund new investment and refinance maturing debt.[17]

As noted earlier, investors anticipate that LGE will undertake significant electric and gas utility capital expenditures. While providing the infrastructure necessary to meet the energy needs of customers is certainly desirable, it imposes additional financial responsibilities on the Company.

Q. ARE ENVIRONMENTAL CONSIDERATIONS ALSO AFFECTING INVESTORS' EVALUATION OF ELECTRIC UTILITIES, INCLUDING LGE?

A. Yes. Although LGE's exposure is moderated through the ECR mechanism in Kentucky, utilities are confronting increased environmental pressures that could impose significant uncertainties and costs. In early 2007 S&P cited environmental mandates, including emissions, conservation, and renewable resources, as one of the top ten credit issues facing U.S. utilities.[18] Similarly, Moody's noted that "the prospect for new environmental emission legislation – particularly concerning carbon dioxide – represents the biggest emerging issue for electric utilities,"[19] while Fitch observed that the response to greenhouse gas limits "is going to present

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[16] Standard & Poor's Corporation, "Ratings Roundup: Utility Sector Experienced Equal Number Of Upgrades And Downgrades During Second Quarter Of 2008," *RatingsDirect* (Jul. 22, 2008).

[17] Fitch Ratings Ltd., "U.S. Utilities, Power and Gas 2009 Outlook," *Global Power North America Special Report* (Dec. 22, 2008).

[18] Standard & Poor's Corporation, "Top Ten Credit Issues Facing U.S. Utilities," *RatingsDirect* (Jan. 29, 2007).

[19] Moody's Investors Service, "U.S. Investor-Owned Electric Utilities," *Industry Outlook* (Jan. 2009).

enormous challenges to the industry over the immediate to longer term."[20] Given the significance of LGE's exposure, Moody's went on to conclude that it would consider a downgrade to the Company's credit ratings if significant changes were made to the ECR.[21]

At the national level, the Obama administration has taken a far more active stance towards energy and environmental policy. It has endorsed the American Clean Energy and Security Act of 2009 ("ACES"), passed by the House of Representatives on June 26, 2009. In addition to creating a comprehensive, economy-wide cap-and-trade regulatory framework, ACES would reduce carbon emissions 17 percent by 2020 compared to 2005 levels and require electric utilities to meet 20 percent of their electricity needs from renewable sources by 2020. Compliance with these evolving standards will undoubtedly require significant capital expenditures, especially for utilities like LGE that depend significantly on coal-fired generation. S&P concluded, "Although we expect the cap-and-trade program to be economywide and affect a variety of sectors, it will disproportionately affect the power sector."[22] S&P recently emphasized that because of uncertainty over the details and timing of future limits on CO_2 emissions, existing ratings do not fully reflect the impact of carbon risks.[23]

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[20] Fitch Ratings Ltd., "U.S. Utilities, Power, and Gas 2010 Outlook," *Global Power North America Special Report* (Dec. 4, 2009).

[21] Moody's Investors Service, "Credit Opinion: Louisville Gas & Electric Company," *Global Credit Research* (May 4, 2009).

[22] Standard & Poor's Corporation, "The Potential Credit Impact Of Carbon Cap-And-Trade Legislation On U.S. Companies," *RatingsDirect* (Sep. 14, 2009).

[23] *Id.*

D. Impact of Capital Market Conditions

Q. WHAT ARE THE IMPLICATIONS OF RECENT CAPITAL MARKET CONDITIONS?

A. The financial and real estate crisis that accelerated during the third quarter of 2008 led to unprecedented price fluctuations in the capital markets as investors dramatically revised their risk perceptions and required returns. As a result of investors' trepidation to commit capital, stock prices declined sharply while the yields on corporate bonds experienced a dramatic increase.

With respect to utilities specifically, as of December 2009, the Dow Jones Utility Average stock index remained almost 30 percent below the level in June 2008. This sell-off in common stocks and sharp fluctuations in utility bond yields reflect the fact that the utility industry was not immune to the impact of financial market turmoil and the ongoing economic downturn. As the Edison Electric Institute ("EEI") noted in a letter to congressional representatives as the financial crisis intensified, capital market uncertainties have serious implications for utilities and their customers:

> In the wake of the continuing upheaval on Wall Street, capital markets are all but immobilized, and short-term borrowing costs to utilities have already increased substantially. If the financial crisis is not resolved quickly, financial pressures on utilities will intensify sharply, resulting in higher costs to our customers and, ultimately, could compromise service reliability.[24]

Similarly, an October 1, 2008, *Wall Street Journal* report confirmed that utilities had been forced to delay borrowing or pursue more costly alternatives to raise funds.[25]

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[24] *Letter to House of Representatives*, Thomas R. Kuhn, President, Edison Electric Institute (Sep. 24, 2008).

[25] Smith, Rebecca, "Corporate News: Utilities' Plans Hit by Credit Markets," *Wall Street Journal* at B4 (Oct. 1, 2008).

An October 2008 report on the implications of credit market upheaval for utilities noted that even high-quality companies "now have to pay an unusually high risk premium over Treasuries."[26] Meanwhile, a Managing Director with Fitch Ratings, Ltd. ("Fitch") observed that, "significantly higher regulated returns will be required to attract equity capital."[27] In December 2008, Fitch confirmed "sharp repricing of and aversion to risk in the investment community," and noted that the disruptions in financial markets and the fundamental shift in investors' risk perceptions has increased the cost of capital for utilities:

> While credit is available to investment-grade issuers in the utilities, power and gas sectors, it is more expensive, particularly when viewed against the easy money environment which prevailed for most of this decade.[28]

Fitch recently concluded, "While utilities maintained relatively good market access during the credit crisis, the cost of capital is higher than prior to the credit crisis, and bank credit remains relatively tight."[29]

Q. HAS THE ECONOMY IN LGE'S SERVICE TERRITORY FELT THE IMPACT OF THE GLOBAL RECESSION?

A. Yes. Investors recognize that electric and gas utilities such as LGE are not immune to the declining sales and cash flow that accompanies an economic downturn. The economy in Kentucky has been hard-hit during the ongoing recession, with unemployment in the state remaining above 10.5 percent in November 2009. The Kentucky State Budget Director noted that:

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[26] *Rudden's Energy Strategy Report* (Oct. 1, 2008).
[27] Fitch Ratings Ltd., "EEI 2008 Wrap-Up: Cost of Capital Rising," *Global Power North America Special Report* (Nov. 17, 2008).
[28] Fitch Ratings Ltd., "U.S. Utilities, Power and Gas 2009 Outlook," *Global Power North America Special Report* (Dec. 22. 2008).
[29] Fitch Ratings Ltd., "Electric Utility Capital Spending: The Show Will Go On," *Global Power U.S. and Canada Special Report* (Oct. 14, 2009).

> Kentucky manufacturing employment suffered the largest absolute employment loss as well as the largest percentage loss, with a loss of 26,900 jobs, or 10.6 percent. Kentucky is over-represented in the manufacturing sector, so recessions typically negatively affect the Kentucky manufacturing sector more profoundly than the U.S.[30]

This decline in manufacturing has been mirrored in LGE's service territory, with commercial and industrial demand falling 8.3 percent in 2009 from a year earlier.

Q. **HOW DO CURRENT INTEREST RATES ON LONG-TERM BONDS COMPARE WITH THOSE PROJECTED FOR THE NEXT FEW OF YEARS?**

A. Table WEA-1 below compares current interest rates on 30-year Treasury bonds, double-A rated utility bonds, and triple-A rated corporate bonds with those projected for 2010 through 2013 by the Value Line Investment Survey ("Value Line"),[31] GlobalInsight,[32] and the EIA:[33]

TABLE WEA-1
INTEREST RATE TRENDS

	2010	**2011**	**2012**	**2013**	**Dec. 2009**
30-Yr. Treasury					
Value Line	4.5%	5.0%	5.1%	5.3%	4.5%
GlobalInsight	3.8%	4.9%	5.0%	5.2%	4.5%
AA Utility					
GlobalInsight	6.2%	6.5%	6.4%	6.7%	5.5%
EIA	6.7%	6.4%	6.5%	6.8%	5.5%
AAA Corporate					
Value Line	5.8%	6.3%	6.4%	6.5%	5.3%
GlobalInsight	5.4%	6.0%	6.0%	6.2%	5.3%

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[30] Office of the State Budget Director, "Quarterly Economic and Revenue Report," *Governor's Office for Economic Analysis* (July 30, 2009).

[31] The Value Line Investment Survey, *Forecast for the U.S. Economy* (Nov. 27, 2009).

[32] GlobalInsight, *The U.S. Economy: The 30-Year Focus* (First Quarter 2009).

[33] Energy Information Administration, *Annual Energy Outlook 2010, Early Release* (Dec. 5, 2009).

As evidenced above, there is a clear consensus that the cost of permanent capital will be higher in the 2010-2013 timeframe than it is currently. As a result, current cost of capital estimates are likely to understate investors' requirements at the time the outcome of this proceeding becomes effective and beyond.

Q. WHAT DO THESE EVENTS IMPLY WITH RESPECT TO THE ROE FOR LGE?

A. No one knows the future of our complex global economy. We know that the financial crisis had been building for a long time and few predicted that the economy would fall as rapidly as it has, or that corporate bond yields would fluctuate as dramatically as they did. While conditions in the economy and capital markets appear to have stabilized, investors are apt to react swiftly and negatively to any future signs of trouble in the financial system or economy. Given the importance of reliable electric and gas utility service for customers and the economy, it would be unwise to ignore investors' increased sensitivity to risk in evaluating LGE's ROE.

III. CAPITAL MARKET ESTIMATES

Q. WHAT IS THE PURPOSE OF THIS SECTION?

A. This section presents capital market estimates of the cost of equity. First, I address the concept of the cost of common equity, along with the risk-return tradeoff principle fundamental to capital markets. Next, I describe DCF and CAPM analyses conducted to estimate the cost of common equity for benchmark groups of comparable risk firms and evaluate expected earned rates of return for utilities. Finally, I examine flotation costs, which are properly considered in evaluating a fair rate of return on equity.

A. Economic Standards

Q. WHAT ROLE DOES THE RATE OF RETURN ON COMMON EQUITY PLAY IN A UTILITY'S RATES?

A. The return on common equity is the cost of inducing and retaining investment in the utility's physical plant and assets. This investment is necessary to finance the asset base needed to provide utility service. Investors will commit money to a particular investment only if they expect it to produce a return commensurate with those from other investments with comparable risks. Moreover, the return on common equity is integral in achieving the sound regulatory objectives of rates that are sufficient to: 1) fairly compensate capital investment in the utility, 2) enable the utility to offer a return adequate to attract new capital on reasonable terms, and 3) maintain the utility's financial integrity. Meeting these objectives allows the utility to fulfill its obligation to provide reliable service while meeting the needs of customers through necessary system expansion.

Q. WHAT FUNDAMENTAL ECONOMIC PRINCIPLE UNDERLIES THE COST OF EQUITY CONCEPT?

A. The fundamental economic principle underlying the cost of equity concept is the notion that investors are risk averse. In capital markets where relatively risk-free assets are available (*e.g.*, U.S. Treasury securities), investors can be induced to hold riskier assets only if they are offered a premium, or additional return, above the rate of return on a risk-free asset. Because all assets compete with each other for investor funds, riskier assets must yield a higher expected rate of return than safer assets to induce investors to invest and hold them.

Given this risk-return tradeoff, the required rate of return (k) from an asset (i) can generally be expressed as:

$$k_i = R_f + RP_i$$

where: R_f = Risk-free rate of return, and
RP_i = Risk premium required to hold riskier asset i.

Thus, the required rate of return for a particular asset at any time is a function of: (1) the yield on risk-free assets, and (2) the asset's relative risk, with investors demanding correspondingly larger risk premiums for bearing greater risk.

Q. IS THERE EVIDENCE THAT THE RISK-RETURN TRADEOFF PRINCIPLE ACTUALLY OPERATES IN THE CAPITAL MARKETS?

A. Yes. The risk-return tradeoff can be readily documented in segments of the capital markets where required rates of return can be directly inferred from market data and where generally accepted measures of risk exist. Bond yields, for example, reflect investors' expected rates of return, and bond ratings measure the risk of individual bond issues. The observed yields on government securities, which are considered free of default risk, and bonds of various rating categories demonstrate that the risk-return tradeoff does, in fact, exist in the capital markets.

Q. DOES THE RISK-RETURN TRADEOFF OBSERVED WITH FIXED INCOME SECURITIES EXTEND TO COMMON STOCKS AND OTHER ASSETS?

A. It is generally accepted that the risk-return tradeoff evidenced with long-term debt extends to all assets. Documenting the risk-return tradeoff for assets other than fixed income securities, however, is complicated by two factors. First, there is no standard measure of risk applicable to all assets. Second, for most assets – including common stock – required rates of return cannot be directly observed. Yet there is every reason to believe that investors exhibit risk aversion in deciding whether or not to hold common stocks and other assets, just as when choosing among fixed-income securities.

Q. IS THIS RISK-RETURN TRADEOFF LIMITED TO DIFFERENCES BETWEEN FIRMS?

A. No. The risk-return tradeoff principle applies not only to investments in different firms, but also to different securities issued by the same firm. The securities issued by a utility vary considerably in risk because they have different characteristics and priorities. Long-term debt is senior among all capital in its claim on a utility's net revenues and is, therefore, the least risky. The last investors in line are common shareholders. They receive only the net revenues, if any, remaining after all other claimants have been paid. As a result, the rate of return that investors require from a utility's common stock, the most junior and riskiest of its securities, must be considerably higher than the yield offered by the utility's senior, long-term debt.

Q. WHAT DOES THE ABOVE DISCUSSION IMPLY WITH RESPECT TO ESTIMATING THE COST OF COMMON EQUITY FOR A UTILITY?

A. Although the cost of common equity cannot be observed directly, it is a function of the returns available from other investment alternatives and the risks to which the equity capital is exposed. Because it is not readily observable, the cost of common equity for a particular utility must be estimated by analyzing information about capital market conditions generally, assessing the relative risks of the company specifically, and employing various quantitative methods that focus on investors' required rates of return. These various quantitative methods typically attempt to infer investors' required rates of return from stock prices, interest rates, or other capital market data.

Q. DID YOU RELY ON A SINGLE METHOD TO ESTIMATE THE COST OF COMMON EQUITY FOR LGE?

A. No. In my opinion, no single method or model should be relied on by itself to determine a utility's cost of common equity because no single approach can be regarded as definitive. For example, a publication of the Society of Utility and Financial Analysts (formerly the National Society of Rate of Return Analysts), concluded that:

> Each model requires the exercise of judgment as to the reasonableness of the underlying assumptions of the methodology and on the reasonableness of the proxies used to validate the theory. Each model has its own way of examining investor behavior, its own premises, and its own set of simplifications of reality. Each method proceeds from different fundamental premises, most of which cannot be validated empirically. Investors clearly do not subscribe to any singular method, nor does the stock price reflect the application of any one single method by investors.[34]

Therefore, I applied both the DCF and CAPM methods to estimate the cost of common equity. In addition, I also evaluated a fair ROE using an earnings approach based on investors' current expectations in the capital markets. In my opinion, comparing estimates produced by one method with those produced by other approaches ensures that the estimates of the cost of common equity pass fundamental tests of reasonableness and economic logic.

Q. DOES THE FACT THAT THERE ARE DIFFERENT ACCEPTED METHODS TO ESTIMATE THE COST OF COMMON EQUITY, EACH BASED ON CERTAIN ASSUMPTIONS, IMPLY THAT DETERMINING THE ROE IS SUBJECTIVE?

A. Absolutely not. The alternative approaches that I have applied to estimate the cost of common equity have considerable theoretical and practical support, and the body of knowledge on the topic of cost of capital attests to the significance of developing cost of capital estimates that work in the real world of financial markets. For example, the reality that investors require compensation for bearing the risk of

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[34] Parcell, David C., "The Cost of Capital – A Practitioner's Guide," *Society of Utility and Regulatory Financial Analysts* at Part 2, p. 4 (1997).

putting their money in common stock is a fundamental tenet of the theory and practice of finance. While assumptions and judgment underlie these methods to estimate the cost of common equity, this does not imply that they are subjective or that the cost of common equity is unknowable.

Each method of estimating the cost of common equity is based on empirical evidence and accepted applications. While experts may disagree on particular nuances and details of their application, the reliability of these methods is confirmed by their use throughout the regulatory arena as well as in the worlds of investment management and corporate finance. The fact that alternative methods may give somewhat different results, or that different experts may come to different estimates using these methods, does not mean the methods are subjective or unreliable. It means simply that interpreting the results of these methods requires care and practical judgment.

B. Comparable Risk Proxy Groups

Q. HOW DID YOU IMPLEMENT THESE QUANTITATIVE METHODS TO ESTIMATE THE COST OF COMMON EQUITY FOR LGE?

A. Application of the DCF model and other quantitative methods to estimate the cost of common equity requires observable capital market data, such as stock prices. Moreover, even for a firm with publicly traded stock, the cost of common equity can only be estimated. As a result, applying quantitative models using observable market data only produces an estimate that inherently includes some degree of observation error. Thus, the accepted approach to increase confidence in the results is to apply the DCF model and other quantitative methods to a proxy group of publicly traded companies that investors regard as risk-comparable.

Q. WHAT SPECIFIC PROXY GROUP OF UTILITIES DID YOU RELY ON FOR YOUR ANALYSIS?

A. In order to reflect the risks and prospects associated with LGE's jurisdictional utility operations, my DCF analyses focused on a reference group of other utilities composed of those companies classified by Value Line as electric utilities with: (1) both electric and gas utility operations, (2) S&P corporate credit ratings of "BBB", "BBB+", "A-", or "A";[35] (3) a Value Line Safety Rank of "1" or "2", (4) a Value Line Financial Strength Rating of "B++" or higher, and (5) published earnings per share ("EPS") growth projections from at least two of the following sources: Value Line, Thomson I/B/E/S ("IBES"), First Call Corporation ("First Call"), and Zacks Investment Research ("Zacks").[36]. These criteria resulted in a proxy group composed of fourteen companies, which I will refer to as the "Utility Proxy Group."

Q. WHAT OTHER PROXY GROUP DID YOU CONSIDER IN EVALUATING A FAIR ROE FOR LGE?

A. Under the regulatory standards established by *Hope* and *Bluefield*, the salient criterion in establishing a meaningful benchmark to evaluate a fair rate of return is relative risk, not the particular business activity or degree of regulation. As noted in *Regulatory Finance: Utilities' Cost of Capital,* "It should be emphasized that the definition of a comparable risk class of companies does not entail similarity of operation, product lines, or environmental conditions, but rather similarity of experienced business risk and financial risk."[37] Utilities must compete for capital, not just against firms in their own industry, but with other investment opportunities

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[35] As discussed subsequently, the average credit rating for the Utility Proxy Group is "BBB+".

[36] Thomson Reuters separately compiles and publishes consensus securities analyst growth rates under the IBES (formerly I/B/E/S International, Inc.) and First Call brands.

[37] Morin, Roger A., "Regulatory Finance: Utilities' Cost of Capital," *Public Utilities Reports, Inc.* at 58 (1994).

of comparable risk. With regulation taking the place of competitive market forces, required returns for utilities should be in line with those of non-utility firms of comparable risk operating under the constraints of free competition. Consistent with this accepted regulatory standard, I also applied the DCF model to a reference group of comparable risk companies in the non-utility sectors of the economy. I refer to this group as the "Non-Utility Proxy Group".

Q. WHAT CRITERIA DID YOU APPLY TO DEVELOP THE NON-UTILITY PROXY GROUP?

A. My comparable risk proxy group was composed of those U.S. companies followed by Value Line that: (1) pay common dividends; (2) have a Safety Rank of "1"; (3) have investment grade credit ratings from S&P, and (4) have a Value Line Financial Strength Rating of "B++" or higher. In addition, consistent with the criteria used to define the Utility Proxy Group, I included only those firms with published EPS growth projections from at least two of Value Line, IBES, First Call, or Zacks.

Q. DO THESE CRITERIA PROVIDE OBJECTIVE EVIDENCE TO EVALUATE INVESTORS' RISK PERCEPTIONS?

A. Yes. Credit ratings are assigned by independent rating agencies for the purpose of providing investors with a broad assessment of the creditworthiness of a firm. Ratings generally extend from triple-A (the highest) to D (in default). Other symbols (*e.g.*, "A+") are used to show relative standing within a category. Because the rating agencies' evaluation includes virtually all of the factors normally considered important in assessing a firm's relative credit standing, corporate credit ratings provide a broad, objective measure of overall investment risk that is readily available to investors. Widely cited in the investment community and referenced by investors, credit ratings are also frequently used as a primary risk indicator in establishing proxy groups to estimate the cost of common equity.

While credit ratings provide the most widely referenced benchmark for investment risks, other quality rankings published by investment advisory services also provide relative assessments of risks that are considered by investors in forming their expectations for common stocks. Value Line's primary risk indicator is its Safety Rank, which ranges from "1" (Safest) to "5" (Riskiest). This overall risk measure is intended to capture the total risk of a stock, and incorporates elements of stock price stability and financial strength. Given that Value Line is perhaps the most widely available source of investment advisory information, its Safety Rank provides useful guidance regarding the risk perceptions of investors.

The Financial Strength Rating is designed as a guide to overall financial strength and creditworthiness, with the key inputs including financial leverage, business volatility measures, and company size. Value Line's Financial Strength Ratings range from "A++" (strongest) down to "C" (weakest) in nine steps. These objective, published indicators incorporate consideration of a broad spectrum of risks, including financial and business position, relative size, and exposure to firm-specific factors.

Q. HOW DO THE OVERALL RISKS OF YOUR PROXY GROUPS COMPARE WITH LGE?

A. As shown below, Table WEA-2 compares the utility proxy group with the non-utility proxy group and LGE across four key indicators of investment risk:[38]

[38] LGE has no publicly traded common stock and Value Line does not publish risk measures for its parent, E.ON.

TABLE WEA-2
COMPARISON OF RISK INDICATORS

	S&P	Value Line		
	Credit Rating	**Safety Rank**	**Financial Strength**	**Beta**
Utility Group	BBB+	2	A	0.69
Non-Utility Proxy Group	A	1	A+	0.79
LGE	BBB+	--	--	--

Q. DOES THIS COMPARISON INDICATE THAT INVESTORS WOULD VIEW THE FIRMS IN YOUR PROXY GROUPS AS RISK-COMPARABLE TO LGE?

A. Yes. As discussed earlier, the Company is rated "BBB+" by S&P, which is identical to the average corporate credit rating for the Utility Proxy Group. Meanwhile, the average Value Line Safety Rank and Financial Strength Rating for the Utility Proxy Group is "2" and "A", respectively. These two benchmarks indicate that the risks associated with an equity investment in the Utility Proxy Group are conservative and in-line with those generally associated with a "BBB+" credit.[39] Based on my screening criteria, which reflect objective, published indicators that incorporate consideration of a broad spectrum of risks, including financial and business position, relative size, and exposure to company specific factors, investors are likely to regard the Utility Proxy Group as having risks and prospects comparable to those of LGE.

With respect to the Non-Utility Proxy Group, its average credit ratings, Quality Ranking, and Safety Rank suggest less risk than for the Utility Proxy

[39] Because LGE has no publicly traded common stock and Value Line does not publish risk indicators for its parent, E.ON, it is not possible to make a direct comparison between the proxy group and the Company. The fact that the average Value Line Safety Rank and Financial Strength Rating are indicative of a conservative risk profile supports my conclusion that the Utility Proxy Group provides a sound basis to estimate the cost of equity for LGE.

Group, with its 0.79 average beta indicating greater risk. While any differences in investment risk attributable to regulation should already be reflected in these objective measures, my analyses nevertheless conservatively focus on a lower-risk group of non-utility firms.

C. Discounted Cash Flow Analyses

Q. HOW IS THE DCF MODEL USED TO ESTIMATE THE COST OF COMMON EQUITY?

A. DCF models attempt to replicate the market valuation process that sets the price investors are willing to pay for a share of a company's stock. The model rests on the assumption that investors evaluate the risks and expected rates of return from all securities in the capital markets. Given these expectations, the price of each stock is adjusted by the market until investors are adequately compensated for the risks they bear. Therefore, we can look to the market to determine what investors believe a share of common stock is worth. By estimating the cash flows investors expect to receive from the stock in the way of future dividends and capital gains, we can calculate their required rate of return. That is, the cost of equity is the discount rate that equates the current price of a share of stock with the present value of all expected cash flows from the stock. The general form of the DCF model is expressed as follows:

$$P_0 = \frac{D_1}{(1+k_e)^1} + \frac{D_2}{(1+k_e)^2} + \cdots + \frac{D_t}{(1+k_e)^t} + \frac{P_t}{(1+k_e)^t}$$

where: P_0 = Current price per share;
P_t = Expected future price per share in period t;
D_t = Expected dividend per share in period t;
k_e = Cost of common equity.

Q. WHAT FORM OF THE DCF MODEL IS CUSTOMARILY USED TO ESTIMATE THE COST OF COMMON EQUITY IN RATE CASES?

A. Rather than developing annual estimates of cash flows into perpetuity, the DCF model can be simplified to a "constant growth" form:[40]

$$P_0 = \frac{D_1}{k_e - g}$$

where: g = Investors' long-term growth expectations.

The cost of common equity (k_e) can be isolated by rearranging terms within the equation:

$$k_e = \frac{D_1}{P_0} + g$$

This constant growth form of the DCF model recognizes that the rate of return to stockholders consists of two parts: 1) dividend yield (D_1/P_0); and, 2) growth (g). In other words, investors expect to receive a portion of their total return in the form of current dividends and the remainder through price appreciation.

Q. WHAT FORM OF THE DCF MODEL DID YOU USE?

A. I applied the constant growth DCF model to estimate the cost of common equity for LGE, which is the form of the model most commonly relied on to establish the cost of common equity for traditional regulated utilities and the method most often referenced by regulators.

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[40] The constant growth DCF model is dependent on a number of strict assumptions, which in practice are never met. These include a constant growth rate for both dividends and earnings; a stable dividend payout ratio; the discount rate exceeds the growth rate; a constant growth rate for book value and price; a constant earned rate of return on book value; no sales of stock at a price above or below book value; a constant price-earnings ratio; a constant discount rate (*i.e.*, no changes in risk or interest rate levels and a flat yield curve); and all of the above extend to infinity.

Q. HOW IS THE CONSTANT GROWTH FORM OF THE DCF MODEL TYPICALLY USED TO ESTIMATE THE COST OF COMMON EQUITY?

A. The first step in implementing the constant growth DCF model is to determine the expected dividend yield (D_1/P_0) for the firm in question. This is usually calculated based on an estimate of dividends to be paid in the coming year divided by the current price of the stock. The second, and more controversial, step is to estimate investors' long-term growth expectations (*g*) for the firm. The final step is to sum the firm's dividend yield and estimated growth rate to arrive at an estimate of its cost of common equity.

Q. HOW WAS THE DIVIDEND YIELD FOR THE UTILITY PROXY GROUP DETERMINED?

A. Estimates of dividends to be paid by each of these utilities over the next twelve months, obtained from Value Line, served as D_1. This annual dividend was then divided by the corresponding stock price for each utility to arrive at the expected dividend yield. The expected dividends, stock prices, and resulting dividend yields for the firms in the utility proxy group are presented on Exhibit WEA-2. As shown there, dividend yields for the firms in the Utility Proxy Group ranged from 3.0 percent to 6.0 percent.

Q. WHAT IS THE NEXT STEP IN APPLYING THE CONSTANT GROWTH DCF MODEL?

A. The next step is to evaluate long-term growth expectations, or "*g*", for the firm in question. In constant growth DCF theory, earnings, dividends, book value, and market price are all assumed to grow in lockstep, and the growth horizon of the DCF model is infinite. But implementation of the DCF model is more than just a theoretical exercise; it is an attempt to replicate the mechanism investors used to arrive at observable stock prices. A wide variety of techniques can be used to derive growth rates, but the only "*g*" that matters in applying the DCF model is the value that investors expect.

Q. ARE HISTORICAL GROWTH RATES LIKELY TO BE REPRESENTATIVE OF INVESTORS' EXPECTATIONS FOR UTILITIES?

A. No. If past trends in earnings, dividends, and book value are to be representative of investors' expectations for the future, then the historical conditions giving rise to these growth rates should be expected to continue. That is clearly not the case for utilities, where structural and industry changes have led to declining dividends, earnings pressure, and, in many cases, significant write-offs. While these conditions serve to depress historical growth measures, they are not representative of long-term expectations for the utility industry.

Q. WHAT ARE INVESTORS MOST LIKELY TO CONSIDER IN DEVELOPING THEIR LONG-TERM GROWTH EXPECTATIONS?

A. While the DCF model is technically concerned with growth in dividend cash flows, implementation of this DCF model is solely concerned with replicating the forward-looking evaluation of real-world investors. In the case of utilities, dividend growth rates are not likely to provide a meaningful guide to investors' current growth expectations. This is because utilities have significantly altered their dividend policies in response to more accentuated business risks in the industry, with the payout ratio for electric utilities falling from approximately 80 percent historically to on the order of 60 percent.[41] As a result of this trend towards a more conservative payout ratio, dividend growth in the utility industry has remained largely stagnant as utilities conserve financial resources to provide a hedge against heightened uncertainties.

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[41] The Value Line Investment Survey (Sep. 15, 1995 at 161, Dec. 26, 2008 at 687).

As payout ratios for firms in the utility industry trended downward, investors' focus has increasingly shifted from dividends to earnings as a measure of long-term growth. Future trends in earnings, which provide the source for future dividends and ultimately support share prices, play a pivotal role in determining investors' long-term growth expectations. The importance of earnings in evaluating investors' expectations and requirements is well accepted in the investment community. As noted in *Finding Reality in Reported Earnings* published by the Association for Investment Management and Research:

> [E]arnings, presumably, are the basis for the investment benefits that we all seek. "Healthy earnings equal healthy investment benefits" seems a logical equation, but earnings are also a scorecard by which we compare companies, a filter through which we assess management, and a crystal ball in which we try to foretell future performance.[42]

Value Line's near-term projections and its Timeliness Rank, which is the principal investment rating assigned to each individual stock, are also based primarily on various quantitative analyses of earnings. As Value Line explained:

> The future earnings rank accounts for 65% in the determination of relative price change in the future; the other two variables (current earnings rank and current price rank) explain 35%.[43]

The fact that investment advisory services focus primarily on growth in earnings indicates that the investment community regards this as a superior indicator of future long-term growth. Indeed, "A Study of Financial Analysts: Practice and Theory," published in the *Financial Analysts Journal*, reported the results of a survey conducted to determine what analytical techniques investment analysts

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[42] Association for Investment Management and Research, "Finding Reality in Reported Earnings: An Overview" at 1 (Dec. 4, 1996).
[43] The Value Line Investment Survey, *Subscriber's Guide* at 53.

actually use.[44] Respondents were asked to rank the relative importance of earnings, dividends, cash flow, and book value in analyzing securities. Of the 297 analysts that responded, only 3 ranked dividends first while 276 ranked them last. The article concluded:

> Earnings and cash flow are considered far more important than book value and dividends.[45]

In 2007, the *Financial Analysts Journal* reported the results of a study of the relationship between valuations based on alternative multiples and actual market prices, which concluded, "In all cases studied, earnings dominated operating cash flows and dividends."[46]

Q. DO THE GROWTH RATE PROJECTIONS OF SECURITY ANALYSTS CONSIDER HISTORICAL TRENDS?

A. Yes. Professional security analysts study historical trends extensively in developing their projections of future earnings. Hence, to the extent there is any useful information in historical patterns, that information is incorporated into analysts' growth forecasts.

Q. WHAT ARE SECURITY ANALYSTS CURRENTLY PROJECTING IN THE WAY OF GROWTH FOR THE FIRMS IN THE UTILITY PROXY GROUP?

A. The earnings growth projections for each of the firms in the Utility Proxy Group reported by Value Line, IBES, First Call, and Zacks are displayed on Exhibit WEA-2.

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[44] Block, Stanley B., "A Study of Financial Analysts: Practice and Theory", *Financial Analysts Journal* (July/August 1999).

[45] *Id.* at 88.

[46] Liu, Jing, Nissim, Doron, & Thomas, Jacob, "Is Cash Flow King in Valuations?," *Financial Analysts Journal*, Vol. 63, No. 2 at 56 (March/April 2007).

Q. SOME ARGUE THAT ANALYSTS' ASSESSMENTS OF GROWTH RATES ARE BIASED. DO YOU BELIEVE THESE PROJECTIONS ARE INAPPROPRIATE FOR ESTIMATING INVESTORS' REQUIRED RETURN USING THE DCF MODEL?

A. No. In applying the DCF model to estimate the cost of common equity, the only relevant growth rate is the forward-looking expectations of investors that are captured in current stock prices. Investors, just like securities analysts and others in the investment community, do not know how the future will actually turn out. They can only make investment decisions based on their best estimate of what the future holds in the way of long-term growth for a particular stock, and securities prices are constantly adjusting to reflect their assessment of available information.

Any claims that analysts' estimates are not relied upon by investors are illogical given the reality of a competitive market for investment advice. If financial analysts' forecasts do not add value to investors' decision making, then it is irrational for investors to pay for these estimates. Similarly, those financial analysts who fail to provide reliable forecasts will lose out in competitive markets relative to those analysts whose forecasts investors find more credible. The reality that analyst estimates are routinely referenced in the financial media and in investment advisory publications (e.g., Value Line) implies that investors use them as a basis for their expectations.

The continued success of investment services such as Thompson Reuters and Value Line, and the fact that projected growth rates from such sources are widely referenced, provides strong evidence that investors give considerable weight to analysts' earnings projections in forming their expectations for future growth. While the projections of securities analysts may be proven optimistic or pessimistic in hindsight, this is irrelevant in assessing the expected growth that investors have incorporated into current stock prices, and any bias in analysts' forecasts – whether pessimistic or optimistic – is irrelevant if investors share analysts' views. Earnings growth projections of security analysts provide the most frequently referenced guide to investors' views and are widely accepted in applying the DCF model. As explained in *Regulatory Finance: Utilities' Cost of Capital*:

> Because of the dominance of institutional investors and their influence on individual investors, analysts' forecasts of long-run growth rates provide a sound basis for estimating required returns. Financial analysts also exert a strong influence on the expectations of many investors who do not possess the resources to make their own forecasts, that is, they are a cause of *g* [growth].[47]

Q. HOW ELSE ARE INVESTORS' EXPECTATIONS OF FUTURE LONG-TERM GROWTH PROSPECTS OFTEN ESTIMATED WHEN APPLYING THE CONSTANT GROWTH DCF MODEL?

A. In constant growth theory, growth in book equity will be equal to the product of the earnings retention ratio (one minus the dividend payout ratio) and the earned rate of return on book equity. Furthermore, if the earned rate of return and the payout ratio are constant over time, growth in earnings and dividends will be equal to growth in book value. Despite the fact that these conditions are seldom, if ever, met in practice, this "sustainable growth" approach may provide a rough guide for evaluating a firm's growth prospects and is frequently proposed in regulatory proceedings.

Accordingly, while I believe that analysts' forecasts provide a superior and more direct guide to investors' growth expectations, I have included the "sustainable growth" approach for completeness. The sustainable growth rate is calculated by the formula, $g = br+sv$, where "b" is the expected retention ratio, "r" is the expected

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[47] Morin, Roger A., "Regulatory Finance: Utilities' Cost of Capital," *Public Utilities Reports, Inc.* at 154 (1994).

earned return on equity, "s" is the percent of common equity expected to be issued annually as new common stock, and "v" is the equity accretion rate.

Q. WHAT IS THE PURPOSE OF THE "SV" TERM?

A. Under DCF theory, the "sv" factor is a component of the growth rate designed to capture the impact of issuing new common stock at a price above, or below, book value. When a company's stock price is greater than its book value per share, the per-share contribution in excess of book value associated with new stock issues will accrue to the current shareholders. This increase to the book value of existing shareholders leads to higher expected earnings and dividends, with the "sv" factor incorporating this additional growth component.

Q. WHAT GROWTH RATE DOES THE EARNINGS RETENTION METHOD SUGGEST FOR THE UTILITY PROXY GROUP?

A. The sustainable, "br+sv" growth rates for each firm in the Utility Proxy Group are summarized on Exhibit WEA-2, with the underlying details being presented on Exhibit WEA-3. For each firm, the expected retention ratio (b) was calculated based on Value Line's projected dividends and earnings per share. Likewise, each firm's expected earned rate of return (r) was computed by dividing projected earnings per share by projected net book value. Because Value Line reports end-of-year book values, an adjustment factor was incorporated to compute an average rate of return over the year, consistent with the theory underlying this approach to estimating investors' growth expectations. Meanwhile, the percent of common equity expected to be issued annually as new common stock (s) was equal to the product of the projected market-to-book ratio and growth in common shares outstanding, while the equity accretion rate (v) was computed as 1 minus the inverse of the projected market-to-book ratio.

Q. WHAT OTHER GROWTH RATE DID YOU CONSIDER?

A. As noted earlier, the DCF model assumes that investors expect to receive a portion of their total return in the form of current dividends and the remainder through price appreciation. Consistent with this paradigm, I also examined expected growth in each utility's stock price based on Value Line's 2011-2014 projections.

Q. WHAT COST OF COMMON EQUITY ESTIMATES WERE IMPLIED FOR THE UTILITY PROXY GROUP USING THE DCF MODEL?

A. After combining the dividend yields and respective growth projections for each utility, the resulting cost of common equity estimates are shown on Exhibit WEA-2.

Q. IN EVALUATING THE RESULTS OF THE CONSTANT GROWTH DCF MODEL, IS IT APPROPRIATE TO ELIMINATE ESTIMATES THAT ARE EXTREME LOW OR HIGH OUTLIERS?

A. Yes. In applying quantitative methods to estimate the cost of equity, it is essential that the resulting values pass fundamental tests of reasonableness and economic logic. Accordingly, DCF estimates that are implausibly low or high should be eliminated when evaluating the results of this method.

Q. HOW DID YOU EVALUATE DCF ESTIMATES AT THE LOW END OF THE RANGE?

A. It is a basic economic principle that investors can be induced to hold more risky assets only if they expect to earn a return to compensate them for their risk bearing. As a result, the rate of return that investors require from a utility's common stock, the most junior and riskiest of its securities, must be considerably higher than the yield offered by senior, long-term debt. As noted earlier, the average corporate credit rating associated with the firms in the Utility Proxy Group is "BBB+". Companies rated "BBB-", "BBB", and "BBB+" are all considered part of the triple-B rating category, with Moody's monthly yields on triple-B bonds averaging approximately 6.3 percent in December 2009.[48] It is inconceivable that investors are not requiring a substantially higher rate of return for holding common stock. Consistent with this principle, the DCF results for the Utility Proxy Group must be adjusted to eliminate estimates that are determined to be extreme low outliers when compared against the yields available to investors from less risky utility bonds.

Q. HAVE SIMILAR TESTS BEEN APPLIED BY REGULATORS?

A. Yes. FERC has noted that adjustments are justified where applications of the DCF approach produce illogical results. FERC evaluates DCF results against observable yields on long-term public utility debt and has recognized that it is appropriate to eliminate estimates that do not sufficiently exceed this threshold. In a 2000 opinion establishing its current precedent for determining ROEs for electric utilities, for example, FERC noted:

> An adjustment to this data is appropriate in the case of PG&E's low-end return of 8.42 percent, which is comparable to the average Moody's "A" grade public utility bond yield of 8.06 percent, for October 1999. Because investors cannot be expected to purchase stock if debt, which has less risk than stock, yields essentially the same return, this low-end return cannot be considered reliable in this case.[49]

More recently, in its March 27, 2009 decision in *Pioneer*, FERC concluded that it would exclude low-end ROEs "within about 100 basis points above the cost of debt."[50]

Q. WHAT ELSE SHOULD BE CONSIDERED IN EVALUATING DCF ESTIMATES AT THE LOW END OF THE RANGE?

A. As indicated earlier, while corporate bond yields have declined substantially as the worst of the financial crisis has abated, it is generally expected that long-term

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[48] Moody's Investors Service, www.credittrends.com.

[49] *Southern California Edison Company*, 92 FERC ¶ 61,070 (2000) at p. 22.

[50] *Pioneer Transmission, LLC*, 126 FERC ¶ 61,281 at P 94 (2009) ("*Pioneer*").

interest rates will rise as the recession ends and the economy returns to a more normal pattern of growth. The most recent forecast of GlobalInsight calling for double-A public utility bond yields to average 6.16 percent in 2010.[51] Meanwhile, the EIA anticipates that double-A public utility bond yields will average 6.66 percent in 2010.[52]

As shown in Table WEA-3 below, with the average yield spread between double-A and triple-B utility bonds during December 2009 being approximately 75 basis points,[53] these forecasts imply an average triple-B bond yield of 7.26 percent for 2010, or 7.39 percent over the 5-year period 2010-2014:

TABLE WEA-3
IMPLIED BBB BOND YIELD

Line No.		2010	2010-14
1	Projected AA Utility Yield		
2	GlobalInsight (a)	6.16%	6.57%
3	EIA (b)	6.66%	6.71%
4	Average	6.41%	6.64%
5	BBB – AA Yield Spread (c)	0.75%	0.75%
6	**Implied BBB Utility Yield**	**7.26%**	**7.39%**

(a) GlobalInsight, *The U.S. Economy: The 30-Year Focus*" (First-Quarter 2009) at Table 34.

(b) Energy Information Administration, *Annual Energy Outlook 2010, Early Release* (Dec. 5, 2009) at Table 20.

(c) Based on monthly average bond yields for December 2009 reported in Moody's *Credit Perspectives*.

The increase in debt yields anticipated by GlobalInsight and EIA is also supported by the widely-referenced Blue Chip forecast, which projects that yields on corporate

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[51] GlobalInsight, *The U.S. Economy: The 30-Year Focus* (First Quarter 2009) at Table 34.

[52] Energy Information Administration, *Updated Annual Energy Outlook 2009* (Mar. 2009) at Table 20.

[53] This is also consistent with the average yield spread between triple-B and double-A rated utility bonds over the past five years.

bonds will climb on the order of at least 50 basis points through the first quarter of 2011.[54] Consistent with these forecasts, Fitch recently concluded, "Interest rates are expected to rise over the course of the year from very low levels."[55]

Q. WHAT DOES THIS TEST OF LOGIC IMPLY WITH RESPECT TO THE DCF RESULTS FOR THE UTILITY PROXY GROUP?

A. As shown on Exhibit WEA-2, nine of the highlighted cost equity estimates for the firms in the Utility Proxy Group fell below 8.0 percent, with six of these values being equal to or less than the yield currently available on triple-B utility bonds.[56] In light of the risk-return tradeoff principle and the test applied in *Pioneer*, it is inconceivable that investors are not requiring a substantially higher rate of return for holding common stock, which is the riskiest of a utility's securities. As a result, consistent with the test of economic logic applied by FERC and the upward trend expected for utility bond yields, these values provide little guidance as to the returns investors require from utility common stocks and should be excluded.

Q. WHAT COST OF COMMON EQUITY ESTIMATES ARE IMPLIED BY YOUR DCF RESULTS FOR THE UTILITY PROXY GROUP?

A. As shown on Exhibit WEA-2 and summarized in Table WEA-4, below, after eliminating illogical low-end values, application of the constant growth DCF model resulted in cost of common equity estimates ranging from 10.1 percent to 11.4 percent, and generally trending toward 10.5 percent:

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[54] Blue Chip Financial Forecasts (Dec 1, 2009) at 2.

[55] Fitch Ratings Ltd., "U.S. Utilities, Power, and Gas 2010 Outlook," *Global Power North America Special Report* (Dec. 4, 2009).

[56] As highlighted on Exhibit WEA-2, these DCF estimates ranged from 4.2 percent to 7.9 percent.

TABLE WEA-4
DCF RESULTS – UTILITY PROXY GROUP

Growth Rate	Average Cost of Equity
Value Line	10.2%
IBES	10.5%
First Call	10.3%
Zacks	10.1%
br+sv	10.5%
Stock Price	11.4%

Q. WHAT WERE THE RESULTS OF YOUR DCF ANALYSIS FOR THE NON-UTILITY PROXY GROUP?

A. I applied the DCF model to the Non-Utility Proxy Group in exactly the same manner described earlier for the Utility Proxy Group. The results of my DCF analysis for the Non-Utility Proxy Group are presented in Exhibit WEA-4, with the sustainable, "br+sv" growth rates being developed on Exhibit WEA-5.

I noted earlier that values that are implausibly low or high should be eliminated when evaluating the results of any quantitative method used to estimate the cost of equity. As highlighted on Exhibit WEA-4, in addition to illogical low-end values, various DCF estimates for the firms in the Non-Utility Proxy Group exceeded 17.0 percent. I determined that, when compared with the balance of the remaining estimates, these values could be considered implausible and should be excluded. This is also consistent with the precedent adopted by FERC, which has established that estimates found to be "extreme outliers" should be disregarded in interpreting the results of quantitative methods used to estimate the cost of equity.[57]

As shown on Exhibit WEA-4 and summarized in Table WEA-5, below, after eliminating illogical low- and high-end values, application of the constant growth

[57] See, *e.g.*, *ISO New England, Inc.*, 109 FERC ¶ 61,147 at P 205 (2004).

DCF model resulted in cost of common equity estimates generally in the 12 percent to 13 percent range:

TABLE WEA-5
DCF RESULTS – NON-UTILITY GROUP

Growth Rate	Average Cost of Equity
Value Line	12.0%
IBES	12.6%
First Call	12.8%
Zacks	12.7%
br+sv	12.2%
Stock Price	13.7%

As discussed earlier, reference to the Non-Utility Proxy Group is consistent with established regulatory principles. Required returns for utilities should be in line with those of non-utility firms of comparable risk operating under the constraints of free competition.

D. Capital Asset Pricing Model

Q. PLEASE DESCRIBE THE CAPM.

A. The CAPM is a theory of market equilibrium that measures risk using the beta coefficient. Assuming investors are fully diversified, the relevant risk of an individual asset (*e.g.*, common stock) is its volatility relative to the market as a whole, with beta reflecting the tendency of a stock's price to follow changes in the market. The CAPM is mathematically expressed as:

$$R_j = R_f + \beta_j(R_m - R_f)$$

where:
R_j = required rate of return for stock j;
R_f = risk-free rate;
R_m = expected return on the market portfolio; and,
β_j = beta, or systematic risk, for stock j.

Like the DCF model, the CAPM is an *ex-ante,* or forward-looking model based on expectations of the future. As a result, in order to produce a meaningful estimate of investors' required rate of return, the CAPM must be applied using estimates that reflect the expectations of actual investors in the market, not with backward-looking, historical data.

Q. HOW DID YOU APPLY THE CAPM TO ESTIMATE THE COST OF COMMON EQUITY?

A. Application of the CAPM to the Utility Proxy Group based on a forward-looking estimate for investors' required rate of return from common stocks is presented on Exhibit WEA-6. In order to capture the expectations of today's investors in current capital markets, the expected market rate of return was estimated by conducting a DCF analysis on the dividend paying firms in the S&P 500.

The dividend yield for each firm was calculated based on the annual indicated dividend payment obtained from Value Line, increased by one-half of the growth rate discussed subsequently $(1 + g)$ to convert them to year-ahead dividend yields presumed by the constant growth DCF model. The growth rate was equal to the earnings growth projections for each firm published by IBES, with each firm's dividend yield and growth rate being weighted by its proportionate share of total market value. Based on the weighted average of the projections for the 348 individual firms, current estimates imply an average growth rate over the next five years of 9.2 percent. Combining this average growth rate with an adjusted dividend yield of 2.7 percent results in a current cost of common equity estimate for the market as a whole of approximately 11.9 percent. Subtracting a 4.4 percent risk-free rate based on the average yield on 20-year Treasury bonds produced a market equity risk premium of 7.5 percent.

Q. WHAT WAS THE SOURCE OF THE BETA VALUES YOU USED TO APPLY THE CAPM?

A. I relied on the beta values reported by Value Line, which in my experience is the most widely referenced source for beta in regulatory proceedings. As noted in *Regulatory Finance: Utilities' Cost of Capital*:

> Value Line betas are computed on a theoretically sound basis using a broadly-based market index, and they are adjusted for the regression tendency of betas to converge to 1.00. . . . Value Line is the largest and most widely circulated independent investment advisory service, and exerts influence on a large number of institutional and individual investors and on the expectations of these investors.[58]

As shown on Exhibit WEA-6, multiplying the 7.5 percent market risk premium by the average Value Line beta for the firms in the Utility Proxy Group, and then adding the resulting risk premium to the average long-term Treasury bond yield, results in an average indicated cost of common equity of 9.6 percent.

Q. WHAT COST OF COMMON EQUITY WAS INDICATED FOR THE NON-UTILITY PROXY GROUP BASED ON THIS FORWARD-LOOKING APPLICATION OF THE CAPM?

A. As shown on Exhibit WEA-7, applying the forward-looking CAPM approach to the firms in the Non-Utility Proxy Group results in an average implied cost of common equity of 10.3 percent.

Q. DO YOU HAVE ANY OBSERVATIONS REGARDING THESE CAPM RESULTS?

A. Yes. Applying the CAPM is complicated by the impact of the recent capital market turmoil and recession on investors' risk perceptions and required returns. The CAPM cost of common equity estimate is calibrated from investors' required risk

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[58] Morin, Roger A., "Regulatory Finance: Utilities' Cost of Capital," *Public Utilities Reports* at 65 (1994).

premium between Treasury bonds and common stocks. In response to heightened uncertainties, investors have sought a safe haven in U.S. government bonds and this "flight to safety" has pushed Treasury yields significantly lower while yield spreads for corporate debt have widened. This distortion not only impacts the absolute level of the CAPM cost of equity estimate, but it affects estimated risk premiums. Economic logic would suggest that investors' required risk premium for common stocks over Treasury bonds has also increased. Thus, recent capital market conditions may cause CAPM cost of common equity estimates to understate investors' required returns for common stocks, particularly when historical data are used to calculate the market risk premium. As the Staff of the Florida Public Service Commission recently concluded:

> [R]ecognizing the impact the Federal Government's unprecedented intervention in the capital markets has had on the yields on long-term Treasury bonds, staff believes models that relate the investor-required return on equity to the yield on government securities, such as the CAPM approach, produce less reliable estimates of the ROE at this time.[59]

While my application of the CAPM makes every effort to incorporate investors' forward-looking expectations, the full effect of the "flight to safety" may not be captured in my market risk premium estimate.

Second, the beta in CAPM theory is a measure of the investors' expected relationship of a firm's stock price to the market as a whole. Because investors' expected beta for a firm is not known, reported betas are estimated based on historical relationships. The precipitous drop and subsequent partial recovery in stock prices over the last year or so have caused many firms' historical betas to

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[59] *Staff Recommendation for Docket No. 080677-EI - Petition for increase in rates by Florida Power & Light Company*, at p. 280 (Dec. 23, 2009).

become unstable, so that reported betas may or may not reflect investors' expected beta. Because of this inherent mismatch between the historical circumstances underlying reported beta values and the current perceptions of investors, the CAPM may not accurately reflect investor's forward-looking rate of return requirements.

Meanwhile, forward-looking estimates of the market required rate of return may be distorted by the recent run-up in stock prices. It is not clear whether reported security analysts' dividend and growth projections have kept pace with the economic recovery expectations presumably pushing up stock prices; if not, there is a mismatch that under-estimates the market required rate of return. This incongruity between current measures of the market risk premium and historical beta values is particularly relevant during periods of heightened uncertainty and rapidly changing capital market conditions, such as those experienced recently. As a result, there is every indication that CAPM approaches fail to fully reflect the risk perceptions of real-world investors in today's capital markets, which would violate the standards underlying a fair rate of return by failing to provide an opportunity to earn a return commensurate with other investments of comparable risk.

E. Expected Earnings Approach

Q. WHAT OTHER ANALYSES DID YOU CONDUCT TO ESTIMATE THE COST OF COMMON EQUITY?

A. As I noted earlier, I also evaluated the cost of common equity using the expected earnings method. Reference to rates of return available from alternative investments of comparable risk can provide an important benchmark in assessing the return necessary to assure confidence in the financial integrity of a firm and its ability to attract capital. This expected earnings approach is consistent with the economic underpinnings for a fair rate of return established by the U.S. Supreme Court in

Bluefield and *Hope*. Moreover, it avoids the complexities and limitations of capital market methods and instead focuses on the returns earned on book equity, which are readily available to investors.

Q. WHAT RATES OF RETURN ON EQUITY ARE INDICATED FOR UTILITIES BASED ON THE EXPECTED EARNINGS APPROACH?

A. Value Line reports that its analysts anticipate an average rate of return on common equity for the electric utility industry of 10.5 percent in 2009, 11.0 percent in 2010, and 11.5 percent over its 2012-2014 forecast horizon.[60] Meanwhile, for the gas utility industry Value Line expects returns on common equity of 10.0 percent in 2009, 10.5 percent in 2010, and 11.0 percent over its 2012-2014 forecast horizon.[61]

For the firms in the Utility Proxy Group specifically, the returns on common equity projected by Value Line over its three-to-five year forecast horizon are shown on Exhibit WEA-8. Consistent with the rationale underlying the development of the br+sv growth rates, these year-end values were converted to average returns using the same adjustment factor discussed earlier and developed on Exhibit WEA-3. As shown on Exhibit WEA-8, Value Line's projections for the utility proxy group suggested an average ROE of 11.4 percent.

F. Flotation Costs

Q. WHAT OTHER CONSIDERATIONS ARE RELEVANT IN SETTING THE RETURN ON EQUITY FOR A UTILITY?

A. The common equity used to finance the investment in utility assets is provided from either the sale of stock in the capital markets or from retained earnings not paid out as dividends. When equity is raised through the sale of common stock, there are

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[60] The Value Line Investment Survey at 687 (Dec. 25, 2009).
[61] The Value Line Investment Survey at 445 (Sep. 11, 2009).

costs associated with "floating" the new equity securities. These flotation costs include services such as legal, accounting, and printing, as well as the fees and discounts paid to compensate brokers for selling the stock to the public. Also, some argue that the "market pressure" from the additional supply of common stock and other market factors may further reduce the amount of funds a utility nets when it issues common equity.

Q. IS THERE AN ESTABLISHED MECHANISM FOR A UTILITY TO RECOGNIZE EQUITY ISSUANCE COSTS?

A. No. While debt flotation costs are recorded on the books of the utility, amortized over the life of the issue, and thus increase the effective cost of debt capital, there is no similar accounting treatment to ensure that equity flotation costs are recorded and ultimately recognized. No rate of return is authorized on flotation costs necessarily incurred to obtain a portion of the equity capital used to finance plant. In other words, equity flotation costs are not included in a utility's rate base because neither that portion of the gross proceeds from the sale of common stock used to pay flotation costs is available to invest in plant and equipment, nor are flotation costs capitalized as an intangible asset. Unless some provision is made to recognize these issuance costs, a utility's revenue requirements will not fully reflect all of the costs incurred for the use of investors' funds. Because there is no accounting convention to accumulate the flotation costs associated with equity issues, they must be accounted for indirectly, with an upward adjustment to the cost of equity being the most appropriate mechanism.

Q. WILL ADDITIONAL EQUITY CAPITAL BE REQUIRED TO SUPPORT LGE?

A. Yes. Additional equity will be instrumental in financing the sizeable investment in utility infrastructure contemplated for the Company. S&P noted that capital expenditures are expected to exceed LGE's cash flow from operations and will require reliance on external funding to meet these obligations.[62] Similarly, Moody's noted that since the Company's capital spending requirements began to ramp up, LGE has received significant funding support that must be extended to support anticipated investments while maintaining a balanced capitalization.[63]

Q. WHAT IS THE MAGNITUDE OF THE ADJUSTMENT TO THE "BARE BONES" COST OF EQUITY TO ACCOUNT FOR ISSUANCE COSTS?

A. There are any number of ways in which a flotation cost adjustment can be calculated, and the adjustment can range from just a few basis points to more than a full percent. One of the most common methods used to account for flotation costs in regulatory proceedings is to apply an average flotation-cost percentage to a utility's dividend yield. Based on a review of the finance literature, *Regulatory Finance: Utilities' Cost of Capital* concluded:

> The flotation cost allowance requires an estimated adjustment to the return on equity of approximately 5% to 10%, depending on the size and risk of the issue.[64]

Alternatively, a study of data from Morgan Stanley regarding issuance costs associated with utility common stock issuances suggests an average flotation cost percentage of 3.6%.[65]

Issuance costs are a legitimate consideration in setting the return on equity for a utility, and applying these expense percentages to a representative dividend yield for the Utility Proxy Group of 5.0 percent implies a flotation cost adjustment

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[62] Standard & Poor's Corporation, "Summary: Louisville Gas & Electric Co.," *RatingsDirect* (Aug. 18, 2009).
[63] Moody's Investors Service, "Credit Opinion: Louisville Gas & Electric Company," (May 4, 2009).
[64] Roger A. Morin, *Regulatory Finance: Utilities' Cost of Capital*, 1994, at 166.
[65] *Application of Yankee Gas Services Company for a Rate Increase*, DPUC Docket No. 04-06-01, Direct Testimony of George J. Eckenroth (Jul. 2, 2004) at Exhibit GJE-11.1. Updating the results presented by Mr. Eckenroth through April 2005 also resulted in an average flotation cost percentage of 3.6%.

on the order of 18 to 50 basis points. While a specific adjustment for flotation costs was not included in my analyses, issuance costs are a legitimate consideration in setting the return on equity for a utility. Accordingly, it is my recommendation that they be considered in establishing a reasonable ROE range for LGE.

G. Summary of Quantitative Results

Q. PLEASE SUMMARIZE THE RESULTS OF YOUR QUANTITATIVE ANALYSES.

A. The cost of common equity estimates produced by the various capital market oriented analyses described in my testimony are summarized in Table WEA-6, below:

TABLE WEA-6
SUMMARY OF QUANTITATIVE RESULTS

DCF	**Utility**	**Non-Utility**
Value Line	10.2%	12.0%
IBES	10.5%	12.6%
First Call	10.3%	12.8%
Zacks	10.1%	12.7%
br+sv	10.5%	12.2%
Stock Price	11.4%	13.7%
CAPM	9.6%	10.3%
Expected Earnings	**Electric**	**Gas**
2009	10.5%	10.0%
2010	11.0%	10.5%
2012-14	11.5%	11.0%
Utility Proxy Group	11.4%	

As noted earlier, because the capital market crisis and ensuing recovery have created a number of problems in applying the CAPM, I largely disregarded the resulting cost of equity estimates. Based on my assessment of the relative strengths and weaknesses inherent in each method, and conservatively giving less emphasis to the upper- and lower-most boundaries of the range of results, I concluded that the cost of common equity indicated by my analyses is in the 10.5 percent to 12.5 percent range. The reasonableness of my recommended ROE range is reinforced by the need to consider flotation costs and the fact that current cost of capital estimates are likely to understate investors' requirements at the time the outcome of this proceeding becomes effective and beyond.

IV. RETURN ON EQUITY FOR LOUISVILLE GAS AND ELECTRIC COMPANY

Q. WHAT IS THE PURPOSE OF THIS SECTION?

A. In addition to presenting my conclusions regarding a fair ROE for LGE, this section also discusses the relationship between ROE and preservation of a utility's financial integrity and the ability to attract capital. In addition, I evaluate the reasonableness of LGE's requested capital structure and examine the implications of cost adjustment mechanisms for the Company's ROE.

A. Implications for Financial Integrity

Q. WHY IS IT IMPORTANT TO ALLOW LGE AN ADEQUATE ROE?

A. Given the importance of the utility industry to the economy and society, it is essential to maintain reliable and economical service to all consumers. While the Company remains committed to providing reliable electric service, a utility's ability to fulfill its mandate can be compromised if it lacks the necessary financial wherewithal or is unable to earn a return sufficient to attract capital.

As documented earlier, the major rating agencies have warned of exposure to uncertainties associated with political and regulatory developments, especially in view of the pressures associated with ongoing capital expenditure requirements, uncertain environmental compliance costs, and the potential for continued energy price volatility. Investors understand just how swiftly unforeseen circumstances can lead to deterioration in a utility's financial condition, and stakeholders have discovered first hand how difficult and complex it can be to remedy the situation after the fact.

While providing the infrastructure necessary to enhance the power system and meet the energy needs of customers is certainly desirable, it imposes additional financial responsibilities on LGE. For a utility with an obligation to provide reliable service, investors' increased reticence to supply additional capital during times of crisis highlights the necessity of preserving the flexibility necessary to overcome periods of adverse capital market conditions. These considerations heighten the importance of allowing LGE an adequate ROE.

Q. WHAT ROLE DOES REGULATION PLAY IN ENSURING THAT LGE HAS ACCESS TO CAPITAL UNDER REASONABLE TERMS AND ON A SUSTAINABLE BASIS?

A. Considering investors' heightened awareness of the risks associated with the utility industry and the damage that results when a utility's financial flexibility is compromised, the continuation of supportive regulation remains crucial to the Company's access to capital. Investors recognize that regulation has its own risks, and that constructive regulation is a key ingredient in supporting utility credit ratings and financial integrity, particularly during times of adverse conditions.

Fitch concluded, "[G]iven the lingering rate of unemployment and voter concerns about the economy, there could well be pockets of adverse rate decisions, and those companies with little financial cushion could suffer adverse effects." [66] Moody's has also emphasized the need for regulatory support, concluding:

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[66] Fitch Ratings Ltd., "U.S. Utilities, Power and Gas 2010 Outlook," *Global Power North America Special Report* (Dec. 4, 2009).

> For the longer term, however, we are becoming increasingly concerned about possible changes to our fundamental assumptions about regulatory risk, particularly the prospect of a more adversarial political (and therefore regulatory) environment. A prolonged recessionary climate with high unemployment, or an intense period of inflation, could make cost recovery more uncertain.[67]

Similarly, S&P concluded, "the quality of regulation is at the forefront of our analysis of utility creditworthiness."[68]

Q. DO CUSTOMERS BENEFIT BY ENHANCING THE UTILITY'S FINANCIAL FLEXIBILITY?

A. Yes. Providing a return on fair value that is both commensurate with those available from investments of corresponding risk and sufficient to maintain LGE's ability to attract capital, even under duress, is consistent with the economic requirements embodied in the U.S. Supreme Court's *Bluefield* and *Hope* decisions; but it is also in customers' best interests. Ultimately, it is customers and the service area economy that enjoy the benefits that come from ensuring that the utility has the financial wherewithal to take whatever actions are required to ensure a reliable energy supply. By the same token, customers also bear a significant burden when the ability of the utility to attract capital is impaired and service quality is compromised.

B. Capital Structure

Q. IS AN EVALUATION OF THE CAPITAL STRUCTURE MAINTAINED BY A UTILITY RELEVANT IN ASSESSING ITS RETURN ON EQUITY?

A. Yes. Other things equal, a higher debt ratio, or lower common equity ratio, translates into increased financial risk for all investors. A greater amount of debt

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[67] Moody's Investors Service, "U.S. Regulated Electric Utilities, Six-Month Update," *Industry Outlook* (July 2009).

[68] Standard & Poor's Corporation, "Assessing U.S. Utility Regulatory Environments," *RatingsDirect* (Nov. 7, 2008).

means more investors have a senior claim on available cash flow, thereby reducing the certainty that each will receive his contractual payments. This increases the risks to which lenders are exposed, and they require correspondingly higher rates of interest. From common shareholders' standpoint, a higher debt ratio means that there are proportionately more investors ahead of them, thereby increasing the uncertainty as to the amount of cash flow, if any, that will remain.

Q. WHAT COMMON EQUITY RATIO IS IMPLICIT IN LGE'S REQUESTED CAPITAL STRUCTURE?

A. The Company's capital structure is discussed in the testimony of Daniel K. Arbough. As summarized there and shown in Exhibit 2 to the testimony S. Bradford Rives, common equity as a percent of the capital sources used to compute the overall rate of return for LGE was 53.86 percent.

Q. HOW CAN THE COMPANY'S REQUESTED CAPITAL STRUCTURES BE EVALUATED?

A. It is generally accepted that the norms established by comparable firms provide one valid benchmark against which to evaluate the reasonableness of a utility's capital structure. The capital structure maintained by other electric utilities should reflect their collective efforts to finance themselves so as to minimize capital costs while preserving their financial integrity and ability to attract capital. Moreover, these industry capital structures should also incorporate the requirements of investors (both debt and equity), as well as the influence of regulators.

Q. WHAT WAS THE AVERAGE CAPITALIZATION MAINTAINED BY THE UTILITY PROXY GROUP?

A. As shown on Exhibit WEA-9, for the firms in the Utility Proxy Group, common equity ratios at December 31, 2008 ranged between 39.2 percent and 60.4 percent and averaged 48.6 percent of long-term capital.

Q. WHAT CAPITALIZATION IS REPRESENTATIVE FOR THE UTILITY PROXY GROUP GOING FORWARD?

A. As shown on Exhibit WEA-9, Value Line expects an average common equity ratio for the Utility Proxy Group of 50.3 percent for its three-to-five year forecast horizon, with the individual common equity ratios ranging from 42.0 percent to 58.5 percent.

Q. WHAT CAPITALIZATION RATIOS ARE MAINTAINED BY OTHER ELECTRIC UTILITY OPERATING COMPANIES?

A. Exhibit WEA-10 displays capital structure data at year-end 2008 for the group of electric utility operating companies owned by the firms in the Utility Proxy Group used to estimate the cost of equity. As shown there, common equity ratios for these electric utilities averaged 51.7 percent.

Q. WHAT IMPLICATION DOES THE INCREASING RISK OF THE UTILITY INDUSTRY HAVE FOR THE CAPITAL STRUCTURE MAINTAINED BY LGE?

A. As discussed earlier, utilities are facing energy market volatility, rising cost structures, the need to finance significant capital investment plans, uncertainties over accommodating future environmental mandates, and ongoing regulatory risks. Coupled with the ongoing turmoil in capital markets, these considerations warrant a stronger balance sheet to deal with an increasingly uncertain environment. A more conservative financial profile, in the form of a higher common equity ratio, is consistent with increasing uncertainties and the need to maintain the continuous access to capital that is required to fund operations and necessary system investment, even during times of adverse capital market conditions.

Moody's has warned investors of the risks associated with debt leverage and fixed obligations and advised utilities not to squander the opportunity to strengthen the balance sheet as a buffer against future uncertainties.[69] Moody's noted that, "maintaining unfettered access to capital markets will be crucial," and cited the importance of forestalling future downgrades by bolstering utility balance sheets.[70] As Moody's concluded:

> Our concerns are clearly growing, but we believe utilities have adequate time to adjust and revise their corporate finance polices and strengthen balance sheets, thereby improving their ability to manage volatility and address uncertainty.[71]

Similarly, in a review of the analytical methodology underlying its ratings assessment, S&P characterized a debt-to-total capital ratio in the range of 50 percent to 60 percent as "Aggressive",[72] and noted, "A total debt to capitalization level of 50% or greater is generally considered to be aggressive to highly leveraged for utilities."[73] Fitch affirmed that it expects regulated utilities "to extend their conservative balance sheet stance in 2010," and employ "a judicious mix of debt and equity to finance high levels of planned investments."[74]

Q. WHAT OTHER FACTORS DO INVESTORS CONSIDER IN THEIR ASSESSMENT OF A COMPANY'S CAPITAL STRUCTURE?

A. Depending on their specific attributes, contractual agreements or other obligations that require the utility to make specified payments may be treated as debt in evaluating a utility's financial risk. For example, because power purchase

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[69] Moody's Investors Service, "Storm Clouds Gathering on the Horizon for the North American Electric Utility Sector," *Special Comment* (Aug. 2007); "U.S. Electric Utility Sector," *Industry Outlook* (Jan. 2008).
[70] Moody's Investors Service, "U.S. Investor-Owned Electric Utilities," *Industry Outlook* (Jan. 2009).
[71] *Id.*
[72] Standard & Poor's Corporation, "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," *RatingsDirect* (May 27, 2009).
[73] Standard & Poor's Corporation, "Ratings Trend Turns Negative During First Quarter Of 2009 For U.S. Electric Utilities," *RatingsDirect* (Apr. 14, 2009).
[74] Fitch Ratings Ltd., "U.S. Utilities, Power, and Gas 2010 Outlook," *Global Power North America Special Report* (Dec. 4, 2009).

agreements ("PPAs") and leases typically obligate the utility to make specified minimum contractual payments akin to those associated with traditional debt financing, investors consider a portion of these commitments as debt in evaluating total financial risks. Because investors consider the debt impact of such fixed obligations in assessing a utility's financial position, they imply greater risk and reduced financial flexibility. In order to offset the debt equivalent associated with off-balance sheet obligations, the utility must rebalance its capital structure by increasing its common equity in order to restore its effective capitalization ratios to previous levels.[75]

These commitments have been repeatedly cited by major bond rating agencies in connection with assessments of utility financial risks. For example, in explaining its evaluation of the credit implications of PPAs, S&P affirmed its position that such agreements give rise to "debt equivalents" and that the increased financial risk must be considered in evaluating a utility's credit risks.[76] S&P also noted that it has refined its methodology to include imputed debt associated with shorter-term PPAs and operating leases.[77]

As discussed earlier, a portion of the Company's power requirements are currently obtained through purchased power contracts. These contractual payment obligations, along with operating leases and obligations associated with postretirement benefits, are fixed commitments with debt-like characteristics and are properly considered when evaluating the financial risks implied by LGE's capital structure. As discussed by witness Arbough, S&P's calculations result in a $232.2

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[75] The capital structure ratios presented earlier do not include imputed debt associated with power purchase agreements or the impact of other off-balance sheet obligations.
[76] Standard & Poor's Corporation, "Standard & Poor's Methodology For Imputing Debt For U.S. Utilities' Power Purchase Agreements," *RatingsDirect* (May 7, 2007).
[77] Standard & Poor's Corporation, "Implications Of Operating Leases On Analysis Of U.S. Electric Utilities," *RatingsDirect* (Jan. 15, 2008).

million adjustment to the Company's capitalization for the imputed debt associated with PPAs, leases, and postretirement benefit obligations. Unless LGE takes action to offset this additional financial risk by maintaining a higher equity ratio, the resulting leverage will weaken the Company's creditworthiness, implying a higher required rate of return to compensate investors for the greater risks.[78]

Q. WHAT DID YOU CONCLUDE REGARDING THE REASONABLENESS OF LGE'S REQUESTED CAPITAL STRUCTURE?

A. Based on my evaluation, I concluded that the 53.86 percent common equity ratio requested by LGE represents a reasonable mix of capital sources from which to calculate the Company's overall rate of return. Although this common equity ratio is somewhat higher than the historical and projected averages maintained by the Utility Proxy Group, it is well within the range of individual results, consistent with the capitalization maintained by other utility operating companies, and reflects the trend towards lower financial leverage necessary to accommodate higher expected capital expenditures in the industry.

While industry averages provide one benchmark for comparison, each firm must select its capitalization based on the risks and prospects it faces, as well as its specific needs to access the capital markets. A public utility with an obligation to serve must maintain ready access to capital under reasonable terms so that it can meet the service requirements of its customers. The need for access becomes even more important when the company has capital requirements over a period of years, and financing must be continuously available, even during unfavorable capital market conditions.

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[78] Apart from the immediate impact that the fixed obligation of purchased power costs has on the utility's financial risk, higher fixed charges also reduce ongoing financial flexibility, and the utility may face other uncertainties, such as potential replacement power costs in the event of supply disruption.

Financial flexibility plays a crucial role in ensuring the wherewithal to meet the needs of customers, and utilities with higher leverage may be foreclosed from additional borrowing, especially during times of stress. LGE's capital structure reflects the Company's ongoing efforts to maintain its credit standing and support access to capital on reasonable terms. The reasonableness of the Company's capital structure is reinforced by the ongoing uncertainties associated with the electric power industry and the importance of supporting continued system investment, even during times of adverse industry or market conditions.

C. Impact of Trackers

Q. DOES THE FACT THAT LGE OPERATES UNDER CERTAIN RATE ADJUSTMENT MECHANISMS WARRANT ANY ADJUSTMENT IN YOUR EVALUATION OF A FAIR ROE?

A. No. Investors recognize that LGE is exposed to significant risks associated with energy price volatility and rising costs and concerns over these risks have become increasingly pronounced in the industry. The KPSC's rate adjustment mechanisms are a valuable means of mitigating those risks, but they do not eliminate them. While the adjustment mechanisms approved for LGE partially attenuate exposure to attrition in an era of rising costs, this leveling of the playing field only serves to address factors that could otherwise impair LGE's opportunity to earn its authorized return, as required by established regulatory standards.

Reflective of this industry trend, the companies in the Utility Proxy Group operate under a wide variety of cost adjustment mechanisms, which range from riders to recover bad debt expense and post-retirement employee benefit costs to revenue decoupling and adjustment clauses designed to address the rising costs of environmental compliance measures. Similarly, the firms in the Non-Utility Proxy

Group also have the ability to alter prices in response to rising production costs, with the added flexibility to withdraw from the market altogether. As a result, the mitigation in risks associated with utilities' ability to attenuate the risk of cost recovery is already reflected in the cost of equity range determined earlier, and no separate adjustment to LGE's ROE is necessary or warranted.

Q. WHAT ABOUT THE SFV RATE DESIGN PROPOSED FOR LGE'S RESIDENTIAL GAS CUSTOMERS IN THIS PROCEEDING?

A. While the SFV rate design and other forms of decoupling help to preserve a utility's opportunity to earn its authorized return by allowing recovery of reasonable and necessary costs, they also address the investment community's heightened concerns over the risks associated with declining consumption. Energy conservation and efficiency programs may be desirable, but as S&P noted, "policy objectives can sometimes increase utilities' uncertainty and credit risk."[79] S&P went on to conclude that, "efficiency programs that lack decoupling may carry a higher level of credit risk."[80] Because gas utility earnings and cash flow typically depend on sales volume, a utility will be unable to recover its fixed costs on a timely basis, if at all, to the degree that usage is declining. Regulatory mechanisms, such as the SFV rate design proposed for LGE's residential gas distribution customers, are essential to ensure that conservation efforts do not undermine the utility's financial integrity and credit standing.

Adopting a SFV rate design for residential gas distribution customers would be supportive of LGE's financial integrity, but it would not constitute a dramatic change in the investment risk that investors associate with the Company. Moreover,

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[79] Standard & Poor's Corporation, "When Energy Efficiency Means Lower Electric Bills, How Do Utilities Cope?," *RatingsDirect* (Mar. 9, 2009).
[80] *Id.*

gas utilities across the U.S. are increasingly availing themselves of similar adjustments. There is certainly no evidence to suggest that implementation of the proposed SFV rate design alone would alter the relative risk of LGE enough to warrant a change in its return.

D. Return on Equity Range Recommendation

Q. PLEASE SUMMARIZE THE RESULTS OF YOUR ANALYSES.

A. In order to reflect the risks and prospects associated with LGE's jurisdictional utility operations, my analyses focused on a proxy group of fourteen other utilities with comparable investment risks. Consistent with the fact that utilities must compete for capital with firms outside their own industry, I also referenced a proxy group of comparable risk companies in the non-utility sectors of the economy. The cost of common equity estimates produced by the various capital market oriented analyses described in my testimony were summarized in Table WEA-6, which is reproduced as Table WEA-7, below:

TABLE WEA-7
SUMMARY OF QUANTITATIVE RESULTS

DCF	**Utility**	**Non-Utility**
Value Line	10.2%	12.0%
IBES	10.5%	12.6%
First Call	10.3%	12.8%
Zacks	10.1%	12.7%
br+sv	10.5%	12.2%
Stock Price	11.4%	13.7%
CAPM	9.6%	10.3%
Expected Earnings	**Electric**	**Gas**
2009	10.5%	10.0%
2010	11.0%	10.5%
2012-14	11.5%	11.0%
Utility Proxy Group	11.4%	

As noted earlier, based on my assessment of the relative strengths and weaknesses inherent in each method, I concluded that the cost of common equity indicated by my analyses is in the 10.5 percent to 12.5 percent range. The reasonableness of my recommended ROE range is reinforced by the need to consider flotation costs and the fact that current cost of capital estimates are likely to understate investors' requirements at the time the outcome of this proceeding becomes effective and beyond.

Q. WHAT THEN IS YOUR CONCLUSION AS TO A FAIR ROE FOR LGE?

A. Considering capital market expectations, the potential exposures faced by LGE, and the economic requirements necessary to maintain financial integrity and support additional capital investment even under adverse circumstances, it is my opinion that the midpoint of this range, or 11.5 percent represents a fair and reasonable ROE for LGE. My conclusion is supported by the need to consider the potential exposures faced by LGE and the economic requirements necessary to maintain financial integrity and support access to capital even under adverse circumstances. In addition, LGE faces ongoing uncertainties related to future emissions legislation. Coupled with the need to provide an ROE that supports LGE's credit standing while funding necessary system investments, these considerations indicate that an ROE from the middle of my recommended range is reasonable. The cost of providing the Company an adequate return is small relative to the potential benefits that a strong utility can have in providing reliable service. Considering investors' heightened awareness of the risks associated with the utility industry and the damage that results when a utility's financial flexibility is compromised, supportive regulation is crucial.

Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

A. Yes.

VERIFICATION

STATE OF TEXAS)
) **SS:**
COUNTY OF TRAVIS)

The undersigned, **William E. Avera**, being duly sworn, deposes and says that he is President of FINCAP, Inc., that he has personal knowledge of the matters set forth in the foregoing testimony and exhibits, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

WILLIAM E. AVERA

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 14th day of January, 2010.

_______________(SEAL)
Notary Public

My Commission Expires:

1/10/2011

ADRIEN MCKENZIE
Notary Public
STATE OF TEXAS
My Comm Exp Jan. 10, 2011