LG&E ENERGY

Kent W. Blake
Director
State Regulation and Rates

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April 27, 2005

Elizabeth O'Donnell
Executive Director
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40602-0615

RE: ***The Application of Louisville Gas and Electric Company for Approval of its 2004 Compliance Plan for Recovery by Environmental Surcharge*** ***- Case No. 2004-00421***

The Application of Kentucky Utilities Company for a Certificate of Public Convenience and Necessity to Construct Flue Gas Desulfurization Systems and Approval of its 2004 Compliance Plan for Recovery by Environmental Surcharge Case No. 2004-00426

Dear Ms. O'Donnell:

Enclosed please find an original and ten (10) copies of Louisville Gas and Electric Company's ("LG&E") and Kentucky Utilities Company's ("KU") Rebuttal Testimony of Kent W. Blake, Valerie L. Scott, and Robert G. Rosenberg, in the above-referenced matters.

The CD referenced to as part of Exhibit RGR-2 will be provided as soon as possible, but no later than Friday, April 29, 2005. The files will be provided via e-mail to all parties and by overnight carrier.

Should you have any questions concerning the enclosed, please do not hesitate to contact me.

Sincerely,

Kent W. Blake

Kent W. Blake

cc: Hon. Elizabeth E. Blackford
Hon. Michael L. Kurtz

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR APPROVAL OF ITS 2004 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	)	CASE NO. 2004-00421

In the Matter of:

THE APPLICATION OF KENTUCKY UTILITIES COMPANY FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT FLUE GAS DESULFURIZATION SYSTEMS AND APPROVAL OF ITS 2004 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	)	CASE NO. 2004-00426

REBUTTAL TESTIMONY OF
KENT W. BLAKE
DIRECTOR, STATE REGULATION AND RATES
LG&E ENERGY SERVICES INC.

Filed: April 27, 2005

Q. Please state your name and business address.

A. My name is Kent W. Blake. My business address is 220 West Main Street, Louisville, Kentucky 40202.

Q. What is your position and by whom are you employed?

A. I am Director, State Regulation and Rates, for LG&E Energy Services Inc.

Q. What is the purpose of your testimony?

A. I previously filed direct testimony in these proceedings in support of the pending applications. The purpose of my testimony is to rebut the contentions concerning the calculation of Louisville Gas and Electric Company's ("LG&E") and Kentucky Utilities Company's ("KU") (collectively, the "Companies") environmental surcharges raised by: (1) Carl G.K. Weaver for the Office of the Attorney General ("AG"); and (2) Richard A. Baudino, Lane Kollen, and Stephen J. Baron for the Kentucky Industrial Utility Customers, Inc. ("KIUC").

Q. Do you agree with the AG's and KIUC's contention that the Kentucky Public Service Commission ("Commission") should use a low return on equity ("ROE") for the environmental surcharge?

A. No. Both the AG and KIUC assert that the environmental surcharge rate base has less risk than the electric operations in base rates. Dr. Weaver erroneously contends that the environmental surcharge should be determined by using the lower-end of the cost of equity range. The recommendation is clearly result-oriented and would lead to a lower return on equity than otherwise allowed by the Commission in previous cases involving the environmental surcharge. Regulatory decisions on allowed return on equity issues have a direct influence on investor confidence. The 2004 Environmental Surcharge

Compliance Plans set forth in the Companies' applications demonstrate that LG&E and KU are entering into a very significant construction program which includes the proposed addition of four scrubbers at six KU units and a number of other pollution control projects. Investors will perceive use of a lower return on equity as increased regulatory risk and will be inclined to look elsewhere for investment opportunities. This will, in turn, undermine the Companies' ability to borrow money at reasonable rates to make the needed investments in the pollution control facilities required for complying with the applicable environmental regulations.

Q. Do you agree with Dr. Weaver's contention that the lower-end of the cost of the equity range should be used because, as he asserts, "Environmental Compliance operation . . . is a somewhat self-contained operation" within LG&E and KU.

A. No. Dr. Weaver, himself, concedes for both LG&E's and KU's respective electric operations that environmental compliance and electric operations are "mutually dependent upon one-another. The electric operations could not operate if they did not meet environmental regulations." The Companies do not assign specific portions of capitalization to specific assets or particular functions of their electric operations. In fact, the generation assets of the Companies could not operate effectively without the pollution control facilities in the 2004 Environmental Surcharge Plans. Moreover, environmental costs are just one of the many fixed and variable costs, many of which are interdependent, associated with electric operations. The relationship between and combination of all costs and revenues associated with electric operations determine the Companies' return on investment. To suggest that environmental compliance should be viewed as a separate operation akin to LG&E's gas operation is simply wrong.

Q. Do you agree with Dr. Weaver's assertion that there is "little risk associated with the environmental revenues and expenses?"

A. No. At the time such expenditures are made, there is no guaranty that the Companies will be allowed to recover its costs. Dr. Weaver's assertion ignores the Commission's authority to review at six-month intervals and again at two-year intervals, and retrospectively disallow any surcharge amounts found not just and reasonable. The environmental surcharge revenues and expenses are thus clearly at risk due to these environmental surcharge procedures. The return on equity therefore, for the purposes of the environmental surcharge, should use at least the midpoint of any reasonable ROE range.

Q. Do you agree with Dr. Weaver's third reason to use the lower-end of the range for the cost of equity because, under this argument, where there is a lower risk there is a lower required rate of return?

A. No. The premise to his third contention, as discussed above, is incorrect. The environmental surcharge procedure places the revenues and costs of environmental compliance at greater risk than the base rate recovery procedure because of the repeated reviews and possible retrospective disallowances of costs or revenues and stringent requirements for prior approval before collecting any such costs or expenses.

Notwithstanding this argument, it is important to note that if Dr. Weaver's assertion is accepted, the Commission will necessarily need to grant a higher return on the equity supporting electric operations. The return on equity analysis in the Commission's Orders of June 30, 2004 in the recent rate cases does not distinguish between capital supporting environmental compliance and capital supporting the

Companies' electric operations. In its analysis of the required return on equity for electric operations, the Commission established a range based on the Companies' overall electric operations. Thus, if the Commission were to use the lower-end of the range on the cost of equity for the purposes of calculating the environmental surcharge, the Commission would need to use the higher-end of the range in determining revenue requirements for the Companies' base rates to be consistent with Dr. Weaver's recommendations. To do otherwise would constitute asymmetrical ratemaking.

Q. Do environmental regulations subject LG&E and KU to any financial risks?

A. Yes. The extensive and ever changing and increasing requirements of environmental regulations applicable to the coal combustion wastes and by-products from facilities utilized in the production of energy from coal are the source of continuous and significant risk to the Companies' financial conditions for several reasons. First, as the Companies' applications show, environmental regulation is not static, but constantly increasing the requirements imposed on the generation of electricity from coal. Second, as these applications also demonstrate, a significant amount of investment in pollution control facilities is required for the Companies to comply with the environmental regulations. Third, the investment in these pollution control facilities only allows the Companies to operate their existing generation facilities- they produce no additional power for sale and only raise the cost of the power sold. The environmental surcharge regulation offsets some of this risk that would otherwise call for a higher return on equity if this type of investment could only be recovered through a base rate case proceeding.

Q. Do you agree with the AG's recommendation to use the December 31, 2004 capital structures for LG&E and KU?

A. Yes. I agree that the Companies' capital structure ratios should be updated to December 31, 2004. This is consistent with past Commission practice. The Companies' provided updated capital structures as of December 31, 2004, in the Companies' responses to the AG's January 26, 2005 Requests for Information, Item Nos. 3 and 10. However, those updates did not reflect the December 31, 2004, values of ratemaking adjustments to capital approved by the Commission most recently in Case No. 2004-00433 and Case No. 2004-00434. See Exhibit KWB-1 for this updated capital structure.

Q. Do you agree with the AG's recommendation to use December 31, 2004, cost rates?

A. Yes. I agree with Dr. Weaver's recommendation that the cost rates for short-term debt and preferred stock should be used as identified in the Companies' responses to the AG's January 26, 2005 Requests for Information, Item No. 10.

I completely disagree with Dr. Weaver's recommendation that the cost of pollution control bonds should be used as the cost of long-term debt for environmental compliance assets. Such a contention has no basis in reality and assumes (i) that all environmental costs can be project financed with tax-exempt debt and; (ii) that the Companies can secure from the Kentucky Private Activity Bond Allocation Committee enough volume cap to finance environmental facilities which are qualified under federal law for financing.

Q. Please explain why you disagree with the AG's recommendation to use pollution control bond rates as the rate for long-term debt?

A. The Pollution control bonds referred to by Dr. Weaver are tax-exempt bonds that finance "qualifying costs" of the scrubbers under federal tax rules, but such bonds are secured by all assets of the Companies and, in no manner, represent "project financing." Indeed, this

type of financing is only possible because the entire collateral under the First Mortgage Indenture of each company is used to secure the loan.

The Companies must maintain a balanced capital structure to retain their investment rate bond rating. The Companies do not assign specific portions of capitalization to specific assets. Each dollar of capitalization, whatever its form, supports the entire asset base of each LG&E or KU. As I pointed out in the response to First Data Request from the Commission Staff, Item No. 2, the Companies have yet to determine definitively what portion, if any, of the costs in the 2004 Compliance Plan will qualify for tax-exempt financing. Further, there is absolutely no assurance that either Company can obtain an allocation of the bond cap. As discussed in that response, the Companies are at a serious disadvantage with respect to their applications for State Cap allocations because of the allocation formula itself, built-in disadvantage to the applicants which have received prior volume cap.

The Companies have never failed to apply for volume cap when qualified facilities are to be constructed. The adoption by Congress of the Tax Reform Act of 1986, which enacted the Internal Revenue Code of 1986 (the "1986 Code") completely eliminated the ability of the Companies to tax-exempt finance air and water pollution control facilities. Only solid waste facilities are permitted to be financed on a tax-exempt basis at this time. Additionally, the dollar amount of volume cap available to all states was greatly reduced by the 1986 Code. Volume cap is administered by each individual state pursuant to regulations enacted by each state and the Kentucky regulations heavily weigh against companies which have received prior volume cap which is the case with each of the Companies. As a result, although the Companies have made applications

whenever volume cap was available, such requests have been denied on several occasions. However, as customary, KU recently made a filing with the Kentucky Private Activity Bond Allocation Committee for $50,000,000 of volume cap in connection with the preliminary costs of the desulphurization project at the Ghent Generating Station. The Company has just been advised in writing (see Exhibit KWB-2) that it has been awarded volume cap of $13,266,950 for the Ghent project. That sum is equal to 10% of the "local share" of the state volume cap of Kentucky for 2005 and is the maximum amount under current administrative regulations of Kentucky that any applicant can secure upon application. KU will, of course, proceed to make a filing with the Commission for its approval to issue this relatively small amount of tax-exempt debt, which is the maximum available, but nevertheless will be a positive action.

Q. Is the AG's recommendation concerning the use of pollution control debt rates as the long-term debt rate consistent with prior Commission orders?

A. No. Dr. Weaver's contention is also inconsistent with the previous determinations by the Commission concerning the source of capital for pollution control facilities and facilities supporting the Companies' electric operations. In its April 18, 2001 Order in Case No. 2000-00439, the Commission, stated: "[c]oncerning the financing of utility plant, it has long been recognized in the utility industry that capital expenditures are financed by numerous sources of capital, and is generally not possible to match a capital expenditure with a specific source of capital." The Commission noted in its December 21, 1990 Order in Case No. 90-158, *In the Matter of: Adjustment of Gas and Electric Rates of Louisville Gas and Electric Company*, that " . . . the Commission has ruled in prior cases that the investment in utility plant can not be traced to specific capital sources. . . .

Trimble County's construction has been financed by all components of capital, not solely by common equity. It is reasonable to allocate the [twenty-five percent] disallowance on a pro rata basis, in order to reflect this fact." Indeed, the Commission has specifically determined previous environmental compliance plans were not funded "solely by pollution control bond debt." Order, Case No. 2000-386, p. 19 (April 18, 2001). As with their previous environmental surcharge compliance plans, Companies are financing capital projects contained in their 2004 Compliance Plans through all components of capital and not solely by pollution control debt.

In response to requests for information from the Commission, Dr. Weaver went so far as to assert that if pollution control facilities do not qualify for pollution control financing, these assets should be denied inclusion in the environmental surcharge. (Response of the Attorney General to PSC Data Request No. 8). Clearly, this recommendation is totally contrary to the Commission's prior orders, the environmental surcharge regulation and the limitations noted above for tax-exempt financing.

The Commission has determined that a reasonable return on capital expenditures constitutes part of the total actual costs. Thus, and contrary to Dr. Weaver's erroneous assertion, the Companies are not over-recovering in excess of their actual costs when they earn an overall return on their environmental rate base using the actual long-term debt on the books (which includes, but is not limited to long term pollution control debt rates).

Q. Do you agree with KIUC's assertion that the Commission has previously used a hypothetical capital structure to cap common equity portion of the capital structure when determining the overall cost of capital?

A. No. Contrary to KIUC's assertion, the Commission has not used a hypothetical capital structure for LG&E or KU. The prior orders of the Commission did not assume that the capital structure of the Companies consisted of 100% debt for financing the environmental rate base investment in the ECR. The Commission stated, in connection with determining the rate of return to be used for LG&E's 1995 Environmental Compliance Plan and KU's 1994 Environmental Compliance Plan, that "[b]y continuing to utilize the pollution control bond debt to set the rate of return on [Compliance] Plan rate base, the Commission is not finding that [either] Plan was funded solely by pollution control bond debt". Order, Case No. 2000-386, p. 19 (April 18, 2001); Order, Case No. 2000-439, p. 18 (April 18, 2001).

Q. Do you agree with KIUC's recommendation that the non-recurring expenses of dredging Mill Creek Ash Pond of $6M should be amortized over four years and included in rate base?

A. As indicated in the responses to the Commission's data requests, LG&E's experience indicates the estimated cost of the excavation to be $4.5 to $6 million depending the volume and timing of the ash transfer. The ash transferring is expected to commence in 2006, and LG&E believes the expense should be recovered in the same period that it is incurred.

LG&E, however, stated in its Post-Hearing Brief in Case No. 2002-00147 as an alternative that it would be willing to accept recovery of the excavation expenses of the Mill Creek Ash Pond amortized over four years on the condition that a return on the unamortized balance is included in rate base. As identified in the data response, the Commission has allowed a return on deferred debit in a number of previous decisions.

Including a return on any unamortized balance related to the ash transfer expense is reasonable because it ensures that LG&E would recover the carrying costs associated with deferral. The dredging of the ash pond will restore and maintain the current useful life of the ash pond for the benefit of customers.

Q. Do you agree with Mr. Kollen's contention that the current value of emission allowances assigned to combustion turbines should be removed from ECR rate base?

A. No. The Environmental Protection Agency ("EPA") does not allocate SO_2 emission allowances to KU's combustion turbines. The allowances shown in the table provided in response to the Commission Staff's First Data Request, Item 14(c), for the combustion turbines at the Brown Generating Station were not allocated to those combustion turbines under the Clean Air Act. These allowances were transferred to the combustion turbines allowance accounts from other units. The combustion turbines were not, and are not, allocated any allowances by the EPA because they are classified as "new units" under applicable regulations. However, the same regulations require that such units must hold allowances in their accounts and surrender them in a number equal to their emissions. By definition, this means that allowances must be transferred to these accounts from other accounts. KU transferred enough allowances to the combustion turbine accounts to ensure that the accounts would hold sufficient allowances for compliance purposes rather than risk holding insufficient allowances and being subject to severe penalties. The Commission should not deny the Companies the opportunity to earn a return on emission allowance inventory simply because of its internal decision on the timing of the transfer of allowances to combustion turbine accounts. This would simply incent the Companies

to make such transfers at the time of surrender to the EPA and thereby increasing the risk associated with penalties for non-compliance.

When determining the expense associated with monthly SO_2 allowances, KU follows the FERC General Instruction 21, Allowances, Part D, and 18 C.F.R. Chapter 1. This regulation mandates a monthly weighted-average method of cost determination rather than a specific assignment method. The average cost of allowances is applied to all allowances committed for surrender regardless of the source of emission. Thus, steam units and combustion turbines will incur the same average cost of allowances used, but only allowances used by the steam units are included in KU's monthly ECR filings.

In response to the Companies data requests, KIUC conceded as much when is agreed that:

1. There are no allowances allocated to the gas generating units by the US EPA;
2. That the only allowances in inventory are those allocated to the Companies by the US EPA or those purchased by the Companies; and
3. The value of the emission allowances in inventory is based on the weighted average cost of current vintage allowances in inventory.

(Response of KIUC to LG&E and KU Requests for Information, Item Nos. 16, 17 and 18).

Q. Was KU's response to KIUC data request 1-14 incorrect, as asserted by the KIUC?

A. No. As discussed above costs associated with emission allowance inventory are not directly related to gas generation.

Q. Do you agree with KIUC's contention that neither LG&E nor KU will comply with the Commission's Orders in Case No. 2002-00147 in connection with the calculation of their environmental surcharges?

A. No. The Companies however object to including the specific requirements of the Orders in Case No. 2002-00147 into their tariffs on the grounds that it is unnecessary and cumbersome for the purposes of the tariff and could lead to the continuous revisions of the ECR Tariff to reflect all determinations in prior and subsequent Commission orders.

Q. Do you agree with KIUC's recommendation that the Kentucky corporate income tax rate reduction should be reflected in the gross-up on the equity components of the overall rate of return?

A. Yes. While the Companies do not completely agree with the gross up factor and its application included in Exhibit LK-2, (see Ms. Scott Rebuttal Testimony pg. 2, line 18), the Companies will use the current statutory corporate income tax rate in the calculation of their monthly environmental surcharges in determining the gross-up on the equity component of the overall rate of return.

Q. Do you have any comments on the proposal advanced by KIUC witness Stephen J. Baron to allocate the ECR revenue requirement on the basis of net revenue (total revenue less fuel costs) rather than on the current basis of total revenue?

A. Yes. I agree with Mr. Baron's claims that the current base rates paid by KU customers are "substantially out of alignment with the cost of providing service" (p. 14 of Baron's testimony). This is generally consistent with the evidence presented by the Company in Case No. 2004-00434.

The Commission must determine whether it will apply its discretion in this case to change the methodology for applying ECR charges in order to reduce this discrepancy in the Companies' base rates. This is a basic policy decision. If the Commission elects to adopt the KIUC proposal, the Companies urge the Commission to consider the following:

- KU will need to make modifications to its billing and customer information systems to implement KIUC's proposal. If the Commission adopts KIUC's recommendation, then KU should be allowed to recover the incremental costs of making these modifications through the ECR.
- The application of a revised methodology must be administratively manageable. In this regard, consistent application with limited exceptions should be the guiding principle. This approach should also be consistently applied in allocating the ECR revenue requirement between jurisdictional and non-jurisdictional sales. Currently, the ECR revenue requirement is allocated between jurisdictional and non-jurisdictional sales on the basis of total revenue. As a general matter, if it is appropriate to use net revenue (total revenue less fuel) to allocate ECR revenue requirements between the jurisdictional rate classes, then, to be consistent, this same methodology should also be used to allocate ECR revenue requirements between jurisdictional and non-jurisdictional sales.

Q. What is your recommendation to the Commission?

A. The Commission should approve KU's application for a Certificate of Public Convenience and Necessity for the four FGD SO_2 Control Technology installations presented in Exhibit KWB-1 of my direct testimony filed December 20, 2004 in Case No.

2004-00426 and the respective 2004 Environmental Surcharge Compliance Plans for LG&E and KU. Additionally, the Commission should approve LG&E's and KU's applications for cost recovery of their compliance costs through their environmental surcharges beginning with service rendered on and after July 1, 2005.

Q. Does this conclude your testimony?

A. Yes, it does.

VERIFICATION

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

The undersigned, **Kent W. Blake**, being duly sworn, deposes and says he is Director, State Regulation and Rates for LG&E Energy Services Inc, and that he has personal knowledge of the matters set forth in the foregoing testimony, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

Kent W. Blake
KENT W. BLAKE

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 27th day of April 2005.

Tammy J. Elzy (SEAL)
Notary Public

My Commission Expires:

TAMMY J. ELZY
NOTARY PUBLIC
STATE AT LARGE
KENTUCKY
My Commission Expires Nov. 9, 2006

Adjusted Capital Structure -- Louisville Gas and Electric Company

LG&E's Total Company Capitalization, 12-31-2004

	12-31-2004 Actual Balances	Unadjusted Capital Structure	Electric Only Allocation	Capitalization Allocated to Electric
Long-Term Debt	$ 821,804,000	41.34%	82.31%	$ 676,426,872
Short-Term Debt	108,220,000	5.44%	82.31%	89,075,882
Preferred Stock	70,424,594	3.54%	82.31%	57,966,483
Common Equity	987,231,240	49.67%	82.31%	812,590,034
	$ 1,987,679,834	100.00%		$ 1,636,059,271

LG&E's Electric Capitalization After Adjustments

	Capitalization Allocated to Electric	Net Adjustments to Electric Capitalization	Adjusted Electric Only Capitalization	Adjusted Capital Structure
Long-Term Debt	$ 676,426,872	$ (68,573,947)	$ 607,852,925	41.35%
Short-Term Debt	89,075,882	(9,030,155)	80,045,727	5.45%
Preferred Stock	57,966,483	(5,876,525)	52,089,958	3.54%
Common Equity	812,590,034	(82,377,670)	730,212,364	49.67%
	$ 1,636,059,271	$ (165,858,297)	$ 1,470,200,974	100.00%

LG&E's Adjustments to Electric Capitalization

	Trimble County Inventory	Other Investments	Job Development Investment Credit	Post-1995 Environmental Surcharge	Adjustments to Electric Only Capitalization
Long-Term Debt	$ (1,047,087)	$ (202,590)	$ 18,399,659	$ (85,723,929)	$ (68,573,947)
Short-Term Debt	(137,886)	(26,678)	2,422,958	(11,288,549)	(9,030,155)
Preferred Stock	(89,731)	(17,361)	1,576,780	(7,346,213)	(5,876,525)
Common Equity	(1,257,863)	(243,371)	22,103,453	(102,979,889)	(82,377,670)
	$ (2,532,567)	$ (490,000)	$ 44,502,850	$ (207,338,580)	$ (165,858,297)

Louisville Gas and Electric Company Weighted Average Cost of Capital

	Adjusted Electric Only Capitalization	Adjusted Electric Only Capital Structure	Cost of Capital	Weighted Average Cost of Capital	Weighted Average Cost of Capital With Equity Gross-up*
Long-Term Debt	$ 607,852,925	41.35%	3.92%	1.62%	1.62%
Short-Term Debt	80,045,727	5.45%	1.90%	0.10%	0.10%
Preferred Stock	52,089,958	3.54%	3.30%	0.12%	0.19%
Common Equity	730,212,364	49.67%	11.00%	5.46%	8.88%
	$ 1,470,200,974	100.00%		7.30%	10.79%

* Tax gross-up factor of 61.5558% per Exhibit VLS-1, Line 8

Adjusted Capital Structure -- Kentucky Utilities Company

KU's Total Company Capitalization, 12-31-2004

	12-31-2004 Actual Balances	Unadjusted Capital Structure	Adjustments to Total Company Capitalization	Adjusted Total Company Capitalization
Long-Term Debt	$ 726,210,817	40.73%	$ (5,755,836)	$ 720,454,981
Short-Term Debt	34,820,000	1.95%	(275,568)	$ 34,544,432
Preferred Stock	39,726,894	2.23%	(315,137)	$ 39,411,757
Common Equity	982,204,150	55.09%	(19,870,817)	$ 962,333,333
	$ 1,782,961,861	100.00%	$ (26,217,357)	$ 1,756,744,504

Adjustments to Total Company Capitalization

	Undistributed Subsidiary Earnings	Investment in Electric Energy, Inc.	Other Investments	Adjustments to Total Company Capitalization
Long-Term Debt	$ -	$ (5,450,273)	$ (305,563)	$ (5,755,836)
Short-Term Debt	-	(260,939)	(14,629)	(275,568)
Preferred Stock	-	(298,407)	(16,730)	(315,137)
Common Equity	(12,085,671)	(7,371,852)	(413,293)	(19,870,817)
	$ (12,085,671)	$ (13,381,471)	$ (750,215)	$ (26,217,357)

KU's Kentucky Jurisdictional Capitalization

	Adjusted Total Company Capitalization	Jursidictional Rate Base Percentage	Kentucky Jurisdictional Capitalization	Kentucky Jurisdictional Capital Structure	Post-1994 Environmental Surcharge	Adjusted Kentucky Jurisdictional Capitalization
Long-Term Debt	$ 720,454,981	87.93%	$ 633,496,065	41.01%	$ 87,270,420	$ 546,225,645
Short-Term Debt	34,544,432	87.93%	30,374,919	1.97%	4,192,215	26,182,704
Preferred Stock	39,411,757	87.93%	34,654,758	2.24%	4,766,782	29,887,976
Common Equity	962,333,333	87.93%	846,179,700	54.78%	116,573,363	729,606,336
	$ 1,756,744,504		$ 1,544,705,442	100.00%	$ 212,802,781	$ 1,331,902,661

Kentucky Utilities Company Weighted Average Cost of Capital

	Adjusted Kentucky Jurisdictional Capitalization	Kentucky Jurisdictional Capital Structure	Cost of Capital	Weighted Average Cost of Capital	Weighted Average Cost of Capital With Equity Gross-up*
Long-Term Debt	$ 546,225,645	41.01%	3.43%	1.41%	1.41%
Short-Term Debt	26,182,704	1.97%	2.22%	0.04%	0.04%
Preferred Stock	29,887,976	2.24%	5.68%	0.13%	0.21%
Common Equity	729,606,336	54.78%	11.00%	6.03%	9.79%
	$ 1,331,902,661	100.00%		7.60%	11.45%

* Tax gross-up factor of 61.5558% per Exhibit VLS-1, Line 8

Office of Financial Management
Finance and Administration Cabinet
702 Capitol Avenue, Suite 261
Frankfort, Kentucky 40601-3453
(502) 564-2924
Fax: (502) 564-7416

Ernie Fletcher
Governor

Robbie Rudolph
Secretary

F. Thomas Howard
Acting Executive Director

April 15, 2005

Mr. Spencer E. Harper, Jr.
Division of Ogden Newell & Welch PLLC
(Harper, Ferguson & Davis)
1700 PNC Plaza
500 West Jefferson Street
Louisville, KY 40202-2874

Re: Private Activity Bond Allocation Committee – 2005 Local Issuer Pool Applicants

Dear Mr. Harper:

Per the attached confirmation, the Kentucky Private Activity Bond Allocation Committee ("KPABAC") has allocated a portion of the state ceiling to the identified company/issuer from the 2005 Local Issuer Pool. Pursuant to 200 KAR 15:010, the bond issue must close within 90 days (July 14, 2005) to qualify under the CY2005 cap. A Notice of Issuance must be filed with KPABAC following placement of the bonds.

Kentucky Utilities Company C/O Louisville Gas and Electric Company	$13,266,950

Please contact the Office of Financial Management at (502) 564-2924 if you have any questions.

Sincerely,

F. Thomas Howard
Acting Executive Director

Attachments

CONFIRMATION NO.: 4
DATE: April 15, 2005

CONFIRMATION OF ALLOCATION OF STATE CEILING

KENTUCKY PRIVATE ACTIVITY BOND ALLOCATION COMMITTEE
702 Capitol Avenue, Suite 261
Frankfort, KY 40601
(502) 564-2924

Issuer Name:	**County of Carroll, Kentucky**
Borrower/User:	**Kentucky Utilities Company** **C/O Louisville Gas and Electric Company**
Bond Counsel:	**Spencer E. Harper, Jr.**
Address:	**500 West Jefferson Street, 1700 PNC Plaza**
City:	**Louisville, KY 40202**

Confirmation Type:

X **Original**
Renewal
Supplemental

Confirmation is hereby given that $13,266,950 of the state ceiling for private activity bonds for the Commonwealth of Kentucky for CY2005 has been allocated to the bond issue described by the above referenced Notice of Intent Number. This Confirmation is numbered and dated and is effective only in accordance with the terms of state and federal law. This allocation has been made from the:

X **Local Issuer Pool**
Single Issuer Pool
State Issuer Pool

This allocation of the state ceiling shall expire on: July 14, 2005 pursuant to the provisions of 200 KAR 15:010. The undersigned officer executing and responsible for this confirmation and allocation hereby swears and certifies under penalty of perjury that the allocation was not made in consideration of any bribe, gift, gratuity or direct or indirect contribution of any political campaign.

Kentucky Private Activity Bond Allocation Committee

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR APPROVAL OF ITS 2004 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	)))))	CASE NO. 2004-00421

In the Matter of:

THE APPLICATION OF KENTUCKY UTILITIES COMPANY FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT FLUE GAS DESULFURIZATION SYSTEMS AND APPROVAL OF ITS 2004 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	)))))))	CASE NO. 2004-00426

REBUTTAL TESTIMONY OF VALERIE L. SCOTT CONTROLLER LG&E ENERGY SERVICES INC.

Filed: April 27, 2005

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

A. My name is Valerie L. Scott. I am the Controller for Louisville Gas and Electric Company ("LG&E") and Kentucky Utilities Company ("KU"), collectively "the Companies"), and employed by LG&E Energy Services Inc. My business address is 220 West Main Street, Louisville, Kentucky 40202.

Q. Have you previously testified in this proceeding?

A. Yes, I filed direct testimony in this case on December 20, 2004 on behalf of LG&E and KU. A statement of my professional history and education was attached as Appendix A to that testimony.

Q. What is the purpose of your testimony?

A. The purpose of this testimony is to rebut the contentions concerning the tax implications for Louisville Gas and Electric Company's ("LG&E") and Kentucky Utilities Company's ("KU") (collectively, the "Companies") environmental surcharges and changes to Kentucky corporate income rates raised by Mr. Lane Kollen for the Kentucky Industrial Utility Customers, Inc. ("KIUC").

Q. Do the Companies agree with the testimony of Mr. Kollen related to the change in federal income tax law?

A. As outlined in LG&E's and KU's responses to KIUC 1-22 and KIUC 1-24, respectively, dated January 26, 2005, the Companies agree that the impact of the new Internal Revenue Code Section 199 known as the Domestic Manufacturing Deduction should be reflected in the gross-up rates. The deduction reflected in the gross-up calculation should only be at the level allowed in the respective year of the calculation. The following table clarifies the deduction allowed during the phase-in period:

Period	Deduction %
Years 2005-2006	3%
Years 2007-2009	6%
Years 2010+	9%

The Companies propose no other adjustments in regards to Mr. Kollen's calculations and testimony related to the change in federal income tax law.

Q. Are there any changes in Kentucky income tax laws not included in Mr. Kollen's recommendation?

A. Yes. On March 18, 2005, Kentucky House Bill 272 (HB 272) was signed into law. HB 272 will have two impacts on the composite tax gross-up rates previously provided. First, the state adopted the Internal Revenue Code as of December 31, 2004. This adoption is expected to permit a Kentucky corporate income tax deduction for the new Section 199 Domestic Manufacturing Deduction contained in the American Jobs Creation Act of 2004. The composite tax gross-up rate previously provided in the Companies' response to the KIUC 1st Data Request dated January 26, 2005 included only the benefit of a federal deduction.

Secondly, the 2005 Kentucky corporate income tax rate was reduced to 7% and will be further reduced to 6% effective January 1, 2007. These reductions in the Kentucky corporate income tax rate also impact the tax gross-up factor previously provided. The revised composite federal and state income tax rate for 2005 is 38.4442% and the related tax gross-up factor is 61.5558%. A revised calculation of the 2005 gross-

up rate reflecting the new 7% Kentucky corporate income tax rate is included as Exhibit VLS-1.

Q. Does this conclude your testimony?

A. Yes, it does.

VERIFICATION

COMMONWEALTH OF KENTUCKY)
) SS:
COUNTY OF JEFFERSON)

The undersigned, **Valerie L. Scott**, being duly sworn, deposes and says she is Controller for Louisville Gas and Electric Company and Kentucky Utilities Company, and that she has personal knowledge of the matters set forth in the foregoing testimony, and the answers contained therein are true and correct to the best of her information, knowledge and belief.

Valerie L. Scott
VALERIE L. SCOTT

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 27th day of April 2005.

Tammy J. Elzy (SEAL)
Notary Public

My Commission Expires:

TAMMY J. ELZY
NOTARY PUBLIC
STATE AT LARGE
KENTUCKY
My Commission Expires Nov. 9, 2006

ECR - Gross-up Revenue Factor &
Composite Income Tax Calculation
2005

	Federal & State Production Credit W/ 7% 2005 State Tax Rate Included	Federal Production Credit with 8.25% State Tax Rate Included	Production Credit Excluded
1. Assume pre-tax income of	$ 100.0000	$ 100.0000	$ 100.0000
2. State income tax (see below)	6.8043	8.2500	8.2500
3. Taxable income for Federal income tax before production credit	93.1957	91.7500	91.7500
4. Less: Production tax credit (3% of Line 3)	2.7959	2.7525	-
5. Taxable income for Federal income tax	90.3998	88.9975	91.7500
6. Federal income tax (35% of Line 5)	31.6399	31.1491	32.1125
7. Total State and Federal income taxes (Line 2 + Line 6)	$ 38.4442	$ 39.3991	$ 40.3625
8. Gross-up Revenue Factor	61.5558	60.6009	59.6375
9. Therefore, the composite rate is:			
10. Federal	31.6399%	31.1491%	32.1125%
11. State	6.8043%	8.2500%	8.2500%
12. Total	38.4442%	39.3991%	40.3625%

State Income Tax Calculation			
1. Assume pre-tax income of	$ 100.0000	$ 100.0000	$ 100.0000
2. Less: Production tax credit	2.7959	-	-
3. Taxable income for State income tax	97.2041	100.0000	100.0000
4. State Tax Rate	7.0000%	8.2500%	8.2500%
5. State Income Tax	6.8043	8.2500	8.2500

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR APPROVAL OF ITS 2004 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	))))	CASE NO. 2004-00421

In the Matter of:

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REBUTTAL TESTIMONY

OF

ROBERT G. ROSENBERG
EDGEWOOD CONSULTING, INC.

April 27, 2005

Filed: April 27, 2005

I. INTRODUCTION

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

A. My name is Robert G. Rosenberg. My business address is 541 Bear Ladder Road, West Fulton, New York 12194. I am an economist and principal of the firm of Edgewood Consulting, Inc. My qualifications are described in Appendix A to this testimony.

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony is to rebut the return on equity testimonies of Attorney General witness Dr. Carl Weaver and KIUC witness Richard Baudino. In addition, I will rebut the recommendation of KIUC witnesses Lane Kollen and Richard Baudino that the common equity ratio of Kentucky Utilities Company be capped at 51.58 percent.

Q. Have you prepared an exhibit in conjunction with your testimony?

A. Yes. In support of my testimony I have prepared Exhibit___(RGR-1), consisting of 7 schedules and Exhibit___(RGR-2) consisting of workpapers and a CD.

Q. Were these schedules prepared by you or under your supervision?

A. Yes, they were.

Q. Please provide some background on the rate of return issue in this proceeding?

A. In Case Nos. 2003-00433 and 2003-00434, the Commission approved a provision of the Partial Settlement and Stipulation that called for an 11 percent return on common equity to be used as part of the cost recovery for environmental projects pursuant to KRS 278.183, until directed by Order of the Commission that a

different rate of return shall be utilized. Accordingly, in the instant proceedings, Louisville Gas and Electric Company and Kentucky Utilities Company (hereinafter referred to as LG&E and KU, respectively, or the Companies) employed an 11 percent return on common equity component. Dr. Carl Weaver submitted testimony in this proceeding recommending that the Commission allow a return on common equity in the range of 9.75-10.00 percent for environmental cost recovery purposes. Richard Baudino recommends an 8.70 percent return on equity. In addition, Mr. Baudino and Mr. Kollen recommended that instead of using KU's actual common equity ratio of 55.09 percent at year-end 2004, the common equity ratio of KU be capped at 51.58 percent—the proportion of common equity in the capital structure that the Commission approved in its Order in Case No. 2003-00434.

In this rebuttal testimony, I demonstrate that the return on equity recommendations of both Dr. Weaver and Mr. Baudino are substantially understated. Since Dr. Weaver's cost of equity analysis is much more extensive than that of Mr. Baudino, I will concentrate on his testimony in my rebuttal, but will also point out the deficiencies with Mr. Baudino's analysis. In the course of my discussion, I also establish the reasonableness of an 11.00 percent return on equity for LG&E and KU. In addition, I will show that the current level of common equity ratio of KU is reasonable; thus, the common equity ratio should not be capped at a lower level.

Q. What is the interest rate environment in which we are currently estimating the cost of equity?

A. While interest rates have been rather benign recently, forecasts are for substantially higher levels of interest rates in the near future. Dr. Weaver states at page 12 of this testimony that:

> The cost of equity for electric utilities should slowly increase over the near-term future. This will be caused by the gradual increase in interest rates.

Dr. Weaver further indicates at page 40, line 17 of his testimony that:

> I concluded from my economic analysis that capital market cost rates will be slowly increasing over the next two to four years.

I agree with these assessments. As an example, I note that the yields on 10-year and 20-year Government securities have averaged about 4.2 and 4.8 percent, respectively, for the six months ended March 2005. According to *Blue Chip Financial Forecasts* of December 1, 2004, the yield on these securities are forecast to increase as follows:

	2005	2006	2007	2008
10-Year	4.8%	5.5%	5.8%	5.8%
20-Year	5.4%	6.0%	6.3%	6.3%

These forecasts indicate a substantial projected rise in interest rates above the current level. An article in the March 23, 2005 *Wall Street Journal* entitled "Fed Lifts Rates, Warns on Inflation: First Concerns About Prices in Four Years Could Presage End of 'Measured' Boosts" indicated that:

> The Federal Reserve nudged interest rates higher, as expected, but signaled for the first time in more than four years that it is concerned with inflation.

Q. What conclusion do you reach regarding the import of these interest rate forecasts?

A. Capital costs are projected to increase significantly in the near-term future. I recommend that the Commission should take this into account in determining the allowed return on equity in this proceeding. I note that Dr. Weaver is in accord with this view.

II. REBUTTAL TO DR. WEAVER

Q. Please briefly describe Dr. Weaver's cost of equity approach?

A. Dr. Weaver first selects a group of proxy companies[1] that he finds to have about the same risk as LG&E and KU. He employs three equity costing methods using the proxy group in order to reach his cost of equity recommendation. In Dr. Weaver's DCF analysis, he employs both the constant-growth and multi-stage growth approaches.[2] Dr. Weaver also conducts a CAPM analysis using current and projected Treasury security yields and two estimates for the market risk premium. Dr. Weaver's third approach is a risk premium analysis, calculated over the most recent twelve years for his proxy group. Because Dr. Weaver believes that interest rates and the cost of equity are increasing at the current time, he performs an economic adjustment of 100 basis points to his two DCF methods to account for the prospective increase in the cost of capital. In addition, Dr. Weaver made a 25 basis point upward adjustment to reflect the elimination of the Earnings Sharing Mechanism (ESM). Based on these analyses, Dr. Weaver determines that the cost of equity lies in the range of 9.75-10.25 percent. Dr. Weaver recommends that the cost of equity for the purpose of the Environmental Cost Recovery Surcharge be set between 9.75 and 10.00 percent.

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[1] Dr. Weaver shows calculations for both an "original" group that he used in the Companies' last rate case and a "revised" group that currently meets his selection criteria. In my rebuttal testimony I will only address the "revised" proxy group calculations since those are the ones that are relevant today.

[2] On page 31, line 1, Dr. Weaver indicated that of all his equity costing methods, he placed the greatest emphasis on the DCF constant-growth model.

In the rebuttal testimony, below, I will provide numerous reasons why this return recommendation is substantially understated.

Q. How does this recommendation compare with recent returns allowed to electric utilities by regulators in the U.S.?

A. The 9.75-10.0 percent recommendation of Dr. Weaver is: (1) well below the general level of allowed returns for U.S. utilities and (2) even further below the allowed returns for companies in Dr. Weaver's proxy group.

According to the April 6, 2005 *Major Rate Case Decisions* of Regulatory Research Associates, average allowed returns for electric utilities in 2004 were at the 10.73 percent level, with allowed returns in the fourth quarter of 2004 averaging 10.91 percent. Average allowed returns for the first quarter of 2005 are at the 10.44 percent level. Recent allowed returns for operating subsidiaries of the companies in Dr. Weaver's proxy group are even more telling. The returns allowed for these companies since the beginning of 2004 are presented below:

Company	Parent	State	Date	Allowed ROE
Madison G&E	MGE	WI	01/13/04	12.00 %
Interstate Pwr	Alliant	MN	04/05/04	11.00
PSI Energy	CINergy	IN	05/18/04	10.50
Detroit Edison	DTE	MI	11/23/04	11.00
Interstate Pwr	Alliant	IA	12/14/04	10.97
Georgia Pwr	Southern Co.	GA	12/21/04	11.25
Wisconsin P.S.	WPS	WI	12/21/04	11.50
Madison G&E	MGE	WI	12/22/04	11.50
Average				11.22 %

Note that these allowed returns range from a low of 10.5 to a high of 12.0 percent and average 11.2 percent. These allowed returns reflect recent allowed returns for operating subsidiaries of six of the eight companies included in Dr. Weaver's revised proxy group. This comparison shows that Dr. Weaver's recommended allowed return in this proceeding is between about 125 and 150 basis points **below** the returns recently allowed to companies upon which he bases his analysis in this proceeding.

I am including this information not to recommend that the Kentucky Commission merely "follow the others." This Commission should decide the allowed return on the record of these proceedings. However, I do believe that this information shows that the level of allowed returns, especially to Dr. Weaver's own proxy companies, is substantially higher than he recommends for LG&E and KU in this proceeding.

Q. Please describe Dr. Weaver's constant-growth DCF approach.

A. Dr. Weaver adds a five-month expected dividend yield[3] to expected growth derived using various earnings growth rate forecasts. Dr. Weaver shows on Schedule 34, page 2, that the average DCF cost of equity for the proxy group, using projected growth rates only, is 9.04 percent.

Dr. Weaver indicates on page 31, line 1 of his testimony that he places the greatest emphasis on the DCF constant growth model. He also uses (incorrectly, as

[3] As Dr. Weaver indicates on page 36, line 3, the expected yield is determined by multiplying the current yield by one plus the growth rate. I agree with Dr. Weaver's adjustment of the current yield in order to get the expected yield.

I show below) the constant-growth DCF result in order to derive the lower end of his cost of equity range.

Q. In what areas are you rebutting Dr. Weaver's constant-growth DCF approach?

A. I raise three points, each of which shows that Dr. Weaver's constant-growth DCF approach is understated. First I show that Dr. Weaver made a mathematical mistake in calculating the lower end of his cost of equity range using the constant-growth DCF result. Correcting for this error, the DCF constant-growth cost of equity estimate is 10.29 percent, instead of the 9.75 percent figure that Dr. Weaver derives. Second, correcting for an inconsistency in data availability in Dr. Weaver's analysis, the DCF constant-growth cost of equity estimate is in the 10.34-10.55 percent range. Third, using an additional reasonable estimate of growth that was not employed in Dr. Weaver's analysis, the DCF constant-growth cost of equity estimate is about 10.8 percent.[4]

I will discuss each of these modifications of Dr. Weaver's constant-growth DCF approach, below.

Q. Please explain how Dr. Weaver made an error in deriving the lower end of his cost of equity range.

A. Dr. Weaver's basic, unadjusted constant-growth DCF cost of equity estimate was 9.04 percent as shown on Schedule 34, page 2. Dr. Weaver thought that two adjustments—an adjustment to account for higher forecast interest rates and an

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[4] Note that all three of the modifications discussed above reflect the basic DCF cost of equity result and Dr. Weaver's 100-basis-point economic adjustment and 25-basis-point ESM adjustment.

adjustment to account for the elimination of the ESM—were needed to modify this base DCF figure. For the second adjustment, Dr. Weaver added 25 basis points to account for the elimination of the ESM. The mathematics behind this second adjustment were done correctly. However, Dr. Weaver did not correctly adjust for the prospective increase in interest rates—what Dr. Weaver labels as his "Interest Difference Adjustment." Dr. Weaver clearly states in his discussion on page 40, line 15 through page 41, line 2, that the DCF cost of equity estimate should be adjusted upward by **100** basis points to account for prospective higher interest rates. Instead, Dr. Weaver, incorrectly, only adjusted the constant-growth DCF result upward by **50** basis points to account for the Interest Difference Adjustment, as indicated in his lower-end-of-the-range discussion on the bottom of page 41.[5]

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[5] As indicated in the discussion on pages 40-41 of Dr. Weaver's testimony, he thought that a 100-basis-point Interest Difference Adjustment was required for both the constant-growth and the multi-stage DCF approaches. He also suggested that no adjustment was needed for the CAPM and risk premium approaches since they employed projected interest rates. Thus the adjustment factors for the methods are summarized below:

	Interest Difference Adjustment
Constant-Growth DCF	100 basis points
Multi-Stage DCF	100 basis points
CAPM	0
Risk Premium	0
Average	50 basis points

Note that while the four results, **taken together**, would require the 50-basis-point average Interest Difference Adjustment. However, each DCF result, when analyzed **alone**, requires a 100-basis-point Interest Difference Adjustment. Since in deriving the lower end of the cost of equity range, Dr. Weaver looks at the constant-growth DCF result in isolation, a 100-basis-point adjustment to this cost of equity estimate is appropriate according to Dr. Weaver's own rationale for the adjustment.

Correcting Dr. Weaver's calculation produces an adjusted constant-growth DCF cost of equity estimate of 10.29 percent, as shown below:

Base Constant-Growth DCF Estimate	9.04%
Interest Difference Adjustment	+1.00
ESM Adjustment	+0.25
Adjusted Constant-Growth DCF Estimate	10.29%

Note that whereas Dr. Weaver had used the incorrect constant-growth DCF cost of equity result as the low end of his range in his testimony, with the correction described above, this method now produces a cost of equity estimate above the entire 9.75-10.25 percent cost of equity range in Dr. Weaver's testimony.

Q. What is the second point you raised about Dr. Weaver's constant-growth DCF approach—namely that an inconsistency in data availability caused the result to be biased downward?

A. As can be seen on Schedule 33, page 2, the dividend yield that Dr. Weaver calculates for MGE Energy is the third lowest yield for his proxy companies and is well below average. However, if one examines the growth rate data on Schedule 32, page 2, it is clear that growth rate estimates were not available for MGE from three of the four sources that Dr. Weaver uses in his analysis. In the fourth source—Value Line—MGE growth was well above average. Thus, by including MGE's below-average dividend yield, but not its above-average growth for three of the four DCF estimates, the calculation is biased downward.

There are three alternate ways to deal with this difficulty. First, we can exclude MGE's dividend yield from the average dividend yield for the three growth rate calculations with missing MGE data. Doing so raises Dr. Weaver's base cost of equity result 5 basis points from 9.04 to 9.09. With Dr. Weaver's two

adjustments (100 basis points for the Interest Difference Adjustment and 25 basis points for the ESM adjustment), the DCF constant-growth cost of equity becomes 10.34 percent. A second alternative for dealing with this difficulty would be to use the 4.51 percent average growth rate that Dr. Weaver shows on Schedule 32, page 2 of his exhibit. Doing so raises the base constant-growth DCF cost of equity to 9.20 percent (4.49 x (1+.0451) + 4.51 = 9.20). Adding the 125 basis points of adjustments to this base DCF figure produces a constant-growth cost of equity estimate of 10.45 percent. A third alternative would be to use the 9.30 percent individual-company cost of equity average that Dr. Weaver calculated in response to the Companies' Data Request No. 3. Adding the 125 basis points of adjustments to this figure results in a cost of equity estimate of 10.55 percent.

Q. Please explain the third modification of Dr. Weaver's constant-growth DCF analysis—namely an alternate growth projection.

A. Dr. Weaver employs earnings growth projections in his constant-growth DCF calculation. However, investors might also consider what is sometimes referred to as projected sustainable growth, calculated using Value Line projections.[6] Using data from the Value Line issues employed by Dr. Weaver, I have calculated that projected sustainable growth for his proxy companies averages 4.86 percent. Using

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[6] Sustainable growth is comprised of two factors—growth from the retention of earnings (i.e., internal growth) and growth from the sale of common stock (i.e., external growth). Internal growth can be calculated as the product of "b" (the expected retention ratio) and "r" (the expected return on equity). External growth can be calculated as the product of "s" (the growth in aggregate common equity due to the issuance of new common stock) and "v" (a function of the price-book ratio reflecting the fraction of funds obtained from the sale of common stock that accrues to the existing stockholders). I note that Dr. Weaver, himself, mentions the retention of earnings as being a source of future growth on page 11 of his Appendix II.

this projected growth rate, the base constant-growth DCF cost of equity estimate becomes 9.57 percent (4.49 x (1+.0486) + 4.86 = 9.57). Adding Dr. Weaver's two adjustments—125 basis points in total—produces a constant-growth DCF cost of equity estimate of 10.82 percent.

Q. Please summarize your modifications to Dr. Weaver's constant-growth DCF analysis.

A. Correcting only the Interest Difference Adjustment error in Dr. Weaver's testimony, I show that the adjusted constant-growth DCF cost of equity estimate is 10.29 percent, rather than the incorrect 9.75 percent figure that Dr. Weaver shows in his testimony. Correcting for a data unavailability problem relating to MGE Energy, the revised constant-growth DCF cost of equity estimate, as adjusted, is in the range of 10.34-10.55 percent. Finally, employing a sustainable growth calculation, the adjusted constant-growth DCF cost of equity estimate is 10.82 percent. Based on these figures, the range for the constant-growth DCF cost of equity, as modified above, is about 10.25-10.75 percent.

Q. Please comment on Dr. Weaver's multi-stage DCF model.

A. Dr. Weaver's calculations are shown on Schedule 35, page 2. There are several calculational and theoretical deficiencies that understate the cost of equity using this approach. I will enumerate these below.

Q. Please describe the first error you found with Dr. Weaver's multi-stage DCF analysis.

A. In Dr. Weaver's constant-growth DCF analysis, he uses a multi-month average price. He comments at page 35, line 15, of his testimony that a four-month

timeframe encompasses a sufficient period to wash out any abnormalities in the data.[7] However, for some unexplained reason, Dr. Weaver employs a spot market price on February 14, 2005 in his multi-stage DCF calculation.[8] The use of this spot price causes the DCF results to be lower than had Dr. Weaver used the same average price that he used in his constant-growth DCF calculation. In calculations I perform below, I use Dr. Weaver's average price.

Q. Do you have any comment on the near-term growth of Dr. Weaver's multi-stage DCF calculation?

A. Yes, I do. Dr. Weaver starts with recent growth in dividends and converges that growth rate to the near-term analysts' growth projection—assuming that the beginning growth rate he employs converges to the analysts' growth rate in the Year 2008. In his testimony in Case Nos. 2003-00433 and 2003-00434, Dr. Weaver opined at page 57 that with the advent of deregulation, dividend growth was much less certain. Yet Dr. Weaver uses an uncertain estimate of dividend growth based on just one year's change in the dividend as the basis for determining his near-term growth for the multi-stage DCF analysis. The growth rate that Dr. Weaver assumes for the first five years in his multi-stage analysis is in fact about 100 basis points[9] **below** the growth that analysts estimate over the next five years.

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[7] I note that while Dr. Weaver discusses a four-month pricing period in his testimony, he actually uses a five-month period in his analysis.

[8] Dr. Weaver used an average price, rather than a spot price, in his two-stage DCF analysis in his testimony in the LG&E gas rate proceeding, Case No. 2000-080.

[9] In Dr. Weaver's multi-stage DCF analysis, he assumes that average growth over the next five years is 3.50 percent. In contrast, analysts' growth forecasts over the next five years average 4.51 percent. Thus, there is a 101 basis point differential between these figures. (See my workpaper at Exhibit___(RGR-2), page 24.)

Based on these considerations, Dr. Weaver is understating the multi-stage DCF cost of equity estimate. There are two alternatives to Dr. Weaver's two-stage DCF analysis, one of which was suggested by Dr. Weaver, himself.

Q. What are these alternatives?

A. Dr. Weaver, in his testimony in the LG&E gas rate proceeding, Case No. 2000-080, employed a two-stage approach where analysts' projections are used as the first stage and an Ibbotson-based growth calculation is used as the second stage.[10] On Schedule 1, page 1, I show the results of using Dr. Weaver's methodology from the LG&E gas rate case for the multi-stage DCF approach. The first five years employ the analysts' projected growth rates. The long-term projected growth is based on the compounded historic return for large-company stocks reported by Ibbotson Associates with the dividend yields of the comparison companies subtracted from that. The Ibbotson historic return for large company stocks[11] is 10.4 percent. Subtracting the 4.49 percent dividend yield for Dr. Weaver's proxy group produces a long-term growth estimate of 5.91 percent. The average base DCF cost of equity result under this approach is 10.4 percent. Adding Dr. Weaver's two adjustments (totaling 125 basis points) produces an adjusted cost of equity estimate of 11.65 percent.

A second alternative multi-stage approach would be to use analysts' projections for the first stage and the so-called sustainable growth, derived earlier

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[10] Dr. Weaver, in his testimony in Case Nos. 2003-00433 and 2003-00434, indicated in his Appendix II at page 12 that he would employ a similar multi-stage growth rate, but did not in fact do so.

[11] I note that for companies not considered "large," the Ibbotson publication recommends an upward size adjustment.

in this testimony, as a proxy for long-term growth. I show this calculation on Schedule 2 of my testimony. The average base DCF cost of equity estimate under this approach is 9.5 percent. Adding Dr. Weaver's two adjustments produces a 10.75 percent cost of equity estimate.

Q. Turning next to Dr. Weaver's CAPM approach, what inputs are needed in order to calculate the cost of equity using this method?

A. Three inputs are needed—the risk-free rate, beta and the expected market premium. While I have no problem with the betas employed by Dr. Weaver, I will show below that his estimate of the risk-free rate and the expected market risk premium are both understated.

Q. Please comment on the risk-free rate component of Dr. Weaver's CAPM analysis.

A. Because common stock is a long-term investment, the choice of the risk-free rate should match the long horizon of common stock. However, Dr. Weaver used only the yields on 10-year Treasury securities in his CAPM analysis. I believe that using the 10-year Treasury Note yield, alone, in the CAPM analysis, as Dr. Weaver has done, understates the required return calculated under this approach. Dr. Weaver should have considered the yields on longer-term Treasury securities, such as the 20-year Treasury bond. In fact, on page 73 in its Order in Case No. 2004-00103 concerning Kentucky-American Water Company, the Commission indicated that:

> The use of 10-year Treasury Bills as the risk free rate in the AG's CAPM analysis does not appear to be the most appropriate risk free rate for the model.

Given the above concerns, I will use the yield on 20-year Treasury bonds in a modification of Dr. Weaver's CAPM calculation.

Over the six months ended March 2005, the 20-year Treasury bond averaged 4.8 percent. *Blue Chip Financial Forecasts* of December 1, 2004 shows projected yields for 20-year Treasury bonds of 5.4, 6.0, 6.3 and 6.3 percent in 2005, 2006, 2007 and 2008, respectively. These projections average about 6 percent. Giving the projections three-quarters weight and the recent yields one-quarter weight, as Dr. Weaver does in his CAPM analysis, the average yield on 20-year Treasuries for use in the CAPM calculation would be 5.7 percent.

Q. Please comment on the expected market risk premium of Dr. Weaver?

A. Dr. Weaver employs two separate estimates of the market risk premium—one based on a DCF calculation using growth projections provided by Thomson and one based on Value Line projections of price appreciation. The recent projected growth in earnings for the S&P 500 per First Call—an aggregation of analysts' growth projections compiled by Thomson—is 12 percent. Adding that to the 1.6 percent dividend yield that Dr. Weaver employs in his calculation, the expected market return is 13.6 percent. Subtracting the 5.7 percent risk-free rate derived earlier produces an expected market risk premium of 7.9 percent under this approach. Using a beta of .73 (the average beta of Dr. Weaver's proxy group), a risk-free rate of 5.7 percent and a market risk premium of 7.9 percent, the CAPM cost of equity estimate is 11.5 percent.

Q. What is Dr. Weaver's second calculation of the expected market risk premium using a Value Line estimate?

A. This calculation of Dr. Weaver uses a market return estimate based on a price appreciation projection from Value Line which he then adds to the average dividend yield for the Value Line universe. However, Dr. Weaver has calculated the price appreciation in an understated manner for two reasons. First, Dr. Weaver used a spot estimate of Value Line's projection of price appreciation.[12] However, I have calculated that over Dr. Weaver's pricing period, the average Value Line price appreciation estimate was 43 percent rather than the 40 percent Dr. Weaver uses. Second, Dr. Weaver uses a four-year period to calculate price appreciation, whereas Value Line considers the projection to be for three and one-half years. Using the average price appreciation projection and the correct time period produces an expected growth rate of 10.8 percent. Adding this to the 1.6 percent dividend yield produces an expected return on the market of 12.4 percent. Subtracting the 5.7 percent risk-free rate from the 12.4 percent expected market return produces an expected market risk premium estimate of 6.7 percent.

Employing a beta of 0.73, a risk-free rate of 5.7 percent and an expected market risk premium of 6.7 percent, the CAPM cost of equity estimate is 10.6 percent.

Q. Did you find any deficiencies in Dr. Weaver's risk premium analysis?

A. Yes, I did. Dr. Weaver has calculated an average risk premium of 4.45 percent for his proxy group. However, in my opinion, Dr. Weaver has calculated the average

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[12] The spot price appreciation estimate that Dr. Weaver employs in his testimony implies expected price appreciation of 40 percent over the next several years. The most recent spot estimate by Value Line, made on April 15, 2005 is for 50 percent price appreciation over the next several years. This underlines the volatility inherent in using spot estimates.

risk premium in a non-intuitive way (i.e., that is an approach that would not likely be employed by investors). For example, the return achieved over the 1993-1994 period is given many times the weight compared with the return achieved in the 2003-2004 period. I see no reason why investors would use such an unusual weighting scheme in trying to estimate the expected risk premium.

Q. Why is Dr. Weaver's risk premium weighting scheme unlikely to be employed by investors?

A. I will explain why using a simple hypothetical example. Let us assume that over the 2002-2003 period an investment experiences a risk premium of 10.0 percent. While in the 2003-2004 period, this investment experiences a risk premium of 2.0 percent. Clearly, the average of the 10.0 percent and 2.0 percent risk premiums is **6.0** percent. However, Dr. Weaver, whose risk premium averaging methodology inexplicably gives more weight to risk premiums early in the period, would calculate an average risk premium under these circumstances of **5.0** percent, as shown below:

Investment made at end of:	Risk Premium Measured Through End of: 2003	2004
2002	2.0%	5.9%
2003		10.0%
Dr. Weaver's Annual Average	2.0%	8.0%
Dr. Weaver's Average Risk Premium	5.0%	

To further demonstrate that Dr. Weaver's averaging method, non-intuitively, gives greater weight to older risk premium observations, we can change the above

hypothetical example slightly. Now let us reverse the assumption of when the risk premiums were realized—i.e., let us now assume that this investment experienced a risk premium of 10.0 percent in 2002-2003 and 2.0 percent in 2003-2004. The average of these two risk premiums is still 6.0 percent, but Dr. Weaver's approach would now calculate the average risk premium as being 7.0 percent, as shown below:

Investment made at end of:	Risk Premium Measured Through End of: 2003	2004
2002	10.0%	5.9%
2003		2.0%
Dr. Weaver's Annual Average	10.0%	4.0%
Dr. Weaver's Average Risk Premium	7.0%	

Thus, I do not think that investors would use Dr. Weaver's averaging technique. As I show below, more intuitive ways to average the historic risk premiums produce a higher risk premium cost of equity estimate.

Q. Are there alternatives to Dr. Weaver's averaging approach?

A. Yes, there are. Two alternatives to Dr. Weaver's averaging approach make much more sense. First, investors might well simply take an overall average of the individual twelve yearly average risk premiums.[13] Averaging in this manner produces average risk premiums for Dr. Weaver's proxy group of 5.44 percent.

[13] These yearly average risk premiums are found on Dr. Weaver's Schedule 38, page 3. The figures are shown on the line that Dr. Weaver labels "Average HPY Risk Premium." The yearly average risk premiums are shown in decimal form and must be multiplied by 100 to

The second alternative averaging approach that would likely be more intuitive to investors than Dr. Weaver's method would be to take an average of the twelve returns for investment periods ending in 2004 (e.g., one average return begins in 1992 and ends in 2004, the next average return begins in 1993 and ends in 2004, up to the average return starting in 2003 and ending in 2004).[14] The average risk premium calculated in this manner is 7.2 percent.

Q. What is the result of your modifications to Dr. Weaver's risk premium analysis?

A. Using averaging processes that I believe would be more intuitive to investors than Dr. Weaver's approach, I calculated two alternative average risk premiums for the proxy group of 5.44 percent and 7.20 percent. Adding the 5.14 percent Treasury yield employed by Dr. Weaver in his risk premium analysis to each of the risk premiums calculated above produces a modified risk premium cost of equity range of 10.6-12.3 percent.

Q. Please summarize the corrections and modifications you have made to Dr. Weaver's cost of equity analyses.

A. Below, I summarize the results of the corrections and modifications to Dr. Weaver's analyses that I have just described.

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convert to percentage form.

[14] These figures are shown on page 4 of Dr. Weaver's Schedule 38. The average of the twelve returns ending in 2004 is shown at the bottom of the 2004 column in the row labeled "Arithmetic Avg." To obtain the average return in percent, one simply subtracts 1 from the figure that Dr. Weaver reports and multiplies the result by 100 in order to express this average in percentage terms.

DCF (Constant Growth)	10.25 - 10.75%
DCF (Multi-Stage)	10.75 - 11.65%
CAPM	10.6 - 11.5%
Risk Premium	10.6 - 12.3%
Average	10.55 - 11.55%
Median	10.60 - 11.58%

Q. Based on the foregoing analysis, what cost of equity do you determine?

A. Based on these results, it is my opinion that the average cost of equity for the proxy group, and thus for LG&E and KU, is in the range of 10.5-11.5 percent. I note that the midpoint of this range—11.0 percent—corresponds with the Companies' requested return on equity in this proceeding.

III. REBUTTAL TO THE TESTIMONY OF MR. BAUDINO

Q. Briefly summarize Mr. Baudino's approach to estimating the cost of equity.

A. **Mr. Baudino selects** a group of eleven proxy companies upon which to perform his analyses.[15] Mr. Baudino presents only a very limited analysis to reach his recommended return on equity. He uses only the constant-growth DCF method—he does not even do a multi-stage DCF calculation, as does Dr. Weaver. While Mr. Baudino also conducted a CAPM analysis, he indicates that he did not rely upon it in reaching his recommendation.[16] Based on the sole method that he uses to reach his recommendation—the constant-growth DCF approach—Mr. Baudino recommends an 8.7 percent return on equity in this proceeding.

Q. Are there any indications that Mr. Baudino's 8.7 percent cost of equity recommendation is understated?

A. Yes, there are several. First, as I indicated earlier, electric utilities were allowed returns that averaged 10.73 percent in 2004, 10.91 percent in the fourth quarter of 2004 and 10.44 percent in the first quarter of 2005. All of these average allowed returns are well above the 8.7 percent figure Dr. Weaver recommends in this proceeding. In addition, the operating utilities of companies in Mr. Baudino's proxy group have an average allowed return over the past several months of 10.7 percent, as shown below:

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[15] Interestingly, Mr. Baudino's proxy group has only two companies—Progress Energy and Southern Company—in common with the proxy group of Dr. Weaver.

[16] In regard to Mr. Baudino's non-use of the CAPM method, I note that Dr. Weaver indicates at page 31 of his testimony that he believes that the CAPM is used by a fairly large number of investors and that the CAPM, along with the DCF model, receives the most emphasis in college finance courses.

Company	Parent	State	Date	Allowed ROE
Georgia Power	Southern Co.	GA	12/21/04	11.25 %
PPL Electric	PPL Corp.	PA	12/22/04	10.70
W. Mass. Elec.	Northeast Util.	MA	12/29/04	9.85
Empire Dist. Elec.	--	MO	03/10/05	11.00
Average				10.70 %

In addition, according to data reported in the *AUS Monthly Report* for April 2005, a source relied upon in an earlier month by Mr. Baudino, the average allowed return for companies in Mr. Baudino's proxy group is 11.41 percent.[17] I note that this Commission, in its February 28, 2005 Order in Case No. 2004-00103 concerning Kentucky-American Water Company, stated on page 73 that:

> While awards to American Water affiliates in other states is not a basis for an award for Kentucky-American, the Commission notes that the AG's ROE recommendation of 8.75 percent is significantly below most awards in 2004.

Mr. Baudino acknowledged that his recommended return in this proceeding is lower than recent returns allowed to other utilities, on average. (See Mr. Baudino's response to the Commission Staff's First Data Request—No. 10 for LG&E and No. 17 for KU.)

It is interesting to note that the entire range of Mr. Baudino's CAPM results (8.84-11.82 percent) was above his 8.7 percent cost of equity recommendation in

[17] That source does not report a date for the allowed returns for most of the companies. While admittedly, some of these allowed returns are probably not recent, they do reflect what the proxy companies of Mr. Baudino are currently allowed to earn on their common equity capital.

this proceeding. While Dr. Weaver, too, found his other results higher than the DCF estimate, he adjusted the DCF estimate upward by 100 basis points. Mr. Baudino performs no such adjustment on his DCF cost of equity estimate, nor does he rely on any other results.

Furthermore, Mr. Baudino only reports the average DCF cost of equity estimates for his proxy group on page 3 of Exhibit___(RAB-5). When one examines the individual-company results, it is clear that some unreasonably low cost of equity estimates go into Mr. Baudino's average result. On Schedule 3, I show the individual-company cost of equity estimates of Mr. Baudino. Note that there are numerous individual-company estimates that are below or only close to the recent cost of debt. (The average yield on A-rated bonds over Mr. Baudino's six-month pricing period is about 5.9 percent.) The lowest individual-company result reported on Schedule 3 is 4.74 percent for Cleco, shown in Column (7). That result is so low because it includes a zero percent growth rate for that company. While Mr. Baudino indicated in his response to Company Information Request No. 3 that negative growth is not a reasonable expectation for long-term growth for electric utilities, he does include zero percent growth in his calculation in two instances.

Mr. Baudino has testified in a past proceeding[18] that cost of equity estimates that were not more than 170 basis points above the utility bond yield should be regarded as unreasonable and discarded. As indicated above, the recent average yield on A-rated bonds has been about at the 5.9 percent level. Taking

[18] Testimony regarding Cincinnati Gas & Electric, Case No. 92-1464-EL-AIR, April 1993.

consideration of Mr. Baudino's admonition, cost of equity estimates below the level of 7.6 percent would be regarded as unreasonable and should be discarded. This would encompass about one-third of the individual-company cost of equity estimate shown on Schedule 3. Finally, the fact that Mr. Baudino is recommending a return on equity in this proceeding only 110 basis points above a return level that, in the past, he has regarded as unreasonable, should raise further questions about the reasonableness of his cost of equity analysis in this proceeding.

Q. Briefly describe Mr. Baudino's CAPM approach.

A. Three components are needed to perform a CAPM calculation—the risk-free rate, beta and an estimate of the expected market risk premium. For the risk-free rate, Mr. Baudino employs yields on 5- and 20-year Treasury securities. For beta, Mr. Baudino uses figures from Value Line. For the expected market risk premium, Mr. Baudino uses two approaches—one based upon a DCF using Value Line projections and a second based in historic data from Ibbotson Associates.

As I explain below, elements of Mr. Baudino's risk-free rate and his expected market risk premium are understated.

Q. Please comment on the issue of Mr. Baudino's risk-free rate.

A. As indicated above, Mr. Baudino used the yield on 5- and 20-year Treasury securities in his CAPM analysis. However, because common stock is a long-term investment, the choice of the risk-free rate should match the long horizon of common stock.[19] As noted earlier in this testimony, the Commission in its

[19] Mr. Baudino, at pages 17-18 of his testimony, indicates that the timeframe of an equity investment is very long, even infinite.

Kentucky-American Water order questioned the use of even a 10-year Treasury yield in the CAPM context; a 5-year Treasury yield is even shorter in maturity.

Q. Please comment on Mr. Baudino's estimate of the expected return on the market.

A. Both of Mr. Baudino's calculations have problematic aspects. For his first estimate, Mr. Baudino conducted a DCF analysis upon the universe of companies followed by Value Line. Mr. Baudino indicated in response 5(g) to the Companies' information request that this Value Line analysis included companies with projected zero and negative growth rates. In fact, in the Value Line universe about 40 percent of the companies do not currently pay a dividend. Thus, these are companies that have a dividend yield of zero and for whom Value Line projects no five-year growth in dividends. However, an expectation of long-term expected growth of negative, or even zero, is not realistic in a constant-growth DCF context, in my opinion.[20] A DCF calculation that includes both negative growth rates and, for 40 percent of the sample, includes zero dividend yields and a projection of no growth clearly biases the DCF result downward.

Q. Please comment on Mr. Baudino's second estimate of the market risk premium—the one employing Ibbotson historic data.

A. Mr. Baudino uses both the arithmetic mean and the geometric mean of the historic Ibbotson results. I believe that a rational investor would employ the arithmetic

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[20] Recall that Mr. Baudino, himself, indicated at page 25 that he eliminated negative growth rates because he thought that negative growth rates are not appropriate proxies for long-term growth expectations. Although he eliminated such growth rates in his proxy group analysis, he did not do so in his Value Line universe analysis.

mean and would not use the geometric mean, because the latter would provide an understatement of expected future return. (I note that Ibbotson Associates, itself, states that the arithmetic mean is the correct measure to use in estimating the cost of equity capital.) Since the explanation of why the arithmetic mean should be used is quite lengthy, I have included it in Appendix B to this testimony. Appendix B shows that the arithmetic mean is the appropriate figure to use when investors are making forecasts about the future and dealing with uncertainties inherent in making projections.

A simple example also shows that the arithmetic mean is the correct approach to use in this context. Let us assume that you are faced with the prospect of betting on a coin toss where you win 50 percent of your bet if the coin comes up heads, but lose 50 percent of the bet if the coin comes up tails.[21] Common sense indicates that because the coin is a fair coin (*i.e.*, a 50 percent chance of landing on heads and a 50 percent chance of landing on tails), bettors would expect to only break even (*i.e.*, they would expect to lose 50 percent of their bet half the time and expect to win 50 percent of their bet half the time). The arithmetic average of the return prospects bettors would face in these circumstances is zero. Thus, the common sense expectation of a bettor in this example reflects the arithmetic average of return possibilities. In sharp contrast, the geometric average of an equal prospect of two returns (one plus 50 percent and one minus 50 percent) is -13.4 percent. Rational bettors would not go into a coin toss of the type described above

[21] Implicit in this discussion is an assumption that the coin used is fair—it is not biased (*e.g.*, weighted) to land disproportionately on either heads or tails.

with the expectation of a loss of 13.4 percent over time—they would expect to break even, as reflected in the arithmetic mean of zero. Clearly, they would not use a geometric average of return possibilities as their expected value, but would, instead, use the arithmetic average.

Q. Will you please comment on Mr. Baudino's claim that the change in tax policy that lowered the tax rate on dividends and capital gains should lower the investor-required return for utilities.

A. I note at the outset that if there is any such effect, it is already incorporated in the market-based approaches of both Dr. Weaver and Mr. Baudino. In fact, Mr. Baudino explicitly states on page 8, line 22 that:

> The stock prices that I use in my cost of equity analyses fully incorporate the effects of this change in tax rates and on the expected returns for utilities.

Thus, there would be no reason to adjust the calculated cost of equity to account for this supposed influence on required returns.

There are several factors that would mute any effect on the required return of the dividend tax law change. First, this dividend tax reduction has a sunset provision—it is scheduled to expire at the end of 2008. Given the massive Federal deficits being incurred, renewal of this dividend tax benefit might be problematic. Given the uncertainty about future tax policy regarding dividends, companies and investors might move cautiously, if at all, in response to the dividend tax reduction. This is because companies and investors base their payout policy and investment strategy, respectively, on long-term considerations. Investors would not want to switch from growth to income stocks if they thought the tax reduction for dividend-

paying stocks might disappear in a few years. Similarly, companies might not want to change their long-term dividend policy to please investors if the tax considerations driving such action might be reversed within a few years.[22]

Second, many investors cannot benefit from the new dividend tax reduction. This dividend tax reduction has value to investors only if they must pay taxes on the dividends they receive. However, a large number of investors do not pay taxes on dividends and, thus, the change in the tax law is irrelevant to them. An article in *McKinsey on Finance*, Spring 2003 by Timothy Koller and Susan Foushee entitled "Much Ado About Dividends" suggested that:

> Nonetheless, the proposed tax cut isn't likely to have any significant, lasting effect on U.S. share prices. That's primarily because the key investors who drive share prices are already exempt from taxes....[T]ax-paying US individual shareholders are in the minority, in terms of their overall ownership of US shares. In 2002, they owned 28 percent of all US shares, whereas US institutions and individuals who hold shares in tax-exempt accounts accounted for 61 percent of share ownership, with the remainder held in foreign hands.

A January 31, 2005 article in *The Wall Street Journal* entitled "Dividend Stocks Haven't Caught Investors' Fancy" indicated that per the chief investment officer at a bank:

> ...the Bush tax cut applied to individuals, but not to pension funds or foundations, which represent a huge part of the investment community and tend to be more active investors than individuals. Such institutional

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[22] If the dividend tax law did have an effect on companies' dividend policy, then companies that have not been paying a dividend might start paying a dividend and companies that were paying a low dividend, might start paying a higher dividend. The prospect of other companies initiating dividends or raising their stock dividend payouts may substantially lower the income stock advantage (i.e., paying a relatively higher level of dividends than other industries) that utilities have enjoyed in the past over other investments.

> investors never pay dividend taxes and are no more interested in dividends than they were before...

Third, while attention has been focused on the dividend tax cut, it is important to realize the capital gains tax rate is now equal to the dividend tax rate. While dividends have the advantage of reflecting "a bird in the hand," they have the disadvantage of creating a tax liability in the year they are paid. In contrast, capital gains can be deferred—gains do not have to be realized and the capital gains tax paid until a time of the investor's choosing. This ability to defer taxes can be a significant advantage for investors.

As the above discussion indicates, the effect of the dividend tax law change on the required return of electric utilities is unclear. As I also indicated above, there is no reason to try to specifically measure this effect and adjust the cost of equity for it—any effect, if it exists, is already impounded in the cost of equity estimates at issue in this proceeding.

IV. THE APPROPRIATE CAPITAL STRUCTURE FOR KU

Q. What were the positions of the KIUC and the AG concerning the capital structure to be utilized in this proceeding?

A. KIUC witness Lane Kollen recommends that the Commission cap the common equity ratio to no more than the level set in KU's last base rate case (i.e., 51.58 percent) for the purposes of establishing the rate of return in this proceeding.[23]

Dr. Weaver, on behalf of the AG, recommends that the Company's actual capital structure at year-end 2004 be employed in this proceeding. That capital structure for KU is shown below:

Long-Term Debt	40.73 %
Short-Term Debt	1.95
Preferred Stock	2.23
Common Equity	55.09

Q. On what basis does Mr. Kollen recommend allowing a lower than actual common equity ratio in this proceeding?

A. Mr. Kollen bases his recommendation on three arguments: (1) KU has a higher common equity ratio than certain other companies he examines; (2) KU's capital structure is at the strong end of the S&P target criterion for capital structure; and (3) KU has a common equity ratio substantially in excess of that of LG&E. In my rebuttal below, I will demonstrate that (1) KU's common equity ratio is much closer to that of other electric utilities than Mr. Kollen's data indicates; (2) KU's capital structure ratios fall at the middle of the S&P capital structure target

[23] Mr. Kollen does not recommend a cap for the common equity ratio of LG&E.

criterion; and (3) the differential in common equity ratio between KU and LG&E is much smaller than Mr. Kollen indicates, when examined on a rating agency basis.

Q. Please comment on Mr. Kollen's comparison of KU's common equity ratio to that of other electric utilities.

A. Mr. Kollen cites Mr. Baudino's data that shows, in part, that the average common equity ratio for Mr. Baudino's proxy group is 45.6 percent in 2004. The data that Mr. Baudino examined were taken from Value Line, which does not include short-term debt in its capital structure ratios. While Mr. Kollen claims that KU's common equity ratio excluding short-term debt from the capital structure is 58.7 percent at year-end 2004, that statement is factually incorrect. Using the December 31, 2004 capital structure percentages that I presented earlier, excluding short-term debt from the capital structure would result in an adjusted common equity ratio for KU of 56.2 percent, not the 58.7 percent figure cited by Mr. Kollen.

The average common equity ratio cited by Mr. Baudino and Mr. Kollen for 2004 is somewhat understated on a rating agency basis. Both Moody's and S&P exclude securitization debt from the capital structure in their analyses. Three companies (Northeast Utilities, NSTAR and PPL) in Mr. Baudino's proxy group have substantial amounts of securitization debt. For one of the companies (PPL), Value Line reported the common equity ratio calculated excluding securitization debt. However, for the other two companies, Value Line reported their equity ratio including securitization debt. If one excludes securitization debt, then the 2004 common equity ratio for Northeast Utilities is 44.1 percent, rather than 34.0 percent and the common equity ratio for NSTAR is 44.0 percent, rather than 40.0 percent.

Using these adjusted common equity ratios, the average 2004 common equity ratio on Mr. Baudino's Exhibit___(RAB-8) becomes 46.9 percent, rather than 45.6 percent which he shows.

Q. Are there other comparisons of equity ratios that show that KU's equity ratio is much closer to that of other electric utilities than indicated in the discussion of Mr. Kollen and Mr. Baudino?

A. Yes, there are. On Schedule 4, I show the year-end 2004 capital structure ratios for the electric utility operating subsidiaries of Mr. Baudino's proxy companies.[24] As can be seen from Schedule 4, the average common equity ratio for these proxy company subsidiaries is 50.3 percent—more than 3 percentage points above the parent companies.

On Schedule 5, I show the capital structure of the utility subsidiaries of the companies in Dr. Weaver's proxy group. The average common equity ratio for these companies is 55.3 percent. This is close to the 56.2 percent common equity ratio of KU calculated excluding short-term debt.

I also examined the Value Line projected common equity ratios for Mr. Baudino's and Dr. Weaver's proxy groups. These are shown on Schedules 6 and 7 of my exhibit. Recall that Mr. Baudino had an average common equity ratio, per Value Line, for his proxy companies of 45.6 percent in 2004. As indicated on Schedule 6, the common equity ratio for these companies is projected to increase steadily over the next few years, reaching the 50.0 percent level. Dr. Weaver's

[24] These figures and the figures I cite below for Dr. Weaver's proxy group subsidiaries exclude securitization debt in the calculation of capital structure ratios.

proxy companies also show an upward trend in the common equity ratio, reaching an average level of 54.1 percent, as indicated on Schedule 7.

All of the above comparisons indicate that the common equity ratios for other utilities are much closer to that of KU than suggested by the comparison made by Mr. Baudino and Mr. Kollen.

Q. Please address Mr. Kollen's contention that KU's common equity ratio puts it near the high end of the range of the S&P guidelines for an A bond rating?

A. KU is assigned a Business Position ranking of 5 by S&P. Mr. Kollen shows on page 5 of Exhibit___(LK-4), the S&P target Total Debt/Total Capital range for a company with a Business Position of 5 is 42-50 percent. As Mr. Kollen correctly recognizes in his discussion on page 14, for bond rating purposes, S&P includes an imputed amount of debt to reflect purchased power obligations. The Company informs me that as of year-end 2004, the imputed amount of debt related to these contracts is $127 million. KU's December 31, 2004 capital structure, including the imputed debt associated with purchased power contracts, is shown below:

		Dollar Amount	Percent of Total Capital	
Debt:				
Long-Term Debt		$726,211	38.02	%
Short-Term Debt		34,820	1.82	
Imputed Debt		127,000	6.65	
Total Debt		$888,031	46.49	%
Preferred Stock		39,727	2.08	
Common Equity		982,204	51.43	
	Total	$1,909,962	100.00	%

Thus S&P would find KU's adjusted debt ratio of 46.5 percent to be very close to the 46 percent midpoint of S&P's 42-50 percent target range.

Mr. Kollen took S&P's target debt ratio range, added KU's preferred stock ratio and derived an implied target common equity range. Doing a similar calculation using the S&P target debt ratio range of 42.0-50.0 percent, we obtain an implied common equity target range of 47.9-55.9 percent, as shown below:

	Range	
Target Debt Ratio	42.0 %	50.0 %
Actual Preferred Stock %	2.1	2.1
Implied Common Equity % Target	55.9	47.9

KU Adjusted Common Equity Ratio	51.4%

As can be seen from the above table, KU's common equity ratio, adjusted for purchased power obligations, falls near the middle of the implied S&P target common equity ratio range.

I note that in an April 14, 2005 article entitled "U.S. Utility Regulation Returns to Center Stage," S&P stated in reference to a recent Public Service Company of Colorado proceeding that:

> The company will be allowed to increase equity up to 60% of capital to reflect the economic cost incurred by its existing purchased power contracts.

As indicated above, an analysis of S&P's target capital structure criterion indicates that KU's common equity ratio is well within, and in fact very close to the middle, of the range.

Q. Please comment on Mr. Kollen's third contention—that KU's common equity ratio was substantially in excess of LG&E's equity ratio.

A. This claim is overstated for two reasons. First, as Mr. Kollen, himself, acknowledges on page 15 of his testimony, when imputed debt related to purchased power is factored into the comparison, KU's common equity ratio is only about 2 percentage points higher than that of LG&E. Second, Mr. Kollen's colleague, Mr. Baudino, opines at page 21 of his testimony that he thinks it is reasonable to assume that KU would carry a debt rating similar to that of LG&E. This means that in spite of KU's slightly higher common equity, Mr. Baudino believes that the risk of the two companies is similar.

In fact, this last comparison bears on another important point that deserves mention. On page 13 of his testimony, Mr. Kollen was asked how KU's common equity ratio compares to the average common equity ratio of a group **with overall risk characteristics similar to KU.**[25] Dr. Weaver, on page 4 of his Appendix II stated that:

> Risk, as it applies to the cost of equity, should be considered as total risk rather than the risk that would result from the occurrence of any single factor. Risk that results from any one particular phenomenon could be offset by the occurrence of other phenomenon.

I agree with the thought expressed in Dr. Weaver's statement.

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[25] In fact, Mr. Baudino indicates at page 19, line of his testimony that he selects a comparison group that has "a risk profile that is reasonably similar to that of KU." He also indicated on that page that his selection process "resulted in a group of electric...companies that have operational and risk profiles similar to KU." Dr. Weaver, in his testimony, also picked a proxy group that he thought had nearly the same risk as KU.

Q. Please summarize your recommendation regarding KU's capital structure in this proceeding.

A. I recommend that the Commission employ the year-end 2004 capital structure of KU, which reflects a 55.09 percent common equity ratio. I note that Dr. Weaver makes the same recommendation. The Commission should reject the 51.58 percent common equity ratio cap for KU suggested by Mr. Kollen

Q. Does this conclude your testimony?

A. Yes, it does.

VERIFICATION

STATE OF NEW YORK)
) **SS:**
COUNTY OF SCHOHARIE)

The undersigned, **Robert G. Rosenberg,** being duly sworn, deposes and says he is an Economist and Principal of Edgewood Consulting, Inc., that he has personal knowledge of the matters set forth in the foregoing testimony, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

Robert G. Rosenberg

ROBERT G. ROSENBERG

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 22 day of April 2005.

Wanda J. King (SEAL)
Notary Public

My Commission Expires:

WANDA J. KING
Notary Public, State of New York #01KI4603925
Residing in Schoharie County
My Commission Expires Jan. 31, 20 07

EDUCATION AND EMPLOYMENT BACKGROUND OF ROBERT G. ROSENBERG

Education

I have a Bachelor of Arts degree in Political Science, with a minor in Economics, from Hunter College. I received a Master of Business Administration degree with a major in Finance at the New York University Graduate School of Business Administration.

Employment

From 1969 through mid-March 1983, I was employed by the firm of National Economic Research Associates (NERA), reaching the position of Senior Economic Analyst. In March of 1983, I became a principal of Benrose Economic Consultants, Inc., a consulting firm in New York City. In April 2000, I became a principal of Edgewood Consulting, Inc., a firm located in the Capital District area of New York. Edgewood Consulting performs economic research and consulting services for companies, law firms, government agencies and trade associations. Throughout this period, I have concentrated on the analysis of regulated industries, including electric and gas utilities, insurance and steamship companies. I have prepared direct and rebuttal testimony related to financial aspects of utility rate proceedings--e.g., cost of common equity, capital structure, etc. Along with these "typical" rate case issues, I have also testified regarding more unusual matters: intra-company royalty payments; the correct procedure to use in calculating the cost of debt; whether a cogeneration

project met Qualifying Facility ownership standards; and responsibility for stranded costs.

I have had numerous assignments involving evaluation, consultation and/or internal reports to clients. Examples of this include: (1) analyzing issues relating to industry restructuring (e.g., implications of Commission-ordered divestiture, the risks associated with the institution of incentive plans, unbundling electric rates, etc.); (2) consulting with a utility company concerning the financial and regulatory aspects of a potential merger and the possible regulatory treatment of an acquisition premium; (3) evaluating the feasibility of instituting an administrative securitization proposal; (4) determining incremental risks flowing from purchased power contracts; and (5) analyzing studies regarding property values near transmission lines.

Outside the regulatory arena, I have estimated financial damages related to (1) breach of contract and (2) earnings losses as a result of injuries. I have also examined stock prices to see if alleged manipulation was likely and have performed economic valuation for employee stock option plan purposes.

I have presented lectures at the Pace University Center for International Business Studies regarding the regulatory process. A number of articles that I authored have been published in *Public Utilities Fortnightly* (PUF).

Appearances Before Regulatory Agencies

I have presented testimony before the Federal Energy Regulatory Commission and the regulatory agencies in the following states: Arizona, Kentucky, Maine, Massachusetts, Minnesota, Mississippi, New Hampshire, New Jersey, New York,

Pennsylvania, Rhode Island, South Dakota and Vermont. These testimonies were presented on behalf of: Blackstone Valley Electric Company, Boston Edison Company, Central Hudson Gas & Electric Corporation, Central Maine Power Company, Citizens Communications Company, Consolidated Edison Company, Kentucky Utilities Company, Long Island Lighting Company, Long Island Water Corporation, Louisville Gas and Electric Company, Minnesota Power & Light Company, Mississippi Power Company, New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation, Northern States Power, Orange & Rockland Utilities, Pacific Gas & Electric Company, Pike County Light & Power Company, Public Service Company of New Hampshire, Public Service Company of New Mexico, Rochester Gas & Electric Corporation and Rockland Electric Company. In addition, I have testified before: the Society of Maritime Arbitrators concerning the estimation of damages in the matter of Empresa Publica de Abastecimento de Cereais (an agency of the Government of Portugal) vs. Point Endeavor Corporation and Tradigrain, Inc.; U.S. Bankruptcy Court regarding financing for an office building in Chapter 11; and the Federal Maritime Commission regarding the fair return for Matson Navigation Company.

WHY THE ARITHMETIC, RATHER THAN THE GEOMETRIC, MEAN SHOULD BE USED IN ESTIMATING EXPECTED FUTURE RETURNS

It has been suggested that in using the Ibbotson historic rate of return data as a proxy for the expected future return, one should employ the geometric mean of the data, rather than the arithmetic mean. I will demonstrate why that contention is incorrect. The only appropriate historic average to use in forecasting expected returns for the future is the arithmetic mean. It is incorrect to use the geometric mean and the use of the geometric mean results in an understated expected future return, as will be demonstrated below.

Before beginning the discussion on this issue, it is perhaps helpful to review the basic definition of the return on an investment that an investor expects (requires). The expected (required) rate of return is the discount rate that equates the future cash flows that an investor expects to receive from an investment with the initial value (i.e., the present value) of that investment. Keeping that basic definition in mind, I will now explain why the arithmetic mean of historic return data is appropriate to use in trying to forecast the expected return in the future.

In examining complicated issues, economists often simplify the actual very complex data or situation of the real world so that the issue in question is more easily examined in the simplified context. I will do so in my discussion below, but note that the principles hold even in the more complex situation of the real world. Let us assume that over a past period, an investment earned a rate of return of either 15 percent or 5 percent, with equal probability. Thus, if we examined an historic period of, say, 100 years, we would expect to find that 50 of those years experienced a 15 percent return,

while the remaining 50 years experienced a 5 percent return. Since the two possible returns in this simplified hypothetical example have the same probability, the arithmetic average of these two possible returns would be 10 percent. Having established that the arithmetic average of past returns for the series described is 10 percent, we will now examine whether it is appropriate to use that return as a proxy for expected future returns.

On Attachment 1, I show a hypothetical example of future possible investment outcomes if we assume that the distribution of possible returns from the past continues on into the future--i.e., that the only two possible returns are 15 percent or 5 percent, each with a 50 percent probability. In Column (1) of Attachment 1, I show the two possible returns that can be expected to occur in the future, given that these were the only two returns that occurred in the past in our hypothetical example. In Column (2) of Attachment 1, I show that the initial amount invested is assumed to be $1.00. In Column (3) I show that at the end of Year 1 an investor could either end up with $1.15 if the 15 percent return outcome happens or $1.05 if the 5 percent return possibility happens. Since the $1.15 outcome and the $1.05 outcome are equally likely to happen under the hypothesized circumstances, the average possible result (known in financial parlance as the expected value) of this investment at the end of Year 1 is $1.10--the average of the two possible outcomes that have equal probability. This expected value of the investment of $1.10 is shown near the bottom of Column (3) of Attachment 1. If the expected value of this investment at the end of Year 1 is $1.10 and $1.00 had been invested in Year 0, then clearly the discount factor that equates the expected cash flow

at the end of Year 1, should the security be sold, to the value of the initial investment is 1.10 or 10 percent.

Now let us see what are the possible investment outcomes for Year 2 under the hypothesized circumstances. The possible outcomes are shown in Column (4) of Attachment 1 and are explained below. If the investment earns $1.15 in Year 1 and again, fortunately, earns a 15 percent return in Year 2, then the value of the investment would be $1.3225 at the end of Year 2 ($1.15 x 1.15 = $1.3225). Another possible outcome would be if the investment earns $1.15 in Year 1 but only earns a 5 percent return in Year 2. This would produce a value at the end of Year 2 of $1.2075 ($1.15 x 1.05 = $1.2075). I will now explain how the third number in Column (4) is derived. If the investment in question earns a 5 percent return in Year 1, but then earns a 15 percent return in Year 2, then the expected value of the investment at the end of Year 2 would be $1.2075 ($1.05 x 1.15 = $1.2075). The fourth possibility in Year 2 is if the investment, unfortunately, only reaches the $1.05 level at the end of Year 1 and in Year 2 again only experiences a 5 percent return. This would produce the fourth outcome in Column (4), namely $1.1025 ($1.05 x 1.05 = $1.1025).

I have thus explained how one obtains the four possible outcomes at the end of Year 2, as shown in Column (4) of Attachment 1. Given that each of these outcomes has the same probability (because in any given year there is an equal probability of experiencing either a 15 percent return, or a 5 percent return), if we add up the four possible returns and divide by 4, we obtain the expected value of the investment of $1.21. Thus, even though there are several possible outcomes in Year 2, the expected value of this investment at the end of Year 2 is $1.21 under the circumstances

hypothesized. If the investor expects to be able to sell the investment at the end of Year 2 with a value of $1.21, then the discount rate that equates the expected receipt of $1.21 at the end of Year 2 with the initial investment of $1.00 in Year 0 is 10 percent ($1.21/[(1.10)^2]=$1.00). Thus, again, as in Year 1, in Year 2 we find that the discount rate, or expected return, on this investment is 10 percent. This means that if an investor invested $1.00 in Year 0 and expected the return possibilities shown on Attachment 1, that the investor would expect to earn a 10 percent return on his or her investment in either Year 1 or in Year 2.

The data shown for Years 3 and 4, in Columns (5) and (6) on Attachment 1, are derived in a similar manner. I will briefly discuss the data for Year 3 to provide continuity for this explanation. There are eight possible outcomes in Year 3, each with the same probability. Thus, if we sum up the eight possible investment outcomes for Year 3 and divide by 8, we have the average possible outcome or the expected value of the investment at the end of Year 3. As shown in Column (5) on Attachment 1, the expected value of the investment at the end of Year 3 is $1.331. Thus, if an investor invested $1.00 in Year 0 and could expect to sell his investment at the end of Year 3 for $1.331, the expected return on that investment would be 10 percent. The data shown for Year 4, in Column (6) of Attachment 1, are derived in a similar manner and again it is indicated that were the investor to sell his investment at the end of Year 4, he would expect to earn a 10 percent return on the investment. This hypothetical example could be extended out further in time, but the calculations would obviously become very cumbersome. The point holds for future years, but the data for Years 1 through 4 will be used for illustrative purposes in the remainder of this discussion.

The hypothetical example shown on Attachment 1 has demonstrated that under the hypothesized circumstances, in each and every year in the future, investors will expect to earn a return of 10 percent. It is important to note that this 10 percent return that we have calculated that investors could expect in each of the years examined is the same return as the arithmetic average of the two possible return outcomes specified in the hypothetical example, namely 15 percent and 5 percent. Thus, if investors noted that historic return experience was either 5 or 15 percent, with an arithmetic average of 10 percent, and they used this arithmetic average of past returns as a projected return for the future, their projections would exactly match the expected return (or discount rate), derived in the hypothetical example on Attachment 1. Put simply, this demonstrates that the arithmetic average of past rates of return is the appropriate average to use in forecasting expected future returns, assuming that past conditions will continue on into the future.

Now let us leave the discussion of the arithmetic mean briefly in order to discuss the geometric mean. The geometric mean of two returns is calculated as follows:

$$\sqrt{(1 + r_1) \times (1 + r_2)} - 1$$

where r_1 and r_2 are the two returns in question and are expressed in decimal form.

Given that in the prior hypothetical example the only two possible returns were 15 percent or 5 percent, the geometric average of those returns would be calculated as follows:

$$\sqrt{(1 + .15) \times (1 + .05)} - 1 = .0989 \text{ or } 9.89\%$$

As can be noted above, the geometric mean rate of return for the hypothetical investment we have been discussing is 9.89 percent--less than the 10.00 percent arithmetic mean. From the calculations on Attachment 1, we have shown that if an investor invested $1.00 at Year 0 in our hypothetical investment, they could expect to have the following values of their investment for each of the years specified:

Initial Investment in Year 0	Expected Value of Investment			
	Year 1	Year 2	Year 3	Year 4
$1.00	$1.10	$1.21	$1.331	$1.4641

As noted previously, these expected values of the investment in each year could also be obtained by taking the arithmetic average of historic results (10 percent) and assuming that the investor expects to earn the arithmetic return in each year in the future.

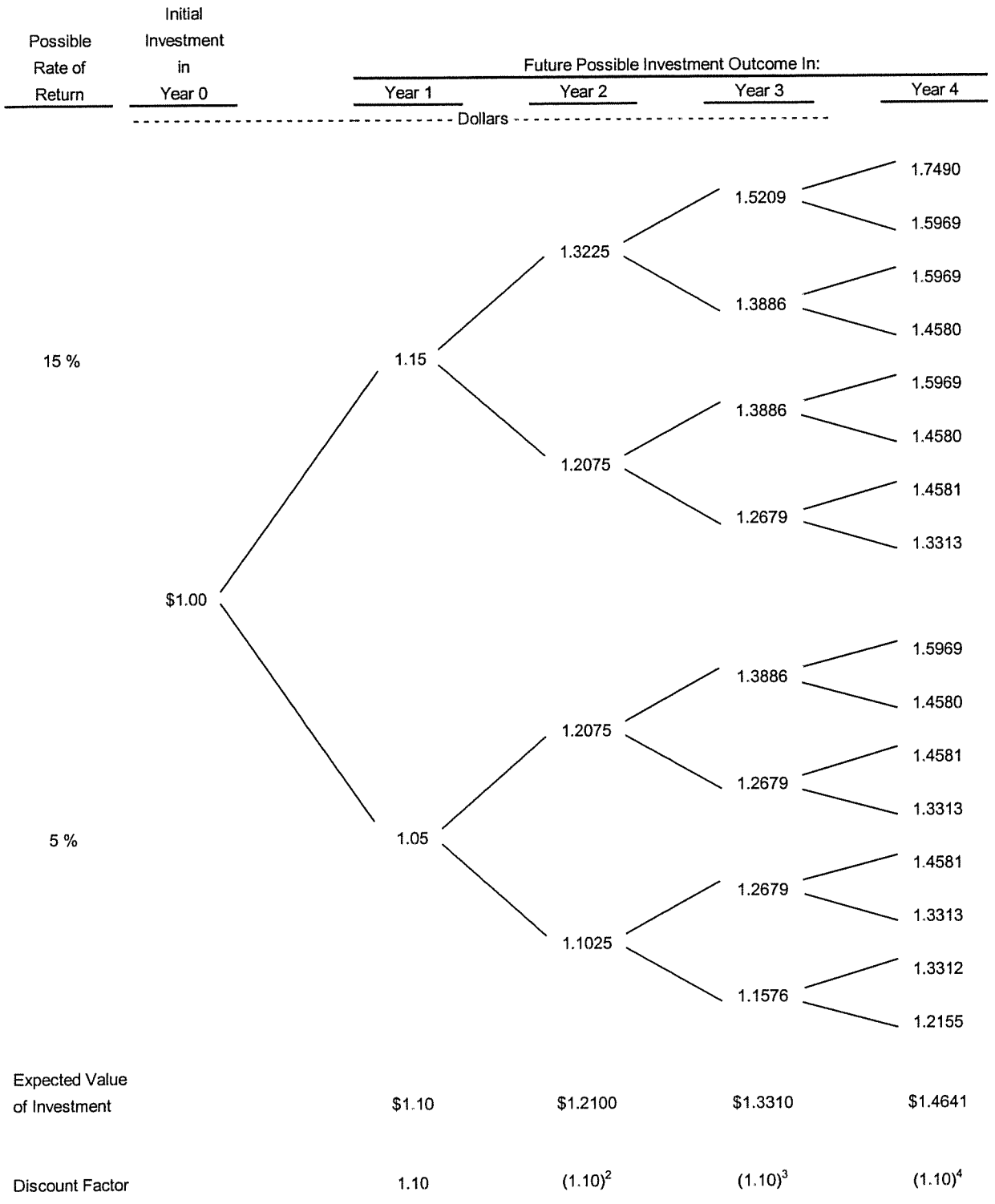
Now let us assume that an investor mistakenly took the 9.89 percent geometric mean from the historic return series and used that to project the returns earned in the future. If an investor invested $1.00 in Year 0 and expected that he or she would only earn the 9.89 percent geometric mean, then using the geometric mean as a predictor would produce the following data:

Initial Investment in Year 0	Value Produced by Forecasting with Geometric Mean			
	Year 1	Year 2	Year 3	Year 4
$1.00	$1.0989	$1.2076	$1.3270	$1.4582

Note that the values produced above when one uses the geometric mean to forecast future investment outcomes are lower in each and every year than the actual expected value of the investment that was derived on Attachment 1. This means that the geometric mean will produce an understated prediction of the returns that investors expect in the future. As has been demonstrated throughout this discussion, the arithmetic mean of historic rate of return data produces the rate of return that investors expect in the future, assuming that future conditions parallel that of the past. In contrast, use of the geometric mean to forecast future rates of return based on past results will result in an understatement of the forecasted rate of return for the future.

Attachment 1

HYPOTHETICAL EXAMPLE OF FUTURE
POSSIBLE INVESTMENT OUTCOMES



Expected Value of Investment	$1.10	$1.2100	$1.3310	$1.4641
Discount Factor	1.10	$(1.10)^2$	$(1.10)^3$	$(1.10)^4$

MULTI-STAGE DCF MODEL

WEAVER PROXY GROUP

Employing Dr. Weaver's Methodology from the 2000 LG&E Gas Rate Case

Company	Alliant	Cinergy	DTE	FPL	MGE	Progress	Southern	WPS
Average Price	$26.68	$40.17	$42.97	$72.34	$33.61	$42.89	$32.00	$48.42
Dividend	$1.05	$1.92	$2.06	$2.72	$1.37	$2.36	$1.43	$2.22
5-Yr Pr. Growth	3.76 %	3.85 %	5.03 %	4.73 %	6.00 %	3.85 %	4.75 %	4.14 %
L-T Pr. Growth	5.91 %	5.91 %	5.91 %	5.91 %	5.91 %	5.91 %	5.91 %	5.91 %
Internal Rate of Return	9.70 %	10.54 %	10.80 %	9.69 %	10.24 %	11.24 %	10.41 %	10.40 %

AVERAGE INTERNAL RATE OF RETURN = 10.38 %

		Alliant Cash Flow	Cinergy Cash Flow	DTE Cash Flow	FPL Cash Flow	MGE Cash Flow	Progress Cash Flow	Southern Cash Flow	WPS Cash Flow
	Price	-26.68	-40.17	-42.97	-72.34	-33.61	-42.89	-32.00	-48.42
Year	1	1.09	1.99	2.16	2.85	1.45	2.45	1.50	2.31
	2	1.13	2.07	2.27	2.98	1.54	2.55	1.57	2.41
	3	1.17	2.15	2.39	3.12	1.63	2.64	1.64	2.51
	4	1.22	2.23	2.51	3.27	1.73	2.74	1.72	2.61
	5	1.26	2.32	2.63	3.43	1.83	2.85	1.80	2.72
	6	1.34	2.46	2.79	3.63	1.94	3.02	1.91	2.88
	7	1.42	2.60	2.95	3.84	2.06	3.20	2.02	3.05
	8	1.50	2.76	3.13	4.07	2.18	3.39	2.14	3.23
	9	1.59	2.92	3.31	4.31	2.31	3.59	2.27	3.42
	10	1.68	3.09	3.51	4.57	2.44	3.80	2.40	3.62
	11	1.78	3.27	3.72	4.84	2.59	4.02	2.55	3.84
	12	1.89	3.47	3.94	5.12	2.74	4.26	2.70	4.06
	13	2.00	3.67	4.17	5.43	2.90	4.51	2.85	4.30
	14	2.12	3.89	4.41	5.75	3.07	4.78	3.02	4.56
Calculation	15	2.24	4.12	4.68	6.09	3.26	5.06	3.20	4.83
Continues	16	2.37	4.36	4.95	6.45	3.45	5.36	3.39	5.11
on through	17	2.52	4.62	5.24	6.83	3.65	5.68	3.59	5.42
Year 200	18	2.66	4.89	5.55	7.23	3.87	6.01	3.80	5.74
↓	19	2.82	5.18	5.88	7.66	4.10	6.37	4.03	6.08
	20	2.99	5.49	6.23	8.11	4.34	6.75	4.27	6.43

MULTI-STAGE DCF MODEL
WEAVER PROXY GROUP
Employing Sustainable Long-Term Growth

Company	Alliant	Cinergy	DTE	FPL	MGE	Progress	Southern	WPS
Average Price	$26.68	$40.17	$42.97	$72.34	$33.61	$42.89	$32.00	$48.42
Dividend	$1.05	$1.92	$2.06	$2.72	$1.37	$2.36	$1.43	$2.22
5-Yr Pr. Growth	3.76 %	3.85 %	5.03 %	4.73 %	6.00 %	3.85 %	4.75 %	4.14 %
L-T Pr. Growth	3.50 %	5.43 %	5.80 %	5.94 %	5.68 %	2.35 %	6.31 %	3.86 %
Internal Rate of Return	7.62 %	10.13 %	10.70 %	9.71 %	10.05 %	8.36 %	10.75 %	8.68 %

AVERAGE INTERNAL RATE OF RETURN = 9.50 %

		Alliant Cash Flow	Cinergy Cash Flow	DTE Cash Flow	FPL Cash Flow	MGE Cash Flow	Progress Cash Flow	Southern Cash Flow	WPS Cash Flow
	Price	-26.68	-40.17	-42.97	-72.34	-33.61	-42.89	-32.00	-48.42
Year	1	1.09	1.99	2.16	2.85	1.45	2.45	1.50	2.31
	2	1.13	2.07	2.27	2.98	1.54	2.55	1.57	2.41
	3	1.17	2.15	2.39	3.12	1.63	2.64	1.64	2.51
	4	1.22	2.23	2.51	3.27	1.73	2.74	1.72	2.61
	5	1.26	2.32	2.63	3.43	1.83	2.85	1.80	2.72
	6	1.31	2.45	2.79	3.63	1.94	2.92	1.92	2.82
	7	1.35	2.58	2.95	3.85	2.05	2.99	2.04	2.93
	8	1.40	2.72	3.12	4.07	2.16	3.06	2.17	3.05
	9	1.45	2.87	3.30	4.32	2.29	3.13	2.30	3.16
	10	1.50	3.02	3.49	4.57	2.42	3.20	2.45	3.29
	11	1.55	3.19	3.69	4.84	2.55	3.28	2.60	3.41
	12	1.61	3.36	3.91	5.13	2.70	3.35	2.77	3.54
	13	1.66	3.54	4.13	5.44	2.85	3.43	2.94	3.68
	14	1.72	3.73	4.37	5.76	3.01	3.51	3.13	3.82
Calculation	15	1.78	3.94	4.63	6.10	3.19	3.60	3.33	3.97
Continues	16	1.84	4.15	4.90	6.47	3.37	3.68	3.54	4.12
on through	17	1.91	4.37	5.18	6.85	3.56	3.77	3.76	4.28
Year 200	18	1.97	4.61	5.48	7.26	3.76	3.86	4.00	4.45
↓	19	2.04	4.86	5.80	7.69	3.97	3.95	4.25	4.62
	20	2.12	5.13	6.13	8.14	4.20	4.04	4.52	4.80

BAUDINO PROXY GROUP
Individual-Company DCF Cost of Equity Estimates

		Growth Rates					DCF Cost of Equity Using:				
	Dividend Yield	Value Line DPS	Value Line EPS	Zacks EPS	Value Line B x R	Avg. Growth	Value Line DPS	Value Line EPS	Zacks EPS	Value Line B x R	Avg. Growth
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
CH Energy Group	4.66 %	0.37 %	2.88 %	NA %	2.40 %	1.88 %	5.04 %	7.61 %	NA %	7.12 %	6.59 %
Cleco	4.74	0.00	0.80	NA	4.60	1.80	4.74	5.56	NA	9.45	6.58
Con Edison	5.22	0.87	0.66	3.00	1.80	1.58	6.11	5.90	8.30	7.07	6.84
Empire District El.	5.88	0.00	6.58	5.00	1.39	3.24	5.88	12.65	11.03	7.31	9.22
Entergy	3.11	8.45	6.91	7.00	5.92	7.07	11.69	10.13	10.22	9.12	10.29
Northeast Utilities	3.37	9.01	10.48	4.00	4.64	7.03	12.53	14.03	7.44	8.09	10.52
NSTAR	4.33	3.71	3.47	5.00	4.56	4.19	8.12	7.88	9.44	8.99	8.61
PPL Corp.	3.20	7.91	5.29	6.00	7.17	6.59	11.24	8.57	9.30	10.48	9.90
Progress Energy	5.36	1.51	-1.09	4.00	1.97	2.49	6.91	NMF	9.47	7.38	7.92
Southern Company	4.44	3.66	4.20	4.00	4.32	4.05	8.18	8.73	8.53	8.86	8.57
Wisconsin Energy	2.53	4.56	4.27	6.00	6.36	5.30	7.15	6.85	8.61	8.97	7.89
Average	4.26 %	3.64 %	4.55 %	4.89 %	4.10 %	4.30 %	7.98 %	8.91 %	9.25 %	8.45 %	8.65 %

NA Not available.
NMF No meaningful figure.
Note: Averages exclude negative values.

Source: Col. (1) - Baudino Exhibit___(RAB-4).
Cols. (2)-(5) - Baudino Exhibit___(RAB-5).

BAUDINO PROXY GROUP SUBSIDIARY CAPITAL STRUCTURE
December 31, 2004

Company / Subsidiary	Dollars of Capital ($ Millions)				Percent of Total Capital		
	Long Term Debt (1)	Preferred Equity (2)	Common Equity (3)	Total Capital (4)	Long Term Debt (5)	Preferred Equity (6)	Common Equity (7)
CH Energy Group							
Central Hudson Gas & Electric	$320	$21	$280	$621	51.5 %	3.4 %	45.1 %
Cleco Corporation							
Cleco Power	351	0	453	804	43.7	0.0	56.3
Consolidated Edison, Inc.							
Consolidated Edison Co. of NY	5,235	213	6,116	11,564	45.3	1.8	52.9
Orange & Rockland	345	0	388	733	47.1	0.0	52.9
Empire District Electric	400	0	379	779	51.3	0.0	48.7
Entergy							
Entergy Arkansas	1,192	116	1,327	2,635	45.2	4.4	50.4
Entergy Louisiana	931	100	972	2,003	46.5	5.0	48.5
Entergy Mississippi	695	50	537	1,282	54.2	3.9	41.9
Entergy Gulf States Utilities	1,891	65	1,785	3,741	50.5	1.7	47.7
Entergy New Orleans	200	20	154	374	53.5	5.3	41.2
System Energy Resources	850	0	895	1,745	48.7	0.0	51.3
Northeast Utilities							
Connecticut Light & Power	1,053	116	822	1,991	52.9	5.8	41.3
Public Service Company of NH	457	0	400	857	53.3	0.0	46.7
Western Massachusetts Electric	208	0	164	372	55.9	0.0	44.1
NSTAR							
Boston Edison	852	43	845	1,740	49.0	2.5	48.6
PPL Corporation							
PPL Electric Utilities	1,049	51	1,272	2,372	44.2	2.2	53.6
Progress Energy							
Carolina Power & Light	2,750	59	3,072	5,881	46.8	1.0	52.2
Florida Power Corp.	1,912	34	2,321	4,267	44.8	0.8	54.4
Southern Company							
Alabama Power	4,165	465	3,610	8,240	50.5	5.6	43.8
Georgia Power	4,679	15	4,891	9,585	48.8	0.2	51.0
Gulf Power	623	4	592	1,219	51.1	0.3	48.6
Mississippi Power	279	33	546	858	32.5	3.8	63.6
Savannah Electric & Power	238	44	232	514	46.3	8.6	45.1
Wisconsin Energy							
Wisconsin Electric Power	1,683	30	2,204	3,917	43.0	0.8	56.3
Wisconsin Gas	214	0	557	771	27.8	0.0	72.2
Average					47.4 %	2.3 %	50.3 %

Source: Derived from data in Company 10-K and annual reports.