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SEP 16 2011

PUBLIC SERVICE
COMMISSION

Via Hand Delivery

September 16, 2011

Mr. Jeff Derouen, Executive Director
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40602

Re: Case No. 2011-00161 and 2011-00162

Dear Mr. Derouen:

Please find enclosed the original and fifteen (15) copies each of the DIRECT TESTIMONY AND EXHIBITS of KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC's witnesses: STEPHEN J. BARON, STEPHEN G. HILL and LANE KOLLEN for filing in the above-referenced matter. By copy of this letter, all parties listed on the Certificate of Service have been served.

Please place this document of file.

Very Truly Yours,

Michael L. Kurtz, Esq.
Kurt J. Boehm, Esq.
BOEHM, KURTZ & LOWRY

MLKkew
Attachment
cc: Certificate of Service

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing was served by mailing a true and correct copy via electronic mail (when available) and by first-class postage prepaid mail, to all parties on the 16th day of September, 2011.

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COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

RECEIVED

SEP 16 2011

PUBLIC SERVICE COMMISSION

IN THE MATTER OF:

APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	)	CASE NO. 2011-00162

IN THE MATTER OF:

APPLICATION OF KENTUCKY UTILITIES COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	)	CASE NO. 2011-00161

DIRECT TESTIMONY AND EXHIBITS OF STEPHEN J. BARON

ON BEHALF OF

KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.

J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA

September 2011

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:

APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	)	**CASE NO. 2011-00162**

IN THE MATTER OF:

APPLICATION OF KENTUCKY UTILITIES COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	)	**CASE NO. 2011-00161**

DIRECT TESTIMONY OF STEPHEN J. BARON

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Stephen J. Baron. My business address is J. Kennedy and Associates, Inc. ("Kennedy and Associates"), 570 Colonial Park Drive, Suite 305, Roswell, Georgia 30075.

Q. What is your occupation and by who are you employed?

A. I am the President and a Principal of Kennedy and Associates, a firm of utility rate, planning, and economic consultants in Atlanta, Georgia.

Q. Please describe briefly the nature of the consulting services provided by Kennedy and Associates.

A. Kennedy and Associates provides consulting services in the electric and gas utility industries. Our clients include state agencies and industrial electricity consumers. The firm provides expertise in system planning, load forecasting, financial analysis, cost-of-service, and rate design. Current clients include the Georgia and Louisiana Public Service Commissions, and industrial consumer groups throughout the United States.

Q. Please state your educational background and experience.

A. I graduated from the University of Florida in 1972 with a B.A. degree with high honors in Political Science and significant coursework in Mathematics and Computer Science. In 1974, I received a Master of Arts Degree in Economics, also from the University of Florida.

I have more than thirty years of experience in the electric utility industry in the areas of cost and rate analysis, forecasting, planning, and economic analysis.

I have presented testimony as an expert witness in Arizona, Arkansas, Colorado, Connecticut, Florida, Georgia, Indiana, Kentucky, Louisiana, Maine, Michigan, Minnesota, Maryland, Missouri, New Jersey, New Mexico, New York, North Carolina, Ohio, Pennsylvania, Texas, Utah, Virginia, West Virginia, Wisconsin, Wyoming, the Federal Energy Regulatory Commission and in United States Bankruptcy Court.

A complete copy of my resume and my testimony appearances is contained in Baron Exhibit__(SJB-1).

Q. On whose behalf are you testifying in this proceeding?

A. I am testifying on behalf of the Kentucky Industrial Utility Customers ("KIUC"), a group of large industrial customers taking service on the Louisville Gas & Electric ("LG&E") and Kentucky Utilities Company ("KU") systems. The KIUC members who take service from LG&E or KU (collectively, "the Companies") are: Arch Chemicals, Inc., Cemex, Clopay Plastics Products Co., Corning Incorporated, Dow Corning Corporation, E.I. DuPont de Nemours & Co., Ford Motor Co., General Electric-Appliance Park, Lexmark International, Inc., MeadWestvaco, NewPage Corp., North American Stainless, Schneider Electric USA and Toyota Motor Engineering and Manufacturing North America, Inc.

Q. Have you previously testified in KU and LG&E rate proceedings before the Kentucky Public Service Commission?

A. Yes. I have testified in 14 cases involving KU and LG&E since 1981.

Q. What is the purpose of your testimony?

A. I respond to the Companies' request to recover the Environmental Cost Recovery Surcharge ("ECR") revenue requirement from all rate schedules on a uniform "percentage of revenues" basis. Although in conformity with past practice, the Companies' requested methodology is not consistent with cost-of-service and cost causation principles and should be modified. In particular, the current methodology leads to over-collection from high load factor Commercial and Industrial ("C&I") customers. Maintaining the status quo allocation could also adversely impact economic development in Kentucky.

I recommend an alternative rate recovery methodology that is designed to provide a more reasonable allocation of ECR cost responsibility for all of the Companies' business customers taking service on C&I rate schedules ("business customers"). My rate allocation proposal only impacts business customers on General Service, Power Service and various industrial rates of the Companies. The proposal does not impact the existing rate recovery mechanism and ECR cost allocation for residential customers ("RS"), Volunteer Fire Department ("VFD"), lighting ("LE", "St. Lt and P.O. Lt."), traffic energy ("TE") and all electric schools ("AES") customers.

Finally, I am not proposing any change to the allocation of ECR costs to off-system sales. My proposal is revenue neutral to the Companies.

Q. Would you please summarize your testimony?

A. Yes. I recommend and conclude the following:

- **The Commission should maintain the existing ECR rate recovery factor mechanism for residential customers, volunteer fire department, lighting, traffic energy and all electric schools, as filed by KU and LGE in this case. The allocation to off-system sales customers should also not be changed. This ECR recovery factor should be based on a uniform total revenue factor calculated pursuant to the existing ECR.**

- **The Commission should modify the ECR rate recovery mechanism among business customers such that the ECR recovery factor for the C&I rate schedules is determined by recovering the ECR revenue requirement on the basis of non-fuel base revenues. Because the environmental costs at issue in this case are primarily demand-related there is no basis to allocate those costs to business customers based on their fuel usage. In addition, using a non-fuel base revenue ECR recovery factor will enhance the competitiveness of the Companies' largest, high load factor manufacturing customers who must compete on a national and international basis.**

II. ECR RATE RECOVERY MODIFICATIONS

Q. Would you describe the methodology used by the Companies in this case to allocate and recover the ECR revenue requirement from retail rate schedules?

A. Consistent with past practice, the Companies are proposing to allocate their respective retail ECR revenue requirements to rate schedules on the basis of total base revenues plus fuel adjustment clause ("FAC") and demand-side management ("DSM") revenues projected for each rate schedule. Effectively, this produces a uniform ECR rate recovery factor for each rate schedule.

Q. Does the existing methodology result in a disproportionately large recovery of ECR costs from high load factor business customers compared to low load factor business customers?

A. Yes. The existing methodology recovers the ECR revenue requirement from each rate schedule on a uniform percentage basis of total rate schedule revenues (less the ECR revenues themselves). These total revenues include fuel revenues from both the FAC and the FAC rolled into base rates. Business customers that have high load factors pay a disproportionately large amount of fuel charges that are effectively surcharged for environmental costs, compared to low load factor business customers. Because these high load factor customers use electricity for a greater percentage of the time (i.e., more hours per month), their monthly bills contain a larger proportion of kWh related fuel costs. The existing ECR recovery factor is applied to total revenues, including these higher fuel revenues. As a result, business customers with high load factors are assigned ECR revenue requirements in a disproportionate manner compared to low load factor business customers.

Q. Is this rate recovery consistent with cost of service and cost causation?

A. No. In the Companies' base rate case class cost of service studies, ECR costs that are associated with a return on environmental investment, depreciation and fixed O&M expenses are considered demand-related and are not assigned on the basis of kWh energy or in proportion to fuel expenses. While the Companies' proposed ECR recovery factor is not based entirely on customer fuel charges, a large portion of ECR costs are incurred by high load factor business customers simply because of the level of these customers' fuel charges. Because the majority of ECR revenue requirements are fixed costs that are unrelated to energy use or the level of the Companies' fuel expenses, it is not appropriate to apply the environmental surcharge to customers on the basis of fuel expenses.

Q. Are there important economic development issues impacted by the current ECR rate recovery method?

A. Yes. The Companies are requesting ECR cost recovery at unprecedented levels in this case. Based on the projections on page 1 of Mr. Conroy's Exhibit RMC-5, LG&E is projecting an incremental ECR billing factor of 19.2% of a customer's total bill (including all fuel charges) by 2016. KU is projecting an incremental ECR billing factor of 12.23% of a customer's total bill by 2016.[1] These represent substantial surcharges for all customers.

Basing recovery of the ECR revenue requirement, in part, on a customer's fuel charges reduces the cost-effectiveness of high load factor Kentucky manufacturing facilities, relative to national and international competitors. These manufacturing facilities provide substantial employment in Kentucky. Lower load factor customers tend to be commercial customers that compete locally. For these customers, higher electric costs do not result in a relative competitive disadvantage when compared to similar commercial customers in other states. Large industrial manufacturers compete nationally and internationally. Higher electric rates impact the relative competitiveness of these businesses – if Kentucky manufacturing costs rise relative to manufacturing costs in other states or internationally, Kentucky manufacturing is placed at a competitive disadvantage. Many of Kentucky's largest employers are energy-intensive and located in Kentucky in large part because of low electric rates. My proposal will help improve the competitiveness of the Kentucky economy.

Q. Do you have any data that would confirm that commercial customers tend to have lower load factors than larger industrial customers?

---

[1] For both LG&E and KU, the total bill on which the ECR factor is applied excludes the ECR surcharge itself.

A. Yes. Using load data developed by KU in the Company's 2009 rate case, I developed a comparison of load factors for three KU secondary voltage rate schedules. These load factors, shown in Table 1 below, are based on the sum of individual customer demands reported by KU in its cost of service study (allocation factor "SICD").

Table 1
KU Business Customer Load Factors
12 Months Ending October 31, 2009

Rate	Load Factor*
GS - Secondary	27.8%
PS - Secondary	59.2%
LTOD - Secondary	66.8%

* Based on Sum of individual customer demands - 2009 Cost Study

As one would expect, load factors for the GS-Secondary rate schedule, which includes smaller commercial customers with demands below 250 kW, are much lower than for LTOD – Secondary customers. While it is true that there are likely some commercial customers on rate schedule LTOD, the average demand per customer for this rate is 668 kW, which would indicate that this schedule primarily serves larger industrial customers. The average demand per customer for rate schedule GS – Secondary is 10 kW.

Q. Do the Companies acknowledge this problem; specifically, the impact of the proposed increases in the ECR on industrial customers and the potential detrimental effect on Kentucky's economy?

A. Yes. Companies' witness Lonnie Bellar discusses this problem in KU testimony at 12 and his LG&E testimony at 11. Mr. Bellar's KU testimony states:

> **As I noted in my testimony in Case No. 2009-00548, given the importance of industrial customers to Kentucky's economy (i.e., providing jobs and tax revenues), and given the amount of KU's proposed investment in ECR facilities compared to KU's current rate base, <u>revenue allocations that balance the interests of all customers may merit consideration</u>.** (emphasis added).

As discussed above, I agree with Mr. Bellar's concerns and believe that it is appropriate for the Commission to consider an alternative ECR rate recovery methodology that balances the interests of all customers.

Q. Have you reviewed Mr. Bellar's response to the Commission Staff's Second Request for Information, Question No. 9 to LG&E?

A. Yes. The Staff requested that the Company provide a revenue allocation that "LG&E believes would 'balance the interests of all customers' and explain why the allocation would do so." In response the Company identified three alternatives to the current methodology. The first two methods identified are directly related to production demand allocation using cost of service methodologies. The third method identified is to use total revenues less fuel cost revenues and FAC revenues. As I will discuss, this third approach is the methodology that I am recommending for use in allocating ECR revenue requirements to business rate schedules. As discussed by Mr. Bellar in his response to the Staff data request, the use of non-fuel base revenues more properly reflects the demand-related component of revenue, which is appropriate to allocate ECR costs because "the preponderance of ECR costs are demand-related." Mr. Bellar stated:

> *"A revenue allocation that more closely follows the methodology used to allocate production-related environmental costs in the Company's cost of service is an alternative method to balance the interests of all customers.*
>
> **
>
> *A third approach would be to calculate and apply the ECR factor on the basis of average monthly net revenue (revenue less fuel cost revenues) rather than "average monthly base revenues" which includes fuel cost revenues.*
>
> ***
>
> *By excluding base fuel cost revenues and Fuel Adjustment Clause revenues from the determination of R(m), the ECR factor would be calculated in a manner that more closely reflects an allocation on the basis of demand-related costs. Because the preponderance of ECR costs are demand-related, removing base fuel and Fuel Adjustment Clause revenues, which are strictly energy related, from revenues will result in the remaining net revenues more properly reflecting the demand-related component of revenue."*

Finally, the use of a non-fuel base revenue allocator is administratively efficient and easier to administer since the information is readily available each month, unlike cost of service allocators that must be developed using rate class load data, some of which is sample load research data.

Q. Have you developed an alternative ECR rate recovery methodology that balances the interests of all customers?

A. Yes. I have developed an alternative rate recovery method that: 1) maintains the existing ECR rate recovery methodology for the residential (RS), lighting (LE, TE, and Lighting Service), VFD residential electric vehicle (LEV) and all electric schools (AES) rate schedules; and 2) moves closer to a cost-based recovery mechanism for larger business rate schedules (GS, GRP, PS, TOD, RTS, FLS and Special Contracts on the LG&E system; GS, PS, TOD, RTS and FLS on the KU system). My approach is balanced because the ECR rate recovery factors for the residential class (and other smaller rates classes) continue to be based on a total revenue factor as the Companies' proposed. Under my proposal, however, the ECR rate recovery is calculated on non-fuel base revenues within the business classes of customers. This means that no ECR surcharge is applied to fuel-related charges for these business customers.

Q. Would you please describe the analysis that you have developed?

A. Baron Exhibit__(SJB-2) summarizes KIUC's recommended ECR rate recovery factors for each Company, based on the Companies' requested ECR revenue requirements.[2] As seen in the exhibit, the ECR incremental billing factors for

[2] To the extent that the Commission does not approve the full ECR revenue requirement requested by each Company, these results should be adjusted.

residential customers, lighting and other small rate classes are identical to the factors proposed by the Companies in Mr. Conroy's Exhibit RMC-5. These ECR factors would be applied to total base revenues plus FAC revenues plus DSM revenues.

For business customers, the ECR rate recovery factors are larger each year, but would only apply to the non-fuel portion of base revenues (essentially, base revenues less the FAC charges (both the rolled-in portion and the FAC itself).

KIUC's methodology is developed in detail in Baron Exhibits__(SJB-3) and (SJB-4) and (SJB-5). Pages 1-3 of Exhibit__(SJB-3) separate the Companies' projected revenues into the Residential/Small Rate and business customer classes. This separation is performed for each of the revenue categories projected in the Companies' analysis (non-fuel base revenues, base fuel revenues, FAC, ECR and DSM). Since the Companies were not able to provide a detailed projection of each revenue category by rate schedule, I developed "percentage share" factors using actual data by rate class for the 12 month period ending May 31, 2011. These factors are then used in Exhibit__(SJB-3) to separate total retail revenues for the projected period of 2012 through 2016 into the two rate categories (residential/small customer and business customers).

Q. How did you develop the specific ECR rate recovery factors each year?

A. This analysis is developed in pages 1-2 of Baron Exhibit__(SJB-4) and (SJB-5). The first step is to allocate each year's retail ECR revenue requirement to the two rate recovery classes (residential/small customer and C&I business customer) on the basis of total revenues plus FAC and DSM revenues. For example, in 2012, the total retail ECR revenue requirement for LG&E is $22,012,293 (SJB-4 at 1). This ECR revenue requirement is allocated to each rate category using the same allocation factor method proposed by the Company. This results in a residential/small customer allocated ECR revenue requirement of $9,478,503. This amount represents 2.30% of total residential/small customer base revenues. This is identical to the 2012 ECR rate factor proposed by LG&E in this case.

For business customers, the allocated 2012 LG&E ECR revenue requirement is $12,533,789. This amount is used to develop a 2012 non-fuel base revenue recovery factor of 3.64% for these business customers. This method is used for each year, for each Company (the analysis for KU is shown in Baron Exhibit__(SJB-5)).

Q. Does your recommendation have any impact on the jurisdictional allocation of ECR revenue requirements between retail customers and "off-system" sales?

A. No. I am not proposing any change in the allocation of ECR revenue requirements between off-system sales and retail customers. My proposal effectively maintains a jurisdictional allocation factor based on total revenues. I continue to use a total revenue allocator at the retail level to allocate ECR revenue requirements between the residential/small customer classes and the C&I business classes. Only within the C&I rate classes am I recommending a change to a non-fuel base rate revenue recovery factor. Based on my recommendation, there is no need or justification to change the jurisdictional allocation factor.

Q. Have you developed an analysis of the impact of your proposal on various business rate schedules?

A. Yes. Baron Exhibit__(SJB-6) provides a comparison of the increases to each of the Companies' business rate schedules using the Companies' proposed ECR factors and the KIUC recommended factors. All of these comparisons are based on the Companies' requested ECR revenue requirements in this case.

Page 1 of the exhibit shows a year by year comparison of the increases in typical bills for LG&E rate schedules GS, PS, CTOD, ITOD and RTS at each of three load factors (50%, 60% and 70%) for the years 2012 through 2016.[3] A similar impact analysis for KU business rate schedules GS, PS, TOD and RTS is shown on page 2 of the exhibit. For both companies, the impact of the KIUC proposal is a reduction in the ECR charges for higher load factor customers relative to maintaining the status quo allocation formula and an increase for lower load factor customers. As I

[3] For rate schedule GS, which is a kWh only rate, the comparison is shown for two kWh usage levels.

discussed previously, this change is primarily due to the fact that the environmental surcharge is not being applied to fuel costs.

Q. Are there any additional issues that you would like to address?

A. Yes. Each of the Companies currently has an ECR surcharge that is applicable to total base revenues, plus the FAC and any DSM charges. For the reasons that I previously discussed in my testimony, it is reasonable and appropriate that these existing ECR surcharges be revised to reflect the methodology that I am recommending in this case. This would conform the existing ECR surcharge for each Company into the same type of ECR surcharge factors that I am proposing in this case; 1) a residential, volunteer fire department, all electric schools and lighting ECR rate that would be identical to the existing ECR surcharge for each Company and 2) an ECR surcharge applicable to business customers that would be applied to non-fuel base revenues. Conforming the existing ECR rate to the proposed KIUC methodology would also permit the development of a single ECR rate recovery factor for each of the two categories of customer classes (residential and business).

Q. Does that complete your testimony?

A. Yes.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:

APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	)	**CASE NO. 2011-00162**

IN THE MATTER OF:

APPLICATION OF KENTUCKY UTILITIES COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	)	**CASE NO. 2011-00161**

EXHIBITS

OF

STEPHEN J. BARON

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:

APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	)	**CASE NO. 2011-00162**

IN THE MATTER OF:

APPLICATION OF KENTUCKY UTILITIES COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	)	**CASE NO. 2011-00161**

EXHIBIT__(SJB-1)

OF

STEPHEN J. BARON

Professional Qualifications

Of

Stephen J. Baron

Mr. Baron graduated from the University of Florida in 1972 with a B.A. degree with high honors in Political Science and significant coursework in Mathematics and Computer Science. In 1974, he received a Master of Arts Degree in Economics, also from the University of Florida. His areas of specialization were econometrics, statistics, and public utility economics. His thesis concerned the development of an econometric model to forecast electricity sales in the State of Florida, for which he received a grant from the Public Utility Research Center of the University of Florida. In addition, he has advanced study and coursework in time series analysis and dynamic model building.

Mr. Baron has more than thirty years of experience in the electric utility industry in the areas of cost and rate analysis, forecasting, planning, and economic analysis.

Following the completion of my graduate work in economics, he joined the staff of the Florida Public Service Commission in August of 1974 as a Rate Economist. His responsibilities included the analysis of rate cases for electric, telephone, and gas utilities, as well as the preparation of cross-examination material and the preparation of staff recommendations.

In December 1975, he joined the Utility Rate Consulting Division of Ebasco Services, Inc.

as an Associate Consultant. In the seven years he worked for Ebasco, he received successive promotions, ultimately to the position of Vice President of Energy Management Services of Ebasco Business Consulting Company. His responsibilities included the management of a staff of consultants engaged in providing services in the areas of econometric modeling, load and energy forecasting, production cost modeling, planning, cost-of-service analysis, cogeneration, and load management.

He joined the public accounting firm of Coopers & Lybrand in 1982 as a Manager of the Atlanta Office of the Utility Regulatory and Advisory Services Group. In this capacity he was responsible for the operation and management of the Atlanta office. His duties included the technical and administrative supervision of the staff, budgeting, recruiting, and marketing as well as project management on client engagements. At Coopers & Lybrand, he specialized in utility cost analysis, forecasting, load analysis, economic analysis, and planning.

In January 1984, he joined the consulting firm of Kennedy and Associates as a Vice President and Principal. Mr. Baron became President of the firm in January 1991.

During the course of his career, he has provided consulting services to more than thirty utility, industrial, and Public Service Commission clients, including three international utility clients.

He has presented numerous papers and published an article entitled "How to Rate Load Management Programs" in the March 1979 edition of "Electrical World." His article on "Standby Electric Rates" was published in the November 8, 1984 issue of "Public Utilities Fortnightly." In February of 1984, he completed a detailed analysis entitled "Load Data Transfer Techniques" on behalf of the Electric Power Research Institute, which published the study.

Mr. Baron has presented testimony as an expert witness in Arizona, Arkansas, Colorado, Connecticut, Florida, Georgia, Indiana, Kentucky, Louisiana, Maine, Michigan, Minnesota, Maryland, Missouri, New Jersey, New Mexico, New York, North Carolina, Ohio, Pennsylvania, Texas, Utah, Virginia, West Virginia, Wisconsin, Wyoming, the Federal Energy Regulatory Commission and in United States Bankruptcy Court. A list of his specific regulatory appearances follows.

Expert Testimony Appearances
of
Stephen J. Baron
As of August 2011

Date	Case	Jurisdict.	Party	Utility	Subject
4/81	203(B)	KY	Louisville Gas & Electric Co.	Louisville Gas & Electric Co.	Cost-of-service.
4/81	ER-81-42	MO	Kansas City Power & Light Co.	Kansas City Power & Light Co.	Forecasting.
6/81	U-1933	AZ	Arizona Corporation Commission	Tucson Electric Co.	Forecasting planning.
2/84	8924	KY	Airco Carbide	Louisville Gas & Electric Co.	Revenue requirements, cost-of-service, forecasting, weather normalization.
3/84	84-038-U	AR	Arkansas Electric Energy Consumers	Arkansas Power & Light Co.	Excess capacity, cost-of-service, rate design.
5/84	830470-EI	FL	Florida Industrial Power Users' Group	Florida Power Corp.	Allocation of fixed costs, load and capacity balance, and reserve margin. Diversification of utility.
10/84	84-199-U	AR	Arkansas Electric Energy Consumers	Arkansas Power and Light Co.	Cost allocation and rate design.
11/84	R-842651	PA	Lehigh Valley Power Committee	Pennsylvania Power & Light Co.	Interruptible rates, excess capacity, and phase-in.
1/85	85-65	ME	Airco Industrial Gases	Central Maine Power Co.	Interruptible rate design.
2/85	I-840381	PA	Philadelphia Area Industrial Energy Users' Group	Philadelphia Electric Co.	Load and energy forecast.
3/85	9243	KY	Alcan Aluminum Corp., et al.	Louisville Gas & Electric Co.	Economics of completing fossil generating unit.
3/85	3498-U	GA	Attorney General	Georgia Power Co.	Load and energy forecasting, generation planning economics.
3/85	R-842632	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Generation planning economics, prudence of a pumped storage hydro unit.
5/85	84-249	AR	Arkansas Electric Energy Consumers	Arkansas Power & Light Co.	Cost-of-service, rate design return multipliers.
5/85		City of Santa Clara	Chamber of Commerce	Santa Clara Municipal	Cost-of-service, rate design.

Expert Testimony Appearances
of
Stephen J. Baron
As of August 2011

Date	Case	Jurisdict.	Party	Utility	Subject
6/85	84-768-E-42T	WV	West Virginia Industrial Intervenors	Monongahela Power Co.	Generation planning economics, prudence of a pumped storage hydro unit.
6/85	E-7 Sub 391	NC	Carolina Industrials (CIGFUR III)	Duke Power Co.	Cost-of-service, rate design, interruptible rate design.
7/85	29046	NY	Industrial Energy Users Association	Orange and Rockland Utilities	Cost-of-service, rate design.
10/85	85-043-U	AR	Arkansas Gas Consumers	Arkla, Inc.	Regulatory policy, gas cost-of-service, rate design.
10/85	85-63	ME	Airco Industrial Gases	Central Maine Power Co.	Feasibility of interruptible rates, avoided cost.
2/85	ER-8507698	NJ	Air Products and Chemicals	Jersey Central Power & Light Co.	Rate design.
3/85	R-850220	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Optimal reserve, prudence, off-system sales guarantee plan.
2/86	R-850220	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Optimal reserve margins, prudence, off-system sales guarantee plan.
3/86	85-299U	AR	Arkansas Electric Energy Consumers	Arkansas Power & Light Co.	Cost-of-service, rate design, revenue distribution.
3/86	85-726-EL-AIR	OH	Industrial Electric Consumers Group	Ohio Power Co.	Cost-of-service, rate design, interruptible rates.
5/86	86-081-E-GI	WV	West Virginia Energy Users Group	Monongahela Power Co.	Generation planning economics, prudence of a pumped storage hydro unit.
8/86	E-7 Sub 408	NC	Carolina Industrial Energy Consumers	Duke Power Co.	Cost-of-service, rate design, interruptible rates.
10/86	U-17378	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Excess capacity, economic analysis of purchased power.
12/86	38063	IN	Industrial Energy Consumers	Indiana & Michigan Power Co.	Interruptible rates.

Expert Testimony Appearances
of
Stephen J. Baron
As of August 2011

Date	Case	Jurisdict.	Party	Utility	Subject
3/87	EL-86-53-001 EL-86-57-001	Federal Energy Regulatory Commission (FERC)	Louisiana Public Service Commission Staff	Gulf States Utilities, Southern Co.	Cost/benefit analysis of unit power sales contract.
4/87	U-17282	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Load forecasting and imprudence damages, River Bend Nuclear unit.
5/87	87-023-E-C	WV	Airco Industrial Gases	Monongahela Power Co.	Interruptible rates.
5/87	87-072-E-G1	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Analyze Mon Power's fuel filing and examine the reasonableness of MP's claims.
5/87	86-524-E-SC	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Economic dispatching of pumped storage hydro unit.
5/87	9781	KY	Kentucky Industrial Energy Consumers	Louisville Gas & Electric Co.	Analysis of impact of 1986 Tax Reform Act.
6/87	3673-U	GA	Georgia Public Service Commission	Georgia Power Co.	Economic prudence, evaluation of Vogtle nuclear unit - load forecasting, planning
6/87	U-17282	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Phase-in plan for River Bend Nuclear unit.
7/87	85-10-22	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power Co.	Methodology for refunding rate moderation fund.
8/87	3673-U	GA	Georgia Public Service Commission	Georgia Power Co.	Test year sales and revenue forecast.
9/87	R-850220	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Excess capacity, reliability of generating system.
10/87	R-870651	PA	Duquesne Industrial Intervenors	Duquesne Light Co.	Interruptible rate, cost-of-service, revenue allocation, rate design.
10/87	I-860025	PA	Pennsylvania Industrial Intervenors		Proposed rules for cogeneration, avoided cost, rate recovery.
10/87	E-015/	MN	Taconite	Minnesota Power	Excess capacity, power and

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	GR-87-223		Intervenors	& Light Co.	cost-of-service, rate design.
10/87	8702-EI	FL	Occidental Chemical Corp.	Florida Power Corp.	Revenue forecasting, weather normalization.
12/87	87-07-01	CT	Connecticut Industrial Energy Consumers	Connecticut Light Power Co.	Excess capacity, nuclear plant phase-in.
3/88	10064	KY	Kentucky Industrial Energy Consumers	Louisville Gas & Electric Co.	Revenue forecast, weather normalization rate treatment of cancelled plant.
3/88	87-183-TF	AR	Arkansas Electric Consumers	Arkansas Power & Light Co.	Standby/backup electric rates.
5/88	870171C001	PA	GPU Industrial Intervenors	Metropolitan Edison Co.	Cogeneration deferral mechanism, modification of energy cost recovery (ECR).
6/88	870172C005	PA	GPU Industrial Intervenors	Pennsylvania Electric Co.	Cogeneration deferral mechanism, modification of energy cost recovery (ECR).
7/88	88-171-EL-AIR 88-170-EL-AIR Interim Rate Case	OH	Industrial Energy Consumers	Cleveland Electric/ Toledo Edison	Financial analysis/need for interim rate relief.
7/88	Appeal of PSC	19th Judicial Docket U-17282	Louisiana Public Service Commission Circuit Court of Louisiana	Gulf States Utilities	Load forecasting, imprudence damages.
11/88	R-880989	PA	United States Steel	Carnegie Gas	Gas cost-of-service, rate design.
11/88	88-171-EL-AIR 88-170-EL-AIR	OH	Industrial Energy Consumers	Cleveland Electric/ Toledo Edison. General Rate Case.	Weather normalization of peak loads, excess capacity, regulatory policy.
3/89	870216/283 284/286	PA	Armco Advanced Materials Corp., Allegheny Ludlum Corp.	West Penn Power Co.	Calculated avoided capacity, recovery of capacity payments.
8/89	8555	TX	Occidental Chemical Corp.	Houston Lighting & Power Co.	Cost-of-service, rate design.

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8/89	3840-U	GA	Georgia Public Service Commission	Georgia Power Co.	Revenue forecasting, weather normalization.
9/89	2087	NM	Attorney General of New Mexico	Public Service Co. of New Mexico	Prudence - Palo Verde Nuclear Units 1, 2 and 3, load forecasting.
10/89	2262	NM	New Mexico Industrial Energy Consumers	Public Service Co. of New Mexico	Fuel adjustment clause, off-system sales, cost-of-service, rate design, marginal cost.
11/89	38728	IN	Industrial Consumers for Fair Utility Rates	Indiana Michigan Power Co.	Excess capacity, capacity equalization, jurisdictional cost allocation, rate design, interruptible rates.
1/90	U-17282	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Jurisdictional cost allocation, O&M expense analysis.
5/90	890366	PA	GPU Industrial Intervenors	Metropolitan Edison Co.	Non-utility generator cost recovery.
6/90	R-901609	PA	Armco Advanced Materials Corp., Allegheny Ludlum Corp.	West Penn Power Co.	Allocation of QF demand charges in the fuel cost, cost-of-service, rate design.
9/90	8278	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Cost-of-service, rate design, revenue allocation.
12/90	U-9346 Rebuttal	MI	Association of Businesses Advocating Tariff Equity	Consumers Power Co.	Demand-side management, environmental externalities.
12/90	U-17282 Phase IV	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Revenue requirements, jurisdictional allocation.
12/90	90-205	ME	Airco Industrial Gases	Central Maine Power Co.	Investigation into interruptible service and rates.
1/91	90-12-03 Interim	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power Co.	Interim rate relief, financial analysis, class revenue allocation.
5/91	90-12-03 Phase II	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power Co.	Revenue requirements, cost-of-service, rate design, demand-side management.

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8/91	E-7, SUB SUB 487	NC	North Carolina Industrial Energy Consumers	Duke Power Co.	Revenue requirements, cost allocation, rate design, demand-side management.
8/91	8341 Phase I	MD	Westvaco Corp.	Potomac Edison Co.	Cost allocation, rate design, 1990 Clean Air Act Amendments.
8/91	91-372 EL-UNC	OH	Armco Steel Co., L.P.	Cincinnati Gas & Electric Co	Economic analysis of cogeneration, avoid cost rate.
9/91	P-910511 P-910512	PA	Allegheny Ludlum Corp., Armco Advanced Materials Co., The West Penn Power Industrial Users' Group	West Penn Power Co.	Economic analysis of proposed CWIP Rider for 1990 Clean Air Act Amendments expenditures.
9/91	91-231 -E-NC	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Economic analysis of proposed CWIP Rider for 1990 Clean Air Act Amendments expenditures.
10/91	8341 - Phase II	MD	Westvaco Corp.	Potomac Edison Co.	Economic analysis of proposed CWIP Rider for 1990 Clean Air Act Amendments expenditures.
10/91	U-17282	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Results of comprehensive management audit.
Note: No testimony was prefiled on this.					
11/91	U-17949 Subdocket A	LA	Louisiana Public Service Commission Staff	South Central Bell Telephone Co. and proposed merger with Southern Bell Telephone Co.	Analysis of South Central Bell's restructuring and
12/91	91-410-EL-AIR	OH	Armco Steel Co., Air Products & Chemicals, Inc.	Cincinnati Gas & Electric Co.	Rate design, interruptible rates.
12/91	P-880286	PA	Armco Advanced Materials Corp., Allegheny Ludlum Corp.	West Penn Power Co.	Evaluation of appropriate avoided capacity costs - QF projects.
1/92	C-913424	PA	Duquesne Interruptible Complainants	Duquesne Light Co.	Industrial interruptible rate.
6/92	92-02-19	CT	Connecticut Industrial Energy Consumers	Yankee Gas Co.	Rate design.

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8/92	2437	NM	New Mexico Industrial Intervenors	Public Service Co. of New Mexico	Cost-of-service.
8/92	R-00922314	PA	GPU Industrial Intervenors	Metropolitan Edison Co.	Cost-of-service, rate design, energy cost rate.
9/92	39314	ID	Industrial Consumers for Fair Utility Rates	Indiana Michigan Power Co.	Cost-of-service, rate design, energy cost rate, rate treatment.
10/92	M-00920312 C-007	PA	The GPU Industrial Intervenors	Pennsylvania Electric Co.	Cost-of-service, rate design, energy cost rate, rate treatment.
12/92	U-17949	LA	Louisiana Public Service Commission Staff	South Central Bell Co.	Management audit.
12/92	R-00922378	PA	Armco Advanced Materials Co. The WPP Industrial Intervenors	West Penn Power Co.	Cost-of-service, rate design, energy cost rate, SO_2 allowance rate treatment.
1/93	8487	MD	The Maryland Industrial Group	Baltimore Gas & Electric Co.	Electric cost-of-service and rate design, gas rate design (flexible rates).
2/93	E002/GR-92-1185	MN	North Star Steel Co. Praxair, Inc.	Northern States Power Co.	Interruptible rates.
4/93	EC92 21000 ER92-806-000 (Rebuttal)	Federal Energy Regulatory Commission	Louisiana Public Service Commission Staff	Gulf States Utilities/Entergy agreement.	Merger of GSU into Entergy System; impact on system
7/93	93-0114-E-C	WV	Airco Gases	Monongahela Power Co.	Interruptible rates.
8/93	930759-EG	FL	Florida Industrial Power Users' Group	Generic - Electric Utilities	Cost recovery and allocation of DSM costs.
9/93	M-009 30406	PA	Lehigh Valley Power Committee	Pennsylvania Power & Light Co.	Ratemaking treatment of off-system sales revenues
11/93	346	KY	Kentucky Industrial Utility Customers	Generic - Gas Utilities	Allocation of gas pipeline transition costs - FERC Order 636.
12/93	U-17735	LA	Louisiana Public Service Commission Staff	Cajun Electric Power Cooperative	Nuclear plant prudence, forecasting, excess capacity.

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4/94	E-015/ GR-94-001	MN	Large Power Intervenors	Minnesota Power Co.	Cost allocation, rate design, rate phase-in plan.
5/94	U-20178	LA	Louisiana Public Service Commission	Louisiana Power & Light Co.	Analysis of least cost integrated resource plan and demand-side management program.
7/94	R-00942986	PA	Armco, Inc.; West Penn Power Industrial Intervenors	West Penn Power Co.	Cost-of-service, allocation of rate increase, rate design, emission allowance sales, and operations and maintenance expense.
7/94	94-0035- E-42T	WV	West Virginia Energy Users Group	Monongahela Power Co.	Cost-of-service, allocation of rate increase, and rate design.
8/94	EC94 13-000	Federal Energy Regulatory Commission	Louisiana Public Service Commission	Gulf States Utilities/Entergy	Analysis of extended reserve shutdown units and violation of system agreement by Entergy.
9/94	R-00943 081 R-00943 081C0001	PA	Lehigh Valley Power Committee	Pennsylvania Public Utility Commission	Analysis of interruptible rate terms and conditions, availability.
9/94	U-17735	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative	Evaluation of appropriate avoided cost rate.
9/94	U-19904	LA	Louisiana Public Service Commission	Gulf States Utilities	Revenue requirements.
10/94	5258-U	GA	Georgia Public Service Commission	Southern Bell Telephone & Telegraph Co.	Proposals to address competition in telecommunication markets.
11/94	EC94-7-000 ER94-898-000	FERC	Louisiana Public Service Commission	El Paso Electric and Central and Southwest	Merger economics, transmission equalization hold harmless proposals.
2/95	941-430EG	CO	CF&I Steel, L.P.	Public Service Company of Colorado	Interruptible rates, cost-of-service.
4/95	R-00943271	PA	PP&L Industrial Customer Alliance	Pennsylvania Power & Light Co.	Cost-of-service, allocation of rate increase, rate design, interruptible rates.
6/95	C-00913424 C-00946104	PA	Duquesne Interruptible Complainants	Duquesne Light Co.	Interruptible rates.

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8/95	ER95-112 -000	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Open Access Transmission Tariffs - Wholesale.
10/95	U-21485	LA	Louisiana Public Service Commission	Gulf States Utilities Company	Nuclear decommissioning, revenue requirements, capital structure.
10/95	ER95-1042 -000	FERC	Louisiana Public Service Commission	System Energy Resources, Inc.	Nuclear decommissioning, revenue requirements.
10/95	U-21485	LA	Louisiana Public Service Commission	Gulf States Utilities Co	Nuclear decommissioning and cost of debt capital, capital structure
11/95	I-940032	PA	Industrial Energy Consumers of Pennsylvania	State-wide - all utilities	Retail competition issues.
7/96	U-21496	LA	Louisiana Public Service Commission	Central Louisiana Electric Co.	Revenue requirement analysis.
7/96	8725	MD	Maryland Industrial Group	Baltimore Gas & Elec. Co., Potomac Elec. Power Co., Constellation Energy Co.	Ratemaking issues associated with a Merger.
8/96	U-17735	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative	Revenue requirements.
9/96	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Decommissioning, weather normalization, capital structure.
2/97	R-973877	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Competitive restructuring policy issues, stranded cost, transition charges.
6/97	Civil Action No. 94-11474	US Bank-ruptcy Court Middle District of Louisiana	Louisiana Public Service Commission	Cajun Electric Power Cooperative	Confirmation of reorganization plan; analysis of rate paths produced by competing plans
6/97	R-973953	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Retail competition issues, rate unbundling, stranded cost analysis.
6/97	8738	MD	Maryland Industrial Group	Generic	Retail competition issues

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7/97	R-973954	PA	PP&L Industrial Customer Alliance	Pennsylvania Power & Light Co.	Retail competition issues, rate unbundling, stranded cost analysis.
10/97	97-204	KY	Alcan Aluminum Corp. Southwire Co.	Big River Electric Corp.	Analysis of cost of service issues - Big Rivers Restructuring Plan
10/97	R-974008	PA	Metropolitan Edison Industrial Users	Metropolitan Edison Co.	Retail competition issues, rate unbundling, stranded cost analysis.
10/97	R-974009	PA	Pennsylvania Electric Industrial Customer	Pennsylvania Electric Co.	Retail competition issues, rate unbundling, stranded cost analysis.
11/97	U-22491	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Decommissioning, weather normalization, capital structure.
11/97	P-971265	PA	Philadelphia Area Industrial Energy Users Group	Enron Energy Services Power, Inc./ PECO Energy	Analysis of Retail Restructuring Proposal.
12/97	R-973981	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Retail competition issues, rate unbundling, stranded cost analysis.
12/97	R-974104	PA	Duquesne Industrial Intervenors	Duquesne Light Co.	Retail competition issues, rate unbundling, stranded cost analysis.
3/98 (Allocated Stranded Cost Issues)	U-22092	LA	Louisiana Public Service Commission	Gulf States Utilities Co.	Retail competition, stranded cost quantification.
3/98	U-22092		Louisiana Public Service Commission	Gulf States Utilities, Inc.	Stranded cost quantification, restructuring issues.
9/98	U-17735		Louisiana Public Service Commission	Cajun Electric Power Cooperative, Inc.	Revenue requirements analysis, weather normalization.
12/98	8794	MD	Maryland Industrial Group and Millennium Inorganic Chemicals Inc.	Baltimore Gas and Electric Co.	Electric utility restructuring, stranded cost recovery, rate unbundling.
12/98	U-23358	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Nuclear decommissioning, weather normalization, Entergy System Agreement.
5/99 (Cross-Answering Testimony)	EC-98-40-000	FERC	Louisiana Public Service Commission	American Electric Power Co. & Central South West Corp.	Merger issues related to market power mitigation proposals.

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5/99 (Response Testimony)	98-426	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas & Electric Co.	Performance based regulation, settlement proposal issues, cross-subsidies between electric. gas services.
6/99	98-0452	WV	West Virginia Energy Users Group	Appalachian Power, Monongahela Power, & Potomac Edison Companies	Electric utility restructuring, stranded cost recovery, rate unbundling.
7/99	99-03-35	CT	Connecticut Industrial \Energy Consumers	United Illuminating Company	Electric utility restructuring, stranded cost recovery, rate unbundling.
7/99	Adversary Proceeding No. 98-1065	U.S. Bankruptcy Court	Louisiana Public Service Commission	Cajun Electric Power Cooperative	Motion to dissolve preliminary injunction.
7/99	99-03-06	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power Co.	Electric utility restructuring, stranded cost recovery, rate unbundling.
10/99	U-24182	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Nuclear decommissioning, weather normalization, Entergy System Agreement.
12/99	U-17735	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative, Inc.	Ananlysi of Proposed Contract Rates, Market Rates.
03/00	U-17735	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative, Inc.	Evaluation of Cooperative Power Contract Elections
03/00	99-1658-EL-ETP	OH	AK Steel Corporation	Cincinnati Gas & Electric Co.	Electric utility restructuring, stranded cost recovery, rate Unbundling.

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08/00	98-0452 E-GI	WVA	West Virginia Energy Users Group	Appalachian Power Co. American Electric Co.	Electric utility restructuring rate unbundling.
08/00	00-1050 E-T 00-1051-E-T	WVA	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Electric utility restructuring rate unbundling.
10/00	SOAH 473-00-1020 PUC 2234	TX	The Dallas-Fort Worth Hospital Council and The Coalition of Independent Colleges And Universities	TXU, Inc.	Electric utility restructuring rate unbundling.
12/00	U-24993	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc	Nuclear decommissioning, revenue requirements.
12/00	EL00-66-000 & ER00-2854 EL95-33-002	LA	Louisiana Public Service Commission	Entergy Services Inc.	Inter-Company System Agreement: Modifications for retail competition, interruptible load.
04/01	U-21453, U-20925, U-22092 (Subdocket B) Addressing Contested Issues	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Jurisdictional Business Separation - Texas Restructuring Plan
10/01	14000-U	GA	Georgia Public Service Commission Adversary Staff	Georgia Power Co.	Test year revenue forecast.
11/01	U-25687	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Nuclear decommissioning requirements transmission revenues.
11/01	U-25965	LA	Louisiana Public Service Commission	Generic	Independent Transmission Company ("Transco"). RTO rate design.
03/02	001148-EI	FL	South Florida Hospital and Healthcare Assoc.	Florida Power & Light Company	Retail cost of service, rate design, resource planning and demand side management.
06/02	U-25965	LA	Louisiana Public Service Commission	Entergy Gulf States Entergy Louisiana	RTO Issues
07/02	U-21453	LA	Louisiana Public Service Commission	SWEPCO, AEP	Jurisdictional Business Sep. - Texas Restructuring Plan.

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Date	Case	Jurisdict.	Party	Utility	Subject
08/02	U-25888	LA	Louisiana Public Service Commission	Entergy Louisiana, Inc. Entergy Gulf States, Inc.	Modifications to the Inter-Company System Agreement, Production Cost Equalization.
08/02	EL01-88-000	FERC	Louisiana Public Service Commission	Entergy Services Inc. and the Entergy Operating Companies	Modifications to the Inter-Company System Agreement, Production Cost Equalization.
11/02	02S-315EG	CO	CF&I Steel & Climax Molybdenum Co.	Public Service Co. of Colorado	Fuel Adjustment Clause
01/03	U-17735	LA	Louisiana Public Service Commission	Louisiana Coops	Contract Issues
02/03	02S-594E	CO	Cripple Creek and Victor Gold Mining Co.	Aquila, Inc	Revenue requirements, purchased power.
04/03	U-26527	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Weather normalization, power purchase expenses, System Agreement expenses.
11/03	ER03-753-000	FERC	Louisiana Public Service Commission Staff	Entergy Services, Inc. and the Entergy Operating Companies	Proposed modifications to System Agreement Tariff MSS-4.
11/03	ER03-583-000 ER03-583-001 ER03-583-002 ER03-681-000, ER03-681-001 ER03-682-000, ER03-682-001 ER03-682-002	FERC	Louisiana Public Service Commission	Entergy Services, Inc., the Entergy Operating Companies, EWO Market-Ing, L.P, and Entergy Power, Inc.	Evaluation of Wholesale Purchased Power Contracts.
12/03	U-27136	LA	Louisiana Public Service Commission	Entergy Louisiana, Inc.	Evaluation of Wholesale Purchased Power Contracts
01/04	E-01345-03-0437	AZ	Kroger Company	Arizona Public Service Co.	Revenue allocation rate design.
02/04	00032071	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Provider of last resort issues.
03/04	03A-436E	CO	CF&I Steel, LP and Climax Molybedenum	Public Service Company of Colorado	Purchased Power Adjustment Clause.

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04/04	2003-00433 2003-00434	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas & Electric Co. Kentucky Utilities Co.	Cost of Service Rate Design
0-6/04	03S-539E	CO	Cripple Creek, Victor Gold Mining Co., Goodrich Corp., Holcim (U.S.,), Inc., and The Trane Co.	Aquila, Inc.	Cost of Service, Rate Design Interruptible Rates
06/04	R-00049255	PA	PP&L Industrial Customer Alliance PPLICA	PPL Electric Utilities Corp.	Cost of service, rate design, tariff issues and transmission service charge.
10/04	04S-164E	CO	CF&I Steel Company, Climax Mines	Public Service Company of Colorado	Cost of service, rate design, Interruptible Rates.
03/05	Case No. 2004-00426 Case No. 2004-00421	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Louisville Gas & Electric Co.	Environmental cost recovery.
06/05	050045-EI	FL	South Florida Hospital and Healthcare Assoc.	Florida Power & Light Company	Retail cost of service, rate design
07/05	U-28155	LA	Louisiana Public Service Commission Staff	Entergy Louisiana, Inc. Entergy Gulf States, Inc.	Independent Coordinator of Transmission – Cost/Benefit
09/05	Case Nos. 05-0402-E-CN 05-0750-E-PC	WVA	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Environmental cost recovery, Securitization, Financing Order
01/06	2005-00341	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Company	Cost of service, rate design, transmission expenses. Congestion Cost Recovery Mechanism
03/06	U-22092	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Separation of EGSI into Texas and Louisiana Companies.
04/06	U-25116	LA	Louisiana Public Service Commission Staff	Entergy Louisiana, Inc.	Transmission Prudence Investigation
06/06	R-00061346 C0001-0005	PA	Duquesne Industrial Intervenors & IECPA	Duquesne Light Co.	Cost of Service, Rate Design, Transmission Service Charge, Tariff Issues
06/06	R-00061366 R-00061367 P-00062213 P-00062214		Met-Ed Industrial Energy Users Group and Penelec Industrial Customer Alliance	Metropolitan Edison Co. Pennsylvania Electric Co.	Generation Rate Cap, Transmission Service Charge, Cost of Service, Rate Design, Tariff Issues
07/06	U-22092 Sub-J	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Separation of EGSI into Texas and Louisiana Companies

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07/06	Case No. 2006-00130 Case No. 2006-00129	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Louisville Gas & Electric Co	Environmental cost recovery.
08/06	Case No. PUE-2006-00065	VA	Old Dominion Committee For Fair Utility Rates	Appalachian Power Co.	Cost Allocation, Allocation of Rev Incr, Off-System Sales margin rate treatment
09/06	E-01345A-05-0816	AZ	Kroger Company	Arizona Public Service Co.	Revenue alllocation, cost of service, rate design.
11/06	Doc. No 97-01-15RE02	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power United Illuminating	Rate unbundling issues.
01/07	Case No. 06-0960-E-42T	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Retail Cost of Service Revenue apportionment
03/07	U-29764	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc. Entergy Louisiana, LLC	Implementation of FERC Decision Jurisdictional & Rate Class Allocation
05/07	Case No 07-63-EL-UNC	OH	Ohio Energy Group	Ohio Power, Columbus Southern Power	Environmental Surcharge Rate Design
05/07	R-00049255 Remand	PA	PP&L Industrial Customer Alliance PPLICA	PPL Electric Utilities Corp.	Cost of service, rate design, tariff issues and transmission service charge.
06/07	R-00072155	PA	PP&L Industrial Customer Alliance PPLICA	PPL Electric Utilities Corp.	Cost of service, rate design, tariff issues.
07/07	Doc. No. 07F-037E	CO	Gateway Canyons LLC	Grand Valley Power Coop.	Distribution Line Cost Allocation
09/07	Doc. No. 05-UR-103	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Electric Power Co.	Cost of Service, rate design, tariff Issues, Interruptible rates.
11/07	ER07-682-000	FERC	Louisiana Public Service Commission Staff	Entergy Services, Inc and the Entergy Operating Companies	Proposed modifications to System Agreement Schedule MSS-3. Cost functionalization issues.
1/08	Doc. No. 20000-277-ER-07	WY	Cimarex Energy Company	Rocky Mountain Power (PacifiCorp)	Vintage Pricing, Marginal Cost Pricing Projected Test Year
1/08	Case No. 07-551	OH	Ohio Energy Group	Ohio Edison, Toledo Edison Cleveland Electric Illuminating	Class Cost of Service, Rate Restructuring, Apportionment of Revenue Increase to Rate Schedules
2/08	ER07-956	FERC	Louisiana Public Service Commission Staff	Entergy Services, Inc. and the Entergy Operating Companies	Entergy's Compliance Filing System Agreement Bandwidth Calculations.
2/08	Doc No. P-00072342	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Default Service Plan issues.

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Date	Case	Jurisdict.	Party	Utility	Subject
3/08	Doc No. E-01933A-05-0650	AZ	Kroger Company	Tucson Electric Power Co.	Cost of Service, Rate Design
05/08	08-0278 E-GI	WV	West Virginia Energy Users Group	Appalachian Power Co. American Electric Power Co.	Expanded Net Energy Cost "ENEC" Analysis.
6/08	Case No. 08-124-EL-ATA	OH	Ohio Energy Group	Ohio Edison, Toledo Edison Cleveland Electric Illuminating	Recovery of Deferred Fuel Cost
7/08	Docket No. 07-035-93	UT	Kroger Company	Rocky Mountain Power Co.	Cost of Service, Rate Design
08/08	Doc. No. 6680-UR-116	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Power and Light Co.	Cost of Service, rate design, tariff Issues, Interruptible rates
09/08	Doc. No. 6690-UR-119	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Public Service Co.	Cost of Service, rate design, tariff Issues, Interruptible rates.
09/08	Case No. 08-936-EL-SSO	OH	Ohio Energy Group	Ohio Edison, Toledo Edison Cleveland Electric Illuminating	Provider of Last Resort Competitive Solicitation
09/08	Case No. 08-935-EL-SSO	OH	Ohio Energy Group	Ohio Edison, Toledo Edison Cleveland Electric Illuminating	Provider of Last Resort Rate Plan
09/08	Case No. 08-917-EL-SSO 08-918-EL-SSO	OH	Ohio Energy Group	Ohio Power Company Columbus Southern Power Co.	Provider of Last Resort Rate Plan
10/08	2008-00251 2008-00252	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas & Electric Co. Kentucky Utilities Co.	Cost of Service, Rate Design
11/08	08-1511 E-GI	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Expanded Net Energy Cost "ENEC" Analysis.
11/08	M-2008-2036188, M-2008-2036197	PA	Met-Ed Industrial Energy Users Group and Penelec Industrial Customer Alliance	Metropolitan Edison Co. Pennsylvania Electric Co.	Transmission Service Charge
01/09	ER08-1056	FERC	Louisiana Public Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	Entergy's Compliance Filing System Agreement Bandwidth Calculations.
01/09	E-01345A-08-0172	AZ	Kroger Company	Arizona Public Service Co.	Cost of Service, Rate Design
02/09	2008-00409	KY	Kentucky Industrial Utility Customers, Inc.	East Kentucky Power Cooperative, Inc.	Cost of Service, Rate Design

**Expert Testimony Appearances
of
Stephen J. Baron
As of August 2011**

Date	Case	Jurisdict.	Party	Utility	Subject
5/09	PUE-2009 -00018	VA	VA Committee For Fair Utility Rates	Dominion Virginia Power Company	Transmission Cost Recovery Rider
5/09	09-0177-E-GI	WV	West Virginia Energy Users Group	Appalachian Power Company	Expanded Net Energy Cost "ENEC" Analysis
6/09	PUE-2009 -00016	VA	VA Committee For Fair Utility Rates	Dominion Virginia Power Company	Fuel Cost Recovery Rider
6/09	PUE-2009 -00038	VA	Old Dominion Committee For Fair Utility Rates	Appalachian Power Company	Fuel Cost Recovery Rider
7/09	080677-EI	FL	South Florida Hospital and Healthcare Assoc.	Florida Power & Light Company	Retail cost of service, rate design
8/09	U-20925 (RRF 2004)	LA	Louisiana Public Service Commission Staff	Entergy Louisiana LLC	Interruptible Rate Refund Settlement
9/09	09AL-299E	CO	CF&I Steel Company Climax Molybdenum	Public Service Company of Colorado	Energy Cost Rate issues
9/09	Doc. No. 05-UR-104	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Electric Power Co.	Cost of Service, rate design, tariff Issues, Interruptible rates.
9/09	Doc. No. 6680-UR-117	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Power and Light Co.	Cost of Service, rate design, tariff Issues, Interruptible rates.
10/09	Docket No. 09-035-23	UT	Kroger Company	Rocky Mountain Power Co.	Cost of Service, Allocation of Rev Increase
10/09	09AL-299E	CO	CF&I Steel Company Climax Molybdenum	Public Service Company of Colorado	Cost of Service, Rate Design
11/09	PUE-2009 -00019	VA	VA Committee For Fair Utility Rates	Dominion Virginia Power Company	Cost of Service, Rate Design
11/09	09-1485 E-P	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Expanded Net Energy Cost "ENEC" Analysis.
12/09	Case No. 09-906-EL-SSO	OH	Ohio Energy Group	Ohio Edison, Toledo Edison Cleveland Electric Illuminating	Provider of Last Resort Rate Plan
12/09	ER09-1224	FERC	Louisiana Public Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	Entergy's Compliance Filing System Agreement Bandwidth Calculations.
12/09	Case No. PUE-2009-00030	VA	Old Dominion Committee For Fair Utility Rates	Appalachian Power Co.	Cost Allocation, Allocation of Rev Increase, Rate Design

Expert Testimony Appearances
of
Stephen J. Baron
As of August 2011

Date	Case	Jurisdict.	Party	Utility	Subject
2/10	Docket No. 09-035-23	UT	Kroger Company	Rocky Mountain Power Co.	Rate Design
3/10	Case No. 09-1352-E-42T	WV	West Virginia Energy Users Group	Mon Power Co. Potomac Edison Co.	Retail Cost of Service Revenue apportionment
3/10	E015/ GR-09-1151	MN	Large Power Intervenors	Minnesota Power Co.	Cost of Service, rate design
4/10	EL09-61	FERC	Louisiana Public Service Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	System Agreement Issues Related to off-system sales
4/10	2009-00459	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Company	Cost of service, rate design, transmission expenses.
4/10	2009-00548 2009-00549	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas & Electric Co. Kentucky Utilities Co.	Cost of Service, Rate Design
7/10	R-2010-2161575	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Company	Cost of Service, Rate Design
09/10	2010-00167	KY	Kentucky Industrial Utility Customers, Inc.	East Kentucky Power Cooperative, Inc.	Cost of Service, Rate Design
09/10	10M-245E	CO	CF&I Steel Company Climax Molybdenum	Public Service Company of Colorado	Economic Impact of Clean Air Act
11/10	10-0699-E-42T	WV	West Virginia Energy Users Group	Appalachian Power Company	Cost of Service, Rate Design, Transmission Rider
11/10	Doc. No. 4220-UR-116	WI	Wisconsin Industrial Energy Group, Inc	Northern States Power Co. Wisconsin	Cost of Service, rate design
12/10	10A-554EG	CO	CF&I Steel Company Climax Molybdenum	Public Service Company	Demand Side Management Issues
12/10	10-2586-EL-SSO	OH	Ohio Energy Group	Duke Energy Ohio	Provider of Last Resort Rate Plan Electric Security Plan
3/11	20000-384-ER-10	WY	Wyoming Industrial Energy Consumers	Rocky Mountain Power Wyoming	Electric Cost of Service, Revenue Apportionment, Rate Design
6/11	Docket No. 10-035-124	UT	Kroger Company	Rocky Mountain Power Co.	Class Cost of Service
6/11	PUE-2011-00045	VA	VA Committee For Fair Utility Rates	Dominion Virginia Power Company	Fuel Cost Recovery Rider

Expert Testimony Appearances
of
Stephen J. Baron
As of August 2011

Date	Case	Jurisdict.	Party	Utility	Subject
07/11	U-29764	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc. Entergy Louisiana, LLC	Entergy System Agreement - Successor Agreement, Revisions, RTO Day 2 Market Issues
07/11	Case Nos. 11-346-EL-SSO 11-348-EL-SSO	OH	Ohio Energy Group	Ohio Power Company Columbus Southern Power Co.	Electric Security Rate Plan, Provider of Last Resort Issues
07/11	PUE-2011-00034	VA	Old Dominion Committee For Fair Utility Rates	Appalachian Power Co.	Cost Allocation, Rate Recovery of RPS Costs

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:

APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	)	CASE NO. 2011-00162

IN THE MATTER OF:

APPLICATION OF KENTUCKY UTILITIES COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	)	CASE NO. 2011-00161

EXHIBIT__(SJB-2)

OF

STEPHEN J. BARON

Louisville Gas and Electric Company
Environmental Cost Recovery Surcharge Summary

	2012	2013	2014	2015	2016
Total E(m) - ($000)	$25,243	$76,600	$127,031	$218,209	$248,966
12 Month Average Jurisdictional Ratio	87.20%	87.20%	87.20%	87.20%	87.20%
Jurisdictional E(m) - ($000)	$22,012	$66,797	$110,774	$190,284	$217,105
Forecasted Jurisdictional R(m) - (million)	$956	$1,013	$1,038	$1,077	$1,131
RES/Small Non-RES Incremental Billing Factor	2.30%	6.60%	10.67%	17.67%	19.20%
Residential Customer Impact					
Monthly bill (1,000 kWh per month)	$1.96	$5.61	$9.08	$15.03	$16.33
C&I Incremental Billing Factor*	3.64%	10.29%	16.76%	27.48%	30.26%
(applies to Non-Fuel Base Revenue Only)					

* GS, GRP, PS, TOD, RTS, FLS and Sp Contracts

Kentucky Utilities Company
Environmental Cost Recovery Surcharge Summary

	2012	2013	2014	2015	2016
Total E(m) - ($000)	$22,998	$69,805	$143,788	$199,867	$232,668
12 Month Average Jurisdictional Ratio	86.99%	86.99%	86.99%	86.99%	86.99%
Jurisdictional E(m) - ($000)	$20,005	$60,722	$125,079	$173,861	$202,394
Forecasted Jurisdictional R(m) - (million)	$1,365	$1,442	$1,505	$1,560	$1,655
RES/Small Non-RES Incremental Billing Factor	1.47%	4.21%	8.31%	11.15%	12.23%
Residential Customer Impact					
Monthly bill (1,000 kWh per month)	$1.13	$3.26	$6.43	$8.63	$9.46
C&I Incremental Billing Factor*	2.45%	7.45%	15.04%	19.98%	22.58%
(applies to Non-Fuel Base Revenue Only)					

* *GS, PS, TOD, RTS, and FLS*

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:

APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	)	CASE NO. 2011-00162

IN THE MATTER OF:

APPLICATION OF KENTUCKY UTILITIES COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	)	CASE NO. 2011-00161

EXHIBIT__(SJB-3)

OF

STEPHEN J. BARON

Revenue Calculations Percentage Change

	12 Mo. Ending May 31, 2011						
	Total	Residential Small Non-Res	C&I*	C&I Share	2012	Residential Small Non-Res	C&I
LG&E							
Non-Fuel Base Revenues	607,927,411	268,464,028	339,463,383	55.839%	616,463,124	272,233,445	344,229,679
Base Fuel Revenues	250,140,803	95,209,496	154,931,307	61.938%	254,605,555	96,908,886	157,696,669
FAC Revenues	24,432,967	9,328,737	15,104,230	61.819%	52,094,215	19,890,062	32,204,153
Environmental Cost Recovery	4,879,795	2,185,616	2,694,179	55.211%	24,911,926	11,157,826	13,754,100
Energy Efficient Operations Cost Recovery	16,867,088	14,266,136	2,600,952	15.420%	32,753,925	27,703,178	5,050,747
Total (less ECR)	899,368,269	387,268,397	512,099,872	56.940%	955,916,819	411,618,229	544,298,590
% Change					0.06597		

* GS, GRP, PS, TOD, RTS, FLS and Sp Cont.

	Total	Residential Small Non-Res	C&I*	C&I Share	2012	Residential Small Non-Res	C&I
KU							
Non-Fuel Base Revenues	750,850,932	323,365,527	427,485,405	56.933%	783,997,444	337,640,583	446,356,861
Base Fuel Revenues	518,237,818	188,048,436	330,189,382	63.714%	517,236,870	187,685,231	329,551,639
FAC Revenues	14,266,952	4,611,225	9,655,727	67.679%	32,016,696	10,348,124	21,668,572
Environmental Cost Recovery	48,543,957	19,954,297	28,589,660	58.894%	88,800,705	36,502,085	52,298,620
Energy Efficient Operations Cost Recovery	17,784,398	15,024,793	2,759,605	15.517%	31,483,879	26,598,526	4,885,353
Total (less ECR)	1,301,140,100	531,049,981	770,090,119	59.186%	1,364,734,889	557,005,688	807,729,201
% Change					0.03370		

Revenue Calculations Percentage Change

LG&E	2013	Residential Small Non-Res	C&I	2014	Residential Small Non-Res	C&I
Non-Fuel Base Revenues	661,886,884	292,292,823	369,594,061	674,166,088	297,715,386	376,450,702
Base Fuel Revenues	256,654,116	97,688,617	158,965,499	258,061,715	98,224,382	159,837,333
FAC Revenues	65,106,480	24,858,267	40,248,213	72,573,861	27,709,384	44,864,477
Environmental Cost Recovery	67,205,086	30,100,550	37,104,536	182,489,410	81,735,355	100,754,055
Energy Efficient Operations Cost Recovery	29,101,484	24,613,954	4,487,530	33,689,359	28,494,366	5,194,993
Total (less ECR)	1,012,748,964	436,090,177	576,658,787	1,038,491,023	447,174,720	591,316,303
% Change	0.05945			0.02542		

* GS, GRP, PS, TOD, RTS, FLS and Sp Cont.

KU	2013	Residential Small Non-Res	C&I	2014	Residential Small Non-Res	C&I
Non-Fuel Base Revenues	847,674,177	365,063,950	482,610,227	864,767,856	372,425,606	492,342,250
Base Fuel Revenues	526,269,091	190,962,674	335,306,417	532,138,408	193,092,422	339,045,986
FAC Revenues	38,186,813	12,342,369	25,844,444	73,393,620	23,721,570	49,672,050
Environmental Cost Recovery	126,933,711	52,176,895	74,756,816	177,716,989	73,051,679	104,665,310
Energy Efficient Operations Cost Recovery	30,165,987	25,485,131	4,680,856	34,916,610	29,498,600	5,418,010
Total (less ECR)	1,442,296,068	588,661,666	853,634,402	1,505,216,494	614,342,138	890,874,356
% Change	0.05683			0.04363		

Revenue Calculations Percentage Change

		Residential	C&I		Residential	C&I
LG&E	2015	Small Non-Res		2016	Small Non-Res	
Non-Fuel Base Revenues	706,062,084	311,800,830	394,261,254	731,555,030	323,058,652	408,496,378
Base Fuel Revenues	260,515,941	99,158,519	161,357,422	263,215,132	100,185,894	163,029,238
FAC Revenues	76,932,645	29,373,609	47,559,036	99,476,590	37,981,099	61,495,491
Environmental Cost Recovery	273,508,372	122,501,924	151,006,448	314,131,086	140,696,469	173,434,617
Energy Efficient Operations Cost Recovery	33,435,195	28,279,395	5,155,800	36,698,749	31,039,700	5,659,049
Total (less ECR)	1,076,945,865	463,733,393	613,212,472	1,130,945,501	486,985,661	643,959,840
% Change	0.03703			0.05014		

* GS, GRP, PS, TOD, RTS, FLS and Sp Cont.

		Residential	C&I		Residential	C&I
KU	2015	Small Non-Res		2016	Small Non-Res	
Non-Fuel Base Revenues	904,788,293	389,661,024	515,127,269	931,637,550	401,224,071	530,413,479
Base Fuel Revenues	541,521,192	196,497,071	345,024,121	549,025,330	199,220,032	349,805,298
FAC Revenues	78,267,833	25,296,965	52,970,868	135,900,479	43,924,427	91,976,052
Environmental Cost Recovery	238,127,822	97,883,930	140,243,892	292,469,292	120,221,331	172,247,961
Energy Efficient Operations Cost Recovery	35,013,260	29,580,253	5,433,007	38,155,163	32,234,626	5,920,537
Total (less ECR)	1,559,590,578	636,534,488	923,056,090	1,654,718,522	675,360,201	979,358,321
% Change	0.03612			0.06100		

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:

APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	))))))	CASE NO. 2011-00162

IN THE MATTER OF:

APPLICATION OF KENTUCKY UTILITIES COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	))))))	CASE NO. 2011-00161

EXHIBIT__(SJB-4)

OF

STEPHEN J. BARON

Revenue Requirements Summary
2011 Amended Plan - LG&E

	Total 2012	Residential Small Non-Res	C&I	2013	Residential Small Non-Res	C&I
Total E(m) - All LG&E Projects	25,242,731			76,600,187		
	25,242,731			76,600,187		
Total Revenue Requirements						
Project 26	25,242,731			73,943,967		
Project 27	-			2,656,220		
Total	25,242,731			76,600,187		
	-			-		
12 Month Average Jurisdictional Ratio	87.20%			87.20%		
Jurisdictional Allocation	22,012,293			66,797,278		
Forecasted 12-Month Retail Revenue	955,916,819	411,618,229	544,298,590	1,012,748,964	436,090,177	576,658,787
Forecasted 12-Month Non-Fuel Base C&I Revenue			344,229,679			369,594,061
Residential-Sm Non Res/C&I E(m) Allocation		9,478,503	12,533,789		28,762,939	38,034,339
Residential -Sm Non-Res Billing Factor	2.30%	2.30%		6.60%	6.60%	
C&I Billing Factor (Non-Fuel Base Revenues Only)			3.64%			10.29%
LGE Residential Bill Impact						
Customer Charge	$8.50			$8.50		
Energy - 1,000 Kwh @ $0.07068	$70.68			$70.68		
FAC billings (Dec 10 factor - $0.00241/kWh)	$2.41			$2.41		
DSM billings (Dec 10 factor - $0.0035/kWh)	$3.50			$3.50		
ECR billings (Dec 10 factor: 1.29%)	$1.10			$1.10		
Additional ECR factor	$1.96			$5.61		

Revenue Requirements Summary
2011 Amended Plan - LG&E

	Total 2014	Residential Small Non-Res	C&I	Total 2015	Residential Small Non-Res	C&I	Total 2016	Residential Small Non-Res	C&I
Total E(m) - All LG&E Projects	127,030,692			218,208,998			248,966,263		
	127,030,692			218,208,998			248,966,263		
Total Revenue Requirements									
Project 26	120,057,427			200,664,802			223,600,884		
Project 27	6,973,265			17,544,196			25,365,379		
Total	127,030,692			218,208,998			248,966,263		
	-			-			-		
12 Month Average Jurisdictional Ratio	87.20%			87.20%			87.20%		
Jurisdictional Allocation	110,773,939			190,283,702			217,104,806		
Forecasted 12-Month Retail Revenue	1,038,491,023	447,174,720	591,316,303	1,076,945,865	463,733,393	613,212,472	1,130,945,501	486,985,661	643,959,840
Forecasted 12-Month Non-Fuel Base C&I Revenue			376,450,702			394,261,254			408,496,378
Residential-Sm Non Res/C&I E(m) Allocation		47,699,310	63,074,629		81,936,251	108,347,451		93,485,431	123,619,375
Residential -Sm Non-Res Billing Factor	10.67%	10.67%		17.67%	17.67%		19.20%	19.20%	
C&I Billing Factor (Non-Fuel Base Revenues Only)			16.76%			27.48%			30.26%
LGE Residential Bill Impact									
Customer Charge	$8.50			$8.50			$8.50		
Energy - 1,000 Kwh @ $0.07068	$70.68			$70.68			$70.68		
FAC billings (Dec 10 factor - $0.00241/kWh)	$2.41			$2.41			$2.41		
DSM billings (Dec 10 factor - $0.0035/kWh)	$3.50			$3.50			$3.50		
ECR billings (Dec 10 factor: 1.29%)	$1.10			$1.10			$1.10		
Additional ECR factor	$9.08			$15.03			$16.33		

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:

APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	)	CASE NO. 2011-00162

IN THE MATTER OF:

APPLICATION OF KENTUCKY UTILITIES COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	)	CASE NO. 2011-00161

EXHIBIT__(SJB-5)

OF

STEPHEN J. BARON

Revenue Requirements Summary
2011 Amended Plan - KU

	Total	Residential	C&I		Residential	C&I
	2012	Small Non-Res		2013	Small Non-Res	
Total E(m) - All KU Projects	22,997,753			69,805,282		
	19,012,967			60,245,001		
Total Revenue Requirements						
Project 29	3,831,387			6,527,196		
Project 34	7,912,273			21,796,395		
Project 35	11,254,092			41,481,691		
Total	22,997,753			69,805,282		
	-			-		
12 Month Average Jurisdictional Ratio	86.99%			86.99%		
Jurisdictional Allocation	20,005,362			60,722,452		
Forecasted 12-Month Retail Revenue	1,364,734,889	557,005,688	807,729,201	1,442,296,068	588,661,666	853,634,402
Forecasted 12-Month Non-Fuel Base C&I Revenue			482,610,227			482,610,227
Residential-Sm Non Res/C&I E(m) Allocation		8,165,029	11,840,333		24,783,386	35,939,066
Residential -Sm Non-Res Billing Factor	1.47%	1.47%		4.21%	4.21%	
C&I Billing Factor (Non-Fuel Base Revenues Only)			2.45%			7.45%
KU Residential Bill Impact						
Customer Charge	$8.50			$8.50		
Energy - 1,000 Kwh @ $0.06805	$68.05			$68.05		
FAC billings (12/1/201 factor - $-0.0016/kWh)	-$1.60			-$1.60		
DSM billings (12/1/201 factor - $0.00243/kWh)	$2.43			$2.43		
ECR billings (12/1/201 factor: 2.55%)	$1.97			$1.97		
Additional ECR factor	$1.13			$3.26		

Revenue Requirements Summary
2011 Amended Plan - KU

	Total 2014	Residential Small Non-Res	C&I	Total 2015	Residential Small Non-Res	C&I	Total 2016	Residential Small Non-Res	C&I
Total E(m) - All KU Projects	143,787,858			199,866,832			232,668,107		
	123,740,224			177,214,254			210,444,215		
Total Revenue Requirements									
Project 29	10,753,077			10,620,092			10,433,617		
Project 34	45,382,838			61,522,919			63,865,435		
Project 35	87,651,944			127,723,820			158,369,055		
Total	143,787,858			199,866,832			232,668,107		
	-			-			-		
12 Month Average Jurisdictional Ratio	86.99%			86.99%			86.99%		
Jurisdictional Allocation	125,078,661			173,860,826			202,394,108		
Forecasted 12-Month Retail Revenue	1,505,216,494	614,342,138	890,874,356	1,559,590,578	636,534,488	923,056,090	1,654,718,522	675,360,201	979,358,321
Forecasted 12-Month Non-Fuel Base C&I Revenue			492,342,250			515,127,269			530,413,479
Residential-Sm Non Res/C&I E(m) Allocation		51,049,861	74,028,801		70,959,913	102,900,913		82,605,545	119,788,563
Residential -Sm Non-Res Billing Factor	8.31%	8.31%		11.15%	11.15%		12.23%	12.23%	
C&I Billing Factor (Non-Fuel Base Revenues Only)			15.04%			19.98%			22.58%
KU Residential Bill Impact									
Customer Charge	$8.50			$8.50			$8.50		
Energy - 1,000 Kwh @ $0.06805	$68.05			$68.05			$68.05		
FAC billings (12/1/201 factor - $-0.0016/kWh)	-$1.60			-$1.60			-$1.60		
DSM billings (12/1/201 factor - $0.00243/kWh)	$2.43			$2.43			$2.43		
ECR billings (12/1/201 factor: 2.55%)	$1.97			$1.97			$1.97		
Additional ECR factor	$6.43			$8.63			$9.46		

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:

APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	))))))	CASE NO. 2011-00162

IN THE MATTER OF:

APPLICATION OF KENTUCKY UTILITIES COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	))))))	CASE NO. 2011-00161

EXHIBIT__(SJB-6)

OF

STEPHEN J. BARON

LG&E Billing Analysis
August 2011 Base Rates*

Monthly kW	Monthly kWh	2012 LG&E As-Filed	2012 KIUC	2012 Difference $	2012 Difference % Total Bill	2014 LG&E As-Filed	2014 KIUC	2014 Difference $	2014 Difference % Total Bill	2016 LG&E As-Filed	2016 KIUC	2016 Difference $	2016 Difference % Total Bill
						Incremental ECR Charges							
GS													
n/a	1,000	$ 2.35	$ 2.82	$ 0.47	0.5%	$ 10.89	$ 12.98	$ 2.08	2.0%	$ 19.60	$ 23.43	$ 3.83	3.7%
n/a	2,000	$ 4.29	$ 5.00	$ 0.71	0.4%	$ 19.92	$ 23.02	$ 3.10	1.7%	$ 35.84	$ 41.57	$ 5.72	3.1%
PS - Secondary													
100	36,500	$ 128.17	$ 137.30	$ 9.13	0.2%	$ 594.58	$ 632.17	$ 37.58	0.7%	$ 1,069.92	$ 1,141.37	$ 71.45	1.3%
100	43,800	$ 140.50	$ 143.71	$ 3.21	0.1%	$ 651.80	$ 661.68	$ 9.88	0.2%	$ 1,172.87	$ 1,194.65	$ 21.78	0.4%
100	51,100	$ 152.83	$ 150.11	$ (2.72)	0.0%	$ 709.01	$ 691.19	$ (17.82)	-0.3%	$ 1,275.82	$ 1,247.93	$ (27.88)	-0.4%
PS - Primary													
750	273,750	$ 355.05	$ 365.28	$ 10.23	0.1%	$ 1,647.12	$ 1,681.89	$ 34.77	0.2%	$ 2,963.90	$ 3,036.63	$ 72.74	0.5%
750	328,500	$ 392.05	$ 384.51	$ (7.54)	0.0%	$ 1,818.76	$ 1,770.42	$ (48.34)	-0.3%	$ 3,272.75	$ 3,196.48	$ (76.27)	-0.4%
750	383,250	$ 429.05	$ 403.73	$ (25.31)	-0.1%	$ 1,990.40	$ 1,858.95	$ (131.45)	-0.7%	$ 3,581.59	$ 3,356.32	$ (225.28)	-1.2%
CTOD - Secondary													
900	328,500	$ 566.69	$ 601.91	$ 35.22	0.1%	$ 2,628.96	$ 2,771.45	$ 142.49	0.6%	$ 4,730.65	$ 5,003.82	$ 273.17	1.1%
900	394,200	$ 621.61	$ 629.85	$ 8.23	0.0%	$ 2,883.75	$ 2,900.06	$ 16.31	0.1%	$ 5,189.13	$ 5,236.03	$ 46.89	0.2%
900	459,900	$ 676.54	$ 657.78	$ (18.76)	-0.1%	$ 3,138.54	$ 3,028.67	$ (109.87)	-0.4%	$ 5,647.61	$ 5,468.23	$ (179.38)	-0.6%
CTOD - Primary													
3,000	1,095,000	$ 1,785.23	$ 1,842.19	$ 56.96	0.1%	$ 8,281.91	$ 8,482.17	$ 200.26	0.3%	$ 14,902.79	$ 15,314.46	$ 411.68	0.5%
3,000	1,314,000	$ 1,968.30	$ 1,935.30	$ (33.01)	0.0%	$ 9,131.22	$ 8,910.88	$ (220.34)	-0.3%	$ 16,431.06	$ 16,088.49	$ (342.57)	-0.4%
3,000	1,533,000	$ 2,151.38	$ 2,028.41	$ (122.97)	-0.1%	$ 9,980.52	$ 9,339.58	$ (640.94)	-0.7%	$ 17,959.33	$ 16,862.52	$ (1,096.81)	-1.2%
ITOD - Secondary													
600	219,000	$ 368.32	$ 386.28	$ 17.96	0.1%	$ 1,708.69	$ 1,778.59	$ 69.90	0.4%	$ 3,074.67	$ 3,211.22	$ 136.55	0.8%
600	262,800	$ 400.92	$ 398.54	$ (2.37)	0.0%	$ 1,859.90	$ 1,835.04	$ (24.86)	-0.1%	$ 3,346.77	$ 3,313.15	$ (33.63)	-0.2%
600	306,600	$ 433.51	$ 410.80	$ (22.71)	-0.1%	$ 2,011.11	$ 1,891.49	$ (119.62)	-0.6%	$ 3,618.87	$ 3,415.07	$ (203.80)	-1.1%
ITOD - Primary													
6,500	2,372,500	$ 3,661.66	$ 3,664.86	$ 3.20	0.0%	$ 16,986.91	$ 16,874.45	$ (112.46)	-0.1%	$ 30,566.89	$ 30,466.63	$ (100.26)	-0.1%
6,500	2,847,000	$ 4,014.77	$ 3,797.68	$ (217.10)	-0.1%	$ 18,625.06	$ 17,486.00	$ (1,139.06)	-0.6%	$ 33,514.64	$ 31,570.79	$ (1,943.84)	-1.1%
6,500	3,321,500	$ 4,367.89	$ 3,930.50	$ (437.39)	-0.2%	$ 20,263.21	$ 18,097.56	$ (2,165.65)	-1.1%	$ 36,462.38	$ 32,674.95	$ (3,787.43)	-2.0%
RTS													
9,000	3,285,000	$ 4,490.95	$ 4,158.03	$ (332.92)	-0.2%	$ 20,834.13	$ 19,145.22	$ (1,688.90)	-0.9%	$ 37,489.71	$ 34,566.50	$ (2,923.21)	-1.5%
9,000	3,942,000	$ 4,979.88	$ 4,341.94	$ (637.95)	-0.3%	$ 23,102.33	$ 19,992.00	$ (3,110.34)	-1.4%	$ 41,571.21	$ 36,095.33	$ (5,475.87)	-2.5%
9,000	4,599,000	$ 5,468.81	$ 4,525.84	$ (942.97)	-0.4%	$ 25,370.54	$ 20,838.77	$ (4,531.77)	-1.9%	$ 45,652.70	$ 37,624.17	$ (8,028.53)	-3.4%

* Average Summer/Winter Demand Charge
FAC and ECR Surcharges Average for 12 Months Ended August 2011
Assumes Base Fuel is identical for all rate schedules

KU Billing Analysis
August 2011 Base Rates*

Monthly kW	Monthly kWh	2012 KU As-Filed	2012 KIUC	2012 Difference $	2012 Difference % Total Bill	2014 KU As-Filed	2014 KIUC	2014 Difference $	2014 Difference % Total Bill	2016 KU As-Filed	2016 KIUC	2016 Difference $	2016 Difference % Total Bill
						Incremental ECR Charges							
GS													
n/a	1,000	$ 1.40	$ 1.66	$ 0.27	0.3%	$ 7.90	$ 10.22	$ 2.32	2.4%	$ 11.62	$ 15.34	$ 3.71	3.8%
n/a	2,000	$ 2.54	$ 2.90	$ 0.36	0.2%	$ 14.34	$ 17.80	$ 3.46	1.9%	$ 21.11	$ 26.72	$ 5.61	3.2%
PS - Secondary													
100	36,500	$ 36.13	$ 35.95	$ (0.18)	0.0%	$ 204.23	$ 220.70	$ 16.47	0.7%	$ 300.57	$ 331.35	$ 30.78	1.2%
100	43,800	$ 39.72	$ 37.08	$ (2.63)	-0.1%	$ 224.52	$ 227.64	$ 3.12	0.1%	$ 330.43	$ 341.76	$ 11.33	0.4%
100	51,100	$ 43.31	$ 38.21	$ (5.09)	-0.2%	$ 244.81	$ 234.58	$ (10.23)	-0.3%	$ 360.30	$ 352.18	$ (8.12)	-0.3%
PS - Primary													
750	273,750	$ 260.24	$ 251.79	$ (8.46)	0.0%	$ 1,471.17	$ 1,545.66	$ 74.49	0.4%	$ 2,165.15	$ 2,320.54	$ 155.39	0.9%
750	328,500	$ 287.16	$ 260.26	$ (26.90)	-0.1%	$ 1,623.35	$ 1,597.70	$ (25.65)	-0.1%	$ 2,389.12	$ 2,398.67	$ 9.55	0.0%
750	383,250	$ 314.08	$ 268.74	$ (45.34)	-0.2%	$ 1,775.54	$ 1,649.74	$ (125.80)	-0.6%	$ 2,613.09	$ 2,476.80	$ (136.29)	-0.6%
TOD - Primary													
2,500	912,500	$ 795.98	$ 720.12	$ (75.85)	-0.1%	$ 4,499.71	$ 4,420.67	$ (79.04)	-0.1%	$ 6,622.31	$ 6,636.88	$ 14.57	0.0%
2,500	1,095,000	$ 891.67	$ 758.31	$ (133.36)	-0.2%	$ 5,040.66	$ 4,655.08	$ (385.58)	-0.6%	$ 7,418.44	$ 6,988.80	$ (429.64)	-0.7%
2,500	1,277,500	$ 987.36	$ 796.49	$ (190.87)	-0.3%	$ 5,581.61	$ 4,889.48	$ (692.13)	-1.0%	$ 8,214.57	$ 7,340.72	$ (873.84)	-1.3%
RTS													
9,000	3,285,000	$ 2,638.14	$ 2,213.48	$ (424.66)	-0.2%	$ 14,913.58	$ 13,588.05	$ (1,325.52)	-0.7%	$ 21,948.62	$ 20,400.15	$ (1,548.47)	-0.8%
9,000	3,942,000	$ 2,972.20	$ 2,333.56	$ (638.64)	-0.3%	$ 16,802.03	$ 14,325.20	$ (2,476.83)	-1.2%	$ 24,727.90	$ 21,506.84	$ (3,221.05)	-1.5%
9,000	4,599,000	$ 3,306.26	$ 2,453.64	$ (852.62)	-0.4%	$ 18,690.48	$ 15,062.34	$ (3,628.14)	-1.6%	$ 27,507.18	$ 22,613.54	$ (4,893.63)	-2.1%

* Average Summer/Winter Demand Charge
FAC and ECR Surcharges Average for 12 Months Ended August 2011
Assumes Base Fuel is identical for all rate schedules

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PUBLIC SERVICE
COMMISSION

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF KENTUCKY UTILITIES	)
COMPANY AND LOUISVILLE GAS AND	)
ELECTRIC COMPANY FOR CERTIFICATES OF	) **CASE N0. 2010-00161**
PUBLIC CONVENIENCE AND NECESSITY AND	) **CASE NO. 2010-00162**
APPROVAL OF THEIR 2011 COMPLIANCE PLAN	)
FOR RECOVERY BY ENVIRONMENTAL	)
SURCHARGE	

DIRECT TESTIMONY

OF

STEPHEN G. HILL

ON BEHALF OF

THE

KENTUCKY INDUSTRIAL UTILITY CUSTOMERS

SEPTEMBER 16, 2010

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DIRECT TESTIMONY

STEPHEN G. HILL

CASE NO. 2011-00161
KENTUCKY UTILITIES COMPANY
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APPENDICIES AND SCHEDULES

DIRECT TESTIMONY

STEPHEN G. HILL

CASE NO. 2011-00161
KENTUCKY UTILITIES COMPANY
CASE NO. 2011-00162
LOUISVILLE GAS & ELECTRIC COMPANY

I. INTRODUCTION / SUMMARY

Q. PLEASE STATE YOUR NAME, OCCUPATION AND ADDRESS.

A. My name is Stephen G. Hill. I am self-employed as a financial consultant, and principal of Hill Associates, a consulting firm specializing in financial and economic issues in regulated industries. My business address is P.O. Box 587, Hurricane, West Virginia, 25526 (e-mail: hillassociates@gmail.com).

Q. BRIEFLY, WHAT IS YOUR EDUCATIONAL BACKGROUND?

A. After graduating with a Bachelor of Science degree in Chemical Engineering from Auburn University in Auburn, Alabama, I was awarded a scholarship to attend Tulane Graduate School of Business Administration at Tulane University in New Orleans, Louisiana. There I received a Master's Degree in Business Administration. I have been awarded the professional designation "Certified Rate of Return Analyst" by the Society of Utility and Regulatory Financial Analysts. This designation is based upon education, experience, and the successful completion of a comprehensive examination. I have also been on the Board of Directors of that national organization for several years. A more detailed account of my educational background and occupational experience appears in Appendix A.

Q. HAVE YOU TESTIFIED BEFORE THIS OR OTHER REGULATORY COMMISSIONS?

A. Yes, I have testified previously before this Commission. In addition, over the past 25 years I have testified on cost of capital, corporate finance and capital market issues in more than 275 regulatory proceedings before the following regulatory bodies: West Virginia Public Service Commission, Pennsylvania Public Utilities Commission, the Oklahoma State Corporation Commission, Public Utilities Commission of the State of

California, Texas Public Utilities Commission, Maryland Public Service Commission, Public Utilities Commission of the State of Minnesota, Ohio Public Utilities Commission, Insurance Commissioner of the State of Texas, North Carolina Insurance Commissioner, Rhode Island Public Utilities Commission, City Council of Austin, Texas, Texas Railroad Commission, Arizona Corporation Commission, South Carolina Public Service Commission, Public Utilities Commission of the State of Hawaii, New Mexico Corporation Commission, Virginia Corporation Commission, Massachusetts Department of Public Utilities, State of Washington Utilities and Transportation Commission, Georgia Public Service Commission, Public Service Commission of Utah, Illinois Commerce Commission, Kansas Corporation Commission, Indiana Utility Regulatory Commission, Washington Utilities and Transportation Commission, Montana Public Service Commission, Public Service Commission of the State of Maine, Public Service Commission of Wisconsin, Vermont Public Service Board, Federal Communications Commission and Federal Energy Regulatory Commission. I have also testified before the West Virginia Air Pollution Control Commission regarding appropriate pollution-control technology and its financial impact on the company under review and have been an advisor to the Arizona Corporation Commission on matters of utility finance.

Q. ON BEHALF OF WHOM ARE YOU TESTIFYING IN THIS PROCEEDING?

A. I am appearing on behalf of the Kentucky Industrial Utility Customers, Inc. (KIUC).

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. In these proceedings, Kentucky Utilities Company (KU) and Louisville Gas and Electric Company (LGE; collectively the Companies) are requesting a surcharge to recover the costs of planned environmental equipment. The environmental surcharge allowed pursuant to Section 278.183 of the Kentucky Code includes "a reasonable return on construction." As discussed in detail in the testimony of KIUC witness Lane Kollen, utility construction is normally undertaken using monies provided predominantly through the issuance of new short-term debt, which is ultimately replaced with a mix of long-term capital. This means of financing utility construction is the most economical (least expensive) to the utility and to its customers as well. Therefore a reasonable or normal cost associated with utility construction is that of short-term debt.

The Companies have requested that the return aspect of the environmental surcharge be calculated using the overall cost of capital. That overall cost of capital requested by the Companies appears to be based on an after-tax equity return of 10.63% and a capital structure consisting of 53.48% common equity and 46.52% debt.[1,2] According to the testimony of the Companies' witness Lonnie Bellar, the return on equity requested by the Companies is that determined in a settlement of the Companies' most recent rate cases.

My testimony presents the results of studies I have performed related to the determination of the cost of capital for the integrated electric utility operations of KU and LGE. That analysis shows that, in relying on a 10.63% return on equity capital, the Companies have significantly overstated the current cost of common equity for integrated electric utility operations similar in risk to KU and LGE.

Moreover, in their requested overall return, the Companies have ignored the fact that the return recovery method allowed in the environmental surcharge mechanism, which allows recovery of costs during construction only two months after those costs are incurred, represents a very low-risk alternative to the normal used-and-useful regulatory paradigm. In a normal utility plant construction process, the company is not allowed to

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[1] 2011 Air Compliance Plan for LGE and KU, Generation Planning & Analysis, May 2011, Appendix A, filed by the Companies in both cases. The capital structure used for the E.W. Brown Station environmental plans in Docket No. 2011-00161 (KU) are slightly different: 47.13% debt and 52.97% equity.

[2] On a pre-tax, ratemaking basis, the Companies' requested equity return is 17.4% (10.63% ÷ (1-38.9% tax rate).

recover the costs associated with construction until that plant is "used and useful," in the same way an auto manufacturer is unable to recover the costs of building a new production facility until cars are rolling off the assembly line and the cars are sold. The ability of KU and LGE to recover, through a surcharge to customers, the total cost of environmental construction a mere two months following cost incurrence, including a return and prior to the completion of the construction project represents a much lower operational risk than normal rate base/rate of return utility operations. As a result, if the Commission elects to base its allowed return included in the environmental surcharge on the Companies' overall return, the return on equity included in that overall return calculation should be at the lower end of a reasonable range in order to account for the lower risk afforded by the environmental surcharge.

Finally, it is especially important in these difficult economic times of very high unemployment that, if the Companies are afforded low-risk treatment in the manner in which they are allowed to recover mandated environmental costs, then that lower operational risk should also provide a benefit for the Companies' customers and be passed on by means of a lower allowed return in the surcharge.

In summary, if the Commission elects to use an overall return to calculate the Companies' environmental surcharge, then KIUC recommends that the Commission recognize that the current cost of equity capital is below the 10.63% requested by the Companies and, further, that the allowed return be set at the lower end of a reasonable range to account for the low-risk nature of the manner in which environmental construction costs are recovered in Kentucky.

Q. HAVE YOU PREPARED AN EXHIBIT IN SUPPORT OF YOUR TESTIMONY?

A. Yes, Exhibit_(SGH-1) consists of 13 Schedules and provides the analytical support for the conclusions reached regarding the cost of common equity, capital structure and overall cost of capital for KU and LGE presented in the body of the testimony. This

Exhibit was prepared by me and is correct to the best of my knowledge and belief. Also, I have provided four Appendices ("A" through "D"), which contain additional detail regarding certain aspects of my narrative testimony in this proceeding.

Q. PLEASE SUMMARIZE YOUR TESTIMONY AND FINDINGS CONCERNING THE RATE OF RETURN THAT SHOULD BE UTILIZED IN SETTING RATES FOR KU AND LGE'S ENVIRONMENTAL SURCHARGE IN THESE PROCEEDINGS.

A. My testimony is organized into three sections. First, I review the current economic environment in which my equity return estimate is made and evaluate the current state of that environment in light of the financial crisis underway during the Companies' last rate proceedings.

Second, I review the Companies' capital structure as it exists following their acquisition by PPL as well as the capital structure existing in the electric utility industry and determine an appropriate capital structure for rate-making purposes.

Third, I evaluate the cost of equity capital for utility operations that are similar in risk to KU and LGE using Discounted Cash Flow (DCF), Capital Asset Pricing Model (CAPM), Modified Earnings-Price Ratio (MEPR), and Market-to-Book Ratio (MTB) analyses.

The current cost of equity capital for electric utility firms of similar risk to KU and LGE falls in a range of 9.00% to 9.75%. Moreover, because Kentucky law allows the Companies to recover investments in environmental plant during the construction phase with only a two-month lag, investment in environmental plant is low compared to normal utility plant investment. Also, the capital structures of KU and LGE have lower financial risk than the average electric utility because they are capitalized with substantially more common equity and less debt. For those reasons, the return afforded the Companies for their environmental surcharge should be at the lower end of that reasonable range, or 9.0%.

Applying that 9.0% equity capital cost to KU and LGE's recent capital structures (June 30, 2011), along with the most recently available embedded costs of debt and preferred stock for each company indicates overall capital costs of 6.51% and 6.70%, respectively. Those overall costs of capital afford the Companies the opportunity to achieve pre-tax interest coverage levels on their environmental plant investment of 5.56 times and 5.65 times for KU and LGE, respectively. (See Exhibit__(SGH-1), Schedule 13, pp. 1 and 2) In other words, allowed a 9.0% return on the equity portion of their investment in environmental plant, the Companies have the opportunity to earn an amount of net income on that plant that is approximately 5.5 times greater than the interest costs incurred.

My testimony also shows that if the Commission determines that the rate of return to be allowed in this proceeding is to be equivalent to that to be allowed in a normal rate case, my recommended return on equity for KU and LGE would be 9.125%. That return is based on the mid-point of the cost of equity estimate of a similar-risk sample group (9.375%), less 25 basis points for the lower financial risk profile of KU and LGE compared to the sample group.

Q. IS THERE INDEPENDENT EVIDENCE IN THE RECORD IN THIS PROCEEDING THAT CONFIRMS THE REASONABLNESS OF YOUR EQUITY COST ESTIMATE FOR KU AND LGE?

A. Yes. In response to KIUC-2-18 in Case No. 2011-00161 and KIUC-2-19 in Case No. 2011-00162, the Companies provided the returns they expect to earn on their own equity investments—the equity investments in their retirement portfolios. On its investment in the U.S. equity market, the Companies expect to earn approximately an 8.0% return over the long term. The long-term equity return expectations are based on an analysis by Mercer, the Companies' portfolio investment advisor. This information confirms that investors' equity return expectations (and the cost of equity capital to a firm) are modest.

In addition, based on the Companies' long-term return expectations for their own equity investments, my estimate for the cost of equity capital for companies similar in risk to KU and LGE of 9.0% to 9.75% is conservative. It is conservative because electric utilities are less risky investments than U.S. equities as a whole (which is the basis for the Company's return expectations). Therefore, if the Company's long-term equity return expectation of 8.0% for U.S. stocks is representative of investor expectations, then a reasonable expected return for electric utilities would be below that level. The Company's expected return on its own equity investments in the U.S. stock market falls below my estimated range for the cost of equity capital for electric utilities, indicating that my equity cost estimate is, at the very least, reasonable, and should be considered conservative.

Q. MR. HILL, ISN'T IT REASONABLE TO BELIEVE THAT PENSION FUND RETURN EXPECTATIONS ARE MODERATE (LOWER) IN ORDER TO AVOID OVERSTATEMENT OF THE FUTURE VALUE AND SUBSEQUENT UNDER-FUNDING OF THE FUND?

A. Yes. Neither the Companies nor their investment managers would use equity return expectations that are too high for its pension fund assets because that would overstate the expected future value of that fund. If the expected returns are overstated, the current funding requirement would be understated and the firm would be left with unfunded pension liabilities that could add unnecessarily to its financial risk profile.

However, it is also reasonable to believe that the Company would not significantly under-estimate the pension fund return estimates, either. Under-estimating the expected return would call for an unnecessarily high annual contribution every year to reach the future targeted amount of pension funds. Any unnecessarily large annual pension expense would reduce profitability—an undesirable outcome for any company. In addition, if ultimate returns turn out to be higher than predicted through under-estimating the portfolio return, the firm will, effectively, have funded its pension requirements with internally generated funds that could have been put to other uses such as production, distribution, or required environmental facilities. Also, the Company is relying on the advice of its portfolio investment mangers and that investment firm's assessment of long-term equity return expectations for the U.S., who would have no interest in "shading" the return expectation in either direction.

Therefore, because there are negatives associated with either over- or under-stating expected pension portfolio returns, it is reasonable to assume that KU and LGE management (as well as their investment advisor) seeks to accurately estimate its expected investment returns and believes that, over the long-term, the common equity return expectations for its pension fund investments are in the 8.0% range, cited above.

Q. WHY SHOULD THE COST OF CAPITAL SERVE AS A BASIS FOR THE PROPER ALLOWED RATE OF RETURN FOR A REGULATED FIRM?

A. The Supreme Court of the United States has established, as a guide to assessing an appropriate level of profitability for regulated operations, that investors in such firms are to be given an opportunity to earn returns that are sufficient to attract capital and are comparable to returns investors would expect in the unregulated sector for assuming the same degree of risk. The *Bluefield* and *Hope* cases provide the seminal decisions (*Bluefield Water Works v. PSC*), 262 US 679 [1923]; *FPC v. Hope Natural Gas Company*, 320 US 591 [1944]). These criteria were restated in the *Permian Basin Area Rate Cases*, 390 US 747 (1968). However, the Court also makes quite clear in *Hope* that regulation does not guarantee profitability and, in *Permian Basin*, that, while investor interests (profitability) are certainly pertinent to setting adequate rates, those interests do not exhaust the relevant considerations.

As a starting point in the rate-setting process, then, the market-based cost of capital of a regulated firm represents the return investors could expect from other investments, while assuming no more and no less risk. Because financial theory holds that investors will not provide capital for a particular investment unless that investment is expected to yield the opportunity cost of capital, the correspondence of the cost of capital with the Court's guidelines for appropriate earnings is clear.

Q. THE COST OF EQUITY CAPITAL IS OFTEN ESTIMATED USING A COMPLEX ARRAY OF ECONOMIC MODELS AND ALGEBRAIC FORMULAS. IS THERE A SIMPLE WAY TO UNDERSTAND THE CONCEPT OF THE COST OF EQUITY CAPITAL?

A. Yes. In a regulated rate-setting context such as this, the cost of equity capital can be most easily understood as the rate of profit that should be allowed for the regulated firm. A firm's profit is the amount of money that remains from its revenues after it has paid all of its costs—operating costs (commodity supply costs, depreciation, equipment maintenance costs, salaries, fees, taxes, retirement obligations), as well as income taxes and interest costs. That dollar amount of profit, divided by the amount of common equity capital used to finance the firm's regulated assets, produces a percentage rate of return on equity. If, for example, the profit earned by a utility is $10/year and investors have provided $100 of equity capital, the firm's return on equity (ROE), its profit, is 10%.

The purpose of all of the economic models and formulas used in cost of capital testimony is to estimate, using market data of similar-risk firms, the percentage rate of return investors require for that risk-class of firms—in this case, electric utility operations. If the profit included in the rates, as a percentage of the firm's equity capital, is set equal to the cost of that equity capital (the investors' required return), the utility, under efficient management, will be able to attract the capital necessary to maintain the firm's financial integrity while providing ratepayers cost-efficient utility service. In that way, setting the allowed ROE equal to the market-based cost of equity capital ensures that the interests of investors and ratepayers will be balanced, as called for in the U.S.

Supreme Court cases cited above.

Simply put, the amount of profit the utility should be allowed the opportunity to earn, as a percentage of the total equity investment, should be equal to the market-based cost of equity capital.

II. ECONOMIC ENVIRONMENT

Q. WHY IS IT IMPORTANT TO REVIEW THE ECONOMIC ENVIRONMENT IN WHICH AN EQUITY COST ESTIMATE IS MADE?

A. The cost of equity capital is an expectational, or *ex ante*, concept. In seeking to estimate the cost of equity capital of a firm, it is necessary to gauge investor expectations with regard to the relative risk and return of that firm, as well as that for the particular risk-class of investments in which that firm resides. Because this exercise is, necessarily, based on understanding and accurately assessing investor expectations, a review of the larger economic environment within which the investor makes his or her decision is most important. Investor expectations regarding the strength of the U.S. economy, the direction of interest rates and the level of inflation (factors that are determinative of capital costs) are key building blocks in the investment decision. The analyst and the regulatory body should review those factors in order to assess accurately investors' required return—the cost of equity capital to the regulated firm.

Q. WHAT ARE THE INDICATIONS WITH REGARD TO THE COST OF CAPITAL IN THE CURRENT ECONOMIC ENVIRONMENT?

A. Although two years have passed since the events of late 2008 and early 2009, any review of the current economic environment and the current cost of capital must take into account what was the most significant disruption in the financial markets since the Great Depression in the 1930s. In the tumultuous economic environment that existed during the third and fourth quarters of 2008 and early 2009, the signals with regard to the cost of capital were, unsurprisingly, difficult to discern. Stock prices fell dramatically, increasing dividend yields, which would indicate increasing capital costs if expected growth rates were constant. However, fundamental indicators of capital cost rates—long-term U.S. Treasury bond yields—declined, signaling that investors actually required and expected lower returns during that difficult economic time.

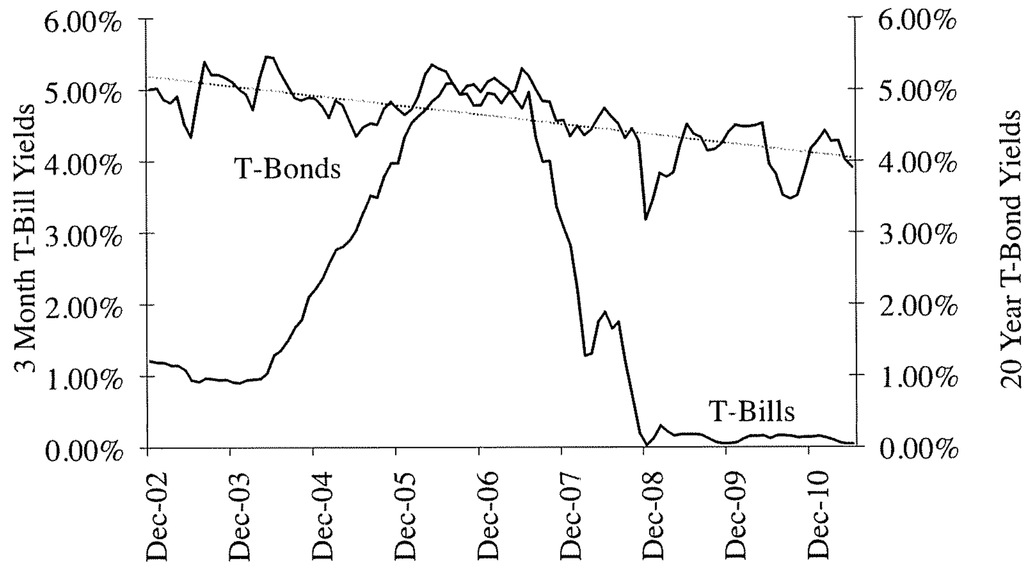
As shown in Chart I on the next page, although there have been wide fluctuations in *short-term* interest rate levels since 2002 as the Federal Reserve Board (the Fed) raised and lowered the Federal Funds rate to slow down and encourage (respectively) economic growth, *long-term* interest rates ranged from 4.5% to 5.5% over most of that time, with a slow downward trend. However, as a result of that 2008/2009 economic downturn, long-term Treasury bond yields dipped, for a time, below the lower end of that historical range as investors turned to bonds as a safe haven. As the economic downturn moderated and a modest recovery began to appear, long-term T-bond yields have returned to their historical trend. According to the most recent Federal Reserve Statistical Release H.15, the average 20-year T-Bond yield in May 2011 was 4.01%.[3]

The interest rate data in Chart I also indicate that the Fed lowered short-term interest rates to near zero in an attempt to lessen the impact of the recession and, it continues to take a very accommodative stance regarding monetary policy, with short-term T-Bills yielding below 1%. Therefore, fundamental long-term capital costs have not increased as a result of the financial crisis in 2008/2009 and, in fact, currently indicate a continuation of the long-term downward trend in capital costs that began prior to the financial crisis.

[3] http://www.federalreserve.gov/Releases/H15/Current/, June 13, 2011.

Chart I.

Relative Interest Rate Changes



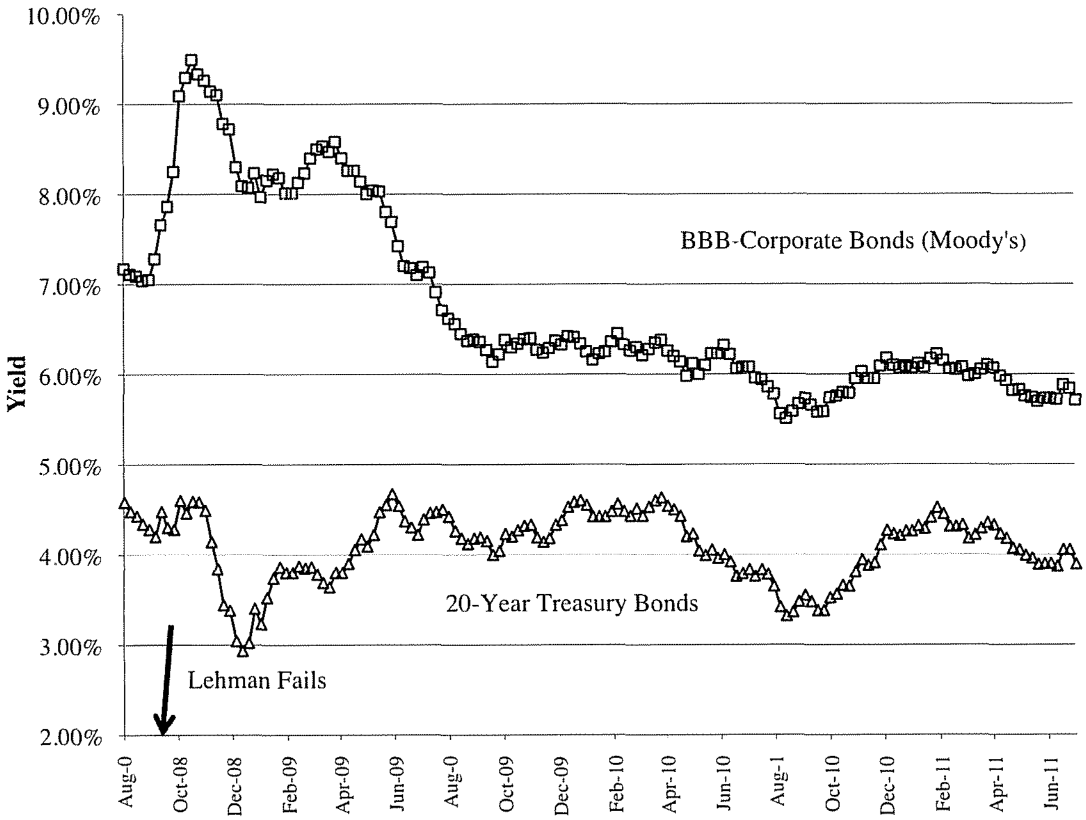
Data from Federal Reserve Statistical Release H.15

Because the market for U.S. Treasury securities remained liquid throughout the 2008/2009 financial crisis and because the liquidity problems that existed during that crisis have subsided, it is reasonable to believe that the recent yields (approximately 4.25%) on long-term Treasuries are representative of investors' current long-term risk-free return expectations. Therefore, this fundamental building block of capital costs (long-term T-bond yields) provides an indication that in the current economic environment, capital costs are somewhat lower than they were prior to the economic troubles of late 2008 and early 2009.

However, it is also important to note that a review of recent bond yield history indicates that declining yields were not the case with corporate bonds. Following the demise of Lehman Brothers and the devolution of the financial community in the U.S. and abroad due to enormous debt obligations related to mortgage-back securities and credit default swaps—even with the commitment of government support of the successor financial institutions—there was a temporary lack of liquidity in the corporate sector of the bond market. The banks, investment brokerage firms, and other institutional investors were holding on to capital in order to shore up their own balance sheets rather than re-injecting those monies into the financial system through lending (buying corporate debt). As a result, even though the Fed was driving down short-term Treasury rates to provide additional liquidity for the economy in general, that liquidity was not passed through to the corporate bond market and, with a lack of capital supply, corporate bond yields increased in late 2008 and early 2009. The relative movement of BBB-rated corporate bond yields and U.S. Treasury yields is shown in Chart II, on the following page.

Chart II

Financial Crisis: Bond Yield Changes



Following the failure of Lehman Brothers, as the full extent of the debt/derivative risk overhang in the financial industry became known, BBB-rated corporate bond yields increased, even as long-term Treasury yields remained relatively steady at about 4.5%. According to the database of the Federal Reserve, BBB-rated corporate bond yields rose dramatically by 250 basis points as the risk of default and the nervousness of investors increased.

As liquidity began to be restored to the bond markets, initially through direct government intervention and subsequently through the return of modestly positive economic growth, corporate bond yields have declined substantially from the highs established in the Fall of 2008. More recently, investors' concerns have eased, the stock market has rebounded and corporate bond yields have declined below pre-crisis levels. Also, as noted above, long-term Treasury bond yields have increased from their lowest point established by a flight to quality at the end of 2008, and have re-established yield levels near those that existed prior to the financial crisis. As a result, the yield spread differential between corporate bonds and long-term Treasury securities has now declined to a level *below* that experienced in the year prior to the 2008 financial crisis. Therefore, because both the absolute level of the risk-free rate and the yield spread between Treasury bonds and corporate bonds have declined since the financial crisis, the concern that the 2008/2009 financial crisis implies continuing financial difficulty for utilities is an incorrect assessment. In terms of relative capital costs, the broad economic environment currently is more benign than it was prior to the financial crisis—capital costs are lower—and thus, more favorable for capital-intensive industries such ass utilities.

On balance, then, the fixed-income data available in the financial marketplace indicate that while there were technical difficulties in the corporate bond market that drove up yields for a period of time, those difficulties have not proven to be a long-term phenomenon and the high yields experienced in the latter part of 2008 and early 2009 do not represent investors' long-term expectations. Those data also indicate that investors' required return for a risk-free investment remains low by historical standards—around 4.25%. Therefore, the bond yield data available in the marketplace indicates that the risk-free rate of return, a fundamental element of all capital costs, has declined from pre-crisis levels, and corporate bond yields have declined well below pre-crisis levels, which indicate a lower cost of capital in the current economic environment.

Q. WHAT IS THE CURRENT EXPECTATION WITH REGARD TO THE ECONOMY AND INTEREST RATES?

A. As Value Line notes in its most recent Quarterly Economic Review, the current expectation for the U.S. economy is that recovery from the recent economic recession is likely to continue to be slow, but the economy will eventually expand at a moderate pace with the aid of accommodative Federal Reserve credit policy. Moreover, the Fed is expected to keep interest rates low until the economic recovery becomes more robust.

> **Economic Growth:** The domestic economy slowed in the first quarter of this year, as growth eased from the 2010 fourth-quarter rate of 3.1% to the aforementioned 1.8%. We implied as well, that we thought this latter, pedestrian pace was something of an aberration, brought on by a series of events that would probably not recur. Absent such likely transitory factors, we think that there would have been sufficient momentum in place to lift growth close to 3%, or just about where we think current-period growth will come in. [Chart omitted]
>
> Looking ahead, we believe growth will push into the range of 3.0%-3.5% in the second half of 2011, and then remain in that comfort zone in 2012, when housing will presumably kick in to sustain the business advance. Our longer-term forecast assumes that a fairly broad, albeit still moderate, business upturn should then proceed to 2014-2016... At this time we expect the evolving expansion to be sustainable, but not formidable.
>
> **Inflation:** Pricing pressures, as we have noted, are intensifying, at lease selectively. For now, the Fed sees such pressures as being transitory in nature, suggesting that they will be reversed before long, with prices for oil and a range of other commodities slowly returning to more normalized levels. And, in truth, wage inflation remains low, and we have seen some recent cracks in the commodity spiral, with prices for oil, metals, and a host of other raw materials falling abruptly. ... In all, we expect the CPI to rise about 3% in 2011 nearly double the 1.6% gain posted in 2010. [Chart omitted]

> **Interest Rates:** As GDP growth and inflation both tick higher, it would seem logical that upward pressure on interest rates would follow. For its part, the Federal Reserve Board, which controls such short-term rates as the federal funds target, would be likely to start lifting borrowing costs by early 2011. ... Long-term interest rates, principally the 10-year Treasury note and the 30-year Treasury bond, which had respectively risen to 3.62% and 4.68% at the time of our last "Quarterly Economic Review," have since backed off to 3.17% and 4.29%, respectively. The lower rates, which imply no excessive fears about inflation, should lend some support to the troubled housing market and the economy, in general. [Chart omitted] (The Value Line Investment Survey, *Selection & Opinion*, May 27, 2011, pp. 2212—14.)

In that most recent Quarterly Economic Review, cited above, Value Line projects that long-term Treasury bond rates will average 4.8% through 2011 and 5.2% in 2012. However, since the publication of Value Line's Economic Review in May, the economic news has not supported that investor advisory service's prediction of a steadily-growing economy. In a more recent publication (June 17, 2011, *Selection & Opinion*, p. 2173) Value Line noted, " Until recently, we had forecast that current-period growth would easily eclipse the 1.8% rate of gain inked in the initial three months. Now, we think the pickup in business activity will be much more muted, with the nation's gross domestic product possibly not growing by more than a listless 2.0%—2.5%."

That moderation in economic activity probably explains why the anticipated increase in interest rates has not yet occurred. According to Value Line's *Selection and Opinion,* 30-year Treasury bond yields have averaged 4.25% over the most recent six weeks.[4] Therefore, the indicated expectation with regard to long-term interest rates is that they are expected to move somewhat higher in the future, *provided* the economic

[4] The Value Line Investment Survey, *Selection & Opinion*, "Selected Yields," 6/17/11 through 7/22/11.

recovery begins to advance at a more rapid pace. Simply put, due to the slow pace of the economy and low core inflation, capital costs are low and are expected to remain low until the economy shows more rapid growth, at which time interest rates and capital costs are expected to increase moderately.

III. CAPITAL STRUCTURE

Q. WHAT CAPITAL STRUCTURES ARE THE COMPANIES USING IN THEIR FILINGS IN THESE CASES?

A. In both cases KU and LGE provide a document entitled "2011 Air Compliance Plan, Generating Planning & Analysis, May 2011," which contains the assumptions used in their analysis in Appendix A at page 48 of that document. Both KU and LGE assumed a capital structure of 46.52% long-term debt and 53.48% common equity in evaluating their air-compliance plan. The Companies' modeling assumptions also include an after-tax weighted cost of long-term debt of 3.84% and a tax rate of 38.90%, which implies a pre-tax cost of debt of 6.28%.

However, in response to KPSC-48 in the KU proceeding and KPSC-49 in the LGE proceeding, the Companies provide the capital structures and cost rates used in calculating the environmental surcharge provided in Mr. Conroy's testimony in both cases. Those responses indicate that the capital structures of both companies at August 31, 2010 were used for the calculation and those capital structures are different from the assumptions contained in the 2011 Air Compliance Plan.

At August 31, 2010, the capital structure of KU consisted of 54.17% common equity, 44.25% long-term debt and 1.59% short-term debt. The cost of long- and short-term debt used by KU was, at that point in time, 4.69% and 0.28%, respectively.

For LGE, the August 31, 2010 capital structure consisted of 56.25% common equity, 38.65% long-term debt and 5.10% short-term debt. The cost rates shown for LGE at that point in time are 5.17% for long-term debt and 0.28% for short-term debt.

Q. ARE THE 2010 CAPITAL STRUCTURES USED BY THE COMPANIES SIMILAR TO THE MANNER IN WHICH THEY HAVE BEEN RECENTLY CAPITALIZED?

A. In general, yes. The capital structure data from the Companies' Annual and Quarterly filings with the Securities and Exchange Commission is shown on page 1 of Schedule 1 attached to this testimony. Those data indicate that, at March 31, 2011, KU was capitalized with 53.4% common equity capital (when goodwill arising from the PPL acquisition is removed from the capital structure). Those data also show that KU's common equity ratio was also approximately 53% of total capital at year-end 2009 (prior to the PPL acquisition) and at year-end 2010 (after the PPL acquisition).

For LGE, the Company's published capital structure information shows a capital structure at March 31, 2011 containing almost 55% common equity (54.91%), excluding goodwill balances associated with the PPL acquisition. That level of common equity as a percent of total capital is similar to the level which existed at LGE at year-end 2009, prior to the PPL acquisition, but somewhat higher than that existing at year-end 2010 (50.86%), immediately following the PPL acquisition.

Common equity capital is a substantially more expensive form of capital than debt capital. For example, on a pre-tax basis, the cost rate of the Companies' requested 10.63% return on common equity would be 17.40% [10.63%/(1-38.9%), where 38.9% is an approximate tax rate]. That cost rate (17.40%) is more than four times the Company current cost of long-term debt (3.88% [LGE]; 3.68% [KU]; Companies' response to KIUC-2-14 and KIUC-2-13). Because the cost of common equity that must be provided by ratepayers is so much greater than that of debt, the election by the Companies to utilize relatively high levels of common equity to capitalize their utility operations is expensive for ratepayers.

Q. ARE THE CAPITAL STRUCTURES OF KU AND LGE SIMILAR TO THAT OF THEIR PARENT COMPANIES, LG&E AND KU ENERGY LLC, OR PPL CORPORATION?

A. No. As also shown on Exhibit_ (SGH-1), Schedule 1, page 2, KU and LGE's parent company, LG&E and KU Energy, LLC (LKE), has utilized a more cost-effective capital structure that contains far less common equity than that utilized by its regulated subsidiary. At year-end 2010, LG&E and KU Energy, LLC was capitalized with approximately 43% common equity, and by March 31, 2011, common equity was about 44% of total capital.

These data indicate that LKE, which is a holding company for KU and LGE and has no other significant assets, contains an extra layer of debt that was used to finance its equity investment in its two subsidiaries. As noted on page 72 of LKE's, December 31, 2010 S.E.C. Form 10-K, the holding company had $875 Million of additional debt on its balance sheet that the subsidiaries (KU and LGE) do not have. These data indicate that LKE, which has the same business risk as KU and LGE (because those subsidiaries comprise almost all of its assets), is capitalized far more cost-effectively. That is, because the capital structure of LKE contains less of the more expensive equity capital and more of the less expensive debt capital, LKE's overall cost of capital is substantially lower than that of either KU or LGE. Those data also indicate that part of LKE's equity investment in KU and LGE is capitalized with debt, meaning that the equity return provided by ratepayers to KU and LGE will, when applied to the smaller equity base of LKE result in an equity return higher than that earned by the regulated subsidiaries.

Exhibit__(SGH-1), Schedule 1, page 2 also shows that the capital structure of PPL Corporation (the ultimate parent company: PPL) contains even less common equity.

Prior to the KU/LGE acquisition, PPL was capitalized with about 39% common equity and 61% total debt (long- and short-term). Following the acquisition, PPL's common equity ratio declined to about 33% to 34% of total capital. While PPL is the ultimate parent of KU and LGE and benefits from holding those relatively low-risk utility operations, it also holds substantial investments in unregulated generation and energy trading activities—far more risky types of operations. In fact, in a May 11, 2011 presentation to Deutsche Bank (p. 5), available on PPL's website, the parent company touted the recent acquisition of the utility assets of KU and LGE as improving its business risk profile. These data indicate that PPL, a holding company with a much higher business risk profile than either KU or LGE, is capitalized more cost-effectively with a considerably lower level of common equity capital than either KU or LGE.

Q. IS THERE A THEORETICAL RELATIONSHIP BETWEEN THE UNDERLYING BUSINESS RISK OF AN ENTERPRISE AND THE MANNER IN WHICH IT IS MOST EFFECTIVELY CAPITALIZED?

A. Yes. The manner in which a firm is most economically capitalized is a function of the volatility of the income stream generated by the assets of the firm—in other words, the firm's operating (business) risk. For example, if a firm has an income stream that is not volatile and can be predicted with near certainty, then a capital structure consisting of even 100% debt would not be problematic or risky. In fact, in that instance it would be the most cost-effective capital structure, because debt is the least expensive form of investor-supplied capital for a firm and—absent the possibility of operating income being insufficient to meet the debt service requirements—a 100% debt capital structure would be the prudent choice.

As the income stream of a firm becomes more volatile (more risky), financial theory holds that the amount of debt used should decline in order to avoid a default event (the failure to meet the required debt service costs). Although the reduction of lower-cost debt and the addition of higher-cost common equity will raise the firm's overall cost of capital, that increase is appropriate and economically efficient because it more appropriately matches the firm's financial risk with the increase in business risk. In that way, given an increased level of business risk, the overall cost of capital is minimized and the financial health of the firm is better assured.

Therefore, because PPL is operationally riskier than either KU or LGE, it should, theoretically, be capitalized with *more* equity and *less* debt than the lower-risk regulated operations. However, just the opposite condition exists—PPL is capitalized with less equity and more debt than either KU or LGE. A more highly-leveraged capital structure at the unregulated parent-company level, when the regulated subsidiary faces similar or lower business risk is an indication of financial cross-subsidization of the unregulated parent by the ratepayers of the regulated entity.

For example, PPL reports in its 2010 SEC Form 10-K (pp. 120, 121) that PPL Energy Supply, LLC, its unregulated merchant generating and trading operations were capitalized with $3.7 Billion net common equity and $6.1 Billion debt, or only 38% common equity, while KU and LGE were recently capitalized with common equity ratios of 53.4% and 54.9%, respectively. In other words, the unregulated parent company is able to capitalize its riskier operations more inexpensively (*i.e.*, with less common equity) than it otherwise could because it passes on the burden of paying for the higher cost capital structure (the one with more equity capital) to its regulated ratepayers.

Q. WHY SHOULD THIS COMMISSION BE CONCERNED ABOUT THE DIFFERENCES BETWEEN THE CAPITAL STRUCTURES OF KU AND LGE AND ITS PARENT, PPL CORPORATION?

A. This Commission has traditionally utilized the booked capital structure of the entities it regulates as a basis for determining the overall cost of capital to include in rates. That practice is reasonable as long as the capital structure of the regulated subsidiary is reasonable. In the current instance, where the regulated subsidiaries (KU, LGE) are capitalized with substantially more common equity than the riskier unregulated parent (PPL), the issue of financial cross-subsidization arises and the Commission should question whether or not the higher common equity ratio of the subsidiary is solely for the benefit of the subsidiary and its ratepayers or is also being used to support the financial health of the parent's unregulated operations. If the Commission determines the latter case holds, then, for utility subsidiary ratemaking purposes, the use of a more cost-effective capital structure (*i.e.*, one that contains less common equity and more debt) would be called for.

Finally on this point, the Commission should be wary of uncritical reliance on the booked capital structure of regulated subsidiaries of an unregulated parent company because the latter has the ability to "shape" the former. For example, a parent company can lend money to its subsidiary and, subsequently simply elect to re-classify that debt to an equity investment, thereby dramatically changing the balance sheet of the subsidiary. In that instance, no capital would change hands; the parent simply makes an accounting entry and dramatically changes the subsidiary capital structure. Similarly, the parent can issue debt to the capital markets and inject those monies into KU and LGE as common equity. Those monies would appear on the balance sheet of the subsidiary as common equity but would have been raised through a debt issuance at the parent-company level.

Importantly, if capital contributed to the regulated subsidiary is used as common equity for ratemaking purposes, ratepayers pay an equity return on those monies as well as the income taxes that would be necessary if the subsidiary filed its own tax returns. However, the actual cost of those monies to the parent is a debt cost, not an equity cost; and in addition, the parent (which will actually pay income taxes, not the subsidiary) will pay no income tax on those monies, because they are really provided by debt capital. Therefore, the parent's bottom line will be increased by 1) the difference between the equity return it will receive on that capital and the actual cost of that debt *as well as* 2) the related income taxes provided by the ratepayers, which the parent will not pay.

Therefore, there are many reasons why the Commission should examine not only the capital structure of the regulated subsidiary but also the capital structure of the parent company. In order to balance the interests of the Companies and their ratepayers, the Commission should assess whether or not ratepayers are being asked to provide a return on a capital structure that is appropriate for the risk of the operations of the regulated entity.

Q. HOW DO KU AND LGE'S RECENT CAPITAL STRUCTURES COMPARE TO THAT UTILIZED IN THE ELECTRIC UTILITY INDUSTRY TODAY?

A. The recent capital structures of KU and LGE contain more common equity than is employed, on average, in the electric utility industry today. As shown on Schedule 2 attached to my testimony, the average common equity ratio of the electric and combination gas and electric utility industry is 46.2%. KU and LGE's March 31, 2011 capital structures contains considerably more common equity than the electric industry on average (53.4% and 54.9%, respectively). For that reason, both KU and LGE have lower financial risk than average for an electric utility.

In my cost of equity capital analysis, which follows this discussion of capital structure, I select a sample group of 14 electric and combination electric and gas companies similar in risk to KU and LGE for my cost of equity analysis. According to the August 2011 edition of *AUS Utility Reports*, those companies have a current average common equity ratio of 45%—slightly lower than the industry average and much lower than KU's or LGE's current common equity ratio. Therefore, because my cost of equity estimate is based on companies that have a substantially lower common equity and concomitantly higher financial risk, the cost of common equity estimate obtained in this analysis overstates the cost of equity appropriate for a financially less risky KU and LGE.

Q. THE CAPITAL STRUCTURES YOU SHOW ON YOUR SCHEDULE 2 ARE THOSE OF THE PUBLICLY TRADED UTILITY HOLDING COMPANIES, NOT THE UTILITY SUBSIDIARIES, CORRECT?

A. Yes.

Q. WHY ARE THOSE CAPITAL STRUCTURES APPROPRIATE FOR COMPARISON WITH THE RATE-MAKING CAPITAL STRUCTURE OF KU AND LGE—REGULATED UTILITY SUBSIDIARIES?

A. In this proceeding, the Commission will base the allowed return on equity for KU and LGE on the market-based cost of capital estimates of other similar-risk, publicly traded electric companies. The publicly traded companies are the parent holding companies, not the individual regulated subsidiaries, and they (not the utility subsidiaries) are key to the cost of equity estimate. For example, in order to own an interest in a regulated utility, an investor must purchase shares of its parent company, and it is the financial risk inherent in the capital structure of that parent company to which the investor is exposed. Therefore, to assess the appropriate capital structure in a ratemaking proceeding (the capital structure that corresponds with the market-based cost of equity), we must turn to the capital structure of the publicly traded parent holding company, which is the capital structure of import to the investor that directly impacts the cost of common equity capital.

Also, as noted above, subsidiary capital structures are subject to control by the parent company. For that reason the capital structure of the utility subsidiaries are not accurate indicators of a market-based capital structure. The capital structures that are relevant to the market cost of capital are found at the publicly traded parent-company level.

Q. IS THERE A RECOGNIZED METHOD WITH WHICH DIFFERENCES IN FINANCIAL RISK CAN BE QUANTIFIED?

A. Yes. The impact of debt leverage on the cost of equity capital can be approximated through an examination of the change in beta, which occurs when leverage is increased or decreased. That process is based on the pioneering work of Modigliani and Miller, and is discussed in more detail in Appendix B attached to this testimony.

The result of the analysis indicates that the cost of equity capital for an otherwise similar-risk firm with a 53% common equity ratio (average for KU and LGE) is 38 to 52 basis points lower than the cost of equity of the sample group, which has an average common equity ratio of 45%. While any such analysis is subject to error, it is reasonable to believe that due to the relatively high common equity ratios and low financial risk enjoyed by KU and LGE, the allowed return on equity should be at least 0.25% lower than the average cost of capital for the sample group.

Q. WHICH CAPITAL STRUCTURE DO YOU RECOMMEND FOR DETERMINING THE RETURN PORTION OF THE ENVIRONMENTAL SURCHARGE AT ISSUE IN THIS PROCEEDING?

A. It is my understanding that this Commission has traditionally relied on the utility subsidiary's booked capital structure in determining an overall return for ratemaking purposes. For that reason, if this Commission elects to utilize an overall return (rather than the cost of short-term debt, which would more closely mirror the Companies' actual capital costs during construction), it would be reasonable to base an overall return on the Companies' recent average capital structures.

If the Commission elects to utilize the booked capital structures for KU and LGE, it should also recognize that because of the very low financial risk imparted by the Companies' relatively high common equity ratios, the allowed return on common equity should be reduced to account for that lower risk. The allowed return on equity should be further reduced because the regulatory regime allowed under the environmental surcharge legislation reduced the Companies' business or operating risks compared to traditional rate of return/rate base regulation.

Under traditional rate base/rate of return regulation, utilities are not allowed to earn a return on plant construction until that plant is "used and useful." That long-held regulatory mechanism is designed to mirror operating conditions that exist in the unregulated sector in which firms are, similarly, unable to earn a return on new factory investment until that factory begins to produce saleable product. Under the rubric of the environmental surcharge in this jurisdiction, the Companies can recover both a return of and a return on environmental capital expenditures a mere two months after the expenditure occurs—prior to the date on which the equipment becomes operational.

Moreover, the environmental plant expenditures are subject to pre-approval by the Commission, which makes any after-the-fact prudence review (and subsequent disallowance of the plant from rate base) highly unlikely. These conditions represent a significantly lower business-risk profile than traditional or standard utility rate base/rate of return regulation. The Companies' allowed return on equity should recognize both the lower business risk afforded by the environmental surcharge and the lower financial risk afforded KU and LGE by their relatively high common equity ratios.

Q. ARE THERE ALTERNATIVE MEANS THROUGH WHICH THIS COMMISSION CAN RECOGNIZE THE LOWER RISK OF THE ENVIRONMENTAL SURCHARGE, RATHER THAN LOWERING THE ALLOWED RETURN ON COMMON EQUITY?

A. Yes. This type of environmental surcharge proceeding is different from a normal rate proceeding and, due to the reduced risks afforded by the surcharge mechanism, the Commission could elect to handle the overall return calculation differently. For example, the Commission could directly address the reduced risk of the environmental surcharge by setting the overall return for KU and LGE with a more cost-effective capital structure that uses less common equity and more debt capital, such as the capital structure currently utilized by LKE, the direct parent of KU and LGE. As noted previously, LKE has virtually identical business risk to KU and LGE but is capitalized much more cost-effectively. As shown on page 2 of Schedule 1, LKE is capitalized with approximately 44% equity and 56% debt, which is very similar to the average capitalization of the publicly traded companies in the electric utility industry. Setting an overall return with a 9.5% return on equity, a 5% cost of debt (the approximate average of KU and LGE's debt costs), and LKE's capital structure would result in an overall return of 6.98% and a pre-tax overall return of 9.64% [9.5% x 44% ÷ (1-38.9% tax rate) + 5.0% x 56% = 9.64%].

Alternatively, utilizing the equity-rich capital structure of KU and LGE would—and even accounting for a lower cost of equity capital—would result in a higher overall return to the Companies and higher costs to their ratepayers. Setting an overall return with a 9.0% return on equity (lowered by 50 basis points to account for KU and LGE's higher equity ratios), a 5% cost of debt, and KU/LGE's average capital structure of 54% equity and 46% debt would produce an overall return of 7.16% and a pre-tax overall return of 10.25% [9.0% x 54% ÷ (1-38.9% tax rate) + 5.0% x 46.0% = 10.25%].

If we assume, further, that the Companies' investment in environmental plant is $1 Billion, the rate impact of the return allowed by setting surcharge rates using LKE's capital structure would be $96.4 Million annually [$1 Billion x 9.64% overall return = $96.4 Million]. If the Commission elects, instead, to utilize the Companies' booked capital structure to determine the overall return, as it normally does in rate proceedings, the annual rate impact of the return imparted to Kentucky ratepayers would be $102.5 Million annually [$1 Billion x 10.25% overall return = $102.5 Million]. The use of a more cost-effective capital structure in setting environmental surcharge rates would save Kentucky ratepayers an additional $6 Million annually in this example.

These results show, first, that capital structure is a powerful determinant of the return that will be included in the environmental surcharge at issue in these proceedings.

Second, these results show that setting the allowed return to be used in the environmental surcharge with a more cost-effective capital structure provides additional savings to Kentucky ratepayers beyond those provided by reducing the allowed return on equity to account for the equity-rich capital structures of KU and LGE. In other words, the use of a more cost-effective capital structure also accounts for the lower risk of the environmental surcharge regime. In that way, the use of a more cost-effective capital structure does more to balance the interests of the Companies and their consumers with regard to accounting for the lower business risk afforded environmental investment by the surcharge mechanism.

In summary, it is important to note that KIUC's primary recommendation with regard to the return to be included in the environmental surcharge is that the Commission utilize a short-term debt rate because that will be the manner in which the construction will be actually financed. Absent that treatment, and because this Commission has traditionally utilized the subject utility's current booked capital structure for determining the overall return, the use of KU and LGE's recent booked capital structures would be reasonable, as long as the allowed return on equity recognizes the low financial risk of that capital structure. Finally, because the environmental surcharge ratemaking process is fundamentally different from traditional regulation, KIUC also recommends that this Commission consider alternative means to more equitably share the reduced risks of that surcharge process by utilizing more cost-effective capital structures, such as those employed by KU and LGE's parent companies.

Q. DOES THIS CONCLUDE YOUR DISCUSSION OF CAPITAL STRUCTURE?

A. Yes, it does.

IV. METHODS OF EQUITY COST EVALUATION

A. SAMPLE GROUP SELECTION

Q. PLEASE EXPLAIN WHY YOU ANALYZED THE MARKET DATA OF SEVERAL COMPANIES TO ESTIMATE THE COST OF EQUITY.

A. I have used the "similar sample group" approach to cost of capital analysis because it yields a more accurate determination of the cost of equity capital than the analysis of the data of only one company. Any form of analysis where the result is an estimate, such as growth in the DCF model, is subject to measurement error, *i.e.*, error induced by the measurement of a particular parameter or by variations in the estimate of the technique chosen. When the technique is applied to only one observation (*e.g.*, estimating the DCF growth rate for a single company) the estimate is referred to, statistically, as having "zero degrees of freedom." This means, simply, that there is no way of knowing if any observed change in the growth rate estimate is due to measurement error or to an actual change in the cost of capital. The degrees of freedom can be increased and exposure to measurement error reduced by applying any given estimation technique to a sample of similar-risk companies rather than one single company. Therefore, by analyzing a group of firms with similar characteristics, the estimated value (the growth rate and the resultant cost of capital) is more likely to equal the "true" value for that type of operation.

Q. HOW WERE THE FIRMS SELECTED FOR YOUR ANALYSIS?

A. As a basis for analysis, I analyzed the market data of electric and combination electric and gas companies with generation assets that also had at least 70% of revenues from electric operations, did not have a pending merger, did not have a recent dividend cut, had stable book values, and bond ratings between "A-" and "BBB-." The screening process for electric utilities is summarized on Schedule 4 attached to my testimony. All of the electric utilities followed by Value Line are shown, as well as the screening parameters and the parameter values for each company. The electric utility companies selected for my analysis as similar in risk to KU and LGE are: SCANA Corporation (SCG), TECO Energy (TE), ALLETE (ALE), American Electric Power (AEP), Cleco Corp. (CNL), Entergy Corp. (ETR), Westar Energy (WR), Avista Corporation (AVA), Black Hills Corporation (BKH), Hawaiian Electric Industries (HE), PGE Corporation (PCG), Pinnacle West Capital Corp. (PNW), Portland General (POR), and UniSource Energy (UNS).[5]

B. DISCOUNTED CASH FLOW MODEL

Q. PLEASE DESCRIBE THE DISCOUNTED CASH FLOW (DCF) MODEL YOU USED TO ARRIVE AT AN ESTIMATE OF THE COST RATE OF COMMON EQUITY CAPITAL FOR KU AND LGE IN THIS PROCEEDING.

A. The DCF model relies on the equivalence of the market price of the stock (P) with the present value of the cash flows investors expect from the stock, and assumes that the discount rate equals the cost of capital. The total return to the investor, which equals the required return and the cost of equity capital according to this theory, is the sum of the dividend yield and the expected growth rate in the dividend.

The theory is represented by the equation,

$$k = D/P + g, \qquad (1)$$

where "k" is the equity capitalization rate (cost of equity, required return), "D/P" is the dividend yield (dividend divided by the stock price), and "g" is the expected sustainable

[5] In the Schedules accompanying this testimony, the sample group companies are referred to by their stock ticker symbols, shown here in parentheses.

growth rate.

Q. WHAT GROWTH RATE (g) DID YOU ADOPT IN DEVELOPING YOUR DCF COST OF COMMON EQUITY FOR THE COMPANIES IN THIS PROCEEDING?

A. The growth rate variable in the traditional DCF model is quantified, theoretically, as the dividend growth rate investors expect to continue into the indefinite future. The DCF model is actually derived by 1) considering the dividend a growing perpetuity (*i.e.*, a payment to the stockholder that grows at a constant rate indefinitely) and 2) calculating the present value (the current stock price) of that perpetuity. The model also assumes that the company whose equity cost is to be measured exists in a steady state environment, *i.e.*, the payout ratio and the expected return are constant and the earnings, dividends, book value and stock price all grow at the same rate, forever.

While that assumption seems unrealistic because, in the short term, growth rates in those parameters (dividends, earnings and book value) can be quite different, over the long term it has proven to be true. For example, according to Value Line's published year-by-year retrospective of the Dow Jones Industrials Index (DJI) from 1920 through 2005, the average earnings, dividend and book value growth rates for the companies in the DJI were 5.3%, 4.9% and 5.2%, respectively.[6] For utility companies, over the long term, average growth rates in earnings, dividends and book value are even closer. Moody's *Public Utility Manual* reports that, between 1947 and 1999, average growth in earnings, dividend and book value growth of Moody's Electric Utilities was 3.34%, 3.22% and 3.66%, respectively.[7] Therefore, the fundamental DCF assumption that earnings, dividends and book value are expected to grow, over the long-term, at the same sustainable rate of growth is reasonable and an accurate representation of how firms actually grow over time.

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[6] www.valueline.com, Dow Jones Long Term Chart (PDF)

[7] Moody's ceased publication of its Public Utility Manual in 2001.

However, even though the long-term fundamental assumptions of the DCF have proven to be sound, as with all mathematical models of real-world phenomena, the DCF theory does not precisely "track" reality in the shorter term. Payout ratios and expected equity returns, as well as earnings and dividend growth rates, do change over the short term. Therefore, in order to properly apply the DCF model to any real-world situation and in this case, to find the long-term sustainable growth rate called for in the DCF theory, it is essential to understand the determinants of long-run expected dividend growth.

Q. CAN YOU PROVIDE AN EXAMPLE TO ILLUSTRATE THE DETERMINANTS OF LONG-RUN EXPECTED DIVIDEND GROWTH?

A. Yes, in Appendix C, I provide an example of the determinants of a sustainable growth rate on which to base a reliable DCF estimate. In addition, in Appendix C, I show how reliance on earnings growth rates alone, absent an examination of the underlying determinants of long-run dividend growth, can produce inaccurate DCF results.

Q. HOW HAVE YOU DEVELOPED AN ESTIMATE OF THE EXPECTED GROWTH RATE FOR THE DCF MODEL?

A. While I have calculated both the historical and projected sustainable growth rate for a sample of utility firms with similar-risk operations, I have not relied solely on that type of growth rate analysis. To estimate an appropriate DCF growth rate, I have also utilized published data regarding both historical and projected growth rates in earnings, dividends, and book value for the sample group of utility companies. Through an examination of all of those data, which are available to and used by investors, I estimate investors' long-term internal growth rate expectations. To that long-term growth rate estimate, I add any additional growth that is attributable to investors' expectations regarding the ongoing sale of stock for each of the companies under review.

Q. HOW HAVE YOU CALCULATED THE DCF GROWTH RATES FOR THE SAMPLE OF COMPARABLE COMPANIES?

A. Exhibit_ (SGH-1), Schedule 5 pages 1 through 5, shows the retention ratios, equity returns, sustainable growth rates, book values per share and number of shares outstanding for the comparable electric companies for the past five years. Also included in the information presented in Exhibit_ (SGH-1), Schedule 5, are Value Line's projected 2011, 2012 and 2014-2016 values for equity return, retention ratio, book value growth rates and number of shares outstanding.

In evaluating these data, I first calculate the five-year average sustainable growth rate, which is the product of the earned return on equity (r) and the ratio of earnings retained within the firm (b). For example, Exhibit_ (SGH-1), Schedule 5, page 2, shows that the five-year average sustainable growth rate for one of the sample companies (American Electric Power; AEP) is 4.74%. The simple five-year average sustainable growth value is used as a benchmark against which I measure the company's most recent growth rate trends. Recent growth rate trends are more investor influencing than simple historical averages. Continuing to focus on AEP as an example of the determination of a DCF growth rate, we see that sustainable growth has been relatively consistent throughout the historical period indicating stable growth. By the 2014—2016 period, Value Line projects AEP's sustainable growth will approximate the recent five-year average at 4.62%. These forward-looking data indicate that investors expect AEP to grow at a rate similar to the growth rate that has existed, on average, over the past five years.

At this point I should note that, while the five-year projections are given consideration in estimating a proper growth rate because they are available to and are used by investors, they are not given sole consideration. Without reviewing all the data available to investors, both projected and historic, sole reliance on projected information may be misleading. Value Line readily acknowledges to its subscribers the subjectivity necessarily presented in estimates of the future:

> "We have greater confidence in our year-ahead ranking system, which is based on proven price and earnings momentum, than in 3- to 5-year projections." (Value Line Investment Survey, Selection and Opinion, June 7, 1991, p.854).

Another factor to consider is that AEP's book value growth is expected to increase at a 4.5% level over the next five years. This information tends to confirm the sustainable growth projections. Also, as shown on Exhibit_ (SGH-1), Schedule 6, page 2, which contains published growth rate information for each company, AEP's dividend growth rate, which was 2% historically, is expected yo increase to a 4% rate of growth. While this shows higher growth, the projected level is below sustainable growth projections.

Earnings growth rate data available from Value Line indicate that investors can expect a similar growth rate in the future (4.5%), compared to the sustainable growth rate projections. IBES and Zacks (investor advisory services that poll institutional analysts for growth earnings rate projections) also project moderate earnings growth rate for AEP—3.65% and 4.0%, respectively—over the next five years.

AEP's projected sustainable growth is expected to approach 4.5%, and dividends are expected to increase at a 4% annual rate. Per share earnings growth is expected to range from 3.65% to 4.5%. A long-term growth rate of 4.25% is a reasonable expectation for AEP.

Q. IS THE INTERNAL (b x r) GROWTH RATE THE FINAL GROWTH RATE YOU USE IN YOUR DCF ANALYSIS?

A. No. An investor's sustainable growth rate analysis does not end upon the determination of an internal growth rate from earnings retention. Investor expectations regarding growth from external sources (sales of stock) must also be considered and examined. For AEP, page 2 of Exhibit_ (SGH-1), Schedule 5 shows that the number of outstanding shares increased at a 4.93% rate over the most recent five-year period, due primarily to an equity issuance in 2009. Prior to 2009, AEP's shares outstanding grew at about a 1% rate. However, Value Line expects the number of shares outstanding to increase at a slower rate through the 2014—2016 period, bringing the share growth rate to a 0.79% rate by that time, due to a large issuance expected this year. An expectation of share growth of 1.75% is reasonable for this company.

Because AEP is currently trading at a market price that is greater than book value, issuing additional shares will increase investors' growth rate expectations. Multiplying the expected growth rate in shares outstanding by (1 - (Book Value/Market Value))[8] increases the investor-expected growth rate for AEP by 0.38%. Therefore, the combined internal and external growth rate for AEP is 4.63% (4.25% internal growth and 0.38% external growth).

I have included the details of my growth rate analyses for AEP as an example of the methodology I use in determining the DCF growth rate for each company in the electric industry sample. A description of the growth rate analyses of each of the companies included in my sample groups is set out in Appendix D. Exhibit_ (SGH-1), Schedule 6, page 1, attached to this testimony shows the internal, external and resultant overall growth rates for the electric utility companies analyzed.

Q. HAVE YOU CHECKED THE REASONABLENESS OF YOUR GROWTH RATE ESTIMATES AGAINST OTHER PUBLICLY AVAILABLE, GROWTH RATE DATA?

A. Yes. Page 2 of Exhibit_ (SGH-1), Schedule 6, shows the results of my DCF growth rate analysis as well as five-year historic and projected earnings, dividends, and book value

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[8] This is Gordon's formula for "v" the accretion rate related to new stock issues. B=book value, M=market value. (Gordon, M.J., The Cost of Capital to a Public Utility, MSU Public Utilities Studies, East Lansing, Michigan, 1974, pp. 30–33).

growth rates from Value Line; earnings growth rate projections from Reuters, the average of Value Line and IBES growth rates; and the five-year historical compound growth rates for earnings, dividends and book value for each company under study.

My average DCF growth rate estimate for all the electric utility companies included in my analysis is 4.87%. This figure is above Value Line's projected growth rate dividends and book value for those same companies (4.28%) and is also above the five-year historical average earnings, dividend, and book value growth rate reported by Value Line for those companies (4.75%). My growth rate estimate for the electric companies under review is below Value Line's earnings growth rate projections—7.04%—but is similar to the average earnings projections of IBES and Zacks (4.66% and 5.0%, respectively). Also, my growth rate estimate is well above the projected dividend growth rate of the sample companies, 4.43%.

Q. SOME ANALYSTS RELY SOLELY ON ANALYSTS' EARNINGS PROJECTIONS AS THE GROWTH RATE IN THE DCF; YOU HAVE NOT DONE SO. CAN YOU EXPLAIN WHY?

A. In my view, earnings growth rate projections are widely available and used by investors and therefore they deserve consideration in an informed, accurate assessment of the investor expected growth rate to be included in a DCF model. I do not believe, however, that projected earnings growth rates should be used as the *only* source of a DCF growth estimate. In other words, projected earnings growth rates are influential in, but not solely determinative of, investor expectations.

First, it is important to realize that, as I discuss in Appendix C, projected earnings growth rates may over- or understate the growth that can be sustained over time by the companies under review. This is important because long-term sustainable growth is required in an accurate DCF assessment of the cost of equity capital. The efficacy of projected earnings growth rates in any specific DCF analysis can only be determined through a study of the underlying fundamentals of growth—something that those who rely exclusively on analysts' earnings growth rate projections fail to do.

Second, the studies that support the use of analysts' earnings projections measure the ability of analysts' estimates to predict stock prices versus simple historical averages of other parameters. In that sort of simplistic comparison, analysts' projections perform better. However, I am aware of no cost of capital analyst that relies exclusively on historical average growth rates, nor is it reasonable to believe that any astute investor would do so. Therefore, while studies do indicate that analysts' earnings growth estimates are better indicators of stock prices than are simple historical averages of other growth rate parameters, those studies do not provide any basis for exclusive reliance on earnings growth projections in a DCF analysis.

Third, the sell-side institutional analysts that are polled by IBES and similar services offer relatively "rosy" expectations for the stock they follow—even when the analyst's actual expectations for the stock are not so sanguine. Simply put, some analysts overstate growth expectations to make the stocks they want to sell look more attractive. Although claims are often made that the opinions of sell-side analysts are not affected by the profits made by the other parts of the business that actually trade those securities, the "Cinderella effect" (analysts' overstating stock expectations) is not a new phenomenon, and is recognized in academia. As the authors of a widely-used finance textbook note regarding the use of projected earnings growth rates in a DCF analysis:

> Estimates of this kind are only as good as the long-term forecasts on which they are based. For example, several studies have observed that security analysts are subject to behavioral biases and their forecasts tend to be over-optimistic [footnote omitted]. If so, such DCF estimates of the cost of equity should be regarded as upper estimates of the true figure. [footnote omitted]. *See, for example,* A. Dugar and S. Nathan, "The Effect of Investment Banking Relationships on Financial Analysts' Earnings Investment

> Recommendations." (*Contemporary Accounting Research* 12 (1995), pp. 131-160.) (Brealey, Meyers, Allen, Principles of Corporate Finance, 8th Ed., McGraw-Hill Irwin, Boston, MA, (2006), p. 67)

As Chan and Lakonishok note in "The Level and Persistence of Growth Rates," published in the *Journal of Finance* (Vol. LVIII, No. 2, April 2003, p. 643), "[t]here is no persistence in long-term earnings growth beyond chance, and there is low predictability even with a wide variety of predictor variables. Specifically, IBES growth forecasts are overly optimistic and add little predictive power." This concern regarding investors' use of analysts' growth estimates is also underscored by an investor's service sponsored by the *Wall Street Journal*:

> "You should be careful when looking at analyst recommendations for several reasons. First of all, many analysts suffer from a conflict of interest between the firm that employs them and the company whose stock they track. Oftentimes, an analyst will be responsible for issuing reports on a company that is a current or potential client of their employer (usually an investment bank). Since they know that their employer would like to keep the client's business, the analyst may be tempted to issue a rosier outlook for the stock than what it really deserves." (Investorguide.com, "University," Analysts and Earnings Estimates, www.investorguide.com/igustockanalyst.html)

Fourth, much of the academic work touted as support for reliance on earnings growth is based on data from the IBES database (now owned by Thomson); however, academic research recently published in the *Journal of Finance* indicates that there have been nonrandom, systematic errors in that database, which call into question the reliability of research (such as the research on the reliability of analysts' earnings estimates) based on those data. The researchers document that the historical contents of the IBES data base have been "quite unstable over time" and state:

> Data are the bedrock of empirical research in finance. When there are questions about the accuracy or completeness of a data source, researchers routinely go to great lengths to investigate measurement error, selection bias, or reliability. But what if the very contents of a historical database were to change, in error, over time? Such changes to the historical record would have important implications for empirical research. They could undermine the principle of replicability, which in the absence of controlled experiments is the foundation of empirical research in finance. They could result in over- or underestimates of the magnitude of empirical effects, leading researchers down blind alleys. Also to the extent that financial-market participants use academic research for trading purposes, they could lead to resource allocation. … We document that the historical contents of the I/B/E/S recommendations database have been quite unstable over time. (Lungqvist, Malloy, Marston, "Rewriting History," *The Journal of Finance*, Vol. 64, No. 4, August 2009, pp. 1935-1960)

Fifth, widely-used investor services such as Value Line publish three- to fie-year dividend and book value growth rate projections for each company it follows. Investors have equal access to all three growth rates (earnings, dividends and book value) and, it would be reasonable to assume, utilize all three when making a determination of long-term sustainable growth. Also, the Efficient Market Hypothesis (a fundamental tenet of modern finance) holds that all published material is considered by investors and is, therefore, included in stock prices, indicating that to properly evaluate the cost of capital, other growth rates besides earnings should be considered. Moreover, as noted previously, the DCF model assumes that earnings, dividends and book value all grow at the same rate. Therefore, the use of the average of those three projected growth rate parameters published in Value Line would provide a more balanced growth rate analysis than an earnings growth-only DCF model.

Q. DOES THIS CONCLUDE THE GROWTH RATE PORTION OF YOUR DCF ANALYSIS?

A. Yes, it does.

Q. HOW HAVE YOU CALCULATED THE DIVIDEND YIELDS?

A. I have estimated the next quarterly dividend payment of each firm analyzed and annualized them for use in determining the dividend yield. If the quarterly dividend of any company was expected to be raised in the next quarter (4^{th} quarter 2011), I increased the current quarterly dividend by (1+g). Because many of the companies had recently increased dividends or were not expected to increase dividends at all during 2011 and 2012, for the utility companies in the sample groups, a dividend adjustment was necessary only for Entergy, and PGE Corporation.

The following quarter annualized dividends were divided by a recent daily closing average stock price to obtain the DCF dividend yields. I use the most recent six-week period to determine an average stock price in a DCF cost of equity determination because I believe that period of time is long enough to avoid daily fluctuations and recent enough so that the stock price captured during the study period is representative of current investor expectations.

Exhibit_ (SGH-1), Schedule 7 contains the market prices, annualized dividends and dividend yields of the utility companies under study. Exhibit_ (SGH-1), Schedule 7 indicates that the average dividend yield for the sample group of electric companies is 4.60%. The year-ahead dividend yield projection published by Value Line for the electric utility sample group is 4.56% (Value Line, *Summary & Index*, July 22, 2011). By that measure, my dividend yield calculation is representative of investor year-ahead expectations.

Q. WHAT IS YOUR COST OF EQUITY CAPITAL ESTIMATE FOR THE ELECTRIC UTILITY COMPANIES, UTILIZING THE DCF MODEL?

A. Exhibit_ (SGH-1), Schedule 8 shows that the average DCF cost of equity capital for the group of electric utilities is 9.48%.

C. CAPITAL ASSET PRICING MODEL

Q. PLEASE DESCRIBE THE CAPITAL ASSET PRICING MODEL (CAPM) YOU USED TO ARRIVE AT AN ESTIMATE FOR THE COST RATE OF KU AND LGE'S EQUITY CAPITAL.

A. The CAPM states that the expected rate of return on a security is determined by a risk-free rate of return plus a risk premium, which is proportional to the non-diversifiable (systematic) risk of a security. Systematic risk refers to the risk associated with movements in the macroeconomy (the economic "system") and, thus, cannot be eliminated through diversification by holding a portfolio of securities. The beta coefficient (β) is a statistical measure that attempts to quantify the non-diversifiable risk of the return on a particular security against the returns inherent in general stock market fluctuations. The formula is expressed as follows:

$$k = r_f + \beta(r_m - r_f), \qquad (2)$$

where "k" is the cost of equity capital of an individual security, "r_f" is the risk-free rate of return, "β" is the beta coefficient, "r_m" is the average market return and "$r_m - r_f$" is the market risk premium. The CAPM is used in my analysis not as a primary cost of equity analysis, but as a check of the DCF cost of equity estimate. Although I believe the CAPM can be useful in testing the reasonableness of a cost of capital estimate, certain theoretical shortcomings of this model (when applied in cost of capital analysis) reduce its usefulness.

Q. CAN YOU EXPLAIN WHY THE CAPM ANALYSIS SHOULD BE APPLIED TO COST OF CAPITAL ESTIMATION WITH CAUTION?

A. Yes. The reasons why the CAPM should be used in cost of capital analysis with caution are set out below. It is important to understand that my caution with regard to the use of the CAPM in a cost of equity capital analysis does not indicate that the model is not a useful description of the capital markets or that it is not widely used, because it is. Rather, my caution recognizes that in the practical application of the CAPM to cost of capital analysis there are problems that can cause the results of that type of analysis to be less reliable than other, more widely accepted models, such as the DCF.

There has been much comment in the financial literature regarding the strength of the assumptions that underlie the CAPM and the inability to substantiate those assumptions through empirical analysis. Also, there are problems with the key CAPM risk measure—beta—that indicate that the CAPM analysis is not a reliable primary indicator of equity capital costs.

Cost of capital analysis is a decidedly forward-looking, or *ex-ante*, concept. Beta is not. The measurement of beta is derived with historical, or *ex-post*, information. Therefore, the beta of a particular company, because it is usually derived with five years of historical data in order to bolster statistical reliability, is slow to change to current (*i.e.*, forward-looking) conditions, and some price abnormality that may have happened four years ago could substantially affect beta while currently being of little actual concern to investors.

In addition, there are substantial differences of opinion with regard to the magnitude of the investor-expected market risk premium (the expected return difference between stocks and Treasury bonds). Those differences of opinion obtain from different historical averaging methods (*i.e.*, arithmetic versus geometric) as well as from the use of different time periods over which to measure the return differences between stocks and bonds.

As I will show below, those interpretational differences in the market risk premium are not inconsequential and can have a significant impact on the outcome of the CAPM. In fact, the difference in the market risk premium selected by Dr. Harris and myself is a primary driver in the difference between his CAPM results and mine. For these reasons, the CAPM should not be utilized in regulatory rate setting as a primary indicator of the cost of common equity. Rather the CAPM should be used to temper the results of the DCF analysis, which is more widely used in regulation as the primary indicator of equity capital costs.

Q. WHAT VALUE HAVE YOU CHOSEN FOR A RISK-FREE RATE OF RETURN IN YOUR CAPM ANALYSIS?

A. As the CAPM is designed, the risk-free rate is that rate of return investors can realize with certainty. The nearest analog in the investment spectrum is the 13-week U. S. Treasury Bill. However, T-Bills can be heavily influenced by Federal Reserve policy, as they have been over the past three years. While longer-term Treasury bonds have equivalent default risk to T-Bills, those longer-term government securities carry maturity risk that the T-Bills do not have. When investors tie up their money for longer periods of time, as they do when purchasing a long-term Treasury Bond, they must be compensated for future investment opportunities forgone as well as the potential for future changes in inflation. Investors are compensated for this increased investment risk by receiving a higher yield on T-Bonds. When T-Bills and T-Bonds exhibit a "normal" (historical average) spread of about 1.5% to 2%, the results of a CAPM analysis that matches a higher market risk premium with lower T-Bill yields or a lower market risk premium with higher T-Bond yields are very similar.

As I noted in my previous discussion of the macroeconomy, in an attempt to fend off a recession and inject liquidity into the financial system, the Fed has acted vigorously since the financial crisis to lower short-term interest rates. Over the most recent six-week period, T-Bills have produced an average yield of only 0.04%. During that time period Treasury Bonds have been priced to yield 4.25% (data from Value Line *Selection & Opinion*, six most recent weekly editions (6/17/11 through 7/22/11)). Therefore, for purposes of analysis in this proceeding I will use 4.25% as the long-term risk-free rate.

Q. DO YOU BELIEVE THE USE OF A LONG-TERM TREASURY BOND RATE IS APPROPRIATE IN THE CAPM?

A. In the current economic environment, with short-term Treasury Bills yielding a near zero return, the use of a long-term Treasury bond would provide a more accurate indication of the risk-free return investors require and produces a more accurate estimate of investors' cost of equity. Therefore, in this testimony, I will present the CAPM cost of equity results using only long-term Treasury bond yields. With that measure of the risk-free rate, I use the corresponding measure of the market risk premium (*i.e.*, those based on the difference between stock returns and long-term Treasury bond returns).

Q. WHAT MARKET RISK PREMIUM HAVE YOU USED IN YOUR CAPM ANALYSIS?

A. The market risk premium is the difference between the return investors expect on stocks and the return they expect on a risk-free rate of return such as a U.S. Treasury bond. The "traditional" view, supported primarily by the earned return data over the past 80 years published by Morningstar (formerly Ibbotson Associates), is based on the historical difference between the returns on stocks and the returns on bonds. That view assumes that the returns actually earned by investors over a long period of time are representative of the returns they expect to earn in the future.

For example, the current Morningstar data show that investors have earned a return of 11.8% on stocks and 5.8% on long-term Treasury bonds since 1926.[9] Therefore, based on those historical data, it is assumed that investors will require a risk premium in the future of 6.0% above the long-term risk-free rate to invest in stocks [11.8% - 5.8% = 6.0%]. With a current long-term T-Bond yield of approximately 4.25%, that assumption indicates an investor expectation of a 10.25% return for the stock market in general [4.25% + 6.0% = 10.25%]. However, current research indicates that there are aspects of the Morningstar historical data set that, when examined, point not only to lower historical risk premiums than those reported by Morningstar, but also lower expected risk premiums.

Q. HAS THE RESEARCH YOU MENTION FOUND ITS WAY INTO TODAY'S FINANCE TEXTBOOKS?

A. Yes. In the 2006 edition of their widely used finance textbook, Brealey, and Meyers discuss the findings of many different recent studies regarding the market risk premium. [10] Importantly, in prior editions of their textbooks Brealey et al. cited the Morningstar historical data; now they do not. Instead they cite the risk premium work of Dimson, Staunton and Marsh, authors of *Triumph of the Optimists*, in which they review a longer-term data set than that used by Morningstar and conclude that market risk premiums expected in the future are below historical averages.[11]

The textbook authors conclude, based on a review of the recent evidence regarding the market risk premium, that a reasonable range of arithmetic equity premiums above *short-term* Treasury Bills is 5% to 8%.[12]

[9] Ibbotson SBBI 2010 Valuation Yearbook, p. 23.
[10] Brealey, R., Meyers, S., Allen, F., *Principles of Corporate Finance*, 8th Edition, McGraw-Hill, Irwin, Boston MA, 2006.
[11] Dimson, E., Staunton, M., March, P., *Triumph of the Optimists: 101 Years of Global Investment Returns*, Princeton University Press, Princeton, NJ, 2002.
[12] Op cit, p. 154.

Because the long-term historical difference in the return between T-Bonds and T-Bills has been approximately 1.2%, Brealey and Meyers' textbook indicates a long-term market risk premium relative to T-Bonds ranging from 3.8% to 6.8% [5% - 1.2% = 3.8%; 8% - 1.2% = 6.8%].[13] The mid-point of that 3.8% to 6.8% reasonable risk premium range is 5.3%. Although 5.3% is higher than other risk premium estimates, that average market risk premium added to a current T-Bond yield of 4.25%, indicates a current equity return expectation for U.S. equities of 9.55%. Because utility stocks are less risky than the market as a whole, an appropriate return on equity for utilities would, therefore, be lower, according to CAPM theory.

Q. WHAT HAVE YOU CHOSEN AS THE MARKET RISK PREMIUM FOR THE CAPM ANALYSIS?

A. In its 2010 edition of *Stocks, Bonds, Bills and Inflation*, Ibbotson Associates indicates that the average market risk premium between stocks and T-Bonds over the 1926–2009 time period is 6.0% (based on an arithmetic average) and 4.4% (based on a geometric average). I have, in prior testimony, used these long-term historical average values as estimates of the market risk premium in the CAPM analysis.

As I have noted above, recent research in the field of financial economics has shown that the market risk premium data published by Morningstar is likely to overstate investor-expected market risk premiums. Current textbooks (Brealey and Meyers) indicate that the long-term arithmetic average market risk premium ranges from 3.8% to 6.8%. The midpoint of Brealey and Meyer's long-term risk premium range is 5.3%, which falls within the 3.9% to 5.6% range published by Morningstar. For purposes of determining the CAPM cost of equity in this proceeding I will use the mid-point of the long-term risk premium range set out in the most recent Brealey and Meyer's text—

[13] Op cit, pp. 149, 222.

5.3%—as well as the Morningstar market risk premiums to develop a range of CAPM equity cost estimates.

Q. WHAT VALUES HAVE YOU CHOSEN FOR THE BETA COEFFICIENTS IN THE CAPM ANALYSIS?

A. Value Line reports beta coefficients for all the stocks it follows. Value Line's beta is derived from a regression analysis between weekly percentage changes in the market price of a stock and weekly percentage changes in the New York Stock Exchange Composite Index over a period of five years. The average beta coefficient of the sample of electric companies is 0.71.

Q. WHAT IS YOUR RECOMMENDED COST OF EQUITY CAPITAL FOR THE SAMPLE OF ELECTRIC COMPANIES USING THE CAPITAL ASSET PRICING MODEL ANALYSIS?

A. Exhibit_ (SGH-1), Schedule 9 shows that the average Value Line beta coefficient for the group of electric companies under study is 0.71. The upper end of the range of market risk premiums published by Ibbotson of 6.0% would, upon the adoption of a 0.71 beta, become a sample group premium of 4.26% (0.71 x 6.0%). That nonspecific risk premium added to the risk-free T-Bond rate of 4.25%, previously derived, yields a common equity cost rate estimate of 8.51%. Using the geometric long-term market risk premiums published by Morningstar (4.4%) and the mid-point of the Brealey and Meyer's range (5.3%) the resulting CAPM equity cost estimates range from 7.37% to 8.01%. The average of all three CAPM estimates is 7.97%. This analysis, even at the high end (8.51%) indicates a cost of equity capital below the standard DCF analysis.

D. MODIFIED EARNINGS-PRICE RATIO ANALYSIS

Q. PLEASE DESCRIBE THE MODIFIED EARNINGS-PRICE RATIO (MEPR) ANALYSIS OF THE COST OF COMMON EQUITY CAPITAL.

A. The earnings-price ratio is the expected earnings per share divided by the current market price. In cost of capital analysis, the earnings-price ratio (which is one portion of this analysis) can be useful in a corroborative sense, since it can be a good indicator of the proper range of equity costs when the market price of a stock is near its book value. When the market price of a stock is *above* its book value, the earnings-price ratio *understates* the cost of equity capital. Exhibit_ (SGH-1), Schedule 10 contains mathematical proof for this concept. The opposite is also true, *i.e.*, the earnings-price ratio *overstates* the cost of equity capital when the market price of a stock is *below* book value.

Under current market conditions, the utilities under study have an average market-to-book ratio of 1.36, and, therefore, the average earnings-price ratio alone will understate the cost of equity for the sample groups. However, I do not use the earnings-price ratio alone as an indicator of equity capital cost rates. Because of the relationship among the earnings-price ratio, the market-to-book ratio and the investor-expected return on equity described mathematically in Exhibit_ (SGH-1), Schedule 10, I have modified the earnings-price ratio analysis by including expected returns on equity for the companies under study. It is that modified analysis that I will use to assist in estimating an appropriate range of equity capital costs in this proceeding.

Q. PLEASE EXPLAIN THE RELATIONSHIP AMONG THE EARNINGS-PRICE RATIO, THE EXPECTED RETURN ON EQUITY, AND THE MARKET-TO-BOOK RATIO.

A. When the expected return on equity (ROE) approximates the cost of equity, the market price of the utility approximates its book value and the earnings-price ratio provides an accurate estimate of the cost of equity. As the investor-expected return on equity for a utility begins to exceed the investor-required return (the cost of equity capital), the market price of the firm will tend to exceed its book value. As explained above, when the market price exceeds book value, the earnings-price ratio understates the cost of equity capital. Therefore, when the expected equity return exceeds the cost of equity capital, the earnings-price ratio will understate that cost rate.

Also, in situations where the expected equity return is below what investors require for that type of investment, market prices fall below book value. Further, when market-to-book ratios are below 1.0, the earnings-price ratio overstates the cost of equity capital. Thus, the expected rate of return on equity and the earnings-price ratio tend to move in a countervailing fashion around the cost of equity capital.

When market-to-book ratios are above one, the expected equity return exceeds and the earnings-price ratio understates the cost of equity capital. When market-to-book ratios are below one, the expected equity return understates and the earnings-price ratio exceeds the cost of equity capital. Further, as market-to-book ratios approach unity, the expected return and the earnings-price ratio approach the cost of equity capital. Therefore, the average of the expected book return and the earnings-price ratio provides a reasonable estimate of the cost of equity capital.

These relationships represent general rather than precisely quantifiable tendencies but are useful in corroborating other cost of capital methodologies. The Federal Energy Regulatory Commission, in its generic rate of return hearings, found this technique useful and indicated that under the circumstances of market-to-book ratios exceeding unity, the cost of equity is bounded above by the expected equity return and below by the earnings-price ratio (*e.g.*, 50 *Fed Reg*, 1985, p. 21822; 51 *Fed Reg*, 1986, pp. 361, 362; 37 FERC ¶ 61,287). The midpoint of these two parameters, therefore, produces an estimate of the cost of equity capital which, when market-to-book ratios are different from unity, is far more accurate than the earnings-price ratio alone.

Q. IS THERE OTHER THEORETICAL SUPPORT FOR THE USE OF AN EARNINGS-PRICE RATIO IN CONJUNCTION WITH AN EXPECTED RETURN ON EQUITY AS AN INDICATOR OF THE COST OF EQUITY CAPITAL?

A. Elton and Gruber, *Modern Portfolio Theory and Investment Analysis* (New York University, Wiley & Sons, New York, 1995, pp. 401-404) provide support for reliance on my modified earnings-price ratio analysis.

The Elton and Gruber posit the following formula,

$$k = (1-b)E/(1-cb)P, \qquad (3)$$

where "k" is the cost of equity capital, "b" is the retention ratio, "E" is earnings, "P" is market price and "c" is the ratio of the expected return on equity to the cost of equity capital (ROE/k). This formula shows that when ROE = k, "c" equals 1.0 and the cost of equity capital equals the earnings-price ratio. Moreover, in that case, ROE is greater than "k" (as it is in today's market), "c" is greater than 1.0, and the earnings-price ratio will understate the cost of equity. Also, the more that ROE exceeds "k" the more the earnings price ratio will understate "k." In other words, as I note in my Direct Testimony those two parameters, the earnings-price ratio and the expected return on equity (ROE) orbit around the cost of equity capital, with the cost of equity as the locus, and fluctuate so that their mid-point approximates the cost of equity capital.

Assuming an industry average retention ratio of about 30% (*i.e.*, 70% of earnings are paid out as dividends), the stochastic relationship between the expected return (ROE) and the earnings price ratio can be determined from Equation (3), above, as shown in Table I below. Most importantly, Equation (3) shows that the average of the EPR and ROE (which is my MEPR analysis) will approximate "k", the cost of equity capital.

Table I.

SUPPORT FOR THE MODIFIED EARNINGS PRICE RAITO ANALYSIS

Cost of Equity	Retention Ratio	ROE	ROE/k	Earnings Price Ratio	M.E.P.R. (ROE+EPR)/2
[1]	[2]	[3]	[4]=[3]/[1]	[5]	[6]=([3]+[5])/2
10.00%	35.00%	13.00%	1.3	8.38%	10.69%
10.00%	35.00%	12.00%	1.2	8.92%	10.46%
10.00%	35.00%	11.00%	1.1	9.46%	10.23%
10.00%	35.00%	10.00%	1.0	10.00%	10.00%
10.00%	35.00%	9.00%	0.9	10.54%	9.77%
10.00%	35.00%	8.00%	0.8	11.08%	9.54%
10.00%	35.00%	7.00%	0.7	11.62%	9.31%

[5] From Equation (3): $E/P = k(1-cb)/(1-b)$

As the data in Table I shows, the average of the expected return (ROE) and the earnings price ratio (EPR) produces an estimate of the cost of common equity capital of sufficient accuracy to serve as a check of other analyses, which is how I use the model in my testimony.

Q. WHAT ARE THE RESULTS OF YOUR EARNINGS-PRICE RATIO ANALYSIS OF THE COST OF EQUITY FOR THE SAMPLE GROUP?

A. Exhibit_ (SGH-1), Schedule 11 shows the IBES projected 2012 per share earnings for each of the firms in the sample group. Recent average market prices (the same market prices used in my DCF analysis), and Value Line's projected return on equity for 2011 and 2014—2016 for each of the companies are also shown.

The average earnings-price ratio for the electric sample group, 7.76%, is below the cost of equity for those companies due to the fact that their average market-to-book ratio is currently above unity (average electric utility M/B = 1.36). The sample electric companies' 2009 expected book (accounting) equity return averages 9.64%. For the electric sample group, then, the midpoint of the earnings-price ratio and the current equity return is 8.70%.

Exhibit_ (SGH-1), Schedule 11, also shows that the average expected book equity return for the electric utilities over the next three- to five-year period increases slightly to 10.21%. The midpoint of the longer-term projected return on book equity (10.21%) and the current earnings-price ratio (7.76%) is 8.99%. That longer-term analysis provides another forward-looking estimate of the equity capital cost rate of electric utility firms. The results of this MEPR analysis also indicate that the DCF equity cost estimate, previously derived, may be overstated (*i.e.*, too high).

E. MARKET-TO-BOOK RATIO ANALYSIS

Q. PLEASE DESCRIBE YOUR MARKET-TO-BOOK (MTB) ANALYSIS OF THE COST OF COMMON EQUITY CAPITAL FOR THE SAMPLE GROUPS.

A. This technique of analysis is a derivative of the DCF model that attempts to adjust the capital cost derived with regard to inequalities that might exist in the market-to-book ratio. This method is derived algebraically from the DCF model and, therefore, cannot be considered a strictly independent check of that method. However, the MTB analysis is useful in a corroborative sense. The MTB seeks to determine the cost of equity using market-determined parameters in a format different from that employed in the DCF analysis. In the DCF analysis, the available data is "smoothed" to identify investors' long-term sustainable expectations. The MTB analysis, while based on the DCF theory, relies instead on point-in-time data projected one year and five years into the future and, thus, offers a practical corroborative check on the traditional DCF. The MTB formula is derived as follows:

Solving for "P" from Equation (1), the standard DCF model, we have

$$P = D/(k\text{-}g). \tag{4}$$

But the dividend (D) is equal to the earnings (E) times the earnings payout ratio, or one minus the retention ratio (b), or

$$D = E(1\text{-}b). \tag{5}$$

Substituting Equation (5) into Equation (4), we have

$$P = \frac{E(1\text{-}b)}{k\text{-}g}\ . \tag{6}$$

The earnings (E) are equal to the return on equity (r) times the book value of that equity (B). Making that substitution into Equation (4), we have

$$P = \frac{rB(1\text{-}b)}{k\text{-}g}\ . \tag{7}$$

Dividing both sides of Equation (7) by the book value (B) and noting from Equation (ii) in Appendix C that g = br+sv,

$$\frac{P}{B} = \frac{r(1\text{-}b)}{k\text{-}br\text{-}sv}\ . \tag{8}$$

Finally, solving Equation (8) for the cost of equity capital (k) yields the MTB formula:

$$k = \frac{r(1\text{-}b)}{P/B} + br + sv. \tag{9}$$

Equation (9) indicates that the cost of equity capital equals the expected return on equity multiplied by the payout ratio, divided by the market-to-book ratio plus growth. Exhibit_ (SGH-1), Schedule 12 shows the results of applying Equation (9) to the defined parameters for the electric utility firms in the comparable sample. For the electric utility sample group, page 1 of Schedule 12 utilizes current year (2011) data for the MTB analysis while page 2 utilizes Value Line's 2014-2016 projections.

The MTB cost of equity for the sample of electric utility firms, recognizing a current average market-to-book ratio of 1.36, is 9.37% using the current year data and 9.38% using projected three- to five-year data. Those point-in-time estimates are slightly below my DCF equity cost estimate.

F. SUMMARY

Q. PLEASE SUMMARIZE THE RESULTS OF YOUR EQUITY CAPITAL COST ANALYSES FOR THE SAMPLE GROUP OF SIMILAR-RISK ELECTRIC UTILITY COMPANIES.

A. My analysis of the cost of common equity capital for the sample group of integrated electric utility companies is summarized in the table below.

Table II.

Equity Cost Estimates

METHOD	Electric Utility Companies
DCF	9.48%
CAPM	8.01%/8.51%
MEPR	8.70%/8.99%
MTB	9.37%/9.38%

For the electric utility sample group, the DCF results are 9.48%. In addition, the corroborating cost of equity analyses (MEPR, MTB, and CAPM), indicate that the traditional DCF result may be overstated. Averaging the lowest and highest results of all the corroborative analyses for the electric companies produces an equity cost range of 8.69% to 8.96%, with a midpoint of 8.83%, 65 basis points below the DCF result. Therefore, weighing all the evidence presented herein (including the consideration that the next interest rate move by the Federal Reserve will probably be upward), my best estimate of the cost of equity capital for a companies like KU and LGE, facing similar risks as this group of electric utilities, ranges from 9.00% to 9.75%, with a mid-point of 9.375%.

As I noted previously in this testimony, KU and LGE have less financial risk than the electric utility industry in general. As I demonstrated in Exhibit_ (SGH-1), Schedule 3 using my sample group of electric companies, the financial risk difference between KU and LGE and those companies indicates that KU and LGE's cost of equity capital is at least 25 basis points lower than the average for those companies. Therefore, absent consideration of the low-risk nature of the environmental surcharge a reasonable estimate of the current cost of equity capital for KU and LGE would be 25 basis points below the mid-point of the equity cost range for the sample group, or 9.125%.

However, the Companies' operating risk under the environmental surcharge is less than that under traditional regulation due, primarily, to the very short time between expenditure of capital and recovery from ratepayers. Therefore, a reasonable estimate of the current cost of equity capital for KU and LGE would be at the bottom of a reasonable range of otherwise similar-risk companies, or in this instance 9.0%.

Q. IS AN EXPLICIT FLOTATION COST ALLOWANCE NECESSARY IN ORDER FOR THE COMPANY TO BE ABLE TO RAISE EQUITY CAPITAL IN THE FINANCIAL MARKETS?

A. No. An explicit adjustment to the allowed return on common equity for flotation costs is unwarranted.

First, it is often stated that stock flotation costs are like those associated with bonds and, because the costs of issuance are included in the embedded cost rate of debt, similar costs should be included in the cost of common equity. However, that concept is inapt because bonds have a fixed (contractual) cost and common stock does not. Moreover, even if it were true, the current relationship between the electric utility sample group's stock price and its book value would indicate the need for a flotation cost *reduction* to the market-based cost of equity, not an increase.

For example, when a bond is issued at a price that exceeds its face (book) value, and that difference between market price and book value is greater than the costs incurred during the issuance, the embedded cost of that debt (the cost to the company) is *lower* than the coupon rate of that debt.

In the current economic environment for the electric utility common stocks studied to determine the cost of equity in this proceeding, those stocks are selling at a market price 36% above book value. (See Exhibit_ (SGH-1), Schedule 6, p. 1) The difference between the market price of electric utility stock and book value is larger than any issuance expense the companies might incur. If common equity flotation costs were considered to be likethe flotation costs of bonds and if an explicit adjustment to the cost of common equity were, therefore necessary, then the adjustment should be downward, not upward.

Second, flotation cost adjustments are often predicated on the prevention of the dilution of stockholder investment. However, the reduction of the book value of stockholder investment due to issuance expenses can occur only when the utility's stock is selling at a market price at or below its book value. As noted, the companies under review are selling at a substantial premium to book value. Therefore, every time a new share of that stock is sold, existing shareholders realize an *increase* in the per share book value of their investment. No dilution occurs, even without any explicit flotation cost allowance.

Third, the vast majority of the issuance expenses incurred in any public stock offering are "underwriter's fees" or "discounts." Underwriter's fees/discounts are not out-of-pocket expenses for the issuing company. On a per-share basis, they represent only the difference between the price the underwriter receives from the public and the price the utility receives from the underwriter for its stock. As a result, underwriter's fees are not an expense incurred by the issuing utility and recovery of such "costs" should not be included in rates.

In addition, the amount of the underwriter's fees are prominently displayed on the front page of every stock offering prospectus and, as a result, the investors who participate in those offerings (*e.g.*, brokerage firms) are quite aware that a portion of the price they pay does not go to the company but goes, instead, to the underwriters. By electing to buy the stock with that understanding, those investors have effectively accounted for those issuance costs in their risk-return framework by paying the offering price. Therefore, they do not need any additional adjustments to the allowed return of the regulated firm to "account" for those costs.

Fourth, research has shown that a specific adjustment for issuance expenses is unnecessary.[14] There are other transaction costs which, when properly considered, eliminate the need for an explicit issuance expense adjustment to equity capital costs. The transaction cost that is improperly ignored by the advocates of issuance expense adjustments is brokerage fees. Issuance expenses occur with an initial issue of stock in a primary market offering. Brokerage fees occur in the much larger secondary market where pre-existing shares are traded daily. Brokerage fees tend to increase the price of the stock to the investor to levels above that reported in the *Wall Street Journal*; i.e., the

[14]"A Note on Transaction Costs and the Cost of Common Equity for a Public Utility," Habr, D., *National Regulatory Research Institute Quarterly Bulletin*, January 1988, pp. 95-103.

market price analysts use in a DCF analysis. Therefore, if brokerage fees were included in a DCF cost of capital estimate they would raise the effective market price, lower the dividend yield and lower the investors' required return. Under a symmetrical treatment, if transaction costs that, supposedly, raise the required return (issuance expenses) are included, then those costs that lower the required return (brokerage fees) should also be included. As shown by the research noted above, those transaction costs essentially offset each other and no specific equity capital cost adjustment is warranted.

An explicit increase to the market-based cost of equity for flotation costs is unnecessary.

Q. WHAT OVERALL COST OF CAPITAL FOR KU AND LGE'S UTILITY OPERATIONS RESULTS FROM THE APPLICATION OF AN ALLOWED EQUITY RETURN OF 9.0%?

A. As shown on Schedule 13, page 1, allowing an equity return of 9.0%, would produce an overall cost of capital of 6.99% for Kentucky Utilities using the Company's March 31, 2011 booked capital structure and the most recent available embedded cost rates for long-term debt, provided in response to KPSC-1-48. In addition, page 2 of Schedule 13 shows that a 9.0% return on equity would produce an overall return for Louisville Gas and Electric of 7.27%. In addition, pages 1 and 2 of Schedule 13 show that a 9.0% return on equity allows the Companies the opportunity to earn a pre-tax return on common equity that, in the case of Kentucky Utilities is 4.60 greater than its interest costs and, for Louisville Gas and Electric is 4.47 times greater than that Company's interest costs.

Q. DOES THIS CONCLUDE YOUR ANALYSIS OF THE COST OF EQUITY CAPITAL, MR. HILL?

A. Yes, it does.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY, MR. HILL?

A. Yes, it does.

AFFIDAVIT

STATE OF WEST VIRGINIA

COUNTY OF PUTNAM

Comes the Affiant, Stephen G. Hill, and being duly sworn states that he has provided the foregoing testimony addressing the cost of capital of Kentucky Utilities Company and Louisville Gas & Electric Company, which is, to the best of his belief and information true and correct.

Stephen G. Hill

Sworn to and signed before me by Stephen G. Hill this the 6th day of September, 2011.

OFFI... AL
NOTARY ... IC
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My Commission Expires Sept. 10, 2014

EDUCATION AND EMPLOYMENT HISTORY
STEPHEN G. HILL

EDUCATION

Auburn University - Auburn, Alabama - Bachelor of Science in Chemical Engineering (1971); Honors - member Tau Beta Pi national engineering honorary society, Dean's list, candidate for outstanding engineering graduate; Organizations - Engineering Council, American Institute of Chemical Engineers

Tulane University - New Orleans, Louisiana - Masters in Business Administration (1973); concentration: Finance; awarded scholarship; Organizations - member MBA curriculum committee, Vice-President of student body, academic affairs

Continuing Education - NARUC Regulatory Studies Program at Michigan State University

EMPLOYMENT

West Virginia Air Pollution Control Commission (1975)
Position: Engineer ; Responsibility: Overseeing the compliance of all chemical companies in the State with the pollution guidelines set forth in the Clean Air Act.

West Virginia Public Service Commission-Consumer Advocate (1982)
Position: Rate of Return Analyst ; Responsibility: All rate of return research and testimony promulgated by the Consumer Advocate; also, testimony on engineering issues, when necessary.

Hill Associates (1989)
Position: Principal; Responsibility: Expert testimony regarding financial and economic issue in regulated industries.

PUBLICATIONS

"The Market Risk Premium and the Proper Interpretation of Historical Data," Proceedings of the Fourth NARUC Biennial Regulatory Information Conference, Volume I, pp. 245-255.
"Use of the Discounted Cash Flow Has Not Been Invalidated," Public Utilities Fortnightly, March 31, 1988, pp. 35-38.
"Private Equity Buyouts of Public Utilities: Preparation for Regulators," National Regulatory Research Institute, Paper 07-11, December 2007.

MEMBERSHIPS

American Institute of Chemical Engineers; Society of Utility and Regulatory Financial Analysts (Certified Rate of Return Analyst, Member of the Board of Directors)

PRIOR EXPERIENCE

Mr. Hill, is a Certified Rate of Return Analyst, doing business as Hill Associates. He has testified in more than 270 regulatory proceedings over the past twenty eight years on cost of capital, financial, economic, and corporate governance issues related to regulated industries. He has provided testimony in electric, gas, telephone, and water utility rate proceedings as well as in proceedings related to utility diversification, deregulation, and financial policy. In those cases, he has testified on behalf of consumer advocates, attorneys general and utility commissions. In addition, he has testified on cost of capital issues in auto, homeowners and workers' compensation insurance rate proceedings. Mr. Hill has also been an advisor to the Arizona Corporation Commission on matters of utility finance in bankruptcy proceedings.

Mr. Hill has testified before the West Virginia Public Service Commission, the Connecticut Department of Public Utility Control, the Oklahoma State Corporation Commission, the Public Utilities Commission of the State of California, the Pennsylvania Public Utilities Commission, the Maryland Public Service Commission, the Public Utilities Commission of the State of Minnesota, the Ohio Public Utilities Commission, the Insurance Commissioner of the State of Texas, the North Carolina Insurance Commissioner, the Rhode Island Public Utilities Commission, the City Council of Austin, Texas, the Texas Railroad Commission, the Arizona Corporation Commission, the South Carolina Public Service Commission, the Public Utilities Commission of the State of Hawaii, the New Mexico Corporation Commission, the State of Washington Utilities and Transportation Commission, the Georgia Public Service Commission, the Public Service Commission of Utah, the Kentucky Public Utilities Commission, the Illinois Commerce Commission, the Kansas Corporation Commission, the Indiana Utility Regulatory Commission, the Virginia Corporation Commission, the Montana Public Service Commission, the Public Service Commission of the State of Maine, the Public Service Commission of Wisconsin, the Vermont Public Service Board, the Federal Communications Commission and the Federal Energy Regulatory Commission.

LEVERAGE ADJUSTMENT TO THE COST OF EQUITY

Q. IS THERE A RECOGNIZED METHOD WITH WHICH DIFFERENCES IN FINANCIAL RISK CAN BE QUANTIFIED?

A. Yes. The cost of equity capital is affected by the capital structure a company employs. When a company increases the proportion of debt in its capital structure, it increases the riskiness of its equity. Financial risk (created by the use of debt in the capital structure) causes investors to demand a higher rate of return; that is, financial risk increases the cost of equity capital.

The impact of debt leverage on the cost of equity capital can be approximated through an examination of the change in beta, which occurs when leverage is increased or decreased. The betas for the sample companies used in cost of capital analysis in this proceeding reflect the market's (investors') perception of both the business risks and the financial risks of a firm. That is, one portion of the beta of a firm is related to the business risk of the firm (the risk inherent in its operations) and one portion of the beta is related to the financial risk of that firm (the risk associated with the use of debt). Therefore, if a firm elects to finance its operations with debt as well as equity, the beta coefficient of that firm will reflect both the business and financial risk. When a firm uses debt to finance its operations, the beta can also be referred to as a "levered" beta (*i.e.*, a beta coefficient that includes the impact of debt leverage).

The average beta coefficient of a sample group of utilities can be "unlevered." That is, the beta-risk related to the level of debt capital used by the firm can be removed. "Unlevering the betas" amounts to estimating what the average beta would be if the companies were financed entirely with equity capital. Equation (i) is used to estimate the unlevered beta for a firm or a group of similar-risk firms.[1]

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[1] Equation (i) is a version of the Hamada equation which combines the Miller-Modigliani theories regarding capital structure and the logic of the CAPM: Hamada, R.S., "Portfolio Analysis, Market Equilibrium and Corporation Finance," *The Journal of Finance*, March 1969, pp. 13—31.

$$\beta_U = \frac{\beta_{Measured}}{(1+(1\text{-}t)D/E)} \qquad \text{(i)}$$

Equation (1) indicates that an estimate of the unlevered beta (β_U) of a firm can be calculated by dividing the measured beta ($\beta_{Measured}$, *e.g.* the beta coefficient reported by investor services such as Value Line or Bloomberg) by one plus the average debt-to-equity ratio, adjusted to account for taxes. The debt-to-equity ratio is measured using the average market value of the sample group's common equity capital. Once the unlevered beta for the firm (or, in this case, for my sample group of market-traded electric utility companies) is calculated, the beta coefficient is "re-levered" and adjusted to conform to the more leveraged capital structure of KU and LGE, which contains approximately 53% common equity. The formula used to "re-lever" the utility betas is shown below.

$$\beta_{Relevered} = \beta_U\,(1 + (1\text{-}t)\ D/E) \qquad \text{(ii)}$$

Equation (ii) states that the relevered beta equals the unlevered beta (β_U) multiplied times one plus the target debt-to-equity ratio (in this case KU and LGE's recent capital structure—approximately 53% equity/47% debt), again adjusted for taxes.

Exhibit_ (SGH-1), Schedule 3 shows that the average capital structure of the electric utility sample group used to estimate the cost of equity capital consists of 44.94% common equity and 54.73% fixed-income capital. That capital structure, adjusted to market levels by an average 1.42 market-to-book ratio and accounting for a 35% federal tax rate, produces an average value for (1-t)D/E in Equation (i) of 0.58.

Exhibit_ (SGH-1), Schedule 3 shows further that the measured beta coefficient of the sample group of gas utility firms is 0.71, and the <u>unlevered</u> beta coefficient of those firms (*i.e.*, what the average beta would be if those firms were financed entirely with common equity) is 0.45. When that beta is "relevered" using the methodology described above to conform to KU and LGE's current capital structure and the average market-to-book ratio of the sample group, the resulting average beta coefficient is 0.624, a decrease in beta of 0.086 due to the higher equity ratio enjoyed by KU and LGE ("measured" beta of 0.71 vs. "relevered" beta of 0.624).

Finally, with the decrease in beta determined, the Capital Asset Pricing Model (CAPM) can be used to estimate the impact of that adjustment on the cost of capital. The CAPM equation indicates that the beta coefficient is multiplied by the market risk premium (r_m - r_f) as a step in the determination of the cost of capital. Therefore, it is possible to measure the impact of an adjustment to beta by multiplying the difference in the measured and relevered betas of the electric companies by the market risk premium.

As I note subsequently in my discussion of the CAPM in Section IV of my testimony, the long-term historical market risk premium provided by Ibbotson Associates' historical database is 4.4% to 6.0%. Therefore, for purposes of this analysis, I will use a range of market risk premium from 4.4% to 6.0%.

As shown in Exhibit_ (SGH-1), Schedule 3, a decrease in the average beta coefficient of 0.086, multiplied by a market risk premium ranging from 4.4% to 6.0%, indicates a decrease in the cost of equity capital due to reduced leverage at KU and LGE of from 38 to 52 basis points (0.086 x 4.4%—6.0% = 0.38%—0.52%), with a mid-point of 45 basis points. We can conclude, therefore, that the cost of equity for KU and LGE should be approximately 45 basis points below that of the sample group of companies used to estimate the cost of equity, because the KU and LGE capital structure has significantly lower financial risk than that of the similar-risk electric utilities analyzed to determine the cost of equity capital.

UTILITY GROWTH RATE FUNDAMENTALS

Q. PLEASE PROVIDE AN EXAMPLE THAT DESCRIBES THE DETERMINANTS OF LONG-TERM SUSTAINABLE GROWTH.

A. Assume that a hypothetical regulated firm had a first-period common equity or book value per share of $10, the investor-expected return on that equity was 10% and the stated company policy was to pay out 60% of earnings in dividends. The first period earnings per share are expected to be $1.00 ($10/share book equity x 10% equity return) and the expected dividend is $0.60. The amount of earnings not paid out to shareholders ($0.40)—the retained earnings—raises the book value of the equity to $10.40 in the second period. The table below continues the hypothetical for a five-year period and illustrates the underlying determinants of growth.

TABLE A.

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	GROWTH
BOOK VALUE	$10.00	$10.40	$10.82	$11.25	$11.70	4.00%
EQUITY RETURN	10%	10%	10%	10%	10%	—
EARNINGS/SH.	$1.00	$1.040	$1.082	$1.125	$1.170	4.00%
PAYOUT RATIO	0.60	0.60	0.60	0.60	0.60	—
DIVIDENDS/SH.	$0.60	$0.624	$0.649	$0.675	$0.702	4.00%

We see that under steady-state conditions, the earnings, dividends, and book value all grow at the same rate. Moreover, the key to this growth is the amount of earnings retained or reinvested in the firm and the return on that new portion of equity. If we let "b" equal the retention ratio of the firm (1 – the payout ratio) and let "r" equal the firm's expected return on equity, the DCF growth rate "g" (also referred to as the internal or sustainable growth rate) is equal to their product, or

$$g = br. \qquad \text{(i)}$$

Professor Myron Gordon, who developed the Discounted Cash Flow technique and first introduced it into the regulatory arena, has determined that Equation (i) embodies the underlying fundamentals of growth and, therefore, is a primary measure of growth to be used in the DCF model. Professor Gordon's research also indicates that analysts' growth rate projections are useful in estimating investors' expected sustainable growth.

I should note here that the above hypothetical does not allow for the existence of external sources of equity financing, *i.e.*, sales of common stock. Stock financing will cause investors to expect additional growth if the company is expected to issue new shares at a market price that exceeds book value. The excess of market over book would inure to the benefit of current shareholders, increasing their per-share equity value. Therefore, if the company is expected to continue to issue stock at a price that exceeds book value, the shareholders would continue to expect their book value to increase and would add that growth expectation to that stemming from earnings retention or internal growth. Conversely, if a company were expected to issue new equity at a price below book value, that would have a negative effect on shareholder's current growth rate expectations. In such a situation, shareholders would perceive an overall growth rate less than that produced by internal sources (retained earnings). Finally, with little or no expected equity financing or a market-to-book ratio near unity, investors would expect the sustainable growth rate for the company to equal that derived from Equation (i), "g = br." Dr. Gordon identifies the growth rate,[1] which includes both expected internal and external financing, as:

$$g = br + sv, \qquad \text{(ii)}$$

where,

g = DCF expected growth rate,
r = return on equity,
b = retention ratio,
v = fraction of new common stock sold that accrues to the current shareholder,
s = funds raised from the sale of stock

[1] Gordon, M.J., The Cost of Capital to a Public Utility, MSU Public Utilities Studies, East Lansing, Michigan, 1974, pp., 30–33.

as a fraction of existing equity.

Additionally,

$$v = 1 - BV/MP, \qquad \text{(iii)}$$

where,

MP = market price,
BV = book value.

I have used Equation (iii) as the basis for my examination of the investor-expected long-term growth rate (g) in this proceeding.

Q. IN YOUR PREVIOUS EXAMPLE, EARNINGS AND DIVIDENDS GREW AT THE SAME RATE (br) AS DID BOOK VALUE. WOULD THE GROWTH RATE IN EARNINGS OR DIVIDENDS, THEREFORE, BE SUITABLE FOR DETERMINING THE DCF GROWTH RATE ?

A. No, not necessarily. Rates of growth derived from earnings or dividends alone can be unreliable due to extraneous influences on those parameters, such as changes in the expected rate of return on common equity or changes in the payout ratio. That is why it is necessary to examine the underlying determinants of growth through the use of a sustainable growth rate analysis.

If we take the hypothetical example previously stated and assume that, in year three, the expected return on equity rises to 15%, the resultant growth rate for earnings and dividends far exceeds that which the company could sustain indefinitely. The potential error in using those growth rates to estimate "g" is illustrated in the following table.

TABLE B.

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	GROWTH
BOOK VALUE	$10.00	$10.40	$10.82	$11.47	$12.157	5.00%
EQUITY RETURN	10%	10%	15%	15%	15%	10.67%
EARNINGS/SH.	$1.00	$1.040	$1.623	$1.720	$1.824	16.20%
PAYOUT RATIO	0.60	0.60	0.60	0.60	0.60	—
DIVIDENDS/SH.	$0.60	$0.624	$0.974	$1.032	$1.094	16.20%

What has happened is a shift in steady-state growth paths. For years one and two, the sustainable rate of growth (g=br) is 4.0%, just as in the previous hypothetical. Then, in the last three years, the sustainable growth rate increases to 6.0% (g = br = 0.4 x 15%). If the regulated firm was expected to continue to earn a 15% return on equity and retain 40% of its earnings, then a growth rate of 6.0% would be a reasonable estimate of the long-term sustainable growth rate. However, the compound annual growth rate for dividends and earnings exceeds 16%, which is the result only of an increased equity return rather than the intrinsic ability of the firm to grow continuously at a 16% annual rate. Clearly, this type of estimate of future growth cannot be used with any reliability at all. In the case of the hypothetical, to utilize a 16% growth rate in a DCF model would be to expect the company's return on common equity to increase by 50% every five years into the indefinite future. This would be a ridiculous forecast for any regulated firm and underscores the importance of utilizing the underlying fundamentals of growth in the DCF model.

It can also be demonstrated that a change in our hypothetical regulated firm's payout ratio makes the past rate of growth in dividends an unreliable basis for predicting "g." If we assume our regulated firm consistently earns its expected equity return (10%) but in the third year changes its payout ratio from 60% to 80% of earnings, the results are shown in the table below.

TABLE C.

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	GROWTH
BOOK VALUE	\$10.00	\$10.40	\$10.82	\$11.036	\$11.26	3.01%
EQUITY RETURN	10%	10%	10%	10%	10%	-
EARNINGS/SH.	\$1.00	\$1.040	\$1.082	\$1.104	\$1.126	3.01%
PAYOUT RATIO	0.60	0.60	0.80	0.80	0.80	7.46%
DIVIDENDS/SH.	\$0.60	\$0.624	\$0.866	\$0.833	\$0.900	10.67%

What we see here is that, although the company has registered a high dividend growth rate (10.67%), it is, again, not at all representative of the growth that could be sustained indefinitely, as called for in the DCF model. In actuality, the sustainable growth rate has declined from 4.0% the first two years to only 2.0% (g = br = 0.2 x 10%) during the last three years due to the increased payout ratio. To utilize a 10% growth rate in a DCF analysis of this hypothetical regulated firm would 1) assume the payout ratio of the firm would continue to increase 33% every five years into the indefinite future, 2) lead to the highly implausible result that the firm intends to consistently pay out more in dividends than it earns, and 3) grossly overstate the cost of equity capital.

INDIVIDUAL SAMPLE COMPANY GROWTH RATE ANALYSES

ELECTRIC UTILITIES

SCG – SCANA Corp. SCG's sustainable growth rate has averaged 3.80% over the most recent five-year period (2006—2010). In the most recent year, the company's sustainable growth was near that five-year average, indicating relatively stable growth. Value Line (Value Line) expects SCG's sustainable growth to continue at a rate near that historical growth rate level and to be 3.8% by the 2014-2016 period. However, SCG's book value growth rate is expected to be 5.0% over the next five years, higher than the historical growth of 4.5% and below sustainable growth projections. SCG's earnings per share are projected to increase at a 3.0% (Value Line) rate, while IBES and Zacks publish higher earnings growth rate expectations for this company—4.9% and 4.8%, respectively. Over the past five years, SCG's earnings growth was 2.0% and its dividends increased at a 5% rate, according to Value Line. Also, dividends are expected to grow at a 3.0% rate over the next three to five-year period, moderating long-term growth expectations. Investors can reasonably expect long-term sustainable growth in the future to be similar to past averages; a growth rate of **4.0%** is reasonable for SCG.

Regarding share growth, SCG's shares outstanding increased at a 2% rate over the past five years, due to a stock issuance in late 2009. The growth in the number of shares is projected by Value Line to increase at about a 3.4% rate through the 2014—16 period. An expectation of share growth of **2.5%** for this company is reasonable.

TE – TECO Energy - TE's sustainable growth rate averaged 2.97% over the five-year historical period, with higher results in 2010. Absent negative results in 2008, the historical average growth was 3.79%. Value Line projects that the internal growth will, rebound through 2014-16, bringing sustainable growth near 5.5%. TE's book value, which grew at a 5% rate during the most recent five years, is expected to continue to increase continue at that 5% rate in the future. While indicating that future expectations are for stable growth, that projected book value growth rate is lower than indicated by the sustainable growth measure. TE's earnings per share are projected to increase at 10.5% (Value Line) to 7.4% (IBES), and 5.0% (Zacks) rates. Value Line's earnings growth expectation is predicated on the assumption of a 37% increase in TE's ROE. That growth rate would not be sustainable unless it is assumed that TE's ROE will increase 37% every five years into the indefinite future—an unlikely scenario. TE's dividends are expected to grow at a 4.5% rate, up considerably from negative 5% historically but well below projected earnings growth expectations. Historically TE's earnings grew at a 12% rate, according to Value Line (based on three-year base periods), compound earnings growth over the past five years, however has been only 2%. The projected sustainable growth that investors can expect the growth from TE in the future to be higher than that which has existed in the past, and projected dividend growth confirms higher growth, but is below average earnings growth projections. Investors can reasonably expect a sustainable growth rate of **5.0%** for TE—well above historical averages.

Regarding share growth, TE's shares outstanding showed a 0.64% increase over the past five years. TE's growth rate in shares outstanding is expected to show a 0.47% rate of increase through 2014—16. An expectation of share growth of **0.5%** for this company is reasonable.

ALE – ALLETE ALE's sustainable growth rate has averaged 3.38% over the most recent five-year period, with much lower growth in the most recent year. Value Line expects ALE's sustainable growth to continue to be lower than historical averages and then to recover to a 3.33% rate by the 2014—2016 period. ALE's book value growth rate is expected to be 3% over the next five years, lower than the 5% rate of growth experienced over the past five years. ALE's earnings per share are projected to increase at 4.5% according to Value Line, while IBES and Zacks project higher growth (5% IBES and 5% Zacks). Value Line also projects a 2% growth in dividends, below the sustainable growth indications. Also, Value Line shows historical earnings growth of 3.5% for this company. The average projected earnings, dividends and book value growth for AVA published by Value Line is 3.17%. Investors can reasonably expect a lower growth rate in the future, but not as high as the current earnings growth rate projections— **3.75%** for ALE is reasonable.

Regarding share growth, ALE's shares outstanding increased at approximately a 4% rate over the past five years, due to an equity issuance in 2009. The number of shares is expected to grow at a 1.46% rate through 2014—2016. An expectation of share growth of **2%** for this company is reasonable.

AEP - American Electric Power AEP's sustainable growth rate has averaged 4.74% over the most recent five-year period. Value Line expects AEP's sustainable growth to decrease slightly to a level of 4.6% by the 2014-2016 period. AEP's book value growth rate is expected to increase at a 4.5% rate over the next five years, just below the 5% book value growth over the past five years. Both sustainable growth and book value growth point to relative growth rate stability for this company. AEP's earnings per share are projected to increase at 4.5% (Value Line) to 3.65% (IBES) and 4% (Zacks)—all below the indicated projected internal growth rate. Also, AEP's dividends are expected to grow at 4.0%. The average projected earnings, dividends and book value growth for this company is 4.33%. Investors can reasonably expect a sustainable growth rate in the future of **4.25%** for AEP.

Regarding share growth, AEP's shares outstanding increased at a 4.93% rate over the past five years due to an equity issuance in 2009. Prior to 2009, the number of shares outstanding increased at a 1% rate. The number of shares outstanding in 2014—2016 is expected to show about a 0.78% increase from 2010 levels. An expectation of share growth of **1.75%** for this company is reasonable.

CNL – Cleco Corp. CNL's sustainable growth rate averaged 4.10% for the most recent five-year period, with the results in the most recent year above that average. However, Value Line expects sustainable growth to decline to a 3.97% level through the 2014—2016 period. CNL's book value growth is expected to increase at a 6.5% rate, well below the historical level of 11.0%, established during the building of a new generating plant, but above sustainable growth indications. CNL's earnings and dividends per share are projected to show 6.0% and 9.5% growth, respectively, over the next five years, according to Value Line (IBES projects 3% earnings growth and Zacks projects 7% earnings growth). Historically, CNL's earnings increased at only a 7.5% rate, according to Value Line and dividends showed 0.5% growth. The sustainable growth data indicate that future growth will be similar to prior growth rate averages and at lower overall levels than indicated by earnings growth projections, and would moderate future growth expectations somewhat. However the earnings growth projections (average=5.3%) would increase expectations to some extent. Investors can reasonably expect sustainable growth from CNL to be above past averages, and a sustainable internal growth rate of **5.5%** is reasonable for this company.

Regarding share growth, CNL's shares outstanding grew at approximately a 1.26% rate over the past five years. The growth in the number of shares is expected by Value Line to be 0.6% through 2014—2016. An expectation of share growth of **0.5%** for this company is reasonable.

ETR – Entergy Corp. ETR's internal sustainable growth rate has averaged 7.79% over the most recent five-year period (2006—2010). Sustainable growth is expected to decline to about 5.5% by the 2014-2016 period. Also, ETR's book value growth rate is expected to be 6% over the next five years—an increase from the 4% rate of growth experienced over the past five years—pointing to higher growth expectations for the future. The projected and historical book value growth (6% and 4%) bracket the projected sustainable growth, 5.5%, for this company. ETR's earnings per share are projected to increase at a rate of from 1.5% (Value Line) and 1.5% (Zacks) to 0.87% (IBES). ETR's dividends are expected to grow at a 3% rate, down from an historical rate of 10.5%—a substantial decline, moderating long-term growth expectations. Over the past five years, ETR's earnings grew at a 10% rate according to Value Line (but only 3.93% on a compound growth rate basis). Value Line's average earnings, dividend and book value growth rate for this company is 3.5%. These data indicate that investors can reasonably expect a sustainable growth rate in the future below past averages. Therefore, **4.75%** is a reasonable long-term growth expectation for ETR.

Regarding share growth, ETR's shares outstanding grew at a –3.09% rate over the past five years. The number of shares outstanding is projected by Value Line to decrease at a 0.77% rate through 2014—2016. An expectation of share growth of **0%** for this company is reasonable.

WR – Westar Energy, Inc. WR's sustainable growth rate has averaged 1.86% over the most recent five-year period, with higher growth in the most recent year. Value Line expects WR's sustainable growth to increase to 4% by the 2014—2016 period. However, WR's book value growth rate is expected to be 2.5% over the next five years, down substantially from the 6% rate of growth experienced over the past five years and below sustainable growth projections. Also, WR's earnings per share are projected to increase at a rate of from 8.5% (Value Line), to 6.57% (IBES), to 6.35% (Zacks). The 8.5% earnings growth projected by Value Line includes the assumption that ROE will increase 33%. Over the past five years, WR's earnings growth was 1% according to Value Line. Compound five-year historical earnings growth over the past five years for WR was -1.4%. Historically, dividends grew at a 7% rate, and Value Line expects that rate to decline to 3.0% over the next five years. The average earnings dividends and book value growth for WR, as published by Value Line is 4.67%. Investors can reasonably expect a higher sustainable growth over the long term—**4.5%** for WR is reasonable.

Regarding share growth, WR's shares outstanding increased at about a 4.77% rate over the past five years. The number of shares is expected to increase at a 1.68% rate through 2014—2016. An expectation of share growth of **2.0%** for this company is reasonable.

AVA – Avista Corporation AVA's sustainable growth rate has averaged 3.30% over the most recent five-year period (2006—2010), with higher growth in the most recent year. However, Value Line expects AVA's sustainable growth to decline slightly from that historical growth rate level and to reach 2.7% by the 2014—2016 period. AVA's book value growth rate is expected to be 3.5% over the next five years, below the 4% rate of growth experienced over the past five years—indicating slightly declining growth for this company. AVA's earnings per share are projected to increase at a 8.5% (Value Line) to 4.5% (IBES) and 6.35% (Zacks) rate. The company's dividends are expected to show 11% growth over the next five years, increasing long-term growth expectations. Investors can reasonably expect a sustainable growth rate in the future of **4.5%** for AVA.

Regarding share growth, AVA's shares outstanding grew at a 2.13% rate over the past five years. The number of shares is projected by Value Line to show a 1.16% rate of increase through the 2014—2016 period. An expectation of share growth of **1.25%** for this company is reasonable.

BKH – Black Hills Corporation - BKH's sustainable growth rate averaged 1.62% over the five-year historical period, with much lower results in 2008, indicating a moderating trend. Absent that negative growth year, the historical average sustainable growth rate is 3.2%. Value Line projects that the internal growth rate will be about 3% by the 2014—2016 period. BKH's book value, which increased at a 4.5% rate during the most recent five years, is expected to increase at only a 2.5% rate in the future. BKH's earnings per share are projected to increase at 10.5% (Value Line) to 6% (IBES and Zacks) rate. Again, Value Line's earnings growth projections are predicated on an increase in ROE of about

6%—unlikely to continue indefinitely. BKH's dividends are expected to grow at a 1.5% rate, down from 2.5% historically and moderating long-term growth expectations. Historically BKH's earnings grew at a -6% rate, according to Value Line. The projected sustainable growth rate indicates that investors can expect the growth from BKH in the future to be similar to the positive growth that has existed in the past, while projected dividend and book value growth indicate more moderate growth and earnings growth rate projections are higher. The average Value Line projection for earnings, dividends and book value growth fro BKH is 3.67%. Investors can reasonably expect a sustainable growth rate of **4.0%** for BKH—similar to but higher than historical averages.

Regarding share growth, BKH's shares outstanding grew at a 4.15% rate over the past five years, due mainly to an equity issuance in 2008. Prior to that, the shares outstanding grew at a 1% rate. The number of shares is projected by Value Line to show a 2.76% rate of increase through the 2014—2016 period. An expectation of share growth of **3.0%** for this company is reasonable.

HE – Hawaiian Electric - HE's sustainable growth rate has averaged -0.70% over the most recent five-year period (2006—2010), with negative growth in the most recent years. However, Value Line expects HE's sustainable growth to increase from that historical growth rate level to reach approximately 3.7% by the 2014—2016 period. HE's book value growth rate is expected to be 3.5% over the next five years, up significantly from the 1% rate of growth experienced over the past five years. HE's earnings per share are projected to increase at an 11% (Value Line) to 8.9% (Zacks) and 7.9% (IBES) rate. Underlying those three- to five-year earnings growth projections from Value Line is the assumption of the earned return increasing 58% from 6.67% in 2008—2010 to 10.5% in 2014—2016. That sort of increase in earned return is not sustainable for the indefinite future (i.e., it is unlikely that the earned ROE could continue to increase 58% every five years), and those earnings projections would not represent investors' expectations of the long-term sustainable rate of growth required in the DCF. HE's dividends are expected to show 1% growth over the next five years, moderating long-term growth expectations. Over the past five years, HE's earnings grew at a -6% rate while its dividends showed no increase, though the company maintained its dividend payment to investors. Investors can reasonably expect a sustainable growth rate in the future of **4.0%** for HE.

Regarding share growth, HE's shares outstanding grew at a 3.83% rate over the past five years due mainly to an equity issuance in 2008. Prior to that, the shares outstanding grew at a 1.5% rate. The number of shares is projected by Value Line to show a 3.04% rate of increase through the 2014—2016 period. An expectation of share growth of **3.25%** for this company is reasonable.

PCG – PGE Corporation PCG's sustainable growth rate has averaged 5.45% over the most recent five-year period, with 3.44% growth in the most recent year. Value Line expects PCG's sustainable growth to reach 5.6% through the 2014—2016 period. PCG's book value growth rate is expected to be 5.5% over the next five years, down substantially from the 10.5% rate of growth experienced over the past five years. Projected book value growth is, however, similar to sustainable internal growth projections. Also, PCG's earnings per share are projected to increase at a 7% rate according to Value Line (and at 4.98% per IBES and 5% according to Zacks). Value Line also projects a 5.5% growth in dividends, which are recovering from a dividend omission during the previous five years but are similar to the sustainable growth indications. Investors can reasonably expect a stable sustainable growth rate in the future, but not as high as Value Line's current earnings growth rate estimates—**5.5%** for PCG is reasonable.

Regarding share growth, PCG's shares outstanding increased at approximately a 0.16% rate over the past five years, due to an equity issuance in 2007. Since 2007, PCG's shares outstanding have grown at a 3.75% rate. The number of shares is expected to grow at a 1.22% rate through 2014—2016. An expectation of share growth of **2.0%** for this company is reasonable.

PNW — Pinnacle West PNW's sustainable growth rate has averaged 1.84% over the most recent five-year period with lower growth in recent years. However, Value Line expects PNW's sustainable growth to rise above that historical average growth rate level to almost 3% by the 2014—2016 period. PNW's book value growth rate is expected to be 2.5% over the next five years, above to the 0.5% rate of book value growth experienced over the past five years. PNW's earnings per share are projected to increase at a 6% (Value Line) to 6.98% (IBES) to 5.0% (Zacks) rate, with all projections above the indicated internal growth rate. PNW's dividends are expected to grow at a 1.5% rate, supporting much more moderate long-term growth rate expectations. Over the past five years, PNW's earnings growth was 0.5%, while its dividends increased at a 3% rate. The average Value Line projected growth rate for this company is 3.33%. Investors can reasonably expect a sustainable growth rate in the future of **3.75%** for PNW.

Regarding share growth, PNW's shares outstanding increased at a 2.13% rate over the past five years. The number of shares outstanding in 2014—2016 is expected to show a 2.41% increase from 2009 levels. An expectation of share growth of **2.25%** for this company is reasonable.

POR – Portland General POR's sustainable growth rate has averaged 3.05% over the most recent five-year period. Value Line expects POR's sustainable growth rate to increase to 3.8% by the 2014—2016 period. POR's book value growth rate is expected to be 3% over the next five years, below sustainable growth projections and above the 2% historical rate of growth. Also, POR's earnings per share are projected to increase at a rate of from 7.5% (Value Line) to 4.38% (IBES), to 5.0% (Zacks). Value Line reports historical earnings growth to e 7.5% for this company. The average Value Line projected earnings, dividend and book value growth is 4.67%. Investors can reasonably expect a higher sustainable growth over the long term—**4.0%** for POR is reasonable.

Regarding share growth, POR's shares outstanding increased at about a 4.8% rate over the past five years, due to an equity issuance in 2009. Prior to that annual share growth was very low (0.04%). The number of shares is expected to increase at a 0.31% rate through 2014—2016. An expectation of share growth of **1.0%** for this company is reasonable.

UNS – UniSource Energy UNS's sustainable growth rate has averaged 4.05% over the most recent five-year period, including a negative year in 2008. Value Line expects UNS's sustainable growth to increase to approximately 4.9% by the 2014—2016 period. Also, UNS's book value growth rate is expected to be 5% over the next five years, up slightly from the 4.5% rate of growth experienced over the past five years and approximately equal to sustainable growth projections. UNS's earnings per share are projected to increase at a rate of from 9.5% (Value Line) to 5% (IBES) and 0% (Zacks). Over the past five years, UNS's earnings growth was 8.5% according to Value Line. Historically, dividends grew at a 13% rate, following restoration from a dividend omission, and Value Line expects that rate to increase at 9% over the next five years. Investors can reasonably expect a higher sustainable growth rate over the long term—**5.5%** for UNS is reasonable.

Regarding share growth, UNS's shares outstanding increased at a 0.95% rate over the past five years. The number of shares is expected to increase at a 0.75% rate through 2014—2016. An expectation of share growth of **0.75%** for this company is reasonable.

KENTUCKY UTILITIES COMPANY
LOUISVILLE GAS AND ELECTRIC COMPANY
RECENT CAPITAL STRUCURES
2009-2011

KENTUCKY UTILITIES COMPANY (Data From Company S.E.C. Forms 10-K and 10-Q)

AMOUNT (000,000)

Type of Capital	12/31/09	12/30/10	3/31/11
Common Equity	$1,952	$2,691	$2,717
Less: Goodwill	$0	$607	$607
Regulatory Common Equity	$1,952	$2,084	$2,110
Short-term Debt	$306	$10	$0
Long-term Debt	$1,421	$1,841	$1,841
Total Capital	$3,679	$3,935	$3,951

PERCENT

Type of Capital	12/31/09	12/30/10	3/31/11
Regulatory Common Equity	53.06%	52.96%	53.40%
Short-term Debt	8.32%	0.25%	0.00%
Long-term Debt	38.62%	46.79%	46.60%
Total	100.00%	100.00%	100.00%

LOUISVILLE GAS & ELECTRIC COMPANY (Data From Company S.E.C. Forms 10-K and 10-Q)

AMOUNT (000,000)

Type of Capital	12/31/09	12/30/10	3/31/11
Common Equity	$1,253	$1,721	$1,743
Less: Goodwill	$0	$389	$389
Regulatory Common Equity	$1,253	$1,332	$1,354
Short-term Debt	$290	$175	$0
Long-term Debt	$776	$1,112	$1,112
Total Capital	$2,319	$2,619	$2,466

PERCENT

Type of Capital	12/31/09	12/30/10	3/31/11
Regulatory Common Equity	54.03%	50.86%	54.91%
Short-term Debt	12.51%	6.68%	0.00%
Long-term Debt	33.46%	42.46%	45.09%
Total	100.00%	100.00%	100.00%

KENTUCKY UTILITIES COMPANY
LOUISVILLE GAS AND ELECTRIC COMPANY
PARENT COMPANY CAPITAL STRUCTURES
2009-2011

LG&E and KU ENERGY LLC (Data From Company S.E.C. Forms 10-K and 10-Q)

AMOUNT (000,000)

Type of Capital	12/31/09	12/31/10	3/31/11
Common Equity	$2,224	$4,011	$4,042
Less: Goodwill	$837	$996	$996
Regulatory Common Equity	$1,387	$3,015	$3,046
Short-term Debt	$1,557	$165	$2
Long-term Debt	$3,479	$3,823	$3,823
Total Capital	$6,423	$7,003	$6,871

PERCENT

Type of Capital	12/31/09	12/31/10	3/31/11
Regulatory Common Equity	21.59%	43.05%	44.33%
Short-term Debt	24.24%	2.36%	0.03%
Long-term Debt	54.16%	54.59%	55.64%
Total	100.00%	100.00%	100.00%

PPL CORPORATION (Data From Company S.E.C. Forms 10-K and 10-Q)

AMOUNT (000,000)

Type of Capital	12/31/09	12/31/10	3/31/11
Common Equity	$5,815	$8,478	$8,798
Less: Goodwill	$806	$1,761	$1,792
Net Common Equity	$5,009	$6,717	$7,006
Short-term Debt	$639	$1,286	$1,383
Long-term Debt	$7,143	$12,161	$12,247
Total Capital	$12,791	$20,164	$20,636

PERCENT

Type of Capital	12/31/09	12/31/10	3/31/11
Net Common Equity	39.16%	33.31%	33.95%
Short-term Debt	5.00%	6.38%	6.70%
Long-term Debt	55.84%	60.31%	59.35%
Total	100.00%	100.00%	100.00%

Exhibit _(SGH-1)
Schedule 2

KENTUCKY UTILITIES COMPANY
LOUISVILLE GAS AND ELECTRIC COMPANY
ELECTRIC UTILITY INDUSTRY COMMON EQUITY RATIOS

ELECTRIC COMPANIES	EQUITY RATIO
ALLETE, Inc. (NYSE-ALE)	55.8
American Electric Power Co. (NYSE-AEP)	42.6
Central Vermont Public Serv. Corp. (NYSE-CV)	55.6
Cleco Corporation (NYSE-CNL)	46.4
DPL Inc.(NYSE-DPL)	49.1
Edison International (NYSE-EIX)	43.4
El Paso Electric Company (ASE-EE)	48.2
FirstEnergy Corporation (NYSE-FE)	39.5
Great Plains Energy Incorporated (NYSE-GXP)	42.2
Hawaiian Electric Industries, Inc. (NYSE-HE)	50.4
IDACORP, Inc. (NYSE-IDA)	49.7
NexEera Energy (NYSE-NEE)	40.7
Otter Tail Corporation (NDQ-OTTR)	52.4
Pinnacle West Capital Corp. (NYSE-PNW)	49.6
PNM Resources, Inc. (NYSE-PNM)	45.0
Portland General Electric (NYSE-POR)	47.7
Progress Energy Inc. (NYSE-PGN)	44.9
Southern Company (NYSE-SO)	42.4
Westar Energy, Inc. (NYSE-WR)	43.5

Electric Company Average	46.8
Electric Company Median	46.4
Combination Gas & Electric Average	45.9
Combination Gas & Electric Median	45.2
OVERALL INDUSTRY AVERAGE	**46.2**

COMBINATION GAS & ELECTRIC COMPANIES	EQUITY RATIO
Alliant Energy Corporation (NYSE-LNT)	51.0
Ameren Corporation (NYSE-AEE)	49.9
Avista Corporation (NYSE-AVA)	47.6
Black Hills Corporation (NYSE-BKH)	43.0
CenterPoint Energy (NYSE-CNP)	26.3
CH Energy Group, Inc. (NYSE-CHG)	49.8
Chesapeake Utilities Corporation (NYSE-CPK)	62.8
CMS Energy Corporation (NYSE-CMS)	28.0
Consolidated Edison, Inc. (NYSE-ED)	50.2
Constellation Energy Group, Inc. (NYSE-CEG)	62.2
Dominion Resources, Inc. (NYSE-D)	39.4
DTE Energy Company (NYSE-DTE)	46.1
Duke Energy Corporation (NYSE-DUK)	54.9
Empire District Electric Co. (NYSE-EDE)	48.4
Entergy Corporation (NYSE-ETR)	41.2
Exelon Corporation (NYSE-EXC)	50.7
Integrys Energy Group (NYSE-TEG)	55.7
MDU Resources Group, Inc. (NYSE-MDU)	65.0
MGE Energy, Inc. (NDQ-MGEE)	59.4
NiSource Inc. (NYSE-NI)	41.0
Northeast Utilities (NYSE-NU)	43.7
Northwestern Corporation (NYSE-NWE)	44.9
NSTAR (NYSE-NST)	41.1
NV Energy (NYSE-NVE)	38.8
OGE Energy Corp. (NYSE-OGE)	45.8
Pepco Holdings, Inc. (NYSE-POM)	47.6
PG&E Corporation (NYSE-PCG)	47.2
PPL Corporation (NYSE-PPL)	38.0
Public Service Enterprise Group (NYSE-PEG)	53.4
SCANA Corporation (NYSE-SCG)	42.8
SEMPRA Energy (NYSE-SRE)	47.1
TECO Energy, Inc. (NYSE-TE)	40.9
UGI Corporation (NYSE-UGI)	45.2
UIL Holdings Corporation (NYSE-UIL)	40.3
UniSource Energy Corporation (NYSE-UNS)	30.4
Unitil Corporation (ASE-UTL)	35.8
Vectren Corporation (NYSE-VVC)	44.5
Wisconsin Energy Corporation (NYSE-WEC)	43.4
Xcel Energy Inc. (NYSE-XEL)	45.1

Data from AUS Utility Reports, June 2011, pp. 8, 12.

KENTUCKY UTILITIES COMPANY
LOUISVILLE GAS AND ELECTRIC COMPANY
LEVERAGE ADJUSTMENT TO THE COST OF EQUITY CAPITAL
HILL ELECTRIC UTILITY SAMPLE

COMPANY	COMMON EQUITY	FIXED INCOME CAPITAL	M/B RATIO	MKT. VALUE DEBT(1-t)/EQ.
SCANA Corp.	42.80%	57.20%	1.36	0.64
TECO Energy	40.90%	52.00%	1.88	0.44
ALLETE	55.80%	44.20%	1.49	0.35
American El. Power	42.60%	57.40%	1.32	0.67
Cleco Corporation	46.40%	56.00%	1.61	0.49
Entergy Corp.	41.20%	58.80%	1.39	0.67
Westar	43.50%	56.50%	1.25	0.68
Avista Corporation	47.60%	52.40%	1.30	0.55
Black Hills Corp.	43.00%	57.00%	1.08	0.80
Hawaiian Electric	50.40%	49.60%	1.56	0.41
PGE Corporation	47.20%	52.80%	1.48	0.49
Pinnacle West Capital	49.60%	50.40%	1.32	0.50
Portland General	47.70%	52.30%	1.18	0.60
UniSource Energy	30.40%	69.60%	1.69	0.88
AVERAGE	44.94%	54.73%	**1.42**	**0.58**
KU/LGE	54.00%	46.00%	1.42	**0.39**

AVERAGE (LEVERED) UTILITY BETA = 0.71

Beta (Unlevered) = Average Beta/Sample Group (1+D(1-t)/E)

Beta (Unlevered) = 0.71/(1+0.58)= **0.45**

Beta (Relevered) = Beta (Unlevered)*Target Company (1+D(1-t)/E)

Beta (Relevered)= 0.45(1.39)= **0.624**

IMPACT ON COST OF EQUITY CAPITAL

Measured Beta	0.710
Relevered Beta	0.624
[1] Diff. in Beta	0.086
[2] Market Risk Premium (r_m-r_f) =	4.4%-6.0%
Average Cost of equity impact = [1] x [2] =	**0.38% — 0.52%**

Notes:
Equity Ratios, Market-to-Book Ratios from AUS Utility Reports, July 2011.
Current average Beta from most recent Value Line report for each company.

KENTUCKY UTILITIES COMPANY
LOUISVILLE GAS AND ELECTRIC COMPANY
ELECTRIC UTILITY SAMPLE GROUP SELECTION

Region	Type	Company Name	Revenues % Regulated	Pending Merger?	Recent Div. Cut?	Generation Assets?	Stable Book Value?	Bond Rating S&P	Bond Rating Moody's	Selected
		SCREEN	≥70%	no	no	yes	yes	A- to BBB-		
EAST	e+g	CH Energy	73	no	no	yes	yes	A	A3	
	e	Central Vermont P. S.	98	yes	no	yes	yes	NR	Baa1	
	e+g	Consolidated Edison	81	no	no	no	yes	A-	A3/Baa1	
	e+g	Constellation Energy	24	no	yes	yes	yes	BBB+	Baa2	
	e+g	Dominion Resources	62	no	no	yes	yes	A	Baa1/Baa2	
	e+g	Duke Energy	78	no	no	yes	yes	A-	A2	
	e+g	Exelon Corp	59	no	no	yes	yes	A-	A2/A3	
	e	FirstEnergy Corp.	72	yes	no	yes	yes	BBB	Baa1	
	e	NextEra Energy	70	no	no	yes	yes	A	Aa3	
	e+g	Northeast Utilities	93	yes	no	yes	yes	BBB+	A3	
	e+g	NSTAR	100	yes	no	no	yes	AA-/A+	A1	
	e	PPL Corporation	49	no	no	yes	no	A-	A3	
	e+g	Pepco Holdings, Inc.	75	no	no	no	no	A	A3	
	e	Progress Energy	100	no	no	yes	yes	A/A-	A1/A2	
	e+g	Public Service Ent. Gp.	67	no	no	yes	yes	A-	A2	
	e+g	SCANA Corp.	74	no	no	yes	yes	A-	A3	√
	e	Southern Company	95	no	no	yes	yes	A	A2/A3	
	e+g	TECO Energy	76	no	no	yes	yes	BBB+	Baa1	√
	e	UIL Holdings Corp.	100	yes	no	no	yes	NR	Baa2	
CENTRAL	e+g	ALLETE	93	no	no	yes	yes	A-	Baa1	√
	e+g	Alliant Energy	91	no	no	yes	yes	A-/BBB+	A2/A3	
	e+g	Ameren Corp.	100	no	yes	yes	yes	BBB-	Baa2	
	e	American Eelectric Power	94	no	no	yes	yes	BBB	Baa2	√
	e+g	CMS Energy Corp.	96	no	yes	yes	no	BBB+	A3	
	e+g	CenterPoint Energy	67	no	no	no	yes	BBB+	A3	
	e	Cleco Corporation	98	no	no	yes	yes	BBB	Baa2	√
	e	DPL Inc.	90	no	no	yes	yes	A	Aa3	
	e+g	DTE Energy	79	no	no	yes	yes	A	A2	
	e+g	Empire District Electric	99	no	yes	yes	yes	BBB+	A3	
	e+g	Entergy Corp.	78	no	no	yes	yes	A-/BBB+	Baa1	
	e	Great Plains Energy	100	no	yes	yes	yes	BBB	Baa2	
	e+g	ITC Holdings	100	no	no	no	no	BBB	Baa2	
	e+g	Intergrys Energy	67	no	no	yes	yes	A-/BBB+	A2/A3	
	e+g	MGE Energy	98	no	no	yes	yes	AA-	A1	
	e	OGE Energy Corp.	68	no	no	yes	yes	BBB +	Baa1	
	e	Otter Tail Corp.	30	no	no	yes	yes	BBB-/BB+	Baa2	
	e+g	Vectren Corp.	70	no	no	yes	yes	A-	A2	
	e	Westar Energy	99	no	no	yes	yes	BBB+	Baa1	√
	e+g	Wisconsin Energy	98	no	no	yes	yes	A-	A1	
WEST	e+g	Avista Corp.	96	no	no	yes	yes	BBB+	Baa1	√
	e+g	Black Hills Corp.	87	no	no	yes	yes	BBB+	A3	√
	e	Edison International	81	no	no	yes	yes	BBB+	A1	
	e	El Paso Electric	63	no	yes	yes	yes	BBB	Baa2	
	e	Hawaiian Electric	90	no	no	yes	yes	BBB-	Baa2	√
	e	IDACORP, Inc.	100	no	no	yes	yes	A-	A2	
	e+g	NV Energy Inc.	100	no	yes	yes	yes	BBB	Ba2	
	e+g	PG&E Corp.	100	no	no	yes	yes	BBB+	A3	√
	e	PNM Resources	94	no	yes	yes	yes	BBB-/BB+	Baa2	
	e	Pinnacle West Capital	97	no	no	yes	yes	BBB-	Baa2	√
	e	Portland General	99	no	no	yes	yes	A-	A3	√
	e+g	Sempra Energy	78	no	no	yes	yes	A+	Aa3	
	e	UniSource Energy	92	no	no	yes	yes	BBB+	NR	√
	e+g	Xcel Energy, Inc.	99	no	no	yes	yes	A	A3	

e= electric company; e+g=combination electric and gas company
Data from Value Line Ratings and Reports, May 6 and 27, June 24, 2011; AUS Utility Reports, July 2011.

KENTUCKY UTILITIES COMPANY
LOUSIVILLE GAS AND ELECTRIC COMPANY
DCF GROWTH RATE PARAMETERS
ELECTRIC UTILITIES

COMPANY	INTERNAL GROWTH				EXTERNAL GROWTH	
SCG	RETENTION RATIO	EQUITY RETURN	"g"	BOOK VALUE ($/SHARE)	SHARES OUTST (MILLIONS)	SHARE GROWTH
2006	0.3514	10.5%	3.69%	24.32	117.00	
2007	0.3577	10.8%	3.86%	25.30	117.00	
2008	0.3763	11.4%	4.29%	25.81	118.00	
2009	0.3404	10.2%	3.47%	27.71	123.00	
2010	0.3624	10.2%	3.70%	29.15	127.00	
AVERAGE GROWTH			3.80%	4.50%		2.07%
2011	0.3639	10.0%	3.64%		129.50	1.97%
2012	0.3714	09.5%	3.53%		140.00	4.99%
2014-2016	0.4000	09.5%	3.80%	5.00%	150.00	3.38%

COMPANY	INTERNAL GROWTH				EXTERNAL GROWTH	
TE	RETENTION RATIO	EQUITY RETURN	"g"	BOOK VALUE ($/SHARE)	SHARES OUTST (MILLIONS)	SHARE GROWTH
2006	0.3504	14.1%	4.94%	8.25	209.50	
2007	0.3858	13.2%	5.09%	9.56	210.90	
2008	-0.0390	08.1%	-0.32%	9.43	212.90	
2009	0.2000	10.3%	2.06%	9.75	213.90	
2010	0.2743	11.2%	3.07%	10.10	214.90	
AVERAGE GROWTH			2.97%	5.00%		0.64%
2011	0.3462	12.0%	4.15%		216.00	0.51%
2012	0.3862	13.5%	5.21%		217.00	0.49%
2014-2016	0.4000	13.5%	5.40%	5.00%	220.00	0.47%

COMPANY	INTERNAL GROWTH				EXTERNAL GROWTH	
ALE	RETENTION RATIO	EQUITY RETURN	"g"	BOOK VALUE ($/SHARE)	SHARES OUTST (MILLIONS)	SHARE GROWTH
2006	0.4765	11.6%	5.53%	21.90	30.40	
2007	0.4675	11.8%	5.52%	24.11	30.80	
2008	0.3901	10.0%	3.90%	25.37	32.60	
2009	0.0688	06.6%	0.45%	26.41	35.20	
2010	0.1963	07.7%	1.51%	27.26	35.80	
AVERAGE GROWTH			3.38%	5.00%		4.17%
2011	0.3283	09.0%	2.95%		36.50	1.96%
2012	0.2941	08.5%	2.50%		37.00	1.66%
2014-2016	0.3500	09.5%	3.33%	3.00%	38.50	1.46%

KENTUCKY UTILITIES COMPANY
LOUSIVILLE GAS AND ELECTRIC COMPANY
DCF GROWTH RATE PARAMETERS
ELECTRIC UTILITIES

COMPANY	INTERNAL GROWTH				EXTERNAL GROWTH	
AEP	RETENTION RATIO	EQUITY RETURN	"g"	BOOK VALUE ($/SHARE)	SHARES OUTST (MILLIONS)	SHARE GROWTH
2006	0.4755	12.0%	5.71%	23.73	396.67	
2007	0.4476	11.4%	5.10%	25.17	400.43	
2008	0.4515	11.3%	5.10%	26.33	406.07	
2009	0.4478	10.4%	4.66%	27.49	478.05	
2010	0.3423	09.1%	3.12%	28.33	480.81	
AVERAGE GROWTH			4.74%	5.00%		4.93%
2011	0.4065	10.5%	4.27%		485.00	0.87%
2012	0.4154	10.5%	4.36%		489.00	0.85%
2014-2016	0.4400	10.5%	4.62%	4.50%	500.00	0.79%

COMPANY	INTERNAL GROWTH				EXTERNAL GROWTH	
CNL	RETENTION RATIO	EQUITY RETURN	"g"	BOOK VALUE ($/SHARE)	SHARES OUTST (MILLIONS)	SHARE GROWTH
2006	0.3382	08.3%	2.81%	15.22	57.57	
2007	0.3182	07.8%	2.48%	16.85	59.94	
2008	0.4706	09.6%	4.52%	17.65	60.04	
2009	0.4886	09.5%	4.64%	18.50	60.26	
2010	0.5721	10.6%	6.06%	21.76	60.53	
AVERAGE GROWTH			4.10%	11.00%		1.26%
2011	0.5362	10.0%	5.36%		60.70	0.28%
2012	0.4917	09.5%	4.67%		60.70	0.14%
2014-2016	0.4182	09.5%	3.97%	6.50%	60.70	0.06%

COMPANY	INTERNAL GROWTH				EXTERNAL GROWTH	
ETR	RETENTION RATIO	EQUITY RETURN	"g"	BOOK VALUE ($/SHARE)	SHARES OUTST (MILLIONS)	SHARE GROWTH
2006	0.5970	13.8%	8.24%	40.45	202.67	
2007	0.5393	14.4%	7.77%	40.71	193.12	
2008	0.5161	15.3%	7.90%	42.07	189.36	
2009	0.5238	14.3%	7.49%	45.54	189.12	
2010	0.5135	14.7%	7.55%	47.53	178.75	
AVERAGE GROWTH			7.79%	4.00%		-3.09%
2011	0.4892	13.0%	6.36%		178.00	-0.42%
2012	0.4887	13.0%	6.35%		172.00	-1.91%
2014-2016	0.4714	11.5%	5.42%	6.00%	172.00	-0.77%

KENTUCKY UTILITIES COMPANY
LOUSIVILLE GAS AND ELECTRIC COMPANY
DCF GROWTH RATE PARAMETERS
ELECTRIC UTILITIES

COMPANY	INTERNAL GROWTH				EXTERNAL GROWTH	
WR	RETENTION RATIO	EQUITY RETURN	"g"	BOOK VALUE ($/SHARE)	SHARES OUTST (MILLIONS)	SHARE GROWTH
2006	0.4255	09.2%	3.91%	19.14	95.46	
2007	0.3696	06.2%	2.29%	20.18	108.31	
2008	0.0840	06.2%	0.52%	20.59	109.07	
2009	0.0313	08.2%	0.26%	21.25	112.13	
2010	0.2889	08.0%	2.31%	21.50	115.00	
AVERAGE GROWTH			1.86%	6.00%		4.77%
2011	0.2686	08.0%	2.15%		115.00	0.00%
2012	0.3231	09.0%	2.91%		118.00	1.30%
2014-2016	0.4000	10.0%	4.00%	2.50%	125.00	1.68%

COMPANY	INTERNAL GROWTH				EXTERNAL GROWTH	
AVA	RETENTION RATIO	EQUITY RETURN	"g"	BOOK VALUE ($/SHARE)	SHARES OUTST (MILLIONS)	SHARE GROWTH
2006	0.6122	08.0%	4.90%	17.46	52.51	
2007	0.1667	04.2%	0.70%	17.27	52.91	
2008	0.4926	07.4%	3.65%	18.30	54.49	
2009	0.4873	08.3%	4.04%	19.17	54.84	
2010	0.3939	08.2%	3.23%	19.71	57.12	
AVERAGE GROWTH			3.30%	4.00%		2.13%
2011	0.3529	08.0%	2.82%		58.50	2.42%
2012	0.3444	08.5%	2.93%		59.00	1.63%
2014-2016	0.3000	09.0%	2.70%	3.50%	60.50	1.16%

COMPANY	INTERNAL GROWTH				EXTERNAL GROWTH	
BKH	RETENTION RATIO	EQUITY RETURN	"g"	BOOK VALUE ($/SHARE)	SHARES OUTST (MILLIONS)	SHARE GROWTH
2006	0.4027	09.4%	3.79%	23.68	33.37	
2007	0.4888	10.3%	5.03%	25.66	33.78	
2008	-6.7778	00.7%	-4.74%	27.19	38.64	
2009	0.3879	08.3%	3.22%	27.84	38.97	
2010	0.1325	05.9%	0.78%	28.02	39.27	
AVERAGE GROWTH			1.62%	4.50%		4.15%
2011	0.2700	06.5%	1.76%		44.00	12.04%
2012	0.3116	07.5%	2.34%		44.25	6.15%
2014-2016	0.3800	08.0%	3.04%	2.50%	45.00	2.76%

KENTUCKY UTILITIES COMPANY
LOUSIVILLE GAS AND ELECTRIC COMPANY
DCF GROWTH RATE PARAMETERS
ELECTRIC UTILITIES

COMPANY	INTERNAL GROWTH				EXTERNAL GROWTH	
HE	RETENTION RATIO	EQUITY RETURN	"g"	BOOK VALUE ($/SHARE)	SHARES OUTST (MILLIONS)	SHARE GROWTH
2006	0.0677	09.9%	0.67%	13.44	81.46	
2007	-0.1171	07.2%	-0.84%	15.29	83.43	
2008	-0.1589	06.5%	-1.03%	15.35	90.52	
2009	-0.3626	05.8%	-2.10%	15.58	92.52	
2010	-0.0248	07.7%	-0.19%	15.67	94.69	
AVERAGE GROWTH			-0.70%	1.00%		3.83%
2011	0.1448	09.0%	1.30%		96.50	1.91%
2012	0.2000	09.5%	1.90%		98.50	1.99%
2014-2016	0.3500	10.5%	3.68%	3.50%	110.00	3.04%

COMPANY	INTERNAL GROWTH				EXTERNAL GROWTH	
PCG	RETENTION RATIO	EQUITY RETURN	"g"	BOOK VALUE ($/SHARE)	SHARES OUTST (MILLIONS)	SHARE GROWTH
2006	0.5217	12.7%	6.63%	22.44	248.14	
2007	0.4820	11.8%	5.69%	24.18	353.72	
2008	0.5155	12.6%	6.50%	25.97	361.06	
2009	0.4455	11.2%	4.99%	27.88	370.60	
2010	0.3546	09.7%	3.44%	28.55	395.23	
AVERAGE GROWTH			5.45%	10.50%		12.34%
2011	0.3800	10.0%	3.80%		400.00	1.21%
2012	0.4649	11.0%	5.11%		415.00	2.47%
2014-2016	0.4889	11.5%	5.62%	5.50%	420.00	1.22%

COMPANY	INTERNAL GROWTH				EXTERNAL GROWTH	
PNW	RETENTION RATIO	EQUITY RETURN	"g"	BOOK VALUE ($/SHARE)	SHARES OUTST (MILLIONS)	SHARE GROWTH
2006	0.3596	09.2%	3.31%	34.47	99.96	
2007	0.2905	08.5%	2.47%	35.15	100.49	
2008	0.0094	06.2%	0.06%	34.16	100.89	
2009	0.0708	06.9%	0.49%	32.69	101.43	
2010	0.3182	09.0%	2.86%	33.86	108.77	
AVERAGE GROWTH			1.84%	0.50%		2.13%
2011	0.3226	09.0%	2.90%		109.00	0.21%
2012	0.3538	09.0%	3.18%		109.50	0.34%
2014-2016	0.3429	09.0%	3.09%	2.50%	122.50	2.41%

KENTUCKY UTILITIES COMPANY
LOUSIVILLE GAS AND ELECTRIC COMPANY
DCF GROWTH RATE PARAMETERS
ELECTRIC UTILITIES

COMPANY	INTERNAL GROWTH				EXTERNAL GROWTH	
POR	RETENTION RATIO	EQUITY RETURN	"g"	BOOK VALUE ($/SHARE)	SHARES OUTST (MILLIONS)	SHARE GROWTH
2006	0.4035	05.8%	2.34%	19.58	62.50	
2007	0.6009	11.0%	6.61%	21.05	62.53	
2008	0.3022	06.4%	1.93%	21.64	62.58	
2009	0.2290	06.2%	1.42%	20.50	75.21	
2010	0.3735	07.9%	2.95%	21.14	75.32	
AVERAGE GROWTH			3.05%	2.00%		4.77%
2011	0.4216	08.5%	3.58%		75.50	0.24%
2012	0.4158	08.5%	3.53%		75.75	0.29%
2014-2016	0.4444	08.5%	3.78%	3.00%	76.50	0.31%

COMPANY	INTERNAL GROWTH				EXTERNAL GROWTH	
UNS	RETENTION RATIO	EQUITY RETURN	"g"	BOOK VALUE ($/SHARE)	SHARES OUTST (MILLIONS)	SHARE GROWTH
2006	0.5459	10.6%	5.79%	18.59	35.19	
2007	0.4194	08.5%	3.56%	19.54	35.32	
2008	-1.4615	02.1%	-3.07%	19.16	35.46	
2009	0.5688	13.9%	7.91%	20.94	35.85	
2010	0.4468	13.6%	6.08%	22.46	36.54	
AVERAGE GROWTH			4.05%	4.50%		0.95%
2011	0.3891	11.5%	4.47%		37.00	1.26%
2012	0.3714	11.5%	4.27%		37.00	0.63%
2014-2016	0.3882	12.5%	4.85%	5.00%	38.00	0.79%

Data from Value Line Ratings and Reports, May 6 and 27, and June 24, 2011.

KENTUCKY UTILITIES COMPANY
LOUSIVILLE GAS AND ELECTRIC COMPANY
DCF GROWTH RATES
ELECTRIC UTILITIES

COMPANY	br	+	sv=g*(1-(1/(M/B)))	=	g
SCG	4.00%	+	2.50% (1 - (1/ 1.29)))	=	4.56%
TE	5.00%	+	0.50% (1 - (1/ 1.78)))	=	5.22%
ALE	3.75%	+	2.00% (1 - (1/ 1.44)))	=	4.36%
AEP	4.25%	+	1.75% (1 - (1/ 1.27)))	=	4.63%
CNL	5.50%	+	0.50% (1 - (1/ 1.48)))	=	5.66%
ETR	4.75%	+	0.00% (1 - (1/ 1.35)))	=	4.75%
WR	4.50%	+	2.00% (1 - (1/ 1.24)))	=	4.88%
AVA	4.50%	+	1.25% (1 - (1/ 1.25)))	=	4.75%
BKH	4.00%	+	3.00% (1 - (1/ 1.05)))	=	4.15%
HE	4.00%	+	3.25% (1 - (1/ 1.49)))	=	5.07%
PCG	5.50%	+	2.00% (1 - (1/ 1.41)))	=	6.08%
PNW	3.75%	+	2.25% (1 - (1/ 1.26)))	=	4.22%
POR	4.00%	+	1.00% (1 - (1/ 1.16)))	=	4.14%
UNS	5.50%	+	0.75% (1 - (1/ 1.60)))	=	5.78%

Average Market-to-Book Ratio = 1.36

SCG	=	SCANA Corp.
TE	=	TECO Energy
ALE	=	ALLETE
AEP	=	American Electric Power
CNL	=	Cleco Corporation
ETR	=	Entergy Corp.
WR	=	Westar
AVA	=	Avista Corporation
BKH	=	Black Hills Corporation
HE	=	Hawaiian Electric
PCG	=	PGE Corporation
PNW	=	Pinnacle West Capital
POR	=	Portland General
UNS	=	UniSource Energy

g*= expected growth in number of shares outstanding

KENTUCKY UTILITIES COMPANY
LOUSIVILLE GAS AND ELECTRIC COMPANY
GROWTH RATE COMPARISON
ELECTRIC UTILITIES

	DCF	Value Line Projected			IBES	Value Line Historic			IBES & VL	5-yr Compound Hist.		
COMPANY	Growth	EPS	DPS	BVPS	EPS	EPS	DPS	BVPS	AVGS.	EPS	DPS	BVPS
SCG	4.56%	3.00%	3.00%	5.00%	4.78%	2.00%	5.00%	4.50%	3.90%	3.32%	2.92%	4.60%
TE	5.22%	10.50%	4.50%	5.00%	6.96%	12.00%	-5.00%	5.00%	5.57%	2.13%	2.26%	5.04%
ALE	4.36%	4.50%	2.00%	3.00%	5.75%	3.50%	17.50%	5.00%	5.89%	-0.88%	4.19%	5.07%
AEP	4.63%	4.50%	4.00%	4.50%	3.65%	2.00%	2.00%	5.00%	3.66%	1.62%	4.17%	4.48%
CNL	5.66%	6.00%	9.50%	6.50%	3.00%	7.50%	0.50%	11.00%	6.29%	11.56%	3.91%	9.08%
ETR	4.75%	1.50%	3.00%	6.00%	0.58%	10.00%	10.50%	4.00%	5.08%	3.93%	8.98%	4.60%
WR	4.88%	8.50%	3.00%	2.50%	6.57%	1.00%	7.00%	6.00%	4.94%	-1.42%	3.46%	2.35%
AVA	4.75%	8.50%	11.00%	3.50%	4.67%	11.50%	10.00%	4.00%	7.60%	2.95%	14.05%	3.01%
BKH	4.15%	10.50%	1.50%	2.50%	5.00%	-6.00%	2.50%	4.50%	2.93%	-1.98%	2.04%	3.85%
HE	5.07%	11.00%	1.00%	3.50%	8.05%	-6.00%	0.00%	1.00%	2.65%	1.74%	0.00%	3.61%
PCG	6.08%	7.00%	5.50%	5.50%	4.91%	7.00%	0.00%	10.50%	5.77%	1.68%	7.10%	5.91%
PNW	4.22%	6.00%	1.50%	2.50%	6.38%	0.50%	3.00%	0.50%	2.91%	-0.45%	0.68%	0.25%
POR	4.14%	7.50%	3.50%	3.00%	4.65%	7.50%	-	2.00%	4.69%	10.17%	9.49%	2.22%
UNS	5.78%	9.50%	9.00%	5.00%	0.30%	8.50%	13.00%	4.50%	7.11%	8.25%	14.87%	4.58%
		7.04%	4.43%	4.14%		4.36%	5.08%	4.82%		3.05%	5.58%	4.19%
AVERAGES	4.87%		5.20%		4.66%		4.75%		4.93%		4.27%	

Zack's growth rates: SCG-4.76%, TE-5.0%, ALE-5.0%, AEP-4.0%, CNL-7.0%, ETR-1.5%, WR-6.35%, AVA-4.67%, BKH-5.0%, HE-8.88%, PCG-5.0%, PNW-5.0%, POR-5.0%, UNS-3.0%. Average = 5.0%.

KENTUCKY UTILITIES COMPANY
LOUSIVILLE GAS AND ELECTRIC COMPANY
STOCK PRICES, DIVIDENDS, YIELDS
ELECTRIC UTILITIES

COMPANY	AVG. STOCK PRICE 6/8/11-7/20/11 (PER SHARE)		ANNUALIZED DIVIDEND (PER SHARE)	DIVIDEND YIELD
SCG	$39.23		$1.94	4.95%
TE	$18.73		$0.86	4.59%
ALE	$40.28		$1.78	4.42%
AEP	$37.65		$1.84	4.89%
CNL	$34.69		$1.12	3.23%
ETR	$68.13	*	$3.48	5.10%
WR	$26.60		$1.28	4.81%
AVA	$25.24		$1.10	4.36%
BKH	$30.10		$1.46	4.85%
HE	$23.98		$1.24	5.17%
PCG	$42.02	*	$1.93	4.59%
PNW	$44.06		$2.10	4.77%
POR	$25.41		$1.06	4.17%
UNS	$37.23		$1.68	4.51%
			AVERAGE	**4.60%**

* Dividend increased by (1+g), derived on Schedule 6.

KENTUCKY UTILITIES COMPANY
LOUSIVILLE GAS AND ELECTRIC COMPANY
DCF COST OF EQUITY CAPITAL
ELECTRIC UTILITIES

COMPANY	DIVIDEND YIELD Schedule 7	GROWTH RATE Schedule 6	DCF COST OF EQUITY CAPITAL
SCG	4.95%	4.56%	9.50%
TE	4.59%	5.22%	9.81%
ALE	4.42%	4.36%	8.78%
AEP	4.89%	4.63%	9.51%
CNL	3.23%	5.66%	8.89%
ETR	5.10%	4.75%	9.85%
WR	4.81%	4.88%	9.70%
AVA	4.36%	4.75%	9.10%
BKH	4.85%	4.15%	9.00%
HE	5.17%	5.07%	10.25%
PCG	4.59%	6.08%	10.67%
PNW	4.77%	4.22%	8.98%
POR	4.17%	4.14%	8.31%
UNS	4.51%	5.78%	10.29%
		AVERAGE	**9.48%**
		STANDARD DEVIATION	**0.67%**

KENTUCKY UTILITIES COMPANY
LOUSIVILLE GAS AND ELECTRIC COMPANY
CAPM COST OF EQUITY CAPITAL
ELECTRIC UTILITIES

k = rf + B (rm - rf)

[rf]* = 4.25%
[rm - rf]† = 4.4% (geometric mean)
[rm - rf]† = 6.0% (arithmetic mean)
[rm - rf]†† = 5.30%
average beta = 0.71

k = 4.25% + 0.71 (4.4%/5.3%/6.0%)
k = 4.25% + 3.12%/3.76%/4.26%
k = 7.37%/8.01%/8.51%

k(average) = 7.97%

*Current T-Bond yields, six-week average yield from Value Line Selection & Opinion (5/20/11-6/24/11)
†Geometric and arithmetic market risk premiums from Ibbotson SBBI, 2010 Valuation Yearbook, p. 23.
†† Mid-point long- and short-term market risk premium from Brealey, R., Meyers, S., Allen, F., Principles of Corporate Finance, 8th Edition, McGraw-Hill, Irwin, Boston MA, 2006, pp. 149, 154, 222.

KENTUCKY UTILITIES COMPANY
LOUISVILLE GAS AND ELECTRIC COMPANY

PROOF

If market price exceeds book value,
the market-to-book ratio is greater than 1.0,
and the earnings-price ratio understates the cost of capital.

MP = market price
BV = book value
i = cost of equity capital
r = earned return
E = earnings

1. At MP = BV, $i = r = \frac{E}{MP}$.

2. $E = rBV$.

3. Then, $\frac{E}{MP} = \frac{rBV}{MP}$.

4. When BV < MP, *i.e.*, $\frac{BV}{MP} < 1$, then,

    a. $\frac{E}{MP} < r$, since $\frac{E}{MP} = \frac{rBV}{MP} < r$, because $\frac{BV}{MP} < 1$;

    b. $i < r$, since at $\frac{BV}{MP} = 1$, $i = \frac{E}{MP} = \frac{rBV}{MP}$, but if $\frac{BV}{MP} < 1$, then $i < r$; and

    c. $\frac{E}{MP} < i$, since at $\frac{BV}{MP} = 1$, $i = \frac{E}{MP} = \frac{rBV}{MP}$, but if $\frac{BV}{MP} < 1$, then $\frac{E}{MP} < i$, because,

        1) $\frac{BV}{MP} < 1$, through MP increasing, and, if so, $\frac{E}{MP}$ decreases, therefore, $\frac{E}{MP} < i$, or

        2) $\frac{BV}{MP} < 1$, through BV decreasing, and, if so, given $E = rBV$, $\frac{E}{MP}$ decreases, therefore, $\frac{E}{MP} < i$.

5. Ergo, $\frac{E}{MP} < i < r$, the earnings-price ratio is lower than the cost of capital, which is lower than the earned return.

Exhibit_(SGH-1)
Schedule 11

KENTUCKY UTILITIES COMPANY
LOUSIVILLE GAS AND ELECTRIC COMPANY
MODIFIED EARNINGS-PRICE RATIO ANALYSIS
ELECTRIC UTILITIES

COMPANY	IBES/Thompson 2012 Earnings (Per Share) [1]	Market Price (Per share) [2]	Earnings-Price Ratio [3]=[1]/[2]		Current R.O.E. 2011 [4]	Projected R.O.E. 2014-2016 [5]
SCG	$3.18	$39.23	8.11%		10.00%	9.50%
TE	$1.55	$18.73	8.28%		12.00%	13.50%
ALE	$2.62	$40.28	6.51%		9.00%	9.50%
AEP	$3.23	$37.65	8.58%		10.50%	10.50%
CNL	$2.40	$34.69	6.92%		10.00%	9.50%
ETR	$6.10	$68.13	8.95%		13.00%	11.50%
WR	$2.00	$26.60	7.52%		8.00%	10.00%
AVA	$1.89	$25.24	7.49%		8.00%	9.00%
BKH	$2.28	$30.10	7.58%		6.50%	8.00%
HE	$1.76	$23.98	7.34%		9.00%	10.50%
PCG	$3.70	$42.02	8.81%		10.00%	11.50%
PNW	$3.39	$44.06	7.69%		9.00%	9.00%
POR	$1.90	$25.41	7.48%		8.50%	8.50%
UNS	$2.76	$37.23	7.41%		11.50%	12.50%
		AVERAGE	7.76%		9.64%	
		CURRENT M.E.P.R.		**8.70%**		
		AVERAGE	7.76%			10.21%
		PROJECTED M.E.P.R.			**8.99%**	

KENTUCKY UTILITIES COMPANY
LOUSIVILLE GAS AND ELECTRIC COMPANY
MARKET-TO-BOOK RATIO ANALYSIS
ELECTRIC UTILITIES

k = R.O.E.(1-b)/(M/B) + g
[2011]

COMPANY									MARKET-TO-BOOK COST OF EQUITY
SCG	k= 10.0%	(1-	0.3639	)/	1.29	+	4.56%	=	9.50%
TE	k= 12.0%	(1-	0.3462	)/	1.78	+	5.22%	=	9.64%
ALE	k= 9.0%	(1-	0.3283	)/	1.44	+	4.36%	=	8.57%
AEP	k= 10.5%	(1-	0.4065	)/	1.27	+	4.63%	=	9.52%
CNL	k= 10.0%	(1-	0.5362	)/	1.48	+	5.66%	=	8.80%
ETR	k= 13.0%	(1-	0.4892	)/	1.35	+	4.75%	=	9.69%
WR	k= 8.0%	(1-	0.2686	)/	1.24	+	4.88%	=	9.61%
AVA	k= 8.0%	(1-	0.3529	)/	1.25	+	4.75%	=	8.90%
BKH	k= 6.5%	(1-	0.2700	)/	1.05	+	4.15%	=	8.66%
HE	k= 9.0%	(1-	0.1448	)/	1.49	+	5.07%	=	10.23%
PCG	k= 10.0%	(1-	0.3800	)/	1.41	+	6.08%	=	10.49%
PNW	k= 9.0%	(1-	0.3226	)/	1.26	+	4.22%	=	9.05%
POR	k= 8.5%	(1-	0.4216	)/	1.16	+	4.14%	=	8.37%
UNS	k= 11.5%	(1-	0.3891	)/	1.60	+	5.78%	=	10.17%
								AVERAGE	**9.37%**
								STANDARD DEVIATION	**0.65%**

Note: Equity returns and retention ratios based on Value Line current year projections.

KENTUCKY UTILITIES COMPANY
LOUSIVILLE GAS AND ELECTRIC COMPANY
MARKET-TO-BOOK RATIO ANALYSIS
ELECTRIC UTILITIES

k = R.O.E.(1-b)/(M/B) + g
[2014-2016]

COMPANY										MARKET-TO-BOOK COST OF EQUITY
SCG	k=	9.5%	(1-	0.4000	)/	1.29	+	4.56%	=	8.98%
TE	k=	13.5%	(1-	0.4000	)/	1.78	+	5.22%	=	9.78%
ALE	k=	9.5%	(1-	0.3500	)/	1.44	+	4.36%	=	8.66%
AEP	k=	10.5%	(1-	0.4400	)/	1.27	+	4.63%	=	9.24%
CNL	k=	9.5%	(1-	0.4182	)/	1.48	+	5.66%	=	9.41%
ETR	k=	11.5%	(1-	0.4714	)/	1.35	+	4.75%	=	9.27%
WR	k=	10.0%	(1-	0.4000	)/	1.24	+	4.88%	=	9.73%
AVA	k=	9.0%	(1-	0.3000	)/	1.25	+	4.75%	=	9.80%
BKH	k=	8.0%	(1-	0.3800	)/	1.05	+	4.15%	=	8.86%
HE	k=	10.5%	(1-	0.3500	)/	1.49	+	5.07%	=	9.64%
PCG	k=	11.5%	(1-	0.4889	)/	1.41	+	6.08%	=	10.26%
PNW	k=	9.0%	(1-	0.3429	)/	1.26	+	4.22%	=	8.90%
POR	k=	8.5%	(1-	0.4444	)/	1.16	+	4.14%	=	8.20%
UNS	k=	12.5%	(1-	0.3882	)/	1.60	+	5.78%	=	10.56%
									AVERAGE	**9.38%**
									STANDARD DEVIATION	**0.64%**

Note: Equity returns and retention ratios based on Value Line three- to five-year projections.

KENTUCKY UTILITIES COMPANY
LOUISVILLE GAS AND ELECTRIC COMPANY
OVERALL COST OF CAPITAL
KENTUCKY UTILITIES COMPANY

Type of Capital	AMOUNT [1]	PERCENT [2]	COST RATE [3]	WT. AVG. COST RATE [4]=[2]x[3]
Common Equity	$2,093	53.22%	9.00%	4.79%
Long-term Debt	$1,840	46.78%	3.68%	1.72%
Totals	$3,933	100.00%		**6.51%**

PRE-TAX INTEREST COVERAGE* = 5.56x

*Assuming the Company experiences, prospectively, a combined income tax rate of 38.9%, the pre-tax overall return would be 9.56% [6.51%-(1.72%) = 4.79%/(1-38.9%) = 7.84%+(1.72%) That pre-tax overall return (9.56%), divided by the weighted cost of debt (1.79%), indicates a pre-tax interest coverage level of 5.56 times.

KENTUCKY UTILITIES COMPANY
LOUISVILLE GAS AND ELECTRIC COMPANY
OVERALL COST OF CAPITAL
LOUISVILLE GAS AND ELECTRIC COMPANY

Type of Capital	AMOUNT [1]	PERCENT [2]	COST RATE [3]	WT. AVG. COST RATE [4]=[2]x[3]
Common Equity	$1,353	55.04%	9.00%	4.95%
Long-term Debt	$1,105	44.96%	3.88%	1.74%
Totals	$2,458	100.00%		**6.70%**

PRE-TAX INTEREST COVERAGE* = 5.65x

*Assuming the Company experiences, prospectively, a combined income tax rate of 38.9%, the pre-tax overall return would be 9.85% [6.70%-(1.74%) = 4.95%/(1-38.9%) = 8.11%+(1.74%) That pre-tax overall return (9.852%), divided by the weighted cost of debt (1.74%), indicates a pre-tax interest coverage level of 5.65 times.

Note: Capital structure and cost rate of long-term debt are at June 30, 2011, and were provided in LGE response to KIUC-2-13 and 14.

BEFORE THE

KENTUCKY PUBLIC SERVICE COMMISSION

IN RE:	**THE APPLICATION OF KENTUCKY UTILITIES COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE**	**) CASE NO. 2011-00161**
	THE APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	**) CASE NO. 2011-00162**

DIRECT TESTIMONY

AND EXHIBITS

OF

LANE KOLLEN

ON BEHALF OF THE

KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.

J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA

September 2011

BEFORE THE

KENTUCKY PUBLIC SERVICE COMMISSION

IN RE:	THE APPLICATION OF KENTUCKY UTILITIES COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	) CASE NO. 2011-00161
	THE APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	) CASE NO. 2011-00162

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BEFORE THE

KENTUCKY PUBLIC SERVICE COMMISSION

IN RE:	**THE APPLICATION OF KENTUCKY UTILITIES COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE**	**CASE NO. 2011-00161**
	THE APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	**CASE NO. 2011-00162**

DIRECT TESTIMONY OF LANE KOLLEN

I. QUALIFICATIONS AND SUMMARY

Q. Please state your name and business address.

A. My name is Lane Kollen. My business address is J. Kennedy and Associates, Inc. ("Kennedy and Associates"), 570 Colonial Park Drive, Suite 305, Roswell, Georgia 30075.

Q. Please state your occupation and employer.

A. I am a utility rate and planning consultant holding the position of Vice President and Principal with the firm of Kennedy and Associates.

Q. Please describe your education and professional experience.

A. I earned a Bachelor of Business Administration in Accounting degree and a Master of Business Administration degree from the University of Toledo. I also earned a Master of Arts degree from Luther Rice University. I am a Certified Public Accountant ("CPA"), with a practice license, and a Certified Management Accountant ("CMA").

I have been an active participant in the utility industry for more than thirty years, initially as an employee of The Toledo Edison Company from 1976 to 1983 and thereafter as a consultant in the industry since 1983. I have testified as an expert witness on planning, ratemaking, accounting, finance, and tax issues in proceedings before regulatory commissions and courts at the federal and state levels on nearly two hundred occasions, including numerous proceedings before the Kentucky Public Service Commission involving Kentucky Utilities Company ("KU"), Louisville Gas and Electric Company ("LG&E"), Kentucky Power Company, East Kentucky Power Company and Big Rivers Electric Corporation. My qualifications and regulatory appearances are further detailed in my Exhibit___(LK-1).

Q. On whose behalf are you testifying?

A. I am testifying on behalf of the Kentucky Industrial Utility Customers, Inc. ("KIUC"), a group of large customers taking electric service at retail from KU and LG&E (also referred to individually as "Company" or collectively as "Companies").

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to address several policy and methodology issues that affect the Companies' requests for approval of certain projects in their proposed compliance plan ("2011 Plan") and the costs recoverable through the environmental cost recovery mechanism ("ECR").

Q. Please summarize your testimony.

A. The Companies' estimated capital costs to meet several final and proposed U.S. EPA environmental regulations are $1,114 million for KU and $1,392 million for LG&E and the estimated increases in operation and maintenance expenses are $87 million for KU and $55 million for LG&E. The magnitude of these estimated costs is staggering and will result in cumulative rate increases of 12.2% for KU and 19.2% for LG&E through the ECR by 2016, according to the Companies. The Commission should take every reasonable opportunity to ensure that it approves only those projects that are required and that the costs recovered through the ECR are reasonable and reflect the actual costs of the projects.

As an initial step, and as a matter of ratemaking policy, I recommend that the Commission modify the Companies' proposed plans to remove projects that address regulations proposed by the U.S. EPA, but that have not been finalized. Until the U.S. EPA issues final regulations, the proposed regulations are speculative and uncertain. The ECR statute addresses compliance plans and recovery pursuant to "applicable environmental requirements." The proposed regulations are not requirements, and thus, the Commission cannot realistically determine whether the proposed projects comply with requirements that do not presently exist. If at a later date, the U.S. EPA issues final regulations, then the Companies may file Applications for approval of the projects necessary to comply with the final regulations and for recovery of the related costs through the ECR.

As a second step, and consistent with the requirement in KRS 278.183 to establish a reasonable return, the Commission should ensure that the costs of financing the projects in the 2011 Plan are minimized and that the costs recovered through the ECR reflect the actual costs incurred for that purpose, both during the construction period and after the projects are completed and placed in-service. Thus, I recommend that the Commission direct the Companies to maximize the use of low-cost short term debt during construction. The cost of short-term debt is extremely low at 0.16% to 2.27%, especially compared to the cost of common equity grossed up for income taxes of 17.72%.

The Companies presently have access to hundreds of millions of dollars of short-term debt through credit facilities, commercial paper, and intercompany borrowings (from each other and through their intermediate parent company, LG&E and KU Energy LLC ("LKE"). The Companies are in the process of expanding their short-term debt borrowing capacity to issue commercial paper in anticipation of the financing requirements of the 2011 Plan. If the Companies maximize the use of short term debt during the construction of the projects proposed in the 2011 Plan and the short-term debt is properly allocated to the ECR construction work in progress ("CWIP"), it will save KU customers $161 million and LG&E customers $225 million through 2016. I also recommend that the Commission state that it intends to review the Companies' use of short term debt in subsequent six month and two year reviews to ensure that they did maximize their use of low-cost short term debt.

In addition, I recommend that the Commission direct the Companies to minimize the financing costs after construction by pursuing securitization financing if the legislature enacts the necessary statutory framework. If the Companies use securitization financing for plant in service and this financing is properly allocated to the ECR rate of return, it will save $75 million for KU customers and $97 million for LG&E customers in 2016 alone and the savings will continue over the remaining lives of the assets pursuant to the 2011 Plan.

As a third step, and consistent with the requirements in KRS 278.183 to establish a reasonable return and to recover only reasonable and actual costs, I recommend that the Commission modify and refine the calculation of the rate of return applied to the ECR rate base investment to more accurately reflect the actual costs to finance the 2011 Plan capital expenditures. Such modifications are consistent with prior decisions by the Commission to modify and refine the rate of return computation to more accurately reflect the costs incurred to finance capital expenditures recoverable through the ECR. These modifications include the allocation of all new tax-exempt pollution control debt issued specifically to finance capital expenditures on the environmental projects and to more accurately allocate short-term debt used to finance capital expenditures on the environmental projects during construction.

As a final step, and consistent with the requirements in KRS 278.183 to recover only reasonable and actual costs, I recommend that the Commission: 1) use the low end of the return on equity range recommended by KIUC witness Mr. Stephen Hill to address the Companies' recovery of an equity rate of return on debt financing by LKE used to finance its equity investment in KU and LG&E, and 2) modify and refine the calculation of the Companies' income tax expense to reflect the correct income tax expense that will be incurred on the projects included in the 2011 Plan. This includes the effect of the interest expense deductions on the debt used by LKE to finance its investments in the LG&E and KU ECR rate base investment.

Finally, I quantify the effects of Mr. Hill's recommendation to use a lower return on common equity for the ECR than proposed by the Companies. The effect of Mr. Hill's recommendation is to reduce the annual effect of the cumulative rate increases to 11.5% for KU and 17.8% for LG&E in 2016. The annual effect will continue after 2016, although it will be reduced somewhat each year due to reductions in rate base from accumulated depreciation and accumulated deferred income taxes.

II. 2011 PLAN SHOULD INCLUDE ONLY PROJECTS FOR WHICH FINAL REGULATIONS HAVE BEEN ISSUED

Q. The Companies' proposed 2011 Plan responds to U.S. EPA proposed and final regulations. Which projects are included in the 2011 Plan in response to proposed regulations?

A. At the date of this testimony, the hazardous air pollutants ("HAPs") rule is proposed only and is not final. The other air regulations are final, according to the KU's response to Staff 2-17 and LG&E's response to Staff 2-17.

KU is in compliance with the SO2 emission limit imposed by the HAP's Rule, according to Companies' witness Mr. Gary Levlett. KU proposes to comply with the particulate matter and mercury emissions limits imposed by the HAP's Rule by installing the proposed particulate Matter Control Systems at Brown and Ghent included in Projects 34 and 35, as described by Mr. Levlett and Mr. Voyles. LG&E proposes to comply with the SO2 emission limit imposed by the HAP's Rule by installing the new FGD equipment at Mill Creek included in Project 26, according to Mr. Levlett. LG&E proposes to comply with the particulate matter and mercury emissions limits imposed by the HAP's Rule by installing the particulate Matter Control Systems at Mill Creek and Trimble County 1 included in Projects 26 and 27, as described by Mr. Levlett and Mr. Voyles.

Q. Should the Commission, as a matter of regulatory policy, approve the Companies' compliance plans and ratemaking recovery for the projects in response to the proposed HAPs Rule that are not otherwise required to comply with other final regulations?

A. No. The ECR statute addresses compliance plans and recovery pursuant to "applicable environmental requirements." The proposed regulations are not requirements, and thus, the Commission cannot realistically determine whether the proposed projects comply with requirements that do not presently exist. The Commission should not simply assume that the proposed regulations will become final regulations. The proposed regulations may never be adopted and may be modified and/or delayed even if they do become final. The final regulations, if adopted and implemented, may require different responses, different technologies, different equipment, and/or different investments than the projects proposed in the 2011 Plan developed in response to the proposed regulations. If at a later date, the U.S. EPA issues final regulations, then the Companies may file Applications for approval of the projects necessary to comply with the final regulations and for recovery of the related costs through the ECR.

III. FINANCING COSTS SHOULD BE MINIMIZED AND REFLECT ACTUAL COSTS

Short-Term Debt is Least-Cost Source of Financing During Construction

Q. What sources of short-term debt do the Companies have available to finance the costs of the projects during construction?

A. The Companies have multiple sources of short-term debt available to finance the costs of the projects during construction totaling $1,050 million for each Company, according to KU's response to KIUC 1-9 and LG&E's response to KIUC 1-10. I have attached a copy of these two responses as my Exhibit___(LK-2).

Each Company has available up to $400 million from an intercompany money pool agreement ("Money Pool"), up to $400 million from a revolving line of credit with a group of banks, and will have available another $250 million from a commercial paper program which will be implemented by year-end 2011.

Q. What are the costs of these sources of short-term debt?

A. The present cost of short-term debt at July 31, 2011 available through the Money Pool is only 0.16%, or nearly zero, according to KU's response to KIUC 2-17 and LG&E's response to KIUC 2-18. I have attached a copy of these two responses and the relevant pages from the attachments as my Exhibit___(LK-3). The cost of short-term debt available through the Money Pool is based on the 30 day dealer commercial paper rate, according to those same responses. The incremental cost of borrowings under the revolving credit facilities is LIBOR + 1.75%, according to those same responses. KU has not recently borrowed against its credit facility. LG&E's most recent borrowings through its credit facility were in January 2011 at 2.27%, according to those same responses. The Companies did not provide the estimated costs of borrowings under the commercial paper program in their responses.

Q. Why should the Companies maximize the use of short-term debt during construction?

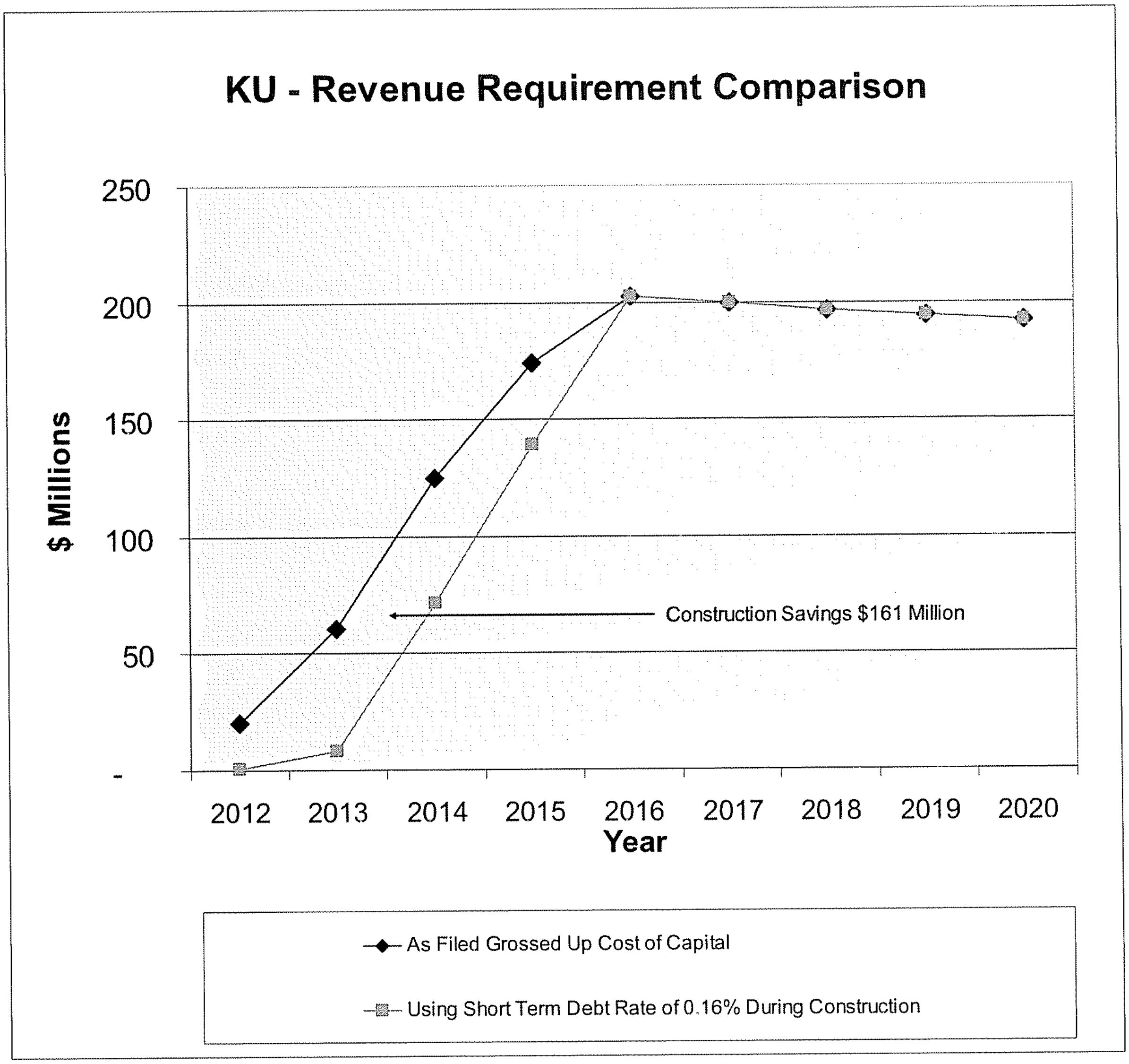
A. The reasonable return, and thus, the ECR revenue requirement, should reflect the least cost financing available for the capital expenditures pursuant to the 2011 Plan. At the present cost of 0.16% to 2.27%, short-term debt is by far the least cost source of financing available to the Companies for the projects in the 2011 Plan. By comparison, the cost of common equity proposed by the Companies is

10.63%, which is equivalent to 17.72% when the income tax gross-up is included (10.63% x 1/ (1-0.357076 tax rate)). Also by comparison, the Companies' most recent cost of long-term debt was 3.49% based on a recent issue by LG&E.

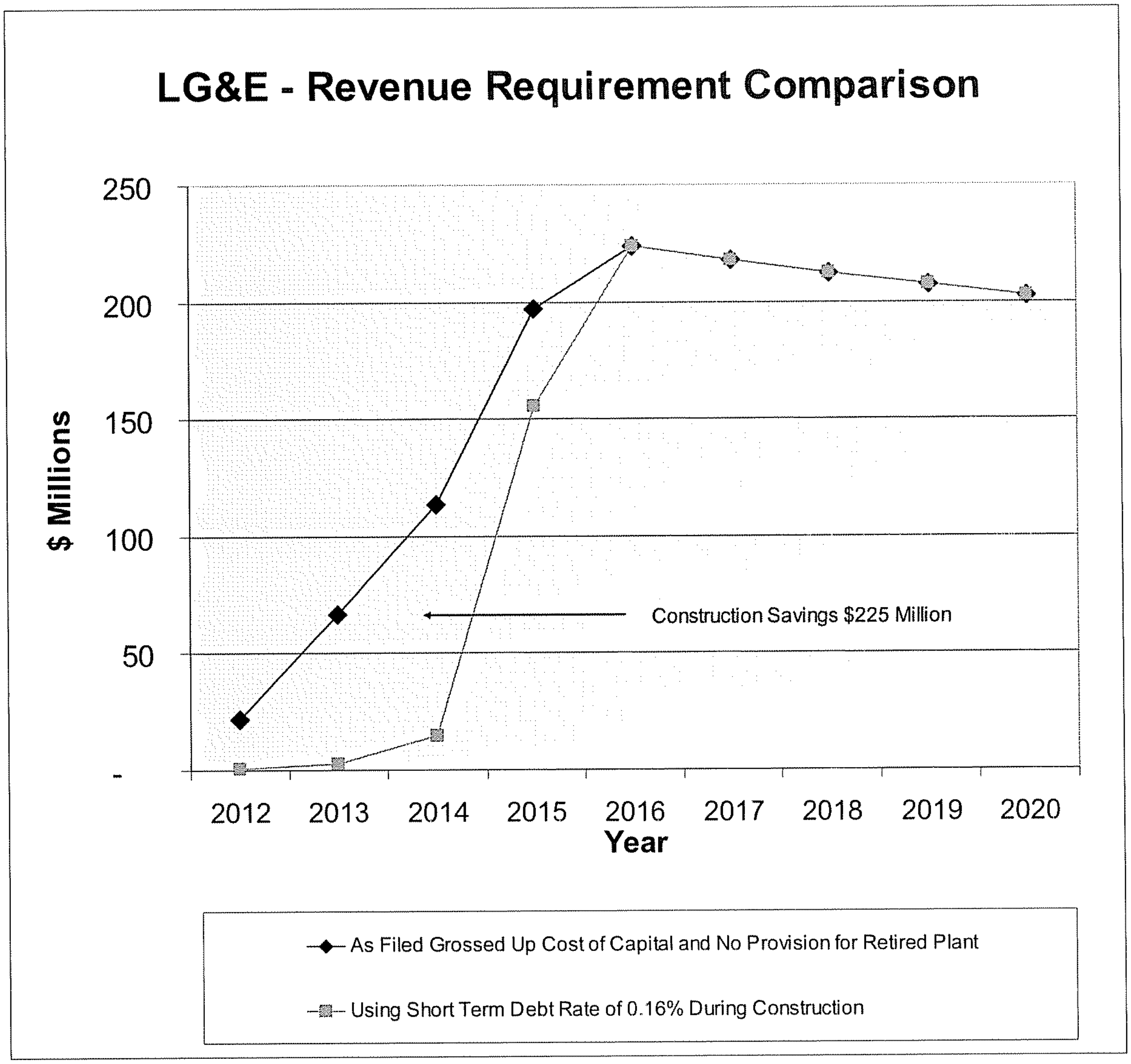
Clearly, the Companies should maximize the use of short-term debt during the construction of the projects in the 2011 Plan. The Companies already have significant short-term debt capability and each of them are further increasing their capability by $250 million through establishment of a commercial paper program, as I previously noted. The Commission should ensure that the Companies minimize the costs of the 2011 Plan by carefully reviewing the Companies' actual use of short-term debt during construction in each six month and two year ECR review proceeding and comparing their actual use of short-term debt to the available sources of this low-cost financing.

Q. Have you quantified the savings to customers if the Companies finance the entirety of their capital expenditures with short-term debt during the construction period?

A. Yes. The savings to KU customers will be $161 million and to LG&E customers will be $225 million using a commercial paper rate of 0.16% compared to the rate of return proposed by the Companies. The savings are graphically portrayed below:


KU - Revenue Requirement Comparison
250
200
150
100
50
-
$ Millions
2012
2013
2014
2015
2016
2017
2018
2019
2020
Year
Construction Savings $161 Million
As Filed Grossed Up Cost of Capital
Using Short Term Debt Rate of 0.16% During Construction

1



<u>Securitization Will Provide Permanent Savings to Customers</u>

Q. Please describe securitization financing.

A. For utilities, securitization is a form of asset-based debt financing that is backed by one or more recovery guarantees normally issued by the state government and/or the state regulatory commission. This form of financing is used to reduce the costs to utilities and their customers of plant and other investments that otherwise would be financed through a combination of debt and equity at a much greater cost as measured by the utility's grossed-up overall rate of return. There are significant savings due to the greater amount of debt compared to the utility's overall cost of capital and due to the greater security and reduction in risk provided to the investors.

Q. Is securitization financing presently available to the Companies for the capital expenditures pursuant to the 2011 Plan?

A. No. It is my understanding that securitization financing is dependent in part on enabling legislation and that legislation has not yet been introduced in the Kentucky Legislature.

Q. If securitization financing becomes available, should the Companies pursue this form of financing?

A. Yes. The Companies should be required to pursue the maximum securitization financing possible in order to minimize costs to customers. The Commission should monitor the progress of the potential securitization legislation and, if this form of financing is available, should review the Companies' use of it in every six month and two year review. The savings will be substantial, particularly from the displacement of common equity in the rate of return and its replacement with substantially lower cost long-term debt.

Q. Have you quantified the savings to customers if the Companies finance the entirety of their capital expenditures with securitization financing after the construction period?

A. Yes. The annualized savings to KU customers will be $75 million and to LG&E customers will be $97 million in 2016 after all construction is completed using an assumed securitization financing rate of 2.50% compared to the rate of return proposed by the Companies. I assumed an interest rate of 1.0% less than the most recent cost of new long-term debt issued by LG&E at 3.5% in 2010. The lower rate reflects the greater security and lower risk of this form of financing compared to conventional long-term debt. The savings will continue year after year, albeit at a declining amount due to additional accumulated depreciation and accumulated deferred income taxes.

Description of Rate of Return Used In ECR and Commission History of Changes in ROR Methodology

Q. Please describe how financing costs are recovered through the ECR.

A. The rate of return (term "ROR" in the ECR tariff) is applied to the ECR rate base to compute the return on capital expenditures (rate base) in the ECR revenue requirement. The ROR used in the ECR revenue requirement computation is updated every six months in conjunction with the statutory six month reviews to reflect the capitalization amounts and capitalization ratios at a historic date certain, to reflect the cost of short-term debt and weighted cost of long-term debt at the date certain, and to reflect the most recent authorized return on common equity. This rate of return is used for the forthcoming six month period, and then is trued-up for any changes during the six month period through the over/under provisions of the ECR. The capitalization amounts at the date certain are total Company amounts, which in turn are used to compute the capitalization ratios and the weighted average cost of each capitalization component. The Commission adopted this methodology for KU in Case No. 2000-00439 and for LG&E in Case No. 2000-00386.

Q. Has the Commission modified and refined the ROR used in the ECR to more accurately reflect actual financing costs?

A. Yes. In various proceedings, the Commission changed the ROR methodology to refine the ROR so that it more accurately reflected the Companies' actual cost of financing the projects that were approved for recovery through the ECR. For example, for KU, the Commission initially used the 5.85% rate from KU's December 1993 tax-exempt debt issue as the ROR on the costs of the projects in the 1994 Plan recovered through the ECR. [Case No. 93-465]. The Commission later modified the ROR applicable to the costs of the projects in the 1994 Plan to reflect the weighted average cost of KU's pollution control debt. [Case No. 2000-439].

The Commission also modified the computation of the ROR to revise it every six months for changes in the capitalization structure and in the average costs of the debt components and to introduce a true-up based on actual changes over the six month review period. [*Id.*]. The Commission further modified the

ROR to reflect the Company's overall rate of return on the costs of projects included in KU's 2001 Plan and to include accounts receivable financing in the short term debt capitalization component. [*Id.*].

The Commission has not only modified and refined the ROR, it also has used different RORs for the costs of projects included in different vintage year Plans. [*Id.*]. Consequently, the Commission has demonstrated that when it is appropriate to do, it will modify and refine the ROR so that it accurately reflects the actual costs to finance the capital expenditures for projects in approved Plans.

<u>Modification of ROR to Allocate Entirety of New Tax-Exempt Financing to ECR</u>

Q. The Company "expects to finance the cost of the new facilities with a combination of new debt and equity," including tax-exempt financing to the extent that it is "available" and "reasonably cost-effective. [Bellar Direct at 13]. Should new tax-exempt pollution control debt financing be allocated in its entirety to the ECR ROR?

A. Yes. Any new tax-exempt pollution control debt financing will be used only to finance the facilities that qualify for the financing and thus, such financing should be allocated in its entirety to the debt component of the ROR used in the ECR revenue requirement.

Q. Has the Company described how it plans to reflect new tax-exempt debt in the ROR to ensure that it is allocated solely to the ECR?

A. No.

Q. How should new tax-exempt financing be incorporated in the ROR calculation for the ECR?

A. The ROR computation should be modified to adjust the total Company ROR to an ECR-specific ROR that incorporates the entirety of the new tax-exempt pollution control debt financing in the ECR-specific ROR. No portion of any new tax-exempt financing should be allocated to the non-ECR capitalization because the financing will be specific to the ECR rate base investment; it will not be issued to finance other non-ECR costs.

The ROR presently is computed on a total Company basis, which then is applied to the ECR rate base. This methodology effectively allocates all sources of financing and the related costs of that financing proportionately between the ECR rate base investment and the remaining total Company capitalization (total Company capitalization less the ECR rate base investment). Without any modification or refinement, the present methodology will allocate a portion of new tax-exempt debt to the non-ECR capitalization.

To correct this mismatch, the ROR methodology should be modified and refined. The modification and refinement of the ROR computation involves several steps. The first step is to obtain the total Company capitalization amounts by component, including a separate component for all new tax-exempt debt issues used to finance the projects in the 2011 Plan. The following table illustrates the first step.

First Step

	Total Company Capital ($ Millions)	Capital Ratio	Component Costs	Weighted Avg Cost of Capital
Short Term Debt	300	10.34%	0.25%	0.03%
New Tax-Exempt Debt	100	3.45%	3.00%	0.10%
Non-Tax Exempt Debt	1,100	37.93%	5.00%	1.90%
Common Equity	1,400	48.28%	10.63%	5.13%
Total	2,900	100.00%		7.16%

The second step is to determine the ratio of the ECR rate base to the total Company capitalization and then to apply this ratio to each of the total Company capitalization amounts so that they sum to the ECR rate base. The following table illustrates the second step.

Second Step

	($ Millions)
ECR Rate Base	1,160
Total Company Capitalization	2,900
Percentage Allocated to ECR	40.00%

	ECR Capital ($ Millions)	Capital Ratio	Component Costs
Short Term Debt	120	10.34%	0.25%
New Tax-Exempt Debt	40	3.45%	3.00%
Non-Tax Exempt Debt	440	37.93%	5.00%
Common Equity	560	48.28%	10.63%
Total	1,160	100.00%	

The third step is to recompute the weighted average cost of long-term debt so that any new lower-cost tax-exempt debt is allocated solely to the ECR ROR. This can be accomplished by substituting the cost of the new tax-exempt debt for a similar amount of the other long-term debt allocated to the ECR in the second step. For example, assume that the total Company debt capitalization is $1,200 million, consisting of $1,100 in non-tax-exempt debt and another $100 million in new tax-exempt debt. Assume also that the weighted average cost of the non-tax-exempt debt is 5% and the cost of the new tax-exempt debt is 3%. Assume further that the ECR rate base is 40% of total Company capitalization.

Under the present ROR methodology, 40% of the non-tax-exempt debt and 40% of the new tax-exempt debt is allocated to the ECR. In other words, this allocation effectively removes the interest savings of 2% (5% on non-tax-exempt debt compared to 3% on the new tax-exempt debt) on the other $60 million in the new tax-exempt debt ($100 million total new tax-exempt debt less the $40 million allocated to the ECR) is not reflected in the ROR. To correct the ROR, it is necessary to increase the tax-exempt debt allocated to the ECR by $60 million and to reduce the non-tax-exempt debt allocated to the ECR by $60 million.

The following table illustrates the third step.

Third Step

	ECR Debt Capital ($ Millions)	Debt Capital Ratio	Component Costs	Weighted Avg Cost
New Tax-Exempt Debt	100	20.83%	3.00%	0.63%
Non-Tax Exempt Debt	380	79.17%	5.00%	3.96%
Total Cost of Long Term Debt	480	100.00%		4.59%

Modification of ROR to Properly Allocate Short-Term Debt to ECR

Q. Does the present computation of the ROR properly allocate short term debt

to the ECR revenue requirement?

A. No. The present computation understates the short-term debt used to finance ECR projects during construction and thus, overstates the ROR and the recovery through the ECR compared to the actual costs of financing these projects. Short-term debt is used to finance the projects during construction, and generally is not used to finance the plant in service amounts; consequently, the proper allocation should reflect the ratio of the ECR CWIP compared to total Company CWIP. The present allocation of short-term debt may not have been a significant issue in the past, but the magnitude of the cost of the projects in the 2011 Plan and the availability of extremely low-cost short-term debt requires that the short-term debt financing be properly allocated to the ECR revenue requirement.

The present computation assumes, albeit incorrectly, that all short-term debt is used proportionately to finance all ECR and non-ECR investment, which includes plant in service and is not limited to only the CWIP amounts related to those two categories of investments. However, the Companies generally have not used short-term debt to finance plant in service. Consequently, the present computation of the ROR should be modified so that short-term debt is allocated between ECR and non-ECR investment on the basis of CWIP, not on the basis of rate base/capitalization.

Q. How should the ROR calculation be modified and refined to properly allocate short-term debt to the ECR revenue requirement?

A. The ECR ROR computation first should be modified to allocate all new tax-exempt financing to the ECR in the manner that I previously described. The second step in that process computes an allocation of total Company short-term debt to the ECR based on the ratio of the ECR rate base to total Company capitalization. The next step is to compute the amount of short-term debt that should be allocated to the ECR based on ECR CWIP compared to total Company CWIP. Once that is computed, then the amount of short-term debt allocated to the ECR in the second step will be replaced by the amount allocated in this fourth step.

To illustrate the modifications, assume that the total Company short-term debt capitalization is $300 million; the amount allocated to the ECR under the present ROR methodology is 40%, or $120 million (40%); and the weighted average cost of that debt is 0.25%. The total Company interest expense is $0.750 million and under the present ROR methodology, the interest expense allocated to the ECR is $0.300 million ($0.750 million x 40%). Assume further that the total Company CWIP is $400 million and the ECR CWIP is $300 million. The ECR CWIP is 75% of the total Company CWIP and thus, $225 million of the ECR CWIP actually is financed by short-term debt, not the $120 million allocated under the present ROR methodology.

Consequently, the $120 million in short term debt allocated to the ECR in the second step would be removed and the $225 million allocated in the fourth step would be substituted. In addition, the long-term debt and common equity would be reduced proportionately by $105 million ($225 million less $120 million) to ensure that the total capitalization allocated to the ECR remained the same. The cost of the short-term debt would remain unchanged at 0.25%.

The following table illustrates the fourth step.

Fourth Step

	($ Millions)
ECR CWIP	300
Total Company CWIP	400
Percentage Allocated to ECR	75.00%

	ECR Capital ($ Millions)	Capital Ratio	Component Costs
Short Term Debt	225	19.40%	0.25%
New Tax-Exempt Debt	100	8.62%	3.00%
Non-Tax Exempt Debt	338	29.10%	5.00%
Common Equity	497	42.88%	10.63%
Total	1,160	100.00%	

Final Step of Modifications to ROR for Tax-Exempt Debt and Short-Term Debt

Q. Please describe the fifth and final step in the computation of the ECR ROR.

A. The final step is to compute the adjusted ECR capitalization ratios based on the capitalization amounts computed in the previous steps and then to multiply the cost of each component, as adjusted in the previous steps, by the capitalization ratios to determine the weighted average cost of each component. The cost of common equity will be the return authorized on the ECR investment in this proceeding. The ECR ROR will be the sum of the weighted average cost of each component.

The following table illustrates the fifth and final step.

Fifth Step

	ECR Capital ($ Millions)	Capital Ratio	Component Costs	Weighted Avg Cost of Capital
Short Term Debt	225	19.40%	0.25%	0.05%
New Tax-Exempt Debt	100	8.62%	3.00%	0.26%
Non-Tax Exempt Debt	338	29.10%	5.00%	1.45%
Common Equity	497	42.88%	10.63%	4.56%
Total	1,160	100.00%		6.32%

IV. LKE DEBT FINANCING OF EQUITY INVESTMENTS IN KU AND LG&E SHOULD BE REFLECTED IN RETURN AND INCOME TAX EXPENSE

Q. Please explain how LKE finances its investment in the common equity of LG&E and KU.

A. LKE finances its investment in the common equity of LG&E and KU through a combination of common equity, long-term debt and short-term debt. The LKE capitalization at June 30, 2011 consisted of $3,991 million in common equity (51.1%) and $3,825 million in long-term debt (48.9%), according to KU's response to KIUC 2-12 and LG&E's response to KIUC 2-13. I have attached copies of these responses (without attachments) as my Exhibit___(LK-4). In other words, nearly half of the common equity of KU and LG&E is financed through long-term debt issued by LKE.

Q. What is the significance of this fact?

A. The significance is that the return on rate base and the income tax expense in the ECR revenue requirement are overstated, as presently computed, because the computations do not consider all three companies together, as they should be.

The three companies are inextricably interrelated. The ownership structure provides PPL Corp., the parent company of LKE, a financing and ratemaking opportunity to recover more than the actual costs it incurs on its KU and LG&E ECR rate base investments.

PPL Corp. uses the LKE structure to accomplish this result in two ways. The first way is that LKE is able to earn an equity return rather than a debt return on its debt investments in the common equity of KU and LG&E. In other words, the ROR used in the ECR reflects only the common equity capitalization ratios for KU and LG&E. It does not reflect the fact that nearly half of that common equity is actually financed through debt. The second is that LKE is able to reduce the income tax expense of the three companies compared to the amount collected through the ECR from KU and LG&E customers due to the additional interest expense deductions on the debt it used to finance the equity investments in LG&E and KU. In other words, the income tax expense presently computed in the ECR does not reflect the reduction in income tax expense due to the interest expense on the LKE debt.

Q. Please describe how income tax expense is computed and recovered through the ECR.

A. In addition to the financing costs reflected in the ECR revenue requirement computed by multiplying the ROR times the ECR rate base investment, the Commission allows recovery of the income tax expense associated with the equity component of the ROR. The income tax expense presently is determined by multiplying a gross-up on the equity component of the ROR times the ECR rate base investment. Thus, any change in the equity component of the ROR also directly affects the income tax expense included in the ECR revenue requirement.

Q. Is the income tax expense correctly computed to reflect the actual financing costs on capital expenditures in the ECR?

A. No. The income tax expense is overstated because it does not reflect the reduction in income tax expense from the interest expense deductions on the debt used by LKE, the intermediate holding company that owns LG&E and KU, to finance LKE's investment in the common equity of LG&E and KU.

Q. Are you aware of another Commission that has addressed income tax implications of this issue and reduced the income tax expense recovered from ratepayers?

A. Yes. The Florida Public Service Commission ("FPSC") has addressed this issue and adopted an Administrative Rule that requires the utility to reduce income tax expense for ratemaking purposes by the tax effect of interest expense incurred by a parent company or companies on debt used to finance their equity investments in the utility companies. The FPSC Rule states the following:

> **25-14.004 Effect of Parent Debt on Federal Corporate Income Tax.**
>
> In Commission proceedings to establish revenue requirements or address over-earnings, other than those entered into under Rule 25-14.003, F.A.C., the income tax expense of a regulated company shall be adjusted to reflect the income tax expense of the parent debt that may be invested in the equity of the subsidiary where a parent-

> subsidiary relationship exists and the parties to the relationship join in the filing of a consolidated income tax return.
>
> (1) Where the regulated utility is a subsidiary of a single parent, the income tax effect of the parent's debt invested in the equity of the subsidiary utility shall reduce the income tax expense of the utility.
>
> (2) Where the regulated utility is a subsidiary of tiered parents, the adjusted income tax effect of the debt of all parents invested in the equity of the subsidiary utility shall reduce the income tax expense of the utility.
>
> (3) The capital structure of the parent used to make the adjustment shall include at least long term debt, short term debt, common stock, cost free capital and investment tax credits, excluding retained earnings of the subsidiaries. It shall be a rebuttable presumption that a parent's investment in any subsidiary or in its own operations shall be considered to have been made in the same ratios as exist in the parent's overall capital structure.
>
> (4) The adjustment shall be made by multiplying the debt ratio of the parent by the debt cost of the parent. This product shall be multiplied by the statutory tax rate applicable to the consolidated entity. This result shall be multiplied by the equity dollars of the subsidiary, excluding its retained earnings. The resulting dollar amount shall be used to adjust the income tax expense of the utility.

Q. What is your recommendation to address the reasonable return and income tax expense issues due to the LKE ownership and financing structure?

A. I recommend that the Commission address the return issue by using the low end of the range recommended by Mr. Hill. In addition, I recommend that the Commission modify and refine its computation of income tax expense so that it reflects the reduction in income tax expense resulting from the use by LKE of debt to finance its investments in the KU and LG&E common equity. The present ECR methodology does not result in a reasonable income tax expense, the standard cited in KRS 278.183(1), or in actual income tax expense, the requirement cited in KRS 278.183(3).

V. EFFECTS OF RETURN ON EQUITY ON CUSTOMERS

Q. What is the effect of the Companies' requested return on equity in this proceeding?

A. The Companies' requested rate of return is 10.63%, which is equivalent to a return of 17.72% when the related income tax expense gross-up is included. The effect of each 1.0% return on common equity is $7.4 million for KU and $9.7 million for LG&E in 2016 when the capital expenditures on the projects in the 2011 Plan are completed.

Q. What is the effect in 2016 of KIUC witness Mr. Hill's recommended return on equity compared to the Company's request?

A. The effect is a reduction in the cumulative rate increases of $12.1 million for KU and $15.8 million for LG&E. The lower return on equity results in a cumulative rate increase of 11.5% for KU and 17.8% for LG&E compared to the requested increases of 12.2% for KU and 19.2% for LG&E, all else equal.

Q. Does this complete your testimony?

A. Yes.

BEFORE THE

KENTUCKY PUBLIC SERVICE COMMISSION

IN RE:	THE APPLICATION OF KENTUCKY UTILITIES COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	) CASE NO. 2011-00161
	THE APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF ITS 2011 COMPLIANCE PLAN FOR RECOVERY BY ENVIRONMENTAL SURCHARGE	) CASE NO. 2011-00162

EXHIBITS

OF

LANE KOLLEN

ON BEHALF OF THE

KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.

J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA
September 2011

EXHIBIT___(LK-1)

RESUME OF LANE KOLLEN, VICE PRESIDENT

EDUCATION

University of Toledo, BBA
Accounting

University of Toledo, MBA

Luther Rice University, MA

PROFESSIONAL CERTIFICATIONS

Certified Public Accountant (CPA)

Certified Management Accountant (CMA)

PROFESSIONAL AFFILIATIONS

American Institute of Certified Public Accountants

Georgia Society of Certified Public Accountants

Institute of Management Accountants

More than thirty years of utility industry experience in the financial, rate, tax, and planning areas. Specialization in revenue requirements analyses, taxes, evaluation of rate and financial impacts of traditional and nontraditional ratemaking, utility mergers/acquisition and diversification. Expertise in proprietary and nonproprietary software systems used by utilities for budgeting, rate case support and strategic and financial planning.

RESUME OF LANE KOLLEN, VICE PRESIDENT

EXPERIENCE

1986 to Present: **J. Kennedy and Associates, Inc.:** Vice President and Principal. Responsible for utility stranded cost analysis, revenue requirements analysis, cash flow projections and solvency, financial and cash effects of traditional and nontraditional ratemaking, and research, speaking and writing on the effects of tax law changes. Testimony before Connecticut, Florida, Georgia, Indiana, Louisiana, Kentucky, Maine, Maryland, Minnesota, New York, North Carolina, Ohio, Pennsylvania, Tennessee, Texas, West Virginia and Wisconsin state regulatory commissions and the Federal Energy Regulatory Commission.

1983 to 1986: **Energy Management Associates:** Lead Consultant.
Consulting in the areas of strategic and financial planning, traditional and nontraditional ratemaking, rate case support and testimony, diversification and generation expansion planning. Directed consulting and software development projects utilizing PROSCREEN II and ACUMEN proprietary software products. Utilized ACUMEN detailed corporate simulation system, PROSCREEN II strategic planning system and other custom developed software to support utility rate case filings including test year revenue requirements, rate base, operating income and pro-forma adjustments. Also utilized these software products for revenue simulation, budget preparation and cost-of-service analyses.

1976 to 1983: **The Toledo Edison Company:** Planning Supervisor.
Responsible for financial planning activities including generation expansion planning, capital and expense budgeting, evaluation of tax law changes, rate case strategy and support and computerized financial modeling using proprietary and nonproprietary software products. Directed the modeling and evaluation of planning alternatives including:

Rate phase-ins.
Construction project cancellations and write-offs.
Construction project delays.
Capacity swaps.
Financing alternatives.
Competitive pricing for off-system sales.
Sale/leasebacks.

RESUME OF LANE KOLLEN, VICE PRESIDENT

CLIENTS SERVED

Industrial Companies and Groups

Air Products and Chemicals, Inc.
Airco Industrial Gases
Alcan Aluminum
Armco Advanced Materials Co.
Armco Steel
Bethlehem Steel
Connecticut Industrial Energy Consumers
ELCON
Enron Gas Pipeline Company
Florida Industrial Power Users Group
Gallatin Steel
General Electric Company
GPU Industrial Intervenors
Indiana Industrial Group
Industrial Consumers for Fair Utility Rates - Indiana
Industrial Energy Consumers - Ohio
Kentucky Industrial Utility Customers, Inc.
Kimberly-Clark Company
Lehigh Valley Power Committee
Maryland Industrial Group
Multiple Intervenors (New York)
National Southwire
North Carolina Industrial Energy Consumers
Occidental Chemical Corporation
Ohio Energy Group
Ohio Industrial Energy Consumers
Ohio Manufacturers Association
Philadelphia Area Industrial Energy Users Group
PSI Industrial Group
Smith Cogeneration
Taconite Intervenors (Minnesota)
West Penn Power Industrial Intervenors
West Virginia Energy Users Group
Westvaco Corporation

Regulatory Commissions and Government Agencies

Cities in Texas-New Mexico Power Company's Service Territory
Cities in AEP Texas Central Company's Service Territory
Cities in AEP Texas North Company's Service Territory
Georgia Public Service Commission Staff
Kentucky Attorney General's Office, Division of Consumer Protection
Louisiana Public Service Commission Staff
Maine Office of Public Advocate
New York State Energy Office
Office of Public Utility Counsel (Texas)

RESUME OF LANE KOLLEN, VICE PRESIDENT

Utilities

Allegheny Power System
Atlantic City Electric Company
Carolina Power & Light Company
Cleveland Electric Illuminating Company
Delmarva Power & Light Company
Duquesne Light Company
General Public Utilities
Georgia Power Company
Middle South Services
Nevada Power Company
Niagara Mohawk Power Corporation
Otter Tail Power Company
Pacific Gas & Electric Company
Public Service Electric & Gas
Public Service of Oklahoma
Rochester Gas and Electric
Savannah Electric & Power Company
Seminole Electric Cooperative
Southern California Edison
Talquin Electric Cooperative
Tampa Electric
Texas Utilities
Toledo Edison Company

Expert Testimony Appearances
of
Lane Kollen
As of August 2011

Date	Case	Jurisdict.	Party	Utility	Subject
10/86	U-17282 Interim	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Cash revenue requirements financial solvency.
11/86	U-17282 Interim Rebuttal	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Cash revenue requirements financial solvency.
12/86	9613	KY	Attorney General Div. of Consumer Protection	Big Rivers Electric Corp.	Revenue requirements accounting adjustments financial workout plan.
1/87	U-17282 Interim	LA 19th Judicial District Ct.	Louisiana Public Service Commission Staff	Gulf States Utilities	Cash revenue requirements, financial solvency.
3/87	General Order 236	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Tax Reform Act of 1986.
4/87	U-17282 Prudence	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Prudence of River Bend 1, economic analyses, cancellation studies.
4/87	M-100 Sub 113	NC	North Carolina Industrial Energy Consumers	Duke Power Co.	Tax Reform Act of 1986.
5/87	86-524-E-SC	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Revenue requirements. Tax Reform Act of 1986.
5/87	U-17282 Case In Chief	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Revenue requirements, River Bend 1 phase-in plan, financial solvency.
7/87	U-17282 Case In Chief Surrebuttal	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Revenue requirements River Bend 1 phase-in plan, financial solvency.
7/87	U-17282 Prudence Surrebuttal	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Prudence of River Bend 1, economic analyses, cancellation studies.
7/87	86-524 E-SC Rebuttal	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Revenue requirements, Tax Reform Act of 1986.

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Date	Case	Jurisdict.	Party	Utility	Subject
8/87	9885	KY	Attorney General Div. of Consumer Protection	Big Rivers Electric Corp.	Financial workout plan.
8/87	E-015/GR-87-223	MN	Taconite Intervenors	Minnesota Power & Light Co.	Revenue requirements, O&M expense, Tax Reform Act of 1986.
10/87	870220-EI	FL	Occidental Chemical Corp.	Florida Power Corp.	Revenue requirements, O&M expense, Tax Reform Act of 1986.
11/87	87-07-01	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power Co.	Tax Reform Act of 1986.
1/88	U-17282	LA 19th Judicial District Ct.	Louisiana Public Service Commission	Gulf States Utilities	Revenue requirements, River Bend 1 phase-in plan, rate of return.
2/88	9934	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric Co.	Economics of Trimble County completion.
2/88	10064	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric Co.	Revenue requirements, O&M expense, capital structure, excess deferred income taxes.
5/88	10217	KY	Alcan Aluminum National Southwire	Big Rivers Electric	Financial workout plan. Corp.
5/88	M-87017 -1C001	PA	GPU Industrial Intervenors	Metropolitan Edison Co.	Nonutility generator deferred cost recovery.
5/88	M-87017 -2C005	PA	GPU Industrial Intervenors	Pennsylvania Electric Co.	Nonutility generator deferred cost recovery.
6/88	U-17282	LA 19th Judicial District Ct.	Louisiana Public Service Commission	Gulf States Utilities	Prudence of River Bend 1 economic analyses, cancellation studies, financial modeling.
7/88	M-87017- -1C001 Rebuttal	PA	GPU Industrial Intervenors	Metropolitan Edison Co.	Nonutility generator deferred cost recovery, SFAS No. 92

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Date	Case	Jurisdict.	Party	Utility	Subject
7/88	M-87017- -2C005 Rebuttal	PA	GPU Industrial Intervenors	Pennsylvania Electric Co.	Nonutility generator deferred cost recovery, SFAS No. 92
9/88	88-05-25	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power Co.	Excess deferred taxes, O&M expenses.
9/88	10064 Rehearing	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric Co.	Premature retirements, interest expense.
10/88	88-170- EL-AIR	OH	Ohio Industrial Energy Consumers	Cleveland Electric Illuminating Co.	Revenue requirements, phase-in, excess deferred taxes, O&M expenses, financial considerations, working capital.
10/88	88-171- EL-AIR	OH	Ohio Industrial Energy Consumers	Toledo Edison Co.	Revenue requirements, phase-in, excess deferred taxes, O&M expenses, financial considerations, working capital.
10/88	8800 355-EI	FL	Florida Industrial Power Users' Group	Florida Power & Light Co.	Tax Reform Act of 1986, tax expenses, O&M expenses, pension expense (SFAS No. 87).
10/88	3780-U	GA	Georgia Public Service Commission Staff	Atlanta Gas Light Co.	Pension expense (SFAS No. 87).
11/88	U-17282 Remand	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Rate base exclusion plan (SFAS No. 71)
12/88	U-17970	LA	Louisiana Public Service Commission Staff	AT&T Communications of South Central States	Pension expense (SFAS No. 87).
12/88	U-17949 Rebuttal	LA	Louisiana Public Service Commission Staff	South Central Bell	Compensated absences (SFAS No. 43), pension expense (SFAS No. 87), Part 32, income tax normalization.
2/89	U-17282 Phase II	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Revenue requirements, phase-in of River Bend 1, recovery of canceled plant.

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Date	Case	Jurisdict.	Party	Utility	Subject
6/89	881602-EU 890326-EU	FL	Talquin Electric Cooperative	Talquin/City of Tallahassee	Economic analyses, incremental cost-of-service, average customer rates.
7/89	U-17970	LA	Louisiana Public Service Commission Staff	AT&T Communications of South Central States	Pension expense (SFAS No. 87), compensated absences (SFAS No. 43), Part 32.
8/89	8555	TX	Occidental Chemical Corp.	Houston Lighting & Power Co.	Cancellation cost recovery, tax expense, revenue requirements.
8/89	3840-U	GA	Georgia Public Service Commission Staff	Georgia Power Co.	Promotional practices, advertising, economic development.
9/89	U-17282 Phase II Detailed	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Revenue requirements, detailed investigation.
10/89	8880	TX	Enron Gas Pipeline	Texas-New Mexico Power Co.	Deferred accounting treatment, sale/leaseback.
10/89	8928	TX	Enron Gas Pipeline	Texas-New Mexico Power Co.	Revenue requirements, imputed capital structure, cash working capital.
10/89	R-891364	PA	Philadelphia Area Industrial Energy Users Group	Philadelphia Electric Co.	Revenue requirements.
11/89 12/89	R-891364 Surrebuttal (2 Filings)	PA	Philadelphia Area Industrial Energy Users Group	Philadelphia Electric Co.	Revenue requirements, sale/leaseback.
1/90	U-17282 Phase II Detailed Rebuttal	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Revenue requirements , detailed investigation.
1/90	U-17282 Phase III	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Phase-in of River Bend 1, deregulated asset plan.
3/90	890319-EI	FL	Florida Industrial Power Users Group	Florida Power & Light Co.	O&M expenses, Tax Reform Act of 1986.

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Date	Case	Jurisdict.	Party	Utility	Subject
4/90	890319-EI Rebuttal	FL	Florida Industrial Power Users Group	Florida Power & Light Co.	O&M expenses, Tax Reform Act of 1986.
4/90	U-17282	LA 19th Judicial District Ct.	Louisiana Public Service Commission	Gulf States Utilities	Fuel clause, gain on sale of utility assets.
9/90	90-158	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric Co.	Revenue requirements, post-test year additions, forecasted test year.
12/90	U-17282 Phase IV	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Revenue requirements.
3/91	29327, et. al.	NY	Multiple Intervenors	Niagara Mohawk Power Corp.	Incentive regulation.
5/91	9945	TX	Office of Public Utility Counsel of Texas	El Paso Electric Co.	Financial modeling, economic analyses, prudence of Palo Verde 3.
9/91	P-910511 P-910512	PA	Allegheny Ludlum Corp., Armco Advanced Materials Co., The West Penn Power Industrial Users' Group	West Penn Power Co.	Recovery of CAAA costs, least cost financing.
9/91	91-231 -E-NC	WV	West Virginia Energy Users Group	Monongahela Power Co.	Recovery of CAAA costs, least cost financing.
11/91	U-17282	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Asset impairment, deregulated asset plan, revenue requirements.
12/91	91-410-EL-AIR	OH	Air Products and Chemicals, Inc., Armco Steel Co., General Electric Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Revenue requirements, phase-in plan.
12/91	10200	TX	Office of Public Utility Counsel of Texas	Texas-New Mexico Power Co.	Financial integrity, strategic planning, declined business affiliations.

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Date	Case	Jurisdict.	Party	Utility	Subject
5/92	910890-EI	FL	Occidental Chemical Corp.	Florida Power Corp.	Revenue requirements, O&M expense, pension expense, OPEB expense, fossil dismantling, nuclear decommissioning.
8/92	R-00922314	PA	GPU Industrial Intervenors	Metropolitan Edison Co.	Incentive regulation, performance rewards, purchased power risk, OPEB expense.
9/92	92-043	KY	Kentucky Industrial Utility Consumers	Generic Proceeding	OPEB expense.
9/92	920324-EI	FL	Florida Industrial Power Users' Group	Tampa Electric Co.	OPEB expense.
9/92	39348	IN	Indiana Industrial Group	Generic Proceeding	OPEB expense.
9/92	910840-PU	FL	Florida Industrial Power Users' Group	Generic Proceeding	OPEB expense.
9/92	39314	IN	Industrial Consumers for Fair Utility Rates	Indiana Michigan Power Co.	OPEB expense.
11/92	U-19904	LA	Louisiana Public Service Commission Staff	Gulf States Utilities/Entergy Corp.	Merger.
11/92	8649	MD	Westvaco Corp., Eastalco Aluminum Co.	Potomac Edison Co.	OPEB expense.
11/92	92-1715-AU-COI	OH	Ohio Manufacturers Association	Generic Proceeding	OPEB expense.
12/92	R-00922378	PA	Armco Advanced Materials Co., The WPP Industrial Intervenors	West Penn Power Co.	Incentive regulation, performance rewards, purchased power risk, OPEB expense.
12/92	U-19949	LA	Louisiana Public Service Commission Staff	South Central Bell	Affiliate transactions, cost allocations, merger.

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Date	Case	Jurisdict.	Party	Utility	Subject
12/92	R-00922479	PA	Philadelphia Area Industrial Energy Users' Group	Philadelphia Electric Co.	OPEB expense.
1/93	8487	MD	Maryland Industrial Group	Baltimore Gas & Electric Co., Bethlehem Steel Corp.	OPEB expense, deferred fuel, CWIP in rate base
1/93	39498	IN	PSI Industrial Group	PSI Energy, Inc.	Refunds due to over-collection of taxes on Marble Hill cancellation.
3/93	92-11-11	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power Co.	OPEB expense.
3/93	U-19904 (Surrebuttal)	LA	Louisiana Public Service Commission Staff	Gulf States Utilities/Entergy	Merger. Corp.
3/93	93-01 EL-EFC	OH	Ohio Industrial Energy Consumers	Ohio Power Co.	Affiliate transactions, fuel.
3/93	EC92-21000 ER92-806-000	FERC	Louisiana Public Service Commission	Gulf States Utilities/Entergy Corp.	Merger.
4/93	92-1464-EL-AIR	OH	Air Products Armco Steel Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Revenue requirements, phase-in plan.
4/93	EC92-21000 ER92-806-000 (Rebuttal)	FERC	Louisiana Public Service Commission	Gulf States Utilities/Entergy Corp.	Merger.
9/93	93-113	KY	Kentucky Industrial Utility Customers	Kentucky Utilities	Fuel clause and coal contract refund.
9/93	92-490, 92-490A, 90-360-C	KY	Kentucky Industrial Utility Customers and Kentucky Attorney General	Big Rivers Electric Corp.	Disallowances and restitution for excessive fuel costs, illegal and improper payments, recovery of mine closure costs.
10/93	U-17735	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative	Revenue requirements, debt restructuring agreement, River Bend

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Date	Case	Jurisdict.	Party	Utility	Subject
			Staff		cost recovery.
1/94	U-20647	LA	Louisiana Public Service Commission Staff	Gulf States Utilities Co.	Audit and investigation into fuel clause costs.
4/94	U-20647 (Surrebuttal)	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Nuclear and fossil unit performance, fuel costs, fuel clause principles and guidelines.
5/94	U-20178	LA	Louisiana Public Service Commission Staff	Louisiana Power & Light Co.	Planning and quantification issues of least cost integrated resource plan.
9/94	U-19904 Initial Post-Merger Earnings Review	LA	Louisiana Public Service Commission Staff	Gulf States Utilities Co.	River Bend phase-in plan, deregulated asset plan, capital structure, other revenue requirement issues.
9/94	U-17735	LA	Louisiana Public Service Commission Staff	Cajun Electric Power Cooperative	G&T cooperative ratemaking policies, exclusion of River Bend, other revenue requirement issues.
10/94	3905-U	GA	Georgia Public Service Commission Staff	Southern Bell Telephone Co.	Incentive rate plan, earnings review.
10/94	5258-U	GA	Georgia Public Service Commission Staff	Southern Bell Telephone Co.	Alternative regulation, cost allocation.
11/94	U-19904 Initial Post-Merger Earnings Review (Rebuttal)	LA	Louisiana Public Service Commission Staff	Gulf States Utilities Co.	River Bend phase-in plan, deregulated asset plan, capital structure, other revenue requirement issues.
11/94	U-17735 (Rebuttal)	LA	Louisiana Public Service Commission Staff	Cajun Electric Power Cooperative	G&T cooperative ratemaking policy, exclusion of River Bend, other revenue requirement issues.
4/95	R-00943271	PA	PP&L Industrial Customer Alliance	Pennsylvania Power & Light Co.	Revenue requirements. Fossil dismantling, nuclear decommissioning.

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Date	Case	Jurisdict.	Party	Utility	Subject
6/95	3905-U Rebuttal	GA	Georgia Public Service Commission	Southern Bell Telephone Co.	Incentive regulation, affiliate transactions, revenue requirements, rate refund.
6/95	U-19904 (Direct)	LA	Louisiana Public Service Commission Staff	Gulf States Utilities Co.	Gas, coal, nuclear fuel costs, contract prudence, base/fuel realignment.
10/95	95-02614	TN	Tennessee Office of the Attorney General Consumer Advocate	BellSouth Telecommunications, Inc.	Affiliate transactions.
10/95	U-21485 (Direct)	LA	Louisiana Public Service Commission Staff	Gulf States Utilities Co.	Nuclear O&M, River Bend phase-in plan, base/fuel realignment, NOL and AltMin asset deferred taxes, other revenue requirement issues.
11/95	U-19904 (Surrebuttal)	LA	Louisiana Public Service Commission Staff	Gulf States Utilities Co. Division	Gas, coal, nuclear fuel costs, contract prudence, base/fuel realignment.
11/95 12/95	U-21485 (Supplemental Direct) U-21485 (Surrebuttal)	LA	Louisiana Public Service Commission Staff	Gulf States Utilities Co.	Nuclear O&M, River Bend phase-in plan, base/fuel realignment, NOL and AltMin asset deferred taxes, other revenue requirement issues.
1/96	95-299-EL-AIR 95-300-EL-AIR	OH	Industrial Energy Consumers	The Toledo Edison Co. The Cleveland Electric Illuminating Co.	Competition, asset writeoffs and revaluation, O&M expense, other revenue requirement issues.
2/96	PUC No. 14965	TX	Office of Public Utility Counsel	Central Power & Light	Nuclear decommissioning.
5/96	95-485-LCS	NM	City of Las Cruces	El Paso Electric Co.	Stranded cost recovery, municipalization.
7/96	8725	MD	The Maryland Industrial Group and Redland Genstar, Inc.	Baltimore Gas & Electric Co., Potomac Electric Power Co. and Constellation Energy Corp.	Merger savings, tracking mechanism, earnings sharing plan, revenue requirement issues.

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Date	Case	Jurisdict.	Party	Utility	Subject
9/96 11/96	U-22092 U-22092 (Surrebuttal)	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	River Bend phase-in plan, base/fuel realignment, NOL and AltMin asset deferred taxes, other revenue requirement issues, allocation of regulated/nonregulated costs.
10/96	96-327	KY	Kentucky Industrial Utility Customers, Inc.	Big Rivers Electric Corp.	Environmental surcharge recoverable costs.
2/97	R-00973877	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Stranded cost recovery, regulatory assets and liabilities, intangible transition charge, revenue requirements.
3/97	96-489	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Environmental surcharge recoverable costs, system agreements, allowance inventory, jurisdictional allocation.
6/97	TO-97-397	MO	MCI Telecommunications Corp., Inc., MCImetro Access Transmission Services, Inc.	Southwestern Bell Telephone Co.	Price cap regulation, revenue requirements, rate of return.
6/97	R-00973953	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Restructuring, deregulation, stranded costs, regulatory assets, liabilities, nuclear and fossil decommissioning.
7/97	R-00973954	PA	PP&L Industrial Customer Alliance	Pennsylvania Power & Light Co.	Restructuring, deregulation, stranded costs, regulatory assets, liabilities, nuclear and fossil decommissioning.
7/97	U-22092	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Depreciation rates and methodologies, River Bend phase-in plan.
8/97	97-300	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas & Electric Co. and Kentucky Utilities Co.	Merger policy, cost savings, surcredit sharing mechanism, revenue requirements, rate of return.

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Date	Case	Jurisdict.	Party	Utility	Subject
8/97	R-00973954 (Surrebuttal)	PA	PP&L Industrial Customer Alliance	Pennsylvania Power & Light Co.	Restructuring, deregulation, stranded costs, regulatory assets, liabilities, nuclear and fossil decommissioning.
10/97	97-204	KY	Alcan Aluminum Corp. Southwire Co.	Big Rivers Electric Corp.	Restructuring, revenue requirements, reasonableness
10/97	R-974008	PA	Metropolitan Edison Industrial Users Group	Metropolitan Edison Co.	Restructuring, deregulation, stranded costs, regulatory assets, liabilities, nuclear and fossil decommissioning, revenue requirements.
10/97	R-974009	PA	Penelec Industrial Customer Alliance	Pennsylvania Electric Co.	Restructuring, deregulation, stranded costs, regulatory assets, liabilities, nuclear and fossil decommissioning, revenue requirements.
11/97	97-204 (Rebuttal)	KY	Alcan Aluminum Corp. Southwire Co.	Big Rivers Electric Corp.	Restructuring, revenue requirements, reasonableness of rates, cost allocation.
11/97	U-22491	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Allocation of regulated and nonregulated costs, other revenue requirement issues.
11/97	R-00973953 (Surrebuttal)	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Restructuring, deregulation, stranded costs, regulatory assets, liabilities, nuclear and fossil decommissioning.
11/97	R-973981	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Restructuring, deregulation, stranded costs, regulatory assets, liabilities, fossil decommissioning, revenue requirements, securitization.
11/97	R-974104	PA	Duquesne Industrial Intervenors	Duquesne Light Co.	Restructuring, deregulation, stranded costs, regulatory assets, liabilities, nuclear and fossil decommissioning, revenue requirements, securitization.

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Date	Case	Jurisdict.	Party	Utility	Subject
12/97	R-973981 (Surrebuttal)	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Restructuring, deregulation, stranded costs, regulatory assets, liabilities, fossil decommissioning, revenue requirements.
12/97	R-974104 (Surrebuttal)	PA	Duquesne Industrial Intervenors	Duquesne Light Co.	Restructuring, deregulation, stranded costs, regulatory assets, liabilities, nuclear and fossil decommissioning, revenue requirements, securitization.
1/98	U-22491 (Surrebuttal)	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Allocation of regulated and nonregulated costs, other revenue requirement issues.
2/98	8774	MD	Westvaco	Potomac Edison Co.	Merger of Duquesne, AE, customer safeguards, savings sharing.
3/98	U-22092 (Allocated Stranded Cost Issues)	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Restructuring, stranded costs, regulatory assets, securitization, regulatory mitigation.
3/98	8390-U	GA	Georgia Natural Gas Group, Georgia Textile Manufacturers Assoc.	Atlanta Gas Light Co.	Restructuring, unbundling, stranded costs, incentive regulation, revenue requirements.
3/98	U-22092 (Allocated Stranded Cost Issues) (Surrebuttal)	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc	Restructuring, stranded costs, regulatory assets, securitization, regulatory mitigation.
10/98	97-596	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric Co.	Restructuring, unbundling, stranded costs, T&D revenue requirements.
10/98	9355-U	GA	Georgia Public Service Commission Adversary Staff	Georgia Power Co.	Affiliate transactions.
10/98	U-17735	LA	Louisiana Public Service Commission Staff	Cajun Electric Power Cooperative	G&T cooperative ratemaking policy, other revenue requirement issues.

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Date	Case	Jurisdict.	Party	Utility	Subject
11/98	U-23327	LA	Louisiana Public Service Commission Staff	SWEPCO, CSW and AEP	Merger policy, savings sharing mechanism, affiliate transaction conditions.
12/98	U-23358 (Direct)	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Allocation of regulated and nonregulated costs, tax issues, and other revenue requirement issues.
12/98	98-577	ME	Maine Office of Public Advocate	Maine Public Service Co.	Restructuring, unbundling, stranded cost, T&D revenue requirements.
1/99	98-10-07	CT	Connecticut Industrial Energy Consumers	United Illuminating Co.	Stranded costs, investment tax credits, accumulated deferred income taxes, excess deferred income taxes.
3/99	U-23358 (Surrebuttal)	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Allocation of regulated and nonregulated costs, tax issues, and other revenue requirement issues.
3/99	98-474	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas and Electric Co.	Revenue requirements, alternative forms of regulation.
3/99	98-426	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co.	Revenue requirements, alternative forms of regulation.
3/99	99-082	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas and Electric Co.	Revenue requirements.
3/99	99-083	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co.	Revenue requirements.
4/99	U-23358 (Supplemental Surrebuttal)	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Allocation of regulated and nonregulated costs, tax issues, and other revenue requirement issues.
4/99	99-03-04	CT	Connecticut Industrial Energy Consumers	United Illuminating Co.	Regulatory assets and liabilities, stranded costs, recovery mechanisms.
4/99	99-02-05	CT	Connecticut Industrial Utility Customers	Connecticut Light and Power Co.	Regulatory assets and liabilities stranded costs, recovery

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Date	Case	Jurisdict.	Party	Utility	Subject
					mechanisms.
5/99	98-426 99-082 (Additional Direct)	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas and Electric Co.	Revenue requirements.
5/99	98-474 99-083 (Additional Direct)	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co.	Revenue requirements.
5/99	98-426 98-474 (Response to Amended Applications)	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas and Electric Co. and Kentucky Utilities Co.	Alternative regulation.
6/99	97-596	ME	Maine Office of Public Advocate	Bangor Hydro-Electric Co.	Request for accounting order regarding electric industry restructuring costs.
6/99	U-23358	LA	Louisiana Public Public Service Comm. Staff	Entergy Gulf States, Inc.	Affiliate transactions, cost allocations.
7/99	99-03-35	CT	Connecticut Industrial Energy Consumers	United Illuminating Co.	Stranded costs, regulatory assets, tax effects of asset divestiture.
7/99	U-23327	LA	Louisiana Public Service Commission Staff	Southwestern Electric Power Co., Central and South West Corp, and American Electric Power Co.	Merger Settlement and Stipulation.
7/99	97-596 Surrebuttal	ME	Maine Office of Public Advocate	Bangor Hydro-Electric Co.	Restructuring, unbundling, stranded cost, T&D revenue requirements.
7/99	98-0452-E-GI	WV	West Virginia Energy Users Group	Monongahela Power, Potomac Edison, Appalachian Power, Wheeling Power	Regulatory assets and liabilities.
8/99	98-577 Surrebuttal	ME	Maine Office of Public Advocate	Maine Public Service Co.	Restructuring, unbundling, stranded costs, T&D revenue requirements.
8/99	98-426 99-082	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas and Electric Co.	Revenue requirements.

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8/99	Rebuttal 98-474 98-083 Rebuttal	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co.	Revenue requirements.
8/99	98-0452-E-GI Rebuttal	WV	West Virginia Energy Users Group	Monongahela Power, Potomac Edison, Appalachian Power, Wheeling Power	Regulatory assets and liabilities.
10/99	U-24182 Direct	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Allocation of regulated and nonregulated costs, affiliate transactions, tax issues, and other revenue requirement issues.
11/99	21527	TX	Dallas-Ft.Worth Hospital Council and Coalition of Independent Colleges and Universities	TXU Electric	Restructuring, stranded costs, taxes, securitization.
11/99	U-23358 Surrebuttal Affiliate Transactions Review	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Service company affiliate transaction costs.
04/00	99-1212-EL-ETPOH 99-1213-EL-ATA 99-1214-EL-AAM		Greater Cleveland Growth Association	First Energy (Cleveland Electric Illuminating, Toledo Edison)	Historical review, stranded costs, regulatory assets, liabilities.
01/00	U-24182 Surrebuttal	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Allocation of regulated and nonregulated costs, affiliate transactions, tax issues, and other revenue requirement issues.
05/00	2000-107	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	ECR surcharge roll-in to base rates.
05/00	U-24182 Supplemental Direct	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Affiliate expense proforma adjustments.
05/00	A-110550F0147	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy	Merger between PECO and Unicom.

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07/00	22344	TX	The Dallas-Fort Worth Hospital Council and The Coalition of Independent Colleges and Universities	Statewide Generic Proceeding	Escalation of O&M expenses for unbundled T&D revenue requirements in projected test year.
05/00	99-1658-EL-ETP	OH	AK Steel Corp.	Cincinnati Gas & Electric Co.	Regulatory transition costs, including regulatory assets and liabilities, SFAS 109, ADIT, EDIT, ITC.
07/00	U-21453	LA	Louisiana Public Service Commission	SWEPCO	Stranded costs, regulatory assets and liabilities.
08/00	U-24064	LA	Louisiana Public Service Commission Staff	CLECO	Affiliate transaction pricing ratemaking principles, subsidization of nonregulated affiliates, ratemaking adjustments.
10/00	PUC 22350 SOAH 473-00-1015	TX	The Dallas-Ft. Worth Hospital Council and The Coalition of Independent Colleges And Universities	TXU Electric Co.	Restructuring, T&D revenue requirements, mitigation, regulatory assets and liabilities.
10/00	R-00974104 Affidavit	PA	Duquesne Industrial Intervenors	Duquesne Light Co.	Final accounting for stranded costs, including treatment of auction proceeds, taxes, capital costs, switchback costs, and excess pension funding.
11/00	P-00001837 R-00974008 P-00001838 R-00974009	PA	Metropolitan Edison Industrial Users Group Penelec Industrial Customer Alliance	Metropolitan Edison Co. Pennsylvania Electric Co.	Final accounting for stranded costs, including treatment of auction proceeds, taxes, regulatory assets and liabilities, transaction costs.
12/00	U-21453, U-20925, U-22092 (Subdocket C) Surrebuttal	LA	Louisiana Public Service Commission Staff	SWEPCO	Stranded costs, regulatory assets.
01/01	U-24993 Direct	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Allocation of regulated and nonregulated costs, tax issues, and other revenue requirement issues.

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01/01	U-21453, U-20925, U-22092 (Subdocket B) Surrebuttal	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Industry restructuring, business separation plan, organization structure, hold harmless conditions, financing.
01/01	Case No. 2000-386	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas & Electric Co.	Recovery of environmental costs, surcharge mechanism.
01/01	Case No. 2000-439	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co.	Recovery of environmental costs, surcharge mechanism.
02/01	A-110300F0095 A-110400F0040	PA	Met-Ed Industrial Users Group Penelec Industrial Customer Alliance	GPU, Inc. FirstEnergy Corp/	Merger, savings, reliability.
03/01	P-00001860 P-00001861	PA	Met-Ed Industrial Users Group Penelec Industrial Customer Alliance	Metropolitan Edison Co. and Pennsylvania Electric Co.	Recovery of costs due to provider of last resort obligation.
04 /01	U-21453, U-20925, U-22092 (Subdocket B) Settlement Term Sheet	LA	Louisiana Public Public Service Comm. Staff	Entergy Gulf States, Inc.	Business separation plan: settlement agreement on overall plan structure.
04 /01	U-21453, U-20925, U-22092 (Subdocket B) Contested Issues	LA	Louisiana Public Public Service Comm. Staff	Entergy Gulf States, Inc.	Business separation plan: agreements, hold harmless conditions, separations methodology.
05 /01	U-21453, U-20925, U-22092 (Subdocket B) Contested Issues Transmission and Distribution Rebuttal	LA	Louisiana Public Public Service Comm. Staff	Entergy Gulf States, Inc.	Business separation plan: agreements, hold harmless conditions, Separations methodology.

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07/01	U-21453, U-20925, U-22092 Subdocket B Transmission and Distribution Term Sheet	LA	Louisiana Public Public Service Comm. Staff	Entergy Gulf States, Inc.	Business separation plan: settlement agreement on T&D issues, agreements necessary to implement T&D separations, hold harmless conditions, separations methodology.
10/01	14000-U	GA	Georgia Public Service Commission Adversary Staff	Georgia Power Company	Revenue requirements, Rate Plan, fuel clause recovery.
11/01	14311-U Direct Panel with Bolin Killings	GA	Georgia Public Service Commission Adversary Staff	Atlanta Gas Light Co.	Revenue requirements, revenue forecast, O&M expense, depreciation, plant additions, cash working capital.
11/01	U-25687 Direct	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Revenue requirements, capital structure, allocation of regulated and nonregulated costs, River Bend uprate.
02/02	25230	TX	Dallas Ft.-Worth Hospital Council & the Coalition of Independent Colleges & Universities	TXU Electric	Stipulation. Regulatory assets, securitization financing.
02/02	U-25687 Surrebuttal	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Revenue requirements, corporate franchise tax, conversion to LLC, River Bend uprate.
03/02	14311-U Rebuttal Panel with Bolin Killings	GA	Georgia Public Service Commission Adversary Staff	Atlanta Gas Light Co.	Revenue requirements, earnings sharing plan, service quality standards.
03/02	14311-U Rebuttal Panel with Michelle L. Thebert	GA	Georgia Public Service Commission Adversary Staff	Atlanta Gas Light Co.	Revenue requirements, revenue forecast, O&M expense, depreciation, plant additions, cash working capital.
03/02	001148-EI	FL	South Florida Hospital and Healthcare Assoc.	Florida Power & Light Co.	Revenue requirements. Nuclear life extension, storm damage accruals and reserve, capital structure, O&M expense.
04/02	U-25687 (Supplemental Surrebuttal)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Revenue requirements, corporate franchise tax, conversion to LLC, River Bend uprate.
04/02	U-21453, U-20925		Louisiana Public	SWEPCO	Business separation plan, T&D Term Sheet,

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Date	Case	Jurisdict.	Party	Utility	Subject
	and U-22092 (Subdocket C)		Service Commission Staff		separations methodologies, hold harmless conditions.
08/02	EL01-88-000	FERC	Louisiana Public Service Commission	Entergy Services, Inc. and The Entergy Operating Companies	System Agreement, production cost equalization, tariffs.
08/02	U-25888	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc. and Entergy Louisiana, Inc.	System Agreement, production cost disparities, prudence.
09/02	2002-00224 2002-00225	KY	Kentucky Industrial Utilities Customers, Inc.	Kentucky Utilities Co. Louisville Gas & Electric Co.	Line losses and fuel clause recovery associated with off-system sales.
11/02	2002-00146 2002-00147	KY	Kentucky Industrial Utilities Customers, Inc.	Kentucky Utilities Co. Louisville Gas & Electric Co.	Environmental compliance costs and surcharge recovery.
01/03	2002-00169	KY	Kentucky Industrial Utilities Customers, Inc.	Kentucky Power Co.	Environmental compliance costs and surcharge recovery.
04/03	2002-00429 2002-00430	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co. Louisville Gas & Electric Co	Extension of merger surcredit, flaws in Companies' studies.
04/03	U-26527	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Revenue requirements, corporate franchise tax, conversion to LLC, Capital structure, post test year Adjustments.
06/03	EL01-88-000 Rebuttal	FERC	Louisiana Public Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	System Agreement, production cost equalization, tariffs.
06/03	2003-00068	KY	Kentucky Industrial Utility Customers	Kentucky Utilities Co.	Environmental cost recovery, correction of base rate error.
11/03	ER03-753-000	FERC	Louisiana Public Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	Unit power purchases and sale cost-based tariff pursuant to System Agreement.

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11/03	ER03-583-000, ER03-583-001, and ER03-583-002 ER03-681-000, ER03-681-001 ER03-682-000, ER03-682-001, and ER03-682-002 ER03-744-000, ER03-744-001 (Consolidated)	FERC	Louisiana Public Service Commission	Entergy Services, Inc., the Entergy Operating Companies, EWO Market-Ing, L.P, and Entergy Power, Inc.	Unit power purchase and sale agreements, contractual provisions, projected costs, levelized rates, and formula rates.
12/03	U-26527 Surrebuttal	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Revenue requirements, corporate franchise tax, conversion to LLC, Capital structure, post test year adjustments.
12/03	2003-0334 2003-0335	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co. Louisville Gas & Electric Co.	Earnings Sharing Mechanism.
12/03	U-27136	LA	Louisiana Public Service Commission Staff	Entergy Louisiana, Inc.	Purchased power contracts between affiliates, terms and conditions.
03/04	U-26527 Supplemental Surrebuttal	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Revenue requirements, corporate franchise tax, conversion to LLC, capital structure, post test year adjustments.
03/04	2003-00433	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas & Electric Co.	Revenue requirements, depreciation rates, O&M expense, deferrals and amortization, earnings sharing mechanism, merger surcredit, VDT surcredit.
03/04	2003-00434	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co.	Revenue requirements, depreciation rates, O&M expense, deferrals and amortization, earnings sharing mechanism, merger surcredit, VDT surcredit.
03/04	SOAH Docket 473-04-2459,	TX	Cities Served by Texas-New Mexico Power Co.	Texas-New Mexico Power Co.	Stranded costs true-up, including including valuation issues,

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Date	Case	Jurisdict.	Party	Utility	Subject
	PUC Docket 29206				ITC, ADIT, excess earnings.
05/04	04-169-EL-UNC	OH	Ohio Energy Group, Inc.	Columbus Southern Power Co. & Ohio Power Co.	Rate stabilization plan, deferrals, T&D rate increases, earnings.
06/04	SOAH Docket 473-04-4555 PUC Docket 29526	TX	Houston Council for Health and Education	CenterPoint Energy Houston Electric	Stranded costs true-up, including valuation issues, ITC, EDIT, excess mitigation credits, capacity auction true-up revenues, interest.
08/04	SOAH Docket 473-04-4556 PUC Docket 29526 (Suppl Direct)	TX	Houston Council for Health and Education	CenterPoint Energy Houston Electric	Interest on stranded cost pursuant to Texas Supreme Court remand.
09/04	Docket No. U-23327 Subdocket B	LA	Louisiana Public Service Commission Staff	SWEPCO	Fuel and purchased power expenses recoverable through fuel adjustment clause, trading activities, compliance with terms of various LPSC Orders.
10/04	Docket No. U-23327 Subdocket A	LA	Louisiana Public Service Commission Staff	SWEPCO	Revenue requirements.
12/04	Case No. 2004-00321 Case No. 2004-00372	KY	Gallatin Steel Co.	East Kentucky Power Cooperative, Inc., Big Sandy Recc, etal.	Environmental cost recovery, qualified costs, TIER requirements, cost allocation.
01/05	30485	TX	Houston Council for Health and Education	CenterPoint Energy Houston Electric, LLC	Stranded cost true-up including regulatory Central Co. assets and liabilities, ITC, EDIT, capacity auction, proceeds, excess mitigation credits, retrospective and prospective ADIT.
02/05	18638-U	GA	Georgia Public Service Commission Adversary Staff	Atlanta Gas Light Co.	Revenue requirements.
02/05	18638-U Panel with Tony Wackerly	GA	Georgia Public Service Commission Adversary Staff	Atlanta Gas Light Co.	Comprehensive rate plan, pipeline replacement program surcharge, performance based rate plan.
02/05	18638-U Panel with Michelle Thebert	GA	Georgia Public Service Commission Adversary Staff	Atlanta Gas Light Co.	Energy conservation, economic development, and tariff issues.

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Date	Case	Jurisdict.	Party	Utility	Subject
03/05	Case No. 2004-00426 Case No. 2004-00421	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co. Louisville Gas & Electric	Environmental cost recovery, Jobs Creation Act of 2004 and § 199 deduction, excess common equity ratio, deferral and amortization of nonrecurring O&M expense.
06/05	2005-00068	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Environmental cost recovery, Jobs Creation Act of 2004 and §199 deduction, margins on allowances used for AEP system sales.
06/05	050045-EI	FL	South Florida Hospital and Heallthcare Assoc.	Florida Power & Light Co.	Storm damage expense and reserve, RTO costs, O&M expense projections, return on equity performance incentive, capital structure, selective second phase post-test year rate increase.
08/05	31056	TX	Alliance for Valley Healthcare	AEP Texas Central Co.	Stranded cost true-up including regulatory assets and liabilities, ITC, EDIT, capacity auction, proceeds, excess mitigation credits, retrospective and prospective ADIT.
09/05	20298-U	GA	Georgia Public Service Commission Adversary Staff	Atmos Energy Corp.	Revenue requirements, roll-in of surcharges, cost recovery through surcharge, reporting requirements.
09/05	20298-U Panel with Victoria Taylor	GA	Georgia Public Service Commission Adversary Staff	Atmos Energy Corp.	Affiliate transactions, cost allocations, capitalization, cost of debt.
10/05	04-42	DE	Delaware Public Service Commission Staff	Artesian Water Co.	Allocation of tax net operating losses between regulated and unregulated.
11/05	2005-00351 2005-00352	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co. Louisville Gas and Electric Co.	Workforce Separation Program cost recovery and shared savings through VDT surcredit.
01/06	2005-00341	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	System Sales Clause Rider, Environmental Cost Recovery Rider. Net Congestion Rider, Storm damage, vegetation management program, depreciation, off-system sales, maintenance normalization, pension and OPEB.
03/06 05/06	31994 31994 Supplemental	TX	Cities	Texas-New Mexico Power Co.	Stranded cost recovery through competition transition or change. Retrospective ADFIT, prospective

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					ADFIT.
03/06	U-21453, U-20925, U-22092	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Jurisdictional separation plan.
3/06	NOPR Reg 104385-OR	IRS	Alliance for Valley Health Care and Houston Council for Health Education	AEP Texas Central Company and CenterPioint Energy Houston Electric	Proposed Regulations affecting flow-through to ratepayers of excess deferred income taxes and investment Tax credits on generation plant that is sold or deregulated.
4/06	U-25116	LA	Louisiana Public Service Commission Staff	Entergy Louisiana, Inc.	2002-2004 Audit of Fuel Adjustment Clause Filings. Affiliate transactions.
07/06	R-00061366, Et. al	PA	Met-Ed Ind. Users Group Pennsylvania Ind. Customer Alliance	Metropolitan Edison Co. Pennsylvania Electric Co.	Recovery of NUG-related stranded costs, government mandated programs costs, storm damage costs.
07/06	U-23327	LA	Louisiana Public Service Commission Staff	Southwestern Electric Power Co.	Revenue requirements, formula rate plan, banking proposal.
08/06	U-21453, U-20925 U-22092 (Subdocket J)	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Jurisdictional separation plan.
11/06	05CVH03-3375 Franklin County Court Affidavit	OH	Various Taxing Authorities (Non-Utility Proceeding)	State of Ohio Department of Revenue	Accounting for nuclear fuel assemblies as manufactured equipment and capitalized plant.
12/06	U-23327 Subdocket A Reply Testimony	LA	Louisiana Public Service Commission Staff	Southwestern Electric Power Co..	Revenue requirements, formula rate plan, banking proposal.
03/07	U-29764	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc., Entergy Louisiana, LLC	Jurisdictional allocation of Entergy System Agreement equalization remedy receipts.
03/07	33309	TX	Cities	AEP Texas Central Co.	Revenue requirements, including functionalization of transmission and distribution costs.
03/07	33310	TX	Cities	AEP Texas North Co.	Revenue requirements, including functionalization of transmission and

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Date	Case	Jurisdict.	Party	Utility	Subject
					distribution costs.
03/07	2006-00472	KY	Kentucky Industrial Utility Customers, Inc.	East Kentucky Power Cooperative	Interim rate increase, RUS loan covenants, credit facility requirements, financial condition.
03/07	U-29157	LA	Louisiana Public Service Commission Staff	Cleco Power, LLC	Permanent (Phase II) storm damage cost recovery.
04/07	U-29764 Supplemental And Rebuttal	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc. Entergy Louisiana, LLC	Jurisdictional allocation of Entergy System Agreement equalization remedy receipts.
04/07	ER07-682-000 Affidavit	FERC	Louisiana Public Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	Allocation of intangible and general plant and A&G expenses to production and state income tax effects on equalization remedy receipts
04/07	ER07-684-000 Affidavit	FERC	Louisiana Public Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	Fuel hedging costs and compliance with FERC USOA.
05/07	ER07-682-000 Affidavit	FERC	Louisiana Public Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	Allocation of intangible and general plant and A&G expenses to production and account 924 effects on MSS-3 equalization remedy payments and receipts.
06/07	U-29764	LA	Louisiana Public Service Commission Staff	Entergy Louisiana, LLC Entergy Gulf States, Inc.	Show cause for violating LPSC Order on fuel hedging costs.
07/07	2006-00472	KY	Kentucky Industrial Utility Customers, Inc.	East Kentucky Power Cooperative	Revenue requirements, post test year adjustments, TIER, surcharge revenues and costs, financial need.
07/07	ER07-956-000 Affidavit	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Storm damage costs related to Hurricanes Katrina and Rita and effects of MSS-3 equalization payments and receipts.

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10/07	05-UR-103 Direct	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Company Wisconsin Gas, LLC	Revenue requirements, carrying charges on CWIP, amortization and return on regulatory assets, working capital, incentive compensation, use of rate base in lieu of capitalization, quantification and use of Point Beach sale proceeds.
10/07	05-UR-103 Surrebuttal	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Company Wisconsin Gas, LLC	Revenue requirements, carrying charges on CWIP, amortization and return on regulatory assets, working capital, incentive compensation, use of rate base in lieu of capitalization, quantification and use of Point Beach sale proceeds.
10/07	25060-U Direct	GA	Georgia Public Service Commission Public Interest Adversary Staff	Georgia Power Company	Affiliate costs, incentive compensation, consolidated income taxes, §199 deduction.
11/07	06-0033-E-CN Direct	WV	West Virginia Energy Users Group	Appalachian Power Company	IGCC surcharge during construction period and post-in-service date.
11/07	ER07-682-000 Direct	FERC	Louisiana Public Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	Functionalization and allocation of intangible and general plant and A&G expenses.
01/08	ER07-682-000 Cross Answering	FERC	Louisiana Public Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	Fuctionalization and allocation of intangible and general plant and A&G expenses.
01/08	07-551-EL-AIR Direct	OH	Ohio Energy Group, Inc.	Ohio Edison Company, Cleveland Electric Illuminating Company, Toledo Edison Company	Revenue Requirements.
02/08	ER07-956-000 Direct	FERC	Louisiana Public Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	Functionalization of expenses in account 923; storm damage expense and accounts 924, 228.1, 182.3, 254 and 407.3; tax NOL carrybacks in account 165 and 236; ADIT; nuclear service lives and effect on depreciation and decommissioning.

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03/08	ER07-956-000 Cross-Answering	FERC	Louisiana Public Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	Functionalization of expenses in account 923; storm damage expense and accounts 924, 228.1, 182.3, 254 and 407.3; tax NOL carrybacks in account 165 and 236; ADIT; nuclear service lives and effect on depreciation and decommissioning.
04/08	2007-00562 2007-00563	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co. Louisville Gas and Electric Co.	Merger surcredit.
04/08	26837 Direct Panel with Thomas K. Bond, Cynthia Johnson, Michelle Thebert	GA	Georgia Public Service Commission Staff	SCANA Energy Marketing, Inc.	Rule Nisi complaint.
05/08	26837 Rebuttal Panel with Thomas K. Bond, Cynthia Johnson, Michelle Thebert	GA	Georgia Public Service Commission Staff	SCANA Energy Marketing, Inc.	Rule Nisi complaint.
05/08	26837 Supplemental Rebuttal Panel with Thomas K. Bond, Cynthia Johnson, Michelle Thebert	GA	Georgia Public Service Commission Staff	SCANA Energy Marketing, Inc.	Rule Nisi complaint.
06/08	2008-00115	KY	Kentucky Industrial Utility Customers, Inc.	East Kentucky Power Cooperative, Inc.	Environmental surcharge recoveries, incl costs recovered in existing rates, TIER
07/08	27163 Direct	GA	Georgia Public Service Commission Public Interest Advocacy Staff	Atmos Energy Corp.	Revenue requirements, incl projected test year rate base and expenses.
07/08	27163 Panel with Victoria Taylor	GA	Georgia Public Service Commission Public Interest Advocacy Staff	Atmos Energy Corp.	Affiliate transactions and division cost allocations, capital structure, cost of debt.
08/08	6680-CE-170	WI	Wisconsin Industrial Energy	Wisconsin Power and	Nelson Dewey 3 or Colombia 3 fixed

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Date	Case	Jurisdict.	Party	Utility	Subject
	Direct		Group, Inc.	Light Company	financial parameters.
08/08	6680-UR-116 Direct	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Power and Light Company	CWIP in rate base, labor expenses, pension expense, financing, capital structure, decoupling.
08/08	6680-UR-116 Rebuttal	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Power and Light Company	Capital structure.
08/08	6690-UR-119 Direct	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Public Service Corp.	Prudence of Weston 3 outage, incentive compensation, Crane Creek Wind Farm incremental revenue requirement, capital structure.
09/08	6690-UR-119 Surrebuttal	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Public Service Corp.	Prudence of Weston 3 outage, Section 199 deduction.
09/08	08-935-EL-SSO 08-918-EL-SSO	OH OH	Ohio Energy Group, Inc.	First Energy	Standard service offer rates pursuant to electric security plan, significantly excessive earnings test.
10/08	08-917-EL-SSO	OH	Ohio Energy Group, Inc.	AEP	Standard service offer rates pursuant to electric security plan, significantly excessive earnings test.
10/08	2007-564 2007-565 2008-251 2008-252	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas and Electric Co., Kentucky Utilities Company	Revenue forecast, affiliate costs, depreciation expenses, federal and state income tax expense, capitalization, cost of debt.
11/08	EL08-51	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Spindletop gas storage facilities, regulatory asset and bandwidth remedy.
11/08	35717	TX	Cities Served by Oncor Delivery Company	Oncor Delivery Company	Recovery of old meter costs, asset ADFIT, cash working capital, recovery of prior year restructuring costs, levelized recovery of storm damage costs, prospective storm damage accrual, consolidated tax savings adjustment.
12/08	27800	GA	Georgia Public Service Commission	Georgia Power Company	AFUDC versus CWIP in rate base, mirror CWIP, certification cost, use of short term debt and trust preferred financing, CWIP recovery, regulatory incentive.
01/09	ER08-1056	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Entergy System Agreement bandwidth remedy calculations, including depreciation

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Date	Case	Jurisdict.	Party	Utility	Subject
					expense, ADIT, capital structure.
01/09	ER08-1056 Supplemental Direct	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Blytheville leased turbines; accumulated depreciation.
02/09	EL08-51 Rebuttal	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Spindletop gas storage facilities regulatory asset and bandwidth remedy.
02/09	2008-00409 Direct	KY	Kentucky Industrial Utility Customers, Inc.	East Kentucky Power Cooperative, Inc.	Revenue requirements.
03/09	ER08-1056 Answering	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Entergy System Agreement bandwidth remedy calculations, including depreciation expense, ADIT, capital structure.
03/09	U-21453,U-20925 U-22092 (Subdocket J)		Louisiana Public Service Commission Staff	Entergy Gulf States Louisiana, LLC	Violation of EGSI separation order, ETI and EGSL separation accounting, Spindletop regulatory asset.
04/09	U-21453, U-20925 U-22092 (Subdocket J) Rebuttal		Louisiana Public Service Commission	Entergy Gulf States Louisiana, LLC	Violation of EGSI separation order, ETI and EGSL separation accounting, Spindletop regulatory asset.
04/09	2009-00040 Direct-Interim (Oral)	KY	Kentucky Industrial Utility Customers, Inc.	Big Rivers Electric Corp.	Emergency interim rate increase; cash requirements.
04/09	36530	TX	State Office of Administrative Hearings	Oncor Electric Delivery Company, LLC	Rate case expenses.
05/09	ER08-1056 Rebuttal	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Entergy System Agreement bandwidth remedy calculations, including depreciation expense, ADIT, capital structure.
06/09	2009-00040 Direct-Permanent	KY	Kentucky Industrial Utility Customers, Inc.	Big Rivers Electric Corp.	Revenue requirements, TIER, cash flow.
07/09	080677-EI	FL	South Florida Hospital and Healthcare Association	Florida Power & Light Company	Multiple test years, GBRA rider, forecast assumptions, revenue requirement, O&M expense, depreciation expense, Economic Stimulus Bill, capital structure.
08/09	U-21453, U-20925 U-22092 (Subdocket J) Supplemental Rebuttal		Louisiana Public Service Commission	Entergy Gulf States Louisiana, LLC	Violation of EGSI separation order, ETI and EGSL separation accounting, Spindletop regulatory asset.

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Date	Case	Jurisdict.	Party	Utility	Subject
08/09	8516 and 29950	GA	Georgia Public Service Commission Staff	Atlanta Gas Light Company	Modification of PRP surcharge to include infrastructure costs.
09/09	05-UR-104 Direct and Surrebuttal	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Company	Revenue requirements, incentive compensation, depreciation, deferral mitigation, capital structure, cost of debt.
09/09	09AL-299E	CO	CF&I Steel, Rocky Mountain Steel Mills LP, Climax Molybdenum Company	Public Service Company of Colorado	Forecasted test year, historic test year, proforma adjustments for major plant additions, tax depreciation.
09/09	6680-UR-117 Direct and Surrebuttal	WI	Wisconsin Industrial Energy Group	Wisconsin Power and Light Company	Revenue requirements, CWIP in rate base, deferral mitigation, payroll, capacity shutdowns, regulatory assets, rate of return.
10/09	09A-415E	CO	Cripple Creek & Victor Gold Mining Company, et al.	Black Hills/CO Electric Utility Company	Cost prudence, cost sharing mechanism.
10/09	EL09-50 Direct	LA	Louisiana Public Service Commission	Entergy Services, Inc.	Waterford 3 sale/leaseback accumulated deferred income taxes, Entergy System Agreement bandwidth remedy calculations.
10/09	2009-00329	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas and Electric Company, Kentucky Utilities Company	Trimble County 2 depreciation rates.
12/09	PUE-2009-00030	VA	Old Dominion Committee for Fair Utility Rates	Appalachian Power Company	Return on equity incentive.
12/09	ER09-1224 Direct	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Hypothetical v. actual costs, out of period costs, Spindletop deferred capital costs, Waterford 3 sale/leaseback ADIT.
01/10	ER09-1224 Cross-Answering	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Hypothetical v. actual costs, out of period costs, Spindletop deferred capital costs, Waterford 3 sale/leaseback ADIT.
01/10	EL09-50 Rebuttal	LA	Louisiana Public Service Commission	Entergy Services, Inc.	Waterford 3 sale/leaseback accumulated deferred income taxes, Entergy System Agreement bandwidth remedy calculations.
02/10	ER09-1224 Final	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Hypothetical v. actual costs, out of period costs, Spindletop deferred capital costs, Waterford 3 sale/leaseback ADIT.

Expert Testimony Appearances
of
Lane Kollen
As of August 2011

Date	Case	Jurisdict.	Party	Utility	Subject
02/10	30442 Wackerly-Kollen Panel	GA	Georgia Public Service Commission Staff	Atmos Energy Corporation	Revenue Requirement issues.
02/10	30442 McBride-Kollen Panel	GA	Georgia Public Service Commission Staff	Atmos Energy Corporation	Affiliate/division transactions, cost allocation, capital structure.
02/10	2009-00353	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas and Electric Company, Kentucky Utilities Company	Ratemaking recovery of wind power purchased power agreements.
03/10	2009-00545	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Company	Ratemaking recovery of wind power purchased power agreement.
03/10	E015/GR-09-1151	MN	Large Power Interveners	Minnesota Power	Revenue requirement issues, cost overruns on environmental retrofit project.
03/10	EL10-55	FERC	Louisiana Public Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	Depreciation expense and effects on System Agreement tariffs.
04/10	2009-00459	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Company	Revenue requirement issues.
04/10	2009-00458 2009-00459	KY	Kentucky Industrial	Kentucky Utilities Company Louisville Gas and Electric Company	Revenue requirement issues.
08/10	31647	GA	Georgia Public Service Commission Staff	Atlanta Gas Light Company	Revenue requirement and synergy savings issues.
08/10	31647 Wackerly-Kollen Panel	GA	Georgia Public Service Commission Staff	Atlanta Gas Light Company	Affiliate transaction and Customer First program issues.
08/10	2010-00204	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas and Electric Company, Kentucky Utilities Company	PPL acquisition of E.ON U.S. (LG&E and KU) conditions, acquisition savings, sharing deferral mechanism.
09/10	38339 Direct Cross-Rebuttal	TX	Gulf Coast Coalition of Cities	CenterPoint Energy Houston Electric	Revenue requirement issues, including consolidated tax savings adjustment, incentive compensation, FIN 48; AMS surcharge including roll-in to base rates; rate

Expert Testimony Appearances
of
Lane Kollen
As of August 2011

Date	Case	Jurisdict.	Party	Utility	Subject
					case expenses.
09/10	EL10-55	FERC	Louisiana Public Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	Depreciation rates and expense input effects on System Agreement tariffs.
09/10	2010-00167	KY	Gallatin Steel	East Kentucky Power Cooperative, Inc.	Revenue requirements.
09/10	U-23327 Subdocket E Direct	LA	Louisiana Public Service Commission	SWEPCO	Fuel audit: S02 allowance expense, variable O&M expense, off-system sales margin sharing.
11/10	U-23327 Rebuttal	LA	Louisiana Public Service Commission	SWEPCO	Fuel audit S02 allowance expense, variable O&M expense, off-system sales margin sharing.
09/10	U-31351	LA	Louisiana Public Service Commission Staff	SWEPCO and Valley Electric Membership Cooperative	Sale of Valley assets to SWEPCO and dissolution of Valley.
10/10	10-1261-EL-UNC	OH	Ohio OCC, Ohio Manufacturers Association, Ohio Energy Group, Ohio Hospital Association, Appalachian Peace and Justice Network	Columbus Southern Power Company	Significantly excessive earnings test.
10/10	10-0713-E-PC	WV	West Virginia Energy Users Group	Monongahela Power Company, the Potomac Edison Power Company	Merger of First Energy and Allegheny Energy.
10/10	U-23327 Subdocket F Direct	LA	Louisiana Public Service Commission Staff	SWEPCO	AFUDC adjustments in Formula Rate Plan.
11/10	EL10-55 Rebuttal	FERC	Louisiana Public Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	Depreciation rates and expense input effects on System Agreement tariffs.
12/10	ER10-1350 Direct	FERC	Louisiana Public Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	Waterford 3 lease amortization, ADIT, and fuel inventory effects on System Agreement tariffs.
01/11	ER10-1350 Cross-Answering	FERC	Louisiana Public Service Commission	Entergy Services, Inc. and the Entergy Operating Companies	Waterford 3 lease amortization, ADIT, and fuel inventory effects on System Agreement tariffs

Expert Testimony Appearances
of
Lane Kollen
As of August 2011

Date	Case	Jurisdict.	Party	Utility	Subject
03/11 04/11	ER10-2001 Direct Cross-Answering	FERC	Louisiana Public Service Commission	Entergy Services, Inc. and Entergy Arkansas, Inc.	EAI depreciation rates.
04/11	U-23327 Subdocket E	LA	Louisiana Public Service Commission Staff	SWEPCO	Settlement, including resolution of S02 allowance expense, variable O&M expense, and tiered sharing of off-system sales margins.
04/11 05/11	38306 Direct Supplemental Direct	TX	Cities Served by Texas-New Mexico Power Company	Texas-New Mexico Power Company	AMS deployment plan, AMS Surcharge, rate case expenses.
05/11	11-0274-E-GI	WV	West Virginia Energy Users Group	Appalachian Power Company and Wheeling Power Company	Deferral recovery phase-in, construction surcharge
05/11	2011-00036	KY	Kentucky Industrial Utility Customers, Inc.	Big Rivers Electric Corp.	Revenue requirements.
06/11	29849	GA	Georgia Public Service Commission Staff	Georgia Power Company	Accounting issues related to Vogtle risksharing mechanism
07/11	ER11-2161 Direct & Answering	FERC	Louisiana Public Service Commission	Entergy Services, Inc. and Entergy Texas, Inc.	ETI depreciation rates; accounting issues.
07/11	PUE-2011-00027	VA	Virginia Committee for Fair Utility Rates	Virginia Electric and Power Company	Return on equity performance incentive.
07/11	11-346-EL-SSO 11-348-EL-SSO 11-349-EL-AAM 11-350-EL-AAM	OH	Ohio Energy Group	AEP-OH	Equity Stabilization Incentive Plan; actual earned returns; ADIT offsets in riders.
08/11	ER11-2161 Cross-Answering	FERC	Louisiana Public Service Commission	Entergy Services, Inc. and Entergy Texas, Inc.	ETI depreciation rates; accounting issues.
08/11	U-23327 Subdocket F Rebuttal	LA	Louisiana Public Service Commission Staff	SWEPCO	Depreciation rates and service lives; AFUDC adjustments.
08/11	05-UR-105	WI	Wisconsin Industrial Energy	WE Energies, Inc.	Suspended amortization expenses; revenue

Expert Testimony Appearances
of
Lane Kollen
As of August 2011

Date	Case	Jurisdict.	Party	Utility	Subject
			Group		requirements.

EXHIBIT___(LK-2)

KENTUCKY UTILITIES COMPANY

Response to the KIUC's First Set of Data Requests Dated July 12, 2011

Case No. 2011-00161

Question No. 1-9

Witness: Daniel K. Arbough

Q1-9. Please describe each source of short term debt presently available to the Company. Provide the maximum amount of each such source; the uses to which such funds from each such source are limited, if any; the terms and conditions of borrowing from each such source, including, but not limited to, the basis for the interest rate (e.g., prime plus x%, 1 month LIBOR), annual fees and expenses in dollars and as a percentage of outstanding borrowing on average over the most recent twelve months; and a copy of the relevant agreements for each such source.

A1-9. KU participates in an intercompany money pool agreement wherein LG&E and KU Energy LLC and/or LG&E make funds available to KU of up to $400 million at an interest rate equal to the 30 day dealer commercial paper rate. There are no additional fees charged to KU for borrowing under the money pool agreement and there is no limit as to how funds borrowed from the money pool will be used.

KU also maintains a $400 million revolving line of credit with a group of banks which became effective November 1, 2010 and expires December 31, 2014. There is no limit as to how funds borrowed under the revolving line of credit will be used. This line of credit allows KU to meet its liquidity requirements while allowing the Company to issue letters of credit to support tax exempt bonds as well as providing funds for short-term borrowings. There have been no borrowings under this facility however letters of credit totaling $198 million to support tax exempt bonds were issued under this facility from December 1, 2010 to May 6, 2011. Upfront and legal fees associated with implementing the revolving line of credit totaled $4.255 million and are being amortized over the life of the agreement. KU pays an annual commitment fee on the unused portion of the credit facility based on current bond ratings. The current applicable commitment fee percentage is 0.20%. Total commitment fees for this facility for the period November 1, 2010 to June 30, 2011 were approximately $426,000. Since there have been no borrowings under this line of credit, fees and expenses as a percentage of outstanding borrowings on average cannot be calculated. Borrowing rates for the revolving line of credit are based on current bond ratings. Current borrowing rates for a Euro-Dollar loan equal LIBOR + 1.75%.

In April 2011, KU entered into a new $198 million letter of credit agreement to be used to issue letters of credit to support outstanding tax exempt bonds. The facility matures in April 2014. In May 2011 letters of credit totaling $198 million were issued under the new agreement replacing the letters of credit previously issued under KU's revolving credit facility. Upfront and legal fees associated with implementing the letter of credit agreement totaled approximately $821,000 and are being amortized over the life of the agreement. The facility fee charged on the outstanding letters of credit is currently at 1.10% based on KU's current bond rating.

In addition, KU is currently in the process of creating a $250 million commercial paper program which it expects to implement by year-end 2011.

Copies of the money pool agreement, the $400 million revolving line of credit and the letter of credit facility are attached on CD in the folder titled Question 9.

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to KIUC's First Set of Data Requests Dated July 12, 2011

Case No. 2011-00162

Question No. 10

Witness: Daniel K. Arbough

Q-10. Please describe each source of short term debt presently available to the Company. Provide the maximum amount of each such source; the uses to which such funds from each such source are limited, if any; the terms and conditions of borrowing from each such source, including, but not limited to, the basis for the interest rate (e.g., prime plus x%, 1 month LIBOR), annual fees and expenses in dollars and as a percentage of outstanding borrowing on average over the most recent twelve months; and a copy of the relevant agreements for each such source.

A-10. LG&E participates in an intercompany money pool agreement wherein LG&E and KU Energy LLC and/or KU make funds available to LG&E of up to $400 million at an interest rate equal to the 30 day dealer commercial paper rate. There are no additional fees charged to LG&E for borrowing under the money pool agreement and there is no limit as to how funds borrowed from the money pool will be used.

LG&E also maintains a $400 million revolving line of credit with a group of banks which became effective November 1, 2010 and expires December 31, 2014. There is no limit as to how funds borrowed under the revolving line of credit will be used. This line of credit allows LG&E to meet its liquidity requirements while allowing the Company to issue letters of credit to support tax exempt bonds as well as providing funds for short-term borrowings. LG&E borrowed $163 million under this facility for the period November 4, 2010 through January 18, 2011 at an average interest rate of 2.27%. Borrowing rates for the revolving line of credit are based on current bond ratings. Current borrowing rates for a Euro-Dollar loan equal LIBOR + 1.75%. Upfront and legal fees associated with implementing the revolving line of credit totaled $4.256 million and are being amortized over the life of the agreement. LG&E pays an annual commitment fee on the unused portion of the credit facility based on current bond ratings. The current applicable commitment fee percentage is 0.20%. Total commitment fees for this facility for the period November 1, 2010 to June 30, 2011 were approximately $553,000. Total fees expensed for the period November 1, 2010 to June 30, 2010 as a percentage of outstanding borrowing on average for the same period equal 2.41%.

In addition, LG&E is currently in the process of creating a $250 million commercial paper program which it expects to implement by year-end 2011.

Copies of the money pool agreement and the $400 million revolving line of credit are attached on CD in the folder titled Question 10.

EXHIBIT___(LK-3)

KENTUCKY UTILITIES COMPANY

Response to the KIUC's Second Set of Data Requests Dated August 18, 2011

Case No. 2011-00161

Question No. 2-17

Witness: Daniel K. Arbough

Q-2-17. a) Please provide the monthly short-term debt balances for Kentucky Utilities Company for each month from January 2008 through the most recent month available. Please explain how the monthly short-term debt balance was determined (e.g., month-ending balance, average daily balance) and provide a sample calculation.

b) Please provide for each company, for each month, the monthly cost-rate of that short-term debt, as well as a sample calculation showing how that monthly cost rate is derived.

c) Please provide a narrative description of the short-term debt financing arrangements for each company. If there is an inter-corporate money-pooling arrangement, please provide a narrative description of that arrangement.

A-2-17. a) The monthly short-term balance was determined using the month-ending balance. The calculation is based on the prior ending day Money Pool balance plus or minus the current day borrowing or repayment. See attached documents which include the monthly short-term debt balances and show how the balance is calculated.

b) The monthly cost-rate of the short-term debt is derived from the rates for high-grade unsecured 30-day commercial paper of major corporations sold through dealers as quoted in The Wall Street Journal (the "Average Composite") on the last business day of the prior calendar month. See attached example of the Wall Street Journal rate as of June 30 used to calculate July's interest. Also see the attached documents which include the rate for each month.

c) See response previously provided to KIUC-1 Question No. 9 for a description of short-term financing and money pool arrangements.

Money Pool Statements
POOL - KENTUCKY UTILITIES

June 2011

Date	Debit	Credit	Balance	AVG Debt Rate	Interest
Beginning balance			*$0.00*		
06/01/11	0.00	0.00	$0.00	0.1600%	$0.00
06/02/11	0.00	0.00	$0.00	0.1600%	$0.00
06/03/11	0.00	0.00	$0.00	0.1600%	$0.00
06/04/11	0.00	0.00	$0.00	0.1600%	$0.00
06/05/11	0.00	0.00	$0.00	0.1600%	$0.00
06/06/11	0.00	0.00	$0.00	0.1600%	$0.00
06/07/11	0.00	0.00	$0.00	0.1600%	$0.00
06/08/11	0.00	0.00	$0.00	0.1600%	$0.00
06/09/11	0.00	0.00	$0.00	0.1600%	$0.00
06/10/11	0.00	0.00	$0.00	0.1600%	$0.00
06/11/11	0.00	0.00	$0.00	0.1600%	$0.00
06/12/11	0.00	0.00	$0.00	0.1600%	$0.00
06/13/11	0.00	0.00	$0.00	0.1600%	$0.00
06/14/11	0.00	0.00	$0.00	0.1600%	$0.00
06/15/11	0.00	0.00	$0.00	0.1600%	$0.00
06/16/11	0.00	0.00	$0.00	0.1600%	$0.00
06/17/11	0.00	0.00	$0.00	0.1600%	$0.00
06/18/11	0.00	0.00	$0.00	0.1600%	$0.00
06/19/11	0.00	0.00	$0.00	0.1600%	$0.00
06/20/11	0.00	0.00	$0.00	0.1600%	$0.00
06/21/11	0.00	0.00	$0.00	0.1600%	$0.00
06/22/11	0.00	0.00	$0.00	0.1600%	$0.00
06/23/11	0.00	0.00	$0.00	0.1600%	$0.00
06/24/11	0.00	0.00	$0.00	0.1600%	$0.00
06/25/11	0.00	0.00	$0.00	0.1600%	$0.00
06/26/11	0.00	0.00	$0.00	0.1600%	$0.00
06/27/11	0.00	0.00	$0.00	0.1600%	$0.00
06/28/11	0.00	0.00	$0.00	0.1600%	$0.00
06/29/11	0.00	0.00	$0.00	0.1600%	$0.00
06/30/11	0.00	0.00	$0.00	0.1600%	$0.00
	0.00	0.00	-	0.0000%	0.00

Money Pool Statements

POOL - KENTUCKY UTILITIES

July 2011

Date	Debit	Credit	Balance	AVG Debt Rate	Interest
Beginning balance			$0.00		
07/01/11	0.00	0.00	$0.00	0.1600%	$0.00
07/02/11	0.00	0.00	$0.00	0.1600%	$0.00
07/03/11	0.00	0.00	$0.00	0.1600%	$0.00
07/04/11	0.00	0.00	$0.00	0.1600%	$0.00
07/05/11	0.00	0.00	$0.00	0.1600%	$0.00
07/06/11	0.00	0.00	$0.00	0.1600%	$0.00
07/07/11	0.00	0.00	$0.00	0.1600%	$0.00
07/08/11	0.00	0.00	$0.00	0.1600%	$0.00
07/09/11	0.00	0.00	$0.00	0.1600%	$0.00
07/10/11	0.00	0.00	$0.00	0.1600%	$0.00
07/11/11	0.00	0.00	$0.00	0.1600%	$0.00
07/12/11	0.00	0.00	$0.00	0.1600%	$0.00
07/13/11	0.00	0.00	$0.00	0.1600%	$0.00
07/14/11	0.00	0.00	$0.00	0.1600%	$0.00
07/15/11	0.00	0.00	$0.00	0.1600%	$0.00
07/16/11	0.00	0.00	$0.00	0.1600%	$0.00
07/17/11	0.00	0.00	$0.00	0.1600%	$0.00
07/18/11	0.00	0.00	$0.00	0.1600%	$0.00
07/19/11	0.00	0.00	$0.00	0.1600%	$0.00
07/20/11	0.00	0.00	$0.00	0.1600%	$0.00
07/21/11	0.00	0.00	$0.00	0.1600%	$0.00
07/22/11	0.00	0.00	$0.00	0.1600%	$0.00
07/23/11	0.00	0.00	$0.00	0.1600%	$0.00
07/24/11	0.00	0.00	$0.00	0.1600%	$0.00
07/25/11	0.00	0.00	$0.00	0.1600%	$0.00
07/26/11	0.00	0.00	$0.00	0.1600%	$0.00
07/27/11	0.00	0.00	$0.00	0.1600%	$0.00
07/28/11	0.00	0.00	$0.00	0.1600%	$0.00
07/29/11	0.00	0.00	$0.00	0.1600%	$0.00
07/30/11	0.00	0.00	$0.00	0.1600%	$0.00
07/31/11	0.00	0.00	$0.00	0.1600%	$0.00
	0.00	**0.00**	-	**0.0000%**	**0.00**

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to KIUC's Second Set of Data Requests Dated August 18, 2011

Case No. 2011-00162

Question No. 2-18

Witness: Daniel K. Arbough

Q-2-18. a) Please provide the monthly short-term debt balances for Louisville Gas and Electric Company for each month from January 2008 through the most recent month available. Please explain how the monthly short-term debt balance was determined (e.g., month-ending balance, average daily balance) and provide a sample calculation.

b) Please provide for each company, for each month, the monthly cost-rate of that short-term debt, as well as a sample calculation showing how that monthly cost rate is derived.

c) Please provide a narrative description of the short-term debt financing arrangements for each company. If there is an inter-corporate money-pooling arrangement, please provide a narrative description of that arrangement.

A-2-18. a) The monthly short-term balance was determined using the month-ending balance. For the months of November 2010 and December 2010 the month-ending balance includes the Money Pool balance and the Revolving Credit Facility balance borrowings. See attached documents which include the monthly short-term debt balances and show how the balance is calculated.

b) The monthly cost-rate of the Money Pool short-term debt is derived from the rates for high-grade unsecured 30-day commercial paper of major corporations sold through dealers as quoted in The Wall Street Journal (the "Average Composite") on the last business day of the prior calendar month. See attached example of the Wall Street Journal rate as of June 30 used to calculate July's interest. Also see the attached documents which include the rate for each month. The cost-rate of the Revolving Credit Facility balance borrowing is based on the 30 day LIBOR rate and quoted two days in advance of the borrowing date plus a margin of 2.00%. The monthly cost rate for of the short term debt for November 2010 and December 2010 is a weighted average calculation based on month end balances of the Revolving Credit Facility and Money. See attached documents which include the calculation of the weighted average rates for these months.

c) See response previously provided to KIUC-1 Question No. 10 for a description of short-term financing and money pool arrangements

Money Pool Statements
POOL - LOUISVILLE GAS AND ELECTRIC

June 2011

Date	Debit	Credit	Balance	AVG Debt Rate	Interest
Beginning balance			$0.00		
06/01/11	0.00	0.00	$0.00	0.1600%	$0.00
06/02/11	0.00	0.00	$0.00	0.1600%	$0.00
06/03/11	0.00	0.00	$0.00	0.1600%	$0.00
06/04/11	0.00	0.00	$0.00	0.1600%	$0.00
06/05/11	0.00	0.00	$0.00	0.1600%	$0.00
06/06/11	0.00	0.00	$0.00	0.1600%	$0.00
06/07/11	0.00	0.00	$0.00	0.1600%	$0.00
06/08/11	0.00	0.00	$0.00	0.1600%	$0.00
06/09/11	0.00	0.00	$0.00	0.1600%	$0.00
06/10/11	0.00	0.00	$0.00	0.1600%	$0.00
06/11/11	0.00	0.00	$0.00	0.1600%	$0.00
06/12/11	0.00	0.00	$0.00	0.1600%	$0.00
06/13/11	0.00	0.00	$0.00	0.1600%	$0.00
06/14/11	0.00	0.00	$0.00	0.1600%	$0.00
06/15/11	0.00	0.00	$0.00	0.1600%	$0.00
06/16/11	0.00	0.00	$0.00	0.1600%	$0.00
06/17/11	0.00	0.00	$0.00	0.1600%	$0.00
06/18/11	0.00	0.00	$0.00	0.1600%	$0.00
06/19/11	0.00	0.00	$0.00	0.1600%	$0.00
06/20/11	0.00	0.00	$0.00	0.1600%	$0.00
06/21/11	0.00	0.00	$0.00	0.1600%	$0.00
06/22/11	0.00	0.00	$0.00	0.1600%	$0.00
06/23/11	0.00	0.00	$0.00	0.1600%	$0.00
06/24/11	0.00	0.00	$0.00	0.1600%	$0.00
06/25/11	0.00	0.00	$0.00	0.1600%	$0.00
06/26/11	0.00	0.00	$0.00	0.1600%	$0.00
06/27/11	0.00	0.00	$0.00	0.1600%	$0.00
06/28/11	0.00	0.00	$0.00	0.1600%	$0.00
06/29/11	0.00	0.00	$0.00	0.1600%	$0.00
06/30/11	0.00	0.00	$0.00	0.1600%	$0.00
	0.00	**0.00**	**-**	**0.0000%**	**0.00**

Money Pool Statements
POOL - LOUISVILLE GAS AND ELECTRIC

July 2011

Date	Debit	Credit	Balance	AVG Debt Rate	Interest
Beginning balance			$0.00		
07/01/11	0.00	0.00	$0.00	0.1600%	$0.00
07/02/11	0.00	0.00	$0.00	0.1600%	$0.00
07/03/11	0.00	0.00	$0.00	0.1600%	$0.00
07/04/11	0.00	0.00	$0.00	0.1600%	$0.00
07/05/11	0.00	0.00	$0.00	0.1600%	$0.00
07/06/11	0.00	0.00	$0.00	0.1600%	$0.00
07/07/11	0.00	0.00	$0.00	0.1600%	$0.00
07/08/11	0.00	0.00	$0.00	0.1600%	$0.00
07/09/11	0.00	0.00	$0.00	0.1600%	$0.00
07/10/11	0.00	0.00	$0.00	0.1600%	$0.00
07/11/11	0.00	0.00	$0.00	0.1600%	$0.00
07/12/11	0.00	0.00	$0.00	0.1600%	$0.00
07/13/11	0.00	0.00	$0.00	0.1600%	$0.00
07/14/11	0.00	0.00	$0.00	0.1600%	$0.00
07/15/11	0.00	0.00	$0.00	0.1600%	$0.00
07/16/11	0.00	0.00	$0.00	0.1600%	$0.00
07/17/11	0.00	0.00	$0.00	0.1600%	$0.00
07/18/11	0.00	0.00	$0.00	0.1600%	$0.00
07/19/11	0.00	0.00	$0.00	0.1600%	$0.00
07/20/11	0.00	0.00	$0.00	0.1600%	$0.00
07/21/11	0.00	0.00	$0.00	0.1600%	$0.00
07/22/11	0.00	0.00	$0.00	0.1600%	$0.00
07/23/11	0.00	0.00	$0.00	0.1600%	$0.00
07/24/11	0.00	0.00	$0.00	0.1600%	$0.00
07/25/11	0.00	0.00	$0.00	0.1600%	$0.00
07/26/11	0.00	0.00	$0.00	0.1600%	$0.00
07/27/11	0.00	0.00	$0.00	0.1600%	$0.00
07/28/11	0.00	0.00	$0.00	0.1600%	$0.00
07/29/11	0.00	0.00	$0.00	0.1600%	$0.00
07/30/11	0.00	0.00	$0.00	0.1600%	$0.00
07/31/11	0.00	0.00	$0.00	0.1600%	$0.00
	0.00	**0.00**	**-**	**0.0000%**	**0.00**

EXHIBIT___(LK-4)

KENTUCKY UTILITIES COMPANY

Response to the KIUC's *Second Set of Data Requests* Dated August 18, 2011

Case No. 2011-00161

Question No. 2-12

Witness: Daniel K. Arbough

Q-2-12. Please provide the per books capital structure of Kentucky Utilities, LG&E and KU Energy LLC, and PPL Corp. at March 31, June 30, September 30, and December 31, 2010, and March 31 and June 30, 2011. For the purposes of this data request, please provide the information as follows:

a. Long-term Debt (including that maturing within one year);

b. Short-term Debt;

c. Other Debt (specify);

d. Preferred or Preference Stock;

e. Common Stock;

f. Additional Paid-in Capital;

g. Retained Earnings; and

h. Total Common Equity (total common equity as well as common equity attributable to unregulated operations, if any).

Please provide published balance sheet support for each of the above-requested capital structures, and, if the amounts provided in response to this interrogatory are different from those contained in the published balance sheets, please explain why.

A-2-12. Provided below is the capital structure for the periods requested. Please see the attachment for the published balance sheet support and explanations as to why amounts provided in this response may differ from those contained in the published balance sheets.

Kentucky Utilities
Capital Structure (per Regulatory Financial Reports)
(millions)

	6/30/2011	3/31/2011	12/31/2010	9/30/2010	6/30/2010	3/30/2010
Long-Term Debt*	1,840	1,840	1,840	1,649	1,649	1,649
Short Term Debt	-	-	10	94	117	61
Preferred or Preference Stock	-	-	-	-	-	-
Common Stock	308	308	308	308	308	308
Additional Paid-In Capital*	316	316	316	316	316	316
Other Comprehensive Income*	(2)	(2)	(2)	(2)	-	-
Retained Earnings*	1,456	1,463	1,439	1,397	1,392	1,361
Unappropriated Undistributed Subsidiary Earnings	15	16	14	11	11	11
Total Common Equity*	2,093	2,100	2,075	2,029	2,026	1,996
Debt Ratio (Including Short-Term Debt)	47%	47%	47%	46%	47%	46%
Debt Ratio (Excluding Short-Term Debt)	47%	47%	47%	45%	45%	45%
Debt Ratio Including Imputed Debt ($168.7MM determined by S&P)						
Debt Ratio (Including Short-Term Debt)	49%	49%	49%	49%	49%	48%
Debt Ratio (Excluding Short-Term Debt)	49%	49%	49%	47%	47%	48%

*Differences between Financial Reports and GAAP Reporting are due to fair value adjustments for purchase accounting and goodwill.

LG&E and KU Energy, LLC
Capital Structure (GAAP)
(millions)

	6/30/2011	3/31/2011	12/31/2010	9/30/2010	6/30/2010	3/30/2010
Long-Term Debt	3,825	3,825	3,825	3,985	3,985	4,235
Short-Term Debt	-	-	163	1,006	1,069	739
Preferred or Preference Stock	-	-	-	-	-	-
Common Stock	-	-	-	774	774	774
Additional Paid-In Capital	3,958	3,958	3,958	4,224	4,224	4,224
Other Comprehensive Income	4	4	6	(45)	(55)	(53)
Retained Earnings	29	80	47	(2,625)	(2,702)	(2,709)
Total Equity	3,991	4,042	4,011	2,328	2,241	2,236

PPL Corporation
Capital Structure (per Form 10-Q Reports)
(millions)

	6/30/2011	3/31/2011	12/31/2010	9/30/2010	6/30/2010	3/30/2010
Long-Term Debt[1]	18,034	12,749	12,663	8,839	8,711	7,652
Short Term Debt	431	881	694	181	466	589
Preferred or Preference Stock	-	-	-	-	-	-
Common Stock	6	5	5	5	5	4
Additional Paid-In Capital	6,774	4,637	4,602	4,582	4,553	2,310
Accumulated Other Comprehensive Loss	(435)	(424)	(479)	(160)	(439)	(288)
Retained Earnings	4,306	4,312	4,082	3,897	3,818	3,866
Total Common Equity[2]	10,651	8,530	8,210	8,324	7,937	5,892

[1] Includes current and noncurrent portions
[2] Excludes noncontrolling interests

LOUISVILLE GAS AND ELECTRIC COMPANY

Response to KIUC's Second Set of Data Requests Dated August 18, 2011

Case No. 2011-00162

Question No. 2-13

Witness: Daniel K. Arbough

Q-2-13. Please provide the per books capital structure of Louisville Gas and Electric, LG&E and KU Energy LLC, and PPL Corp. at March 31, June 30, September 30, and December 31, 2010, and March 31 and June, 2011. For the purposes of this data request, please provide the information as follows:

a. Long-term Debt (including that maturing within one year);

b. Short-term Debt;

c. Other Debt (specify);

d. Preferred or Preference Stock;

e. Common Stock;

f. Additional Paid-in Capital;

g. Retained Earnings; and

h. Total Common Equity (total common equity as well as common equity attributable to unregulated operations, if any).

Please provide published balance sheet support for each of the above-requested capital structures, and, if the amounts provided in response to this interrogatory are different from those contained in the published balance sheets, please explain why.

A-2-13. Provided below is the capital structure for the periods requested. Please see the attachment for the published balance sheet support and explanations as to why amounts provided in this response may differ from those contained in the published balance sheets.

LG&E
Capital Structure (per Regulatory Financial Reports)
(millions)

	6/30/2011	3/31/2011	12/31/2010	9/30/2010	6/30/2010	3/30/2010
Long-Term Debt[1,2]	1,105	1,105	1,105	896	896	896
Short Term Debt	-	-	12	122	137	124
Preferred or Preference Stock	-	-	-	-	-	-
Common Stock	424	424	424	424	424	424
Additional Paid-In Capital[1]	84	84	84	84	84	84
Other Comprehensive Income[1]	-	-	-	-	(13)	(11)
Retained Earnings[1]	845	850	828	807	772	758
Total Common Equity[1]	1,353	1,358	1,336	1,315	1,267	1,255
Debt Ratio (Including Short-Term Debt)	45%	45%	46%	44%	45%	45%
Debt Ratio (Excluding Short-Term Debt)	45%	45%	45%	41%	41%	42%
Debt Ratio Including Imputed Debt ($221.7MM determined by S&P)						
Debt Ratio (Including Short-Term Debt)	50%	49%	50%	49%	50%	50%
Debt Ratio (Excluding Short-Term Debt)	50%	49%	50%	46%	47%	47%

[1] Differences between Financial Reports and GAAP Reporting are due to fair value adjustments for purchase accounting and goodwill.

[2] LG&E reacquired $163MM of Pollution Control Bonds in 2008, which was netted in the financial reports. After the PPL Acquisition in November 2010, this amount was reported gross and appears in Long-Term Debt in the 12/31/2010 financials. In January 2011, the reacquired bonds were remarketed to the public.

LG&E and KU Energy, LLC
Capital Structure (GAAP)
(millions)

	6/30/2011	3/31/2011	12/31/2010	9/30/2010	6/30/2010	3/30/2010
Long-Term Debt	3,825	3,825	3,825	3,985	3,985	4,235
Short-Term Debt	-	-	163	1,006	1,069	739
Preferred or Preference Stock	-	-	-	-	-	-
Common Stock	-	-	-	774	774	774
Additional Paid-In Capital	3,958	3,958	3,958	4,224	4,224	4,224
Other Comprehensive Income	4	4	6	(45)	(55)	(53)
Retained Earnings	29	80	47	(2,625)	(2,702)	(2,709)
Total Equity	3,991	4,042	4,011	2,328	2,241	2,236

PPL Corporation
Capital Structure (per Form 10-Q Reports)
(millions)

	6/30/2011	3/31/2011	12/31/2010	9/30/2010	6/30/2010	3/30/2010
Long-Term Debt[1]	18,034	12,749	12,663	8,839	8,711	7,652
Short Term Debt	431	881	694	181	466	589
Preferred or Preference Stock	-	-	-	-	-	-
Common Stock	6	5	5	5	5	4
Additional Paid-In Capital	6,774	4,637	4,602	4,582	4,553	2,310
Accumulated Other Comprehensive Loss	(435)	(424)	(479)	(160)	(439)	(288)
Retained Earnings	4,306	4,312	4,082	3,897	3,818	3,866
Total Common Equity[2]	10,651	8,530	8,210	8,324	7,937	5,892

[1] Includes current and noncurrent portions

[2] Excludes noncontrolling interests