COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APLICATION OF KENTUCKY POWER COMPANY D/B/A AMERICAN ELECTRIC POWER FOR APPROVAL OF AN AMENDED COMPLIANCE PLAN FOR PURPOSES OF RECOVERING THE COSTS OF NEW AND ADDITIONAL POLLUTION CONTROL FACILITIES AND TO AMEND ITS ENVIRONMENTAL COST RECOVERY SURCHARGE TARIFF	))))))))	CASE NO. 2002-00169

O R D E R

On September 30, 2002, Kentucky Power Company d/b/a American Electric Power (Kentucky Power) filed an application, pursuant to KRS 278.183, seeking Commission approval of an amended environmental compliance plan consisting of new and additional pollution control facilities and to amend its Environmental Surcharge (E.S.) tariff. Kentucky Power states that it will need these facilities and will incur the related compliance costs in order to comply with the nitrogen oxide (NOx) and other emission limits mandated by the Environmental Protection Agency (EPA) and the Clean Air Act.[1] Kentucky Power proposed that its amended E.S. tariff become effective for bills rendered on and after October 30, 2002.

On October 22, 2002, the Commission found that further proceedings were necessary to investigate the reasonableness of the proposed amendments to Kentucky

[1] As amended, 42 U.S.C.A. § 7401 *et seq.*

Power s compliance plan and E.S. tariff.[2] The Commission stated that until that determination was made, Kentucky Power s proposed E.S. tariff could not be implemented under KRS 278.183. A procedural schedule was established providing for the completion of this investigation within 6 months.

The following parties requested and were granted full intervention: the Attorney General of the Commonwealth of Kentucky, by and through his Office of Rate Intervention (AG), and the Kentucky Industrial Utility Customers, Inc. (KIUC). A public hearing was held on February 5 and 6, 2003. All information requested at the public hearing has been filed, and the parties have submitted briefs.

BACKGROUND

Kentucky Power is a privately owned electric utility that generates, transmits, distributes, and sells electricity to approximately 172,000 customers in all or parts of 20 counties in eastern Kentucky. Kentucky Power is a wholly owned subsidiary of American Electric Power Company, Inc. (AEP).[3]

KRS 278.183 provides that a utility shall be entitled to the current recovery of its costs of complying with the Clean Air Act as amended and those federal, state, or local environmental requirements that apply to coal combustion wastes and by-products from

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[2] Pursuant to KRS 278.183(2), the Commission has 6 months to complete its investigation and determine the reasonableness of a compliance plan and rate surcharge.

[3] As a subsidiary of AEP, Kentucky Power is a member of the integrated AEP System, an interstate public utility holding company system registered under the Public Utility Holding Company Act of 1935, 15 U.S.C. § 79. Subsequent to its merger in 2000 with Central and South West Corporation (CSW), AEP has operations in Arkansas, Indiana, Kentucky, Louisiana, Michigan, Ohio, Oklahoma, Tennessee, Texas, Virginia, and West Virginia.

facilities utilized for the production of energy from coal. Pursuant to KRS 278.183(2), a utility seeking to recover its environmental compliance costs through an environmental surcharge must first submit to the Commission a plan that addresses compliance with the applicable environmental requirements. The plan must also include the utility s testimony concerning a reasonable return on compliance-related capital expenditures and a tariff addition containing the terms and conditions of the proposed surcharge applied to individual rate classes. Within 6 months of submission, the Commission must conduct a hearing to:

> (a) Consider and approve the compliance plan and rate surcharge if the plan and rate surcharge are found reasonable and cost-effective for compliance with the applicable environmental requirements;
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> (b) Establish a reasonable return on compliance-related capital expenditures; and
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> (c) Approve the application of the surcharge.

Kentucky Power currently has a compliance plan and environmental surcharge that were approved by the Commission in 1997 in Case No. 1996-00489.[4] This existing compliance plan (1997 Plan) is comprised of five projects at the Big Sandy generating

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[4] Case No. 1996-00489, Application of Kentucky Power Company d/b/a American Electric Power to Assess a Surcharge Under KRS 278.183 to Recover Costs of Compliance with the Clean Air Act and Those Environmental Requirements Which Apply to Coal Combustion Waste and By-Products, final Order dated May 27, 1997.

station involving low NOx burners,[5] continuous emission monitors (CEMs), SO_2 emission allowances, Kentucky air emission fees, and three projects at generating stations that are part of the AEP System.[6] The current E.S. tariff provides for a formula to calculate the retail monthly environmental surcharge net revenue requirement (ES revenue requirement) and applicable monthly surcharge factor.[7] The authorized rate of return on environmental capital expenditures is an overall rate of return on capital. The

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[5] In its May 27, 1997 Order in Case No. 1996-00489, the Commission excluded the low NOx burners at Big Sandy Units 1 and 2 from the approved compliance plan. After the Commission denied rehearing, Kentucky Power appealed. In *Commonwealth of Kentucky ex rel. Chandler v. Kentucky Public Service Commission*, Nos. 97-CI-01138, 97-CI-01144, 97-CI-01319 (Ky. Franklin Cir. Ct. May 14, 1998), the Franklin Circuit Court reversed in part and directed the Commission to permit Kentucky Power s recovery of low NOx burner costs incurred after May 19, 1997. The Commission and the parties appealed to the Kentucky Court of Appeals. As part of a unanimous settlement in Case No. 1999-00149, the parties agreed to: (1) dismiss their appeals to the Kentucky Court of Appeals; and (2) allow Kentucky Power to recover through its environmental surcharge mechanism the costs associated with the Big Sandy Units 1 and 2 low NOx burners beginning January 1, 2000. See Case No. 1999-00149, Joint Application of Kentucky Power Company, American Electric Power Company, Inc. and Central and South West Corporation Regarding a Proposed Merger, final Order dated June 14, 1999.

[6] The three projects are Kentucky Power s assigned portion of the costs for the installation of scrubbers at Ohio Power Company s Gavin generating station (Gavin), the installation of CEMs at Indiana Michigan Power Company s Rockport generating station (Rockport), and the Indiana Air Emissions Fee for Rockport. The allocation of these costs to Kentucky Power is governed by the AEP Interconnection Agreement, a Federal Energy Regulatory Commission (FERC) approved agreement.

[7] Kentucky Power s surcharge mechanism compares a base period revenue requirement with a current period revenue requirement. Retired or replaced environmental compliance plant and associated expenses already included in existing rates are reflected in the determination of the base period revenue requirement, while the current cost of the approved compliance plan is reflected in the determination of the current period revenue requirement. The net of the base period and current period revenue requirements produces the ES revenue requirement. The ES revenue requirement is then divided by the Kentucky retail revenues for the current expense month. The current expense month is defined as the second month preceding the month in which the environmental surcharge is billed.

current rate of return reflects a rate of return on common equity of 11.50 percent, with the overall rate of return on capital being 9.178 percent. The overall rate of return reflects Kentucky Power s capital structure and cost rates as of December 31, 1999. The overall rate of return is grossed up to reflect the income tax effect resulting from the return on common equity.[8]

NOx EMISSION REDUCTION PROGRAM

The installation deadline for NOx emission control technologies has been impacted by two sections of the Clean Air Act. Title I, Section 110 of the Clean Air Act required states with non-attainment regions to develop a State Implementation Plan (SIP) that would reduce NOx emissions from stationary sources to a level needed for attainment of the ozone National Ambient Air Quality Standards (NAAQS). Title I, Section 126 of the Clean Air Act allows downwind states to petition the EPA for stricter requirements on upwind states that contribute to their NAAQS non-attainment status.

In the fall of 1998, the EPA issued the NOx SIP Call, which would limit summer NOx emission in 22 northeast states and the District of Columbia. The states were required to amend their SIPs to achieve a summer season state NOx budget based on the application of a 0.15 lbs. NOx/MMBtu emission rate for large electricity generating units. The NOx emissions cap for Kentucky s utility boilers for the summer ozone season was set at an 85 percent reduction from 1990 levels. The deadline for implementation was May 1, 2003. The SIP Call was challenged in the courts, and on

[8] The gross-up factor is applied to the common equity component of the overall rate of return on capital, and reflects a composite uncollectible accounts factor, federal income tax rate, and state income tax rate of 40.48 percent. The gross-up rate of return on the Big Sandy compliance rate base is currently 12.35 percent.

August 30, 2000 the D. C. Circuit Court of Appeals determined that the deadline for electricity generating units to comply with the SIP Call reduction requirements would be extended to May 31, 2004.[9]

In January 2000 the EPA issued the Section 126 Rule, which provides for a NOx cap-and-trade program based on application of a 0.15 lbs. NOx/MMBtu emission rate for large electricity generating units. The compliance deadline for the Section 126 Rule was May 1, 2003. The Section 126 Rule was also challenged in the courts, and on August 24, 2001 the D. C. Circuit Court of Appeals temporarily suspended the date electricity generating units would be required to comply with the Section 126 Rule. On April 23, 2002, the EPA issued a final rule revising the compliance deadline for the Section 126 Rule to May 31, 2004.[10]

In conjunction with the NOx emission reductions, the EPA has established a NOx allowance system. This system will be operated in essentially the same way as the SO_2 allowance program. The EPA will establish allowance accounts on the allowance tracking system for each affected unit under the NOx reduction program. The EPA will deposit in the unit accounts the appropriate number of NOx allowances for each year of the program. The unit account balances will be adjusted at the end of each compliance period to reflect the tons of NOx emitted by the unit. Kentucky Power will have the obligation to ensure that there are an adequate number of allowances in its accounts to

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[9] Post-Hearing Brief of Kentucky Power at 5-6.

[10] Id. at 6-7.

cover emissions.[11] Any allowances that remain in the account can be held for future use.

Like each state that has a NOx emission reduction rule, Kentucky has a provision in its rules to encourage early reductions of NOx emissions. A source that reduces its NOx emission rate below 0.45 lbs. NOx/MMBtu will be eligible to apply for early reduction credits (ERCs). Under Kentucky regulation, the number of ERCs available is set at 13,520. If sources in Kentucky apply for more ERCs than available, the number of credits received will be some fraction of the number requested.[12] Unlike the NOx allowances, the ERCs can only be used in 2004 or 2005 and cannot be held for future use.[13]

2003 COMPLIANCE PLAN

Kentucky Power is adding new pollution control facilities to the 1997 Plan to reflect its plans for complying with the EPA s mandate to reduce NOx emissions to 0.15 lbs. NOx/MMBtu by May 31, 2004. The amended compliance plan (2003 Plan) proposed by Kentucky Power calls for four additional projects that include the following components:

1) Installation of Over-Fire Air with Water Injection and Boiler Tube Overlays at Big Sandy Unit 1.

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[11] For 2004 through 2006, Kentucky Power has been allocated for each ozone season 593 allowances for Big Sandy Unit 1 and 1,736 allowances for Big Sandy Unit 2. Kentucky could adjust the allocations in 2007. See McManus Direct Testimony at 5 and 21.

[12] McManus Direct Testimony at 19-20.

[13] Response to the Commission Staff s First Data Request dated November 6, 2002, Item 15. Kentucky Power estimates it will be allocated 50 ERCs for reductions at Big Sandy Unit 1 in 2002 and 2003 and 960 ERCs for reductions at Big Sandy Unit 2 in 2003.

2) Precipitator improvements at Big Sandy Unit 2.

3) Installation of Selective Catalytic Reduction equipment (SCR) at Big Sandy Unit 2.

4) Upgrade the existing Reverse Osmosis Water System (RO Water System), which is needed in conjunction with the installation of the SCR.

5) A return on NOx Allowances purchased by Kentucky Power.

The 2003 Plan, which will supplement the 1997 Plan, has a total estimated capital cost of $162.7 million.[14] The SCR represents the bulk of the total estimated capital cost, which is estimated to be $141.3 million. Kentucky Power was granted a Certificate of Public Convenience and Necessity to construct the SCR in Case No. 2001-00093.[15]

In support of the 2003 Plan, Kentucky Power presented testimony and its analysis of the compliance options available for the Big Sandy units. In addition, Kentucky Power retained Stone & Webster Consultants (Stone & Webster) to prepare an independent technical review of the planned projects and to determine if the projects were a reasonable and cost-effective method of complying with the requirements of the Clean Air Act. This evidence shows that the facilities in the 2003 Plan are related to compliance with the Clean Air Act as amended and other governmental regulations pertaining to coal combustion wastes and by-products resulting from the production of electricity from coal. Furthermore, the Stone & Webster study concludes that the

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[14] Wagner Direct Testimony, Exhibit EKW-1. At the hearing, Kentucky Power indicated that based on current construction estimates, there could be a net increase in the total estimated cost of between $0.5 million to $4.5 million. See Transcript of Evidence (T.E.), Volume I, February 5, 2003, at 142-143.

[15] Case No. 2001-00093, The Application of Kentucky Power Company d/b/a American Electric Power for a Certificate of Public Convenience and Necessity to Construct Selective Catalytic Reduction (SCR), final Order dated July 31, 2001.

facilities at Big Sandy are both reasonable and cost-effective means to control NOx emissions and that AEP s purchasing and contracting methods used for the Big Sandy environmental modifications were reasonable and cost-effective.[16] The AG did not challenge the reasonableness or the cost effectiveness of the proposed 2003 Plan.

KIUC contends that the Big Sandy Unit 2 SCR cannot be shown to be reasonable or cost-effective. KIUC argues that because the deadline for NOx emission reductions was extended from May 1, 2003 to May 31, 2004, Kentucky Power should have delayed the installation of the SCR at Big Sandy Unit 2 by a similar amount of time. KIUC claims that the net rate increase to Kentucky Power s ratepayers due to early installation will be $20.1 million.[17] KIUC also notes that Kentucky Power and AEP did not conduct a cost-benefit analysis on early installation and did not document any discussions or meetings concerning changes in the SCR installation schedule. KIUC contends that there is no evidence to support the decision to proceed with the early installation of the SCR at Big Sandy Unit 2. Given the additional burden on ratepayers and lack of supporting evidence, KIUC reasons that the early installation is neither reasonable nor cost-effective for Kentucky Power and, consequently, the early installation fails to meet the requirements of KRS 278.183(2)(a). KIUC recommends that the cost recovery for the Big Sandy Unit 2 SCR be delayed until May 31, 2004 in order to comply with KRS 278.183. KIUC also recommends that Kentucky Power should be required to sell ERCs that are unnecessary to meet its compliance needs, amortize the sale proceeds over 12 months through the surcharge mechanism, and

[16] Youmans Direct Testimony at 6-12.

[17] KIUC Brief at 19.

include the unamortized sale proceeds as a reduction to the environmental compliance rate base during the amortization period.[18]

The AEP System had originally planned to install SCRs on three 800 MW generating units in 2003. Those units were Big Sandy Unit 2, Amos Unit 1, and Amos Unit 2.[19] When the deadlines for compliance with the NOx emission reductions were delayed to May 31, 2004, AEP re-evaluated the timing of its entire NOx emission reduction program. As a result of this evaluation, AEP determined that the Big Sandy Unit 2 SCR should remain on the original schedule and become operational by May 1, 2003. This determination was based upon the following factors:

> 1) The size of the AEP system s overall NOx emission reduction program required that some SCR installations be stretched out to avoid over-extending available resources for labor and materials;
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> 2) From the perspective of materials procurement and construction work management, it was reasonable to keep Amos Units 1 and 2 on the same schedule;
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> 3) Kentucky Power would gain valuable operating experience with the Big Sandy Unit 2 SCR in operation during the 2003 ozone season and ensure the SCR achieves the necessary NOx emission reductions; and
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> 4) Kentucky Power could earn ERCs from the Kentucky pool of available ERCs. The AEP operating companies in West Virginia had already qualified for ERCs from other SCR projects, and the addition of claims for Amos Units 1 and 2 would have exacerbated the over-subscription of the West Virginia pool of ERCs.[20]

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[18] Kollen Direct Testimony at 11.

[19] Amos Units 1 and 2 are located in West Virginia and are owned by Appalachian Power Company, another operating company in the AEP System.

[20] Response to the Commission Staff s First Data Request dated November 6, 2002, Item 23(c).

The Commission finds that Kentucky Power and AEP should have undertaken a cost-benefit analysis as part of their evaluation of the timing of the NOx emission reduction program. The factors listed previously would have been considered in that analysis. A cost-benefit analysis would have documented an objective evaluation of retaining the established construction schedule or delaying the schedule. The Commission also finds that AEP should have documented in writing the discussions and meetings concerning changes in the NOx program timing schedule. The cost-benefit analysis and the written notes from discussions and meetings would have provided documentation of the decision process followed when considering delays in the NOx program schedule. Both approaches constitute sound business practices in the decision making process of a company.

However, based on the record in this case, the Commission does not find that the absence of both a cost-benefit analysis and written documentation on timing demonstrates that the Big Sandy Unit 2 SCR is unreasonable or not cost-effective. A cost-benefit analysis is only one of several approaches that can be used in evaluating alternatives. While AEP could not produce written documentation of its discussions and meetings evaluating the timing of NOx reductions, it has identified and presented the factors that were considered in that evaluation. The lack of the specific analysis and documentation sought by KIUC does not, by itself, demonstrate that the Big Sandy Unit 2 SCR is unreasonable or not cost-effective.

The Commission is not persuaded by the cost-benefit analysis presented by KIUC to demonstrate that installing the SCR 13 months early violates KRS 278.183. KIUC s simple calculation of the revenue requirement impact of installing the Big Sandy

Unit 2 SCR 13 months early does not constitute a valid cost-benefit analysis. A valid cost-benefit analysis would have compared the costs of installing the SCR on May 1, 2003, versus installing it on May 31, 2004. It would have to take into consideration the additional costs of delaying the project, including the additional allowance for funds used during construction which would have accrued due to the delay. While the benefit of receiving ERCs would be a component of the analysis, there would have to be a recognition that under a delay scenario Kentucky Power would not receive approximately 960 ERCs for 2003 because the SCR was not installed in 2003.

The Commission is also not persuaded by KIUC s argument that the early installation of the Big Sandy Unit 2 SCR had to be considered from only Kentucky Power s perspective. AEP s NOx emission reduction program has been designed and implemented from a system-wide perspective, not by each individual operating company within the AEP System. AEP s re-evaluation of the timing of the NOx emission reduction program from an AEP System-wide perspective was reasonable given the brief 13-month delay in the NOx deadlines and the finalization of that delay 13 months prior to the original deadline of May 1, 2003.

Therefore, based on a review of Kentucky Power s 2003 Plan and our July 31, 2001 Order in Case No. 2001-00093, authorizing construction of an SCR, the Commission finds that the 2003 Plan is reasonable and cost-effective, and should be approved.

Kentucky Power has indicated that the expected in-service date for the Big Sandy Unit 2 SCR will be May 2003. Given the nature and complexity of the SCR, the Commission finds that, within 10 days of the in-service date, Kentucky Power should file

a certified statement that the SCR is operational. This statement should also include the estimated NOx removal rate as of the in-service date and a detailed explanation of any deviations from the removal rate discussed in Kentucky Power s application. The statement should be filed with the Commission before the Big Sandy Unit 2 SCR is reflected in Kentucky Power s monthly environmental surcharge billings.

As discussed previously in this Order, Kentucky Power will be receiving ERCs and NOx allowances under the EPA s NOx allowance system. The ability to apply for ERCs in Kentucky was a significant factor in AEP s decision to proceed with the May 2003 installation of the Big Sandy Unit 2 SCR. As the costs of the SCR will be recovered through the environmental surcharge, the Commission believes the benefits from the ERCs should be maximized for Kentucky Power and its ratepayers.

Therefore, the Commission will require that during the ozone seasons when its ERCs are available for use, Kentucky Power should first use the ERCs to cover the actual NOx emissions for the particular season before using the NOx allowances. If near the end of the ozone season Kentucky Power determines it will not need all of its ERCs for that particular season, Kentucky Power should sell or transfer the ERCs to other utilities at the maximum values possible. Kentucky Power should report the sales or transfers in the appropriate environmental surcharge monthly report, and include documentation showing the available market prices for the ERCs. The net proceeds from any sale or transfer of ERCs should be included in the appropriate environmental surcharge monthly report as an offset to that month s current period revenue requirement.

Kentucky Power has indicated that the allocation of NOx allowances could be adjusted by the state of Kentucky in 2007. This fact, coupled with the demands of meeting the stricter NOx emission requirements, makes it critical that Kentucky Power properly manage its inventory of NOx allowances. The Commission will require that Kentucky Power develop a NOx allowance management strategy. The strategy should include, at a minimum, a discussion of how Kentucky Power will evaluate and plan for its NOx allowance needs and the conditions under which sales, transfers, and purchases will be made. Kentucky Power should file its NOx allowance management strategy by June 30, 2003.

In addition, the Commission finds that when Kentucky Power sells, transfers, or purchases NOx allowances, it should include with the appropriate monthly environmental surcharge report documentation showing the market prices for similar NOx allowances for the same period. The net proceeds from any sale or transfer of NOx allowances should be included in the appropriate environmental surcharge monthly report as an offset to that month s current period revenue requirement. The Commission further finds that in the event Kentucky Power sells NOx allowances and then later has to re-purchase allowances to cover its NOx emissions, any cost above the original selling price for the allowances will not be included for recovery in the surcharge mechanism.

<u>SURCHARGE MECHANISM AND CALCULATION</u>

Kentucky Power has proposed to incorporate the capital expenditures and operating expenses associated with the 2003 Plan into the existing surcharge

mechanism used for the 1997 Plan.[21] As discussed previously in this Order, Kentucky Power s surcharge mechanism determines the ES revenue requirement by comparing the base period revenue requirement with the current period revenue requirement. With the exception of the upgrade to the RO Water System, Kentucky Power proposed to include 100 percent of the capital expenditures and operating expenses associated with the 2003 Plan. For the upgrade of the RO Water System, Kentucky Power proposed to include 50 percent of the capital expenditures and operating expenses.

The new RO Water System being installed at Big Sandy will have a capacity of 120 gallons per minute (gpm) in a two skid arrangement to provide de-mineralized water for plant services as well as for the Big Sandy Unit 2 SCR ammonia on demand system. Kentucky Power and AEP determined that a water system with the capacity of 30 gpm would have been adequate for the SCR on a stand-alone basis. Kentucky Power and AEP concluded that the cost of a 30 gpm water system would be approximately the same as one half of a 120 gpm water system because of economy of scale. Thus, Kentucky Power proposed to seek recovery of 50 percent of the capital expenditures and operating expenses of the RO Water System through the surcharge.[22]

KIUC objected to the proposal to base the allocation of the RO Water System on the estimated cost of a stand-alone water system to the total costs of the RO Water System. KIUC argued that the surcharge statute requires the use of actual rather than

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[21] In addition, Kentucky Power has proposed to modify the jurisdictional allocation methodology used to allocate the ES revenue requirement. The Commission s review and discussion of this issue is addressed later in this Order.

[22] Lantzy Direct Testimony at 4 and Response to the Commission Staff s First Data Request dated November 6, 2002, Item 19(b).

estimated costs and that it was unreasonable to allocate 50 percent of the costs to the SCR when the SCR only utilized 25 percent of the capacity. KIUC recommended that the allocation to the surcharge be set at 25 percent of the total costs, reflecting the expected capacity utilization.[23]

The Commission has considered the allocation methodologies proposed by Kentucky Power and KIUC and finds that the more reasonable approach is KIUC s proposal. Kentucky Power s proposal is based on an estimate of the cost of a stand-alone water system. Kentucky Power has provided no documentation in this proceeding to support what the actual cost of a stand-alone system would be. While the Commission recognizes some cost savings could be recognized through economies of scale on the RO Water System, Kentucky Power has not adequately documented that those economies of scale result in a reasonable allocation of the investment and associated operating expenses on a 50-50 basis. Basing the allocation on the actual capacity utilized by the SCR should produce a more accurate assignment of costs.

Therefore, 25 percent of the investment in and the operating expenses associated with the RO Water System will initially be included in Kentucky Power s surcharge mechanism. However, the Commission realizes that the Big Sandy Unit 2 SCR will be the first SCR installed on an 800 MW generating plant in the AEP System. Consequently, current expectations of how the SCR will operate could change. After the SCR goes into operation, Kentucky Power should monitor and document the capacity from the RO Water System required by the SCR. At subsequent 6-month

[23] Kollen Direct Testimony at 22-23.

surcharge reviews, the Commission will consider adjusting the 25 percent allocation based on the documented utilization of the RO Water System by the SCR.

In the revised E.S. tariff proposed by Kentucky Power, the costs associated with the RO Water System are not shown as a separate item, but instead included as part of the costs of the Big Sandy Unit 2 SCR.[24] As only a portion of the RO Water System costs are to be included in the surcharge, the Commission finds that the RO Water System should be listed as a separate cost component in the E.S. tariff.[25]

Kentucky Power has stated that the Over-Fire Air with Water Injection and Boiler Tube Overlays at Big Sandy Unit 1 and the Precipitator improvements at Big Sandy Unit 2 are already in service. Kentucky Power has requested to incorporate these components into its surcharge mechanism in the monthly environmental surcharge report effective in the month following the Commission s Order in this proceeding.[26] Kentucky Power has agreed that when these components are included in the surcharge mechanism, the original cost of each component, along with the applicable accumulated depreciation and deferred taxes, will also be reflected.[27] The Commission finds Kentucky Power s request to be reasonable and it should be approved, subject to the inclusion of the applicable accumulated depreciation and deferred taxes being included with the original cost for the two components.

[24] Lantzy Direct Testimony at 4 and Wagner Direct Testimony, Exhibit EKW-7, page 2 of 2, section 5. Kentucky Power had proposed to include the RO Water System costs in subpart (j) of the proposed E.S. tariff.

[25] Additional modifications to the E.S. tariff are discussed later in this Order.

[26] Wagner Direct Testimony at 5.

[27] T.E., Volume I, February 5, 2003, at 53.

Kentucky Power has indicated that the Precipitator improvements have or will result in a partial retirement of plant in service already included in existing base rates. Kentucky Power has acknowledged that the partial retirement must be recognized in the surcharge calculations, but provided no details to show exactly how this recognition would be accomplished.[28] The Commission finds that the recognition of the partial retirement of the Precipitator is reasonable and should be incorporated into the surcharge mechanism. This recognition is consistent with previous Commission decisions in other environmental surcharge proceedings.[29] The recognition of the partial retirement is discussed later in this Order.

The Commission finds that the following qualifying costs should be included in Kentucky Power s environmental surcharge mechanism:

Base Period

The base period revenue requirement for Kentucky Power will be composed of the following components:

1. The utility plant retired at Rockport when CEMs were installed in 1994, as described in the Commission s May 27, 1997 Order in Case No. 1996-00489.

2. The utility plant retired at Big Sandy Units 1 and 2 when new low NOx burners were installed in 1994 and 1998. Under the terms of the settlement agreement approved by the Commission in its June 14, 1999 Order in Case No. 1999-00149, Kentucky Power was permitted to recover

[28] Wagner Direct Testimony, Exhibit EKW-1.

[29] Case No. 1996-00489, May 27, 1997 Order at 23.

the costs of new low NOx burners beginning January 1, 2000. The base period revenue requirement reflects both the return on the retired utility plant rate base[30] and the removal of depreciation expense and property tax expense.

3. The utility plant retired at Big Sandy Unit 2 when the Precipitator improvements were installed and in-service in the fall of 2002, in conjunction with the approval of the 2003 Plan in this proceeding. The base period revenue requirement should reflect both the return on the retired utility plant and the removal of associated operating expenses such as depreciation and property taxes.

The rate of return applied to the Big Sandy retired utility plant rate bases will reflect the weighted average cost of capital for Big Sandy for the expense month of December 1990.[31] As the base period revenue requirement is a monthly amount, the rate of return will be divided by 12.

Current Period

The monthly current period revenue requirement will be comprised of the following components:

[30] The retired utility plant rate base associated with the new low NOx burners and the Precipitator improvements includes the utility plant at original cost less the December 31, 1990 accumulated depreciation and accumulated deferred income taxes.

[31] The test year in Kentucky Power's last general rate case was the 12 months ending December 31, 1990. The weighted average cost of capital reflects the debt cost rates as of December 1990. Because Kentucky Power's last general rate case was settled, Kentucky Power has used, and the Commission has accepted, the use of 11.50 percent rate of return on common equity for the weighted average cost of capital calculation.

1. The monthly return on the 1997 Plan rate base plus associated operating expenses, as described in the Commission s May 27, 1997 Order in Case No. 1996-00489 and as modified by the Commission s June 14, 1999 Order in Case No. 1999-00149.

2. The monthly return on the 2003 Plan rate base, which will include the original cost of the 2003 Plan environmental compliance plant in service, the cost of the NOx emission allowance inventory, and a cash working capital allowance, less related accumulated depreciation and accumulated deferred income taxes. The cash working capital allowance is discussed later in this Order.

3. Operating expenses associated with the 2003 Plan that will include the monthly depreciation expense, monthly property tax expense, and monthly non-fuel operation and maintenance (O&M) expense.[32] Kentucky Power will only recover those operating expenses identified in this proceeding. Kentucky Power will have to seek Commission approval to recover any other operating expenses associated with the 2003 Plan that have not been identified in this proceeding.

4. The net proceeds from the sale or transfer of SO_2 allowances, ERCs and NOx allowances.

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[32] Kentucky Power has identified its monthly non-fuel O&M expenses as the variable cost for on-going cladding at the Big Sandy Unit 1 over-fire air project and the urea consumption and catalyst replacement at Big Sandy Unit 2. See Response to the Commission Staff s First Data Request dated November 6, 2002, Item 11. In addition, Kentucky Power seeks to recover the cost of NOx emission allowances consumed as part of its O&M expenses associated with the 2003 Plan. See Wagner Direct Testimony, Exhibit EKW-9.

The current period revenue requirement will reflect only those environmental projects approved by the Commission for inclusion in Kentucky Power s 1997 Plan and 2003 Plan. Should Kentucky Power desire to include other environmental projects in the future, it will have to apply for an amendment to its approved compliance plans.

The inclusion of the 2003 Plan into Kentucky Power s existing surcharge mechanism will not result in changes to the surcharge formulas. However, the description of the items included in the components of the formulas will change. The formulas used to determine the ES revenue requirement are shown in Appendix A. The inclusion of the 2003 Plan into the existing surcharge mechanism will require modifications to the monthly environmental surcharge reporting formats. The revised formats are attached to this Order as Appendix B.

TARIFF MODIFICATIONS

Kentucky Power proposed to modify its E.S. tariff definition of Net KY Retail E(m) by deleting the phrase to Total Company Revenues from the description of the allocation methodology used to allocate the ES revenue requirement. Kentucky Power supported this request by noting that the phrase did not recognize the fact that its Non-Physical Revenues had been excluded from the Total Company Revenues by agreement of the parties.[33] As an alternative, Kentucky Power agreed that instead of deleting the phrase, it would be acceptable to leave the phrase in with a qualifying statement that, for purposes of the E.S. tariff, Total Company Revenues do not include Non-Physical Revenues.[34]

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[33] Wagner Direct Testimony at 15.

[34] T.E., Volume I, February 5, 2003, at 54-55.

The Commission finds that the alternative of including a qualifying statement to the E.S. tariff stating that, for purposes of that specific tariff, Total Company Revenues do not include Non-Physical Revenues is more reasonable. Retaining the phrase to Total Company Revenues allows for the E.S. tariff to clearly state the allocation methodology applied to the ES revenue requirement. Kentucky Power will modify its E.S. tariff to include the qualifying statement concerning what is excluded from Total Company Revenues.

While reviewing Kentucky Power s E.S. tariff, the Commission noted that the Base Period Revenue Requirement section only refers to the retirement of utility plant at Rockport. The additional retirements resulting from the settlement agreement approved in Case No. 1999-00149 should also be noted in this section. And as discussed previously in this Order, the partial retirement associated with the Big Sandy Unit 2 Precipitator will need to be added to this section of the E.S. tariff. Kentucky Power should include these items when it files its revised E.S. tariff.

In its May 27, 1997 Order in Case No. 1996-00489, the Commission required Kentucky Power to reduce the current period revenue requirement in each of the first 12 surcharge filings to reflect the return to ratepayers of $2,319,057 in SO_2 emission allowance sale proceeds.[35] The current period revenue requirement formula component AS includes the recognition of this adjustment. As Kentucky Power has completed the return of those particular SO_2 allowance sale proceeds, the Commission finds that portion of the AS definition should be deleted from the E.S. tariff. However,

[35] The $2,319,057 in allowance sale proceeds were received by Kentucky Power under the terms of the AEP Interim Allowance Agreement and the annual EPA SO_2 emission allowance auctions.

Kentucky Power is reminded that all other provisions of the Commission s Orders in Case No. 1996-00489 concerning the treatment of SO_2 allowance sale proceeds remain in effect.

Kentucky Power had proposed that its modified E.S. tariff should become effective for bills rendered on and after October 30, 2002. As noted previously in this Order, the Commission s October 22, 2002 Order rejected this effective date, as KRS 278.183(2) provides that the Commission has 6 months to review and approve environmental surcharge compliance plans and surcharge mechanisms. The Commission finds that the E.S. tariff, as discussed and modified in this Order, should become effective for service rendered on and after the date of this Order. The Commission will not make the revised E.S. tariff effective for bills rendered on and after the date of this Order because doing so would require customers to pay for increases in environmental costs prior to the approval of those increases.

RATE OF RETURN

In Case No. 1996-00489 the Commission authorized Kentucky Power s rate of return on environmental compliance rate base to be the weighted average cost of capital. The capital structure used in the determination of the weighted average cost of capital included long-term debt, short-term debt, and common equity. The common equity portion of the weighted average cost of capital was further adjusted for income tax gross-up.[36] The cost rates for the long-term and short-term debt components remain fixed during the 6-month period, and are reviewed and re-established during

[36] Case No. 1996-00489, Rehearing Order dated August 18, 1997, at 1-2.

each 6-month review case. The rate of return on common equity remains fixed and is subject to review during the 2-year environmental surcharge reviews.[37]

In this proceeding, Kentucky Power proposed a capital structure and determination of the weighted average cost of capital consistent with the Commission s previous decisions in Kentucky Power s prior environmental surcharge cases. Kentucky Power proposed a rate of return on common equity of 12.75 percent. Initially, Kentucky Power used its capital structure and cost of debt as of June 30, 2002 to determine its proposed weighted average cost of capital. During this proceeding, Kentucky Power updated its capital structure and cost of debt as of October 31, 2002, November 30, 2002, and December 31, 2002.

Neither the AG nor KIUC challenged the use of the weighted average cost of capital approach for determining the rate of return on environmental compliance rate base. Neither the AG nor KIUC objected to the gross-up factor calculated by Kentucky Power. However, KIUC did propose that Kentucky Power s accounts receivable financing should be included in the capital structure and the determination of the weighted average cost of capital.

Accounts Receivable Financing

Kentucky Power began utilizing accounts receivable financing in June 2000. AEP Credit, Inc. (AEP Credit)[38] provides low-cost financing for AEP utility subsidiaries

[37] The rate of return on common equity, cost rates for debt, and the determination of the weighted average cost of capital apply only to the Big Sandy portion of Kentucky Power s surcharge. The calculation of the rate of return applied to the Rockport portion of Kentucky Power s surcharge is governed by the Rockport Unit Power Agreement, and the rate of return authorized under the terms of that agreement is used.

[38] AEP Credit is a wholly owned subsidiary of AEP.

through factoring receivables, which arise primarily from the sale and delivery of electricity in the ordinary course of business. AEP Credit was formed for the purpose of purchasing accounts receivable at a discount and financing these purchases at a Securities and Exchange Commission (SEC) approved debt to equity ratio. AEP Credit is authorized by the SEC to purchase, without recourse, certain receivables arising from the selling company s ordinary course of business. The price AEP Credit pays for the receivables is the dollar amount of the receivables less a discount. The determination of the discount is based upon AEP Credit s cost of financing, the selling company s collection experience, and an agency fee.[39]

KIUC proposed that Kentucky Power s accounts receivable financing should be included in the short-term debt component of the capital structure and reflected in the determination of the weighted average cost of capital. KIUC argued that accounts receivable financing is one of the lowest cost forms of financing utilized by Kentucky Power.[40] KIUC stated that the exclusion of the accounts receivable financing results in Kentucky Power s requested rate of return on environmental compliance rate base not reflecting its actual costs as required by KRS 278.183.[41] KIUC noted that both Louisville Gas and Electric Company (LG&E) and Kentucky Utilities Company (KU) include accounts receivable financing in the capital structure and weighted average cost of capital in their respective environmental surcharge mechanisms. KIUC also

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[39] Response to the Commission Staff s First Data Request dated November 6, 2002, Item 13(c).

[40] Kollen Direct Testimony at 15.

[41] Id. at 20.

recommended that if accounts receivable financing was recognized in this case, it was appropriate to include in the environmental compliance rate base a cash working capital allowance. KIUC suggested the cash working capital allowance should be determined using the 1/8 formula approach routinely used by the Commission.[42]

Kentucky Power opposed the inclusion of the accounts receivable financing in its capital structure and determination of the weighted average cost of capital. Kentucky Power argued that this sale of accounts receivable is not financing but is simply the factoring of an asset. Kentucky Power stated that it sells its accounts receivable to reduce its overall capital needs and this eliminates the need to raise corresponding capital through debt or equity. Thus it claims that selling accounts receivable is not a financing mechanism for raising capital.[43] Kentucky Power argued that ratepayers receive a benefit from not including the accounts receivable in capital because it did not seek to include a cash working capital allowance in the environmental compliance rate base.[44] Kentucky Power reasoned that the accounts receivable factoring transaction does not produce any additional debt for Kentucky Power. Instead, the transaction reflects the sale of assets and, therefore, does not represent financing.[45] While Kentucky Power does not believe it is appropriate to make any adjustments to capital as a result of accounts receivable factoring in this proceeding, it stated that if the

[42] Id. at 18. KIUC noted in its brief that the 1/8 multiplier should be applied to the non-fuel O&M expense. See KIUC Brief at 12.

[43] Wagner Rebuttal Testimony at 9-10.

[44] Id. at 11.

[45] Kentucky Power Post-Hearing Brief at 35.

Commission did include the factoring in capital, the appropriate offset to the environmental compliance rate base would be to add back a portion of the accounts receivable balance to the rate base.[46]

KIUC opposed Kentucky Power s suggestion that a portion of the accounts receivable should be included as an add back in the environmental compliance rate base. KIUC argued that Kentucky Power s suggestion was an attempt to eliminate a benefit to ratepayers and that the suggestion had no conceptual foundation.[47]

The Commission is not persuaded by Kentucky Power s arguments. Kentucky Power has admitted that the sale of accounts receivable is a source of funding for its capital needs. The proceeds from the sale of accounts receivable is used instead of the issuance of debt or equity to meet capital needs. Consequently, these uses demonstrate that the sale of accounts receivables is financing. As the proceeds from the sale of accounts receivable is a source of Kentucky Power s capital funding needs, it should be reflected in the capital structure and weighted average cost of capital. However, the Commission believes that the accounts receivable financing should be a separate component of the capital structure, and not incorporated into the short-term debt. The Commission s conclusions are based upon the evidence presented in this proceeding, and not based on the fact that accounts receivable financing is recognized in the capital structures and weighted average cost of capital utilized for LG&E s and KU s environmental surcharge mechanisms. We therefore find it reasonable to include Kentucky Power s accounts receivable financing in the capital structure and weighted

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[46] Id. at 39.

[47] KIUC Brief at 13.

average cost of capital used to determine the rate of return for Kentucky Power s environmental compliance rate base.

The Commission also finds it reasonable to include a cash working capital allowance in Kentucky Power s environmental compliance rate base. Of the two approaches presented in this proceeding, we are persuaded that KIUC s approach is reasonable. Kentucky Power has not provided adequate justification to include a portion of the balance of accounts receivable as the cash working capital allowance. Kentucky Power has not cited any basis or explained why its approach is the most reasonable. In contrast, the Commission has found the use of the 1/8 formula approach to be reasonable in previous base rate cases and environmental surcharge proceedings. The cash working capital allowance will be included in the environmental compliance rate base for Big Sandy in the current period revenue requirement determination. The monthly O&M expenses included in the calculation of the cash working capital allowance will be:

From the 1997 Plan

- The Kentucky air emission fee;
- The Gavin scrubber cost; and
- The SO_2 emission allowance consumption expense.

From the 2003 Plan

- The variable cost for the on-going cladding at Big Sandy Unit 1;
- The urea consumption and catalyst replacement at Big Sandy Unit 2; and
- The NOx emission allowance consumption expense.

Return on Equity

Kentucky Power estimated its required return on equity (ROE) using four methods: the Discounted Cash Flow (DCF) model; the Risk Premium analysis; the

Capital Asset Pricing Model (CAPM); and the Comparable Earning approach.[48] For each method, except the Comparable Earning approach, Kentucky Power included a flotation adjustment of 25 basis points. Kentucky Power advocated including a leverage adjustment of 99 basis points in its DCF calculation in order to compensate for the risk of using capital structures based on book values rather than market values.[49] Based on the results of the four methods, Kentucky Power estimated its required ROE to be 12.75 percent.

Kentucky Power s common stock is not publicly traded; therefore, analyzing its required ROE requires the use of selected proxy companies. Kentucky Power s proxy companies (Barometer Group) consist of eleven electric utilities reported by *The Value Line Investment Survey* as part of the group Electric Utility (Central) Industry. Kentucky Power chose companies that are engaged in similar business lines, have publicly-traded common stock, operate in the Great Lakes region of the U.S., have not recently reduced their common dividends, and are not currently the target of a merger or acquisition.[50]

The AG also estimated Kentucky Power s ROE using four methods: the constant-growth DCF model; the multi-stage DCF model; the CAPM; and the bond-yield-plus-risk premium approach.[51] The AG employed a proxy group using stock price data from seven primarily electric companies. The AG s proxy group included Cinergy, the only

[48] Moul Direct Testimony at 3.

[49] Id. at 20.

[50] Id. at 3-4.

[51] Weaver Direct Testimony at 6.

company in common with Kentucky Power s Barometer Group. Companies were selected by the AG if: *Value Line* classified them as electric utilities; the majority of their revenues came from electric operations; *Value Line* gave them at least a buy or hold stock purchase recommendation; and they were not in the process of divesting a significant amount of assets or making significant acquisitions of other companies.[52]

The AG argued against including a flotation adjustment because Kentucky Power does not issue stock to the equity market.[53] He also argued against using Kentucky Power s leverage adjustment. The AG presented three problems associated with the leverage adjustment. First, the AG argues that investors are aware of the use of book value capital structure when determining rates. Second, the adjustment formula contains some unrealistic assumptions. Third, the AG states that even if the formula was correct and did not have the unrealistic assumptions, an adjustment should be made to unlever the barometer group s market value capital structure and then re-lever it using Kentucky Power s capital structure.[54] Using the overall results of his methods, the AG estimated Kentucky Power s ROE to be in a range between 10.25 and 10.75 percent.[55]

KIUC estimated Kentucky Power s ROE using both DCF and CAPM analysis, but relied only on the DCF results in making its recommendation.[56] KIUC used all the

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[52] Id. at 9-10.

[53] Id. at 39-40.

[54] Id. at 50.

[55] Id. at 1.

[56] Baudino Direct Testimony at 10.

companies in Kentucky Power s Barometer Group except Alliant Energy (Alliant) because Alliant has reduced its dividend since Kentucky Power filed its testimony. Since a reduced dividend is one of Kentucky Power s selection criteria, KIUC excluded Alliant from its analysis.[57] Based on the results of its DCF analysis, KIUC recommended an ROE of 10.6 percent.[58]

Kentucky Power, in its rebuttal testimony, criticized the AG s recommended ROE as too low compared to other alternative investment opportunities.[59] It argued that the AG s recommendation was based on a proxy group of companies not comparable to Kentucky Power. Kentucky Power criticized the AG s inclusion of companies in diverse geographical areas as well as his inclusion of Southern Company, which has completed a major divestiture.[60] Kentucky Power further criticized the AG s methodology in determining Kentucky Power s risk in comparison to the proxy group and in the application of the DCF model.[61]

Kentucky Power disagreed with KIUC s recommendation on the basis that it was too low, placed too much emphasis on the DCF analysis, and contained errors in its application of the DCF model.[62] Kentucky Power reiterated its position that a flotation

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[57] Id. at 16.

[58] Id. at 3.

[59] Moul Rebuttal Testimony at 4.

[60] Id. at 6.

[61] Id. at 6-16.

[62] Id. at 10-11.

cost adjustment was justified as compensation for the cost of raising equity.[63] The Barometer Group companies experienced flotation costs, and since those companies play a role in determining its cost of equity, Kentucky Power argued for a similar adjustment in determining its ROE. Kentucky Power again claimed that its proposed leverage adjustment is necessary because of the difference in the financial risk associated with a market based capital structure versus a book based capital structure.[64]

The Commission agrees with the AG s arguments against adjusting the ROE for a leverage adjustment. The instability of the market value of equity clearly creates problems in calculating a leverage adjustment. In addition, investors familiar with the utility industry are also familiar with a Commission s rate-making policies and practices and, therefore, should have already incorporated the difference between book and market valuation in a utility s stock price. Contrary to Kentucky Power s argument, we also conclude that including a flotation adjustment is inappropriate given that Kentucky Power does not issue stock in the equity markets. In evaluating the intervenors ROE estimates, the Commission also finds some merit to Kentucky s Power s claims of errors in methodology on the part of both the AG and KIUC.

Based on the estimates of Kentucky Power, the AG, and KIUC, the range of their analyses, and the problems therein, after weighing all the evidence, the Commission finds that a reasonable ROE falls somewhere between the 12.75 percent recommended by Kentucky Power and the 10.5 to 10.6 percent recommended by the intervenors.

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[63] Id. at 18-19.

[64] Id. at 23-26.

Taking into consideration all these factors, the Commission finds that a reasonable ROE for Kentucky Power falls within a range of 10.5 percent to 11.5 percent, with a midpoint of 11.0 percent. The 11.0 percent midpoint is reasonable and it should be used as Kentucky Power s ROE in this case.

Summary

The Commission finds that the rate of return for Kentucky Power s environmental compliance rate base should continue to be the weighted average cost of capital. The Commission further finds it reasonable that the rate of return reflect the cost rates and capital structure of Kentucky Power as of December 31, 2002. Based on the information contained in this record,[65] Kentucky Power s weighted average cost of capital, before income tax gross-up, is as follows:

	Capital Structure	Cost	Weighted Cost
Long-Term Debt	57.24%	5.752%	3.29%
Short-Term Debt	2.87%	2.062%	0.06%
Accts. Rec. Financing	3.34%	2.804%	0.09%
Common Equity	36.56%	11.000%	4.02%
Weighted Average Cost of Capital			7.46%

As with the 1997 Plan, the overall rate of return will be grossed up to reflect the income tax effect resulting from the return on common equity.[66]

[65] Response to the Commission Staff s Second Data Request dated December 4, 2002, Item 6, Attachment 6e, page 8 of 8, updated information filed January 30, 2003.

[66] The gross-up factor of 40.48 percent applied to the common equity component results in a grossed-up rate of return of 10.20 percent.

SURCHARGE ALLOCATION

Kentucky Power filed an application to establish an initial environmental surcharge in 1996. Docketed as Case No. 1996-00489, Kentucky Power proposed that its total qualifying environmental costs be allocated on a demand basis. Using a demand allocation, retail customers would have to pay for 98.6 percent of the environmental costs, while wholesale customers would have to pay for only 1.4 percent of the costs. However, the evidence in that case showed that 36 percent of Kentucky Power s total energy was sold to wholesale customers, while 17 percent of its revenue came from wholesale customers.

In recognition that there is a relationship between the energy consumed and the pollution caused by generating the energy, the Commission rejected Kentucky Power s proposal in Case No. 1996-00489 and found that retail ratepayers should not be forced to pay, through the environmental surcharge, the environmental costs associated with wholesale sales. Specifically, the Commission s May 27, 1997 Order in that case stated, To the extent that Kentucky Power is able to sell power off-system, proper cost allocation requires that the costs attributable to those sales, including environmental costs, be assigned to such sales, rather than being charged to retail sales. [67] This finding reflects a basic tenet of rate-making: the allocation of costs to the cost-causer.

To prevent retail ratepayers from paying the environmental costs that are properly allocated to wholesale sales, the Commission found that allocating the costs over total revenue was reasonable. Thus, since that time, Kentucky Power s monthly environmental surcharge has been allocated over all sales revenues, i.e., retail and

[67] Case No. 1996-00489, Order dated May 27, 1997, at 32.

wholesale. The allocation of the ES revenue requirement to Kentucky retail customers is a calculation that divides the monthly Kentucky retail revenues by the monthly Total Company revenues. Total Company revenues include retail and wholesale revenues from sales to other AEP System members and sales to parties other than AEP System members.[68] The Commission subsequently denied rehearing on this issue in Case No. 1996-00489[69] and appeals were filed with the Franklin Circuit Court.

The Franklin Circuit Court upheld the Commission s determination that the environmental costs should be allocated over total revenue. The Opinion of the Franklin Circuit Court was then appealed to the Kentucky Court of Appeals. However, before the Court of Appeals issued an opinion, the parties entered into a settlement agreement in conjunction with AEP s application for approval of a merger with CSW. Under the terms of that settlement agreement, all appeals were dismissed without prejudice.[70] Thus, allocating environmental costs over total revenue, as affirmed by the Franklin Circuit Court, has been used continuously in Kentucky Power s environmental surcharge. In fact, all the other three environmental surcharges approved by the Commission use a total revenue allocation methodology.

[68] As discussed previously in this Order, Kentucky Power s Non-Physical Revenues are excluded from the revenue-based allocation methodology.

[69] Case No. 1996-00489, July 8, 1997 Order at 8-9.

[70] Case No. 1999-00149, June 14, 1999 Order at 6-7.

In Case No. 2000-00107,[71] Kentucky Power renewed its arguments in opposition to the total revenue allocation methodology. After careful and extensive consideration of Kentucky Power s arguments, the Commission stated:

> The Commission finds that none of the arguments offered by Kentucky Power support a change in the jurisdictional allocation approach and, therefore, the revenue method should continue to be utilized. We agree with the AG that Kentucky Power s arguments concerning the appropriate cost-causer are essentially the same as it presented, and the Commission considered and rejected, in Case No. 96-489. Kentucky Power s concerns over the interaction of the environmental surcharge mechanism with its Sales Clause indicate that if there is a problem, it lies within the Sales Clause and does not constitute justification for a change in the allocation approach. We further agree with the arguments of KIUC, which notes that significant levels of Kentucky Power s sales are made to off-system customers. Under these conditions, it is neither appropriate nor reasonable to allocate a greater share of Kentucky Power s environmental costs to its jurisdictional ratepayers, and in effect subsidize off-system sales customers.[72]

Kentucky Power did not appeal the Commission s determination in Case No. 2000-00107 to continue allocating environmental costs over total revenue. Subsequently, Kentucky Power and its affiliates filed an application at the FERC for approval of a corporate reorganization and changes in wholesale rate schedules. The FERC mandated settlement proceedings which resulted in an agreement among Kentucky Power, KIUC, and the Commission. The FERC Settlement Agreement proposed, in relevant part, to extend the Rockport Purchase Power Agreements and to revise Kentucky Power s system sales clause to reduce the sales margins by the

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[71] Case No. 2000-00107, An Examination by the Public Service Commission of the Environmental Surcharge Mechanism of Kentucky Power Company d/b/a American Electric Power for the Six-Month Billing Periods Ending December 31, 1998 and December 31, 1999, and for the Two-Year Billing Period Ending June 30, 1999.

[72] Case No. 2000-00107, February 8, 2001 Order at 13-14.

environmental costs allocated to non-affiliated wholesale sales under the surcharge. The FERC Settlement Agreement was subject to formal investigation in Case No. 2002-00039 and approved by Order dated December 17, 2002. Thus, the allocation of environmental costs to non-affiliated sales is no longer an issue.

Now, in this case, Kentucky Power proposed to exclude from the revenue-based allocation methodology the revenue from wholesale sales to affiliated companies (hereinafter affiliated wholesale sales). Kentucky Power stated that the approved allocation on total revenue assigns over 9 percent of its environmental cost to affiliated wholesale sales. Kentucky Power contends that this allocation to non-retail customers is contrary to KRS 278.183, which authorizes recovery in full of all of its current costs of compliance.

Kentucky Power argued that its cost recovery under the environmental surcharge is far less than what it would be if it filed a base rate case and that other Kentucky utilities recover through their environmental surcharges what they would in a base rate case, the result contemplated by the KRS 278.183. Kentucky Power noted that nothing in KRS 278.183 directed the Commission to allocate a portion of the environmental costs to non-jurisdictional customers. Kentucky Power reasoned that the surcharge statute could only be fairly read as requiring full recovery from jurisdictional customers, since only jurisdictional customers are subject to the surcharge and the environmental facilities were built for them. Kentucky Power further argued that when it does file a base rate case, 99 percent of its environmental costs should and will be fully included in its rate base. Kentucky Power stated that this result was in accordance with fundamental rate-making principles, as used in its prior base rate cases, recognizing

that fixed investment costs are incurred for the benefit of the utilities full requirements customers.

Kentucky Power also argued that it pays no environmental costs when it purchases wholesale power from its affiliates, so it should not be expected to recover its environmental costs on affiliated wholesale sales. Further, the only reason revenues are recognized in its accounting system for affiliated wholesale sales was the result of an accounting change made in 1992. Prior to that change, the affiliated wholesale sales were recorded as contra expenses to reflect the true nature of these sales. Kentucky Power stated that its only recourse other than accepting the non-recovery of its costs, was to either ask FERC to change the AEP Interconnection Agreement or file a base rate case. Kentucky Power stated that the former alternative was inappropriate and unrealistic, while the latter was short-sighted. Kentucky Power concluded that the prior surcharge Orders from the Commission have ignored the nature, operation, and benefits of Kentucky Power s membership in the AEP System and participation in the AEP Pool, and such a dismissal of the facts was totally unfair to Kentucky Power.[73]

KIUC opposed Kentucky Power s proposed changes to the allocation methodology. KIUC noted that Kentucky Power has challenged the total revenue methodology repeatedly before the Commission and the Franklin Circuit Court and all the challenges have been rejected. KIUC argued that Kentucky Power had failed to meet its burden of demonstrating that allocating environmental costs on a total revenue basis was unreasonable. KIUC stated that the reasonableness of the total revenue basis allocation was even more reasonable in the current proceeding since the record

[73] Kentucky Power Post-Hearing Brief at 25-33.

shows that the installation of the Big Sandy Unit 2 SCR was part of an AEP system-wide compliance plan. KIUC contends that this SCR was built to meet the needs of the total AEP System, not Kentucky Power exclusively.

KIUC further stated that even though the use of the total revenue methodology to allocate environmental costs is reasonable, this allocation actually understates the environmental costs that should be assigned to affiliated wholesale sales. KIUC suggested that consideration could be given to allocating the SCR environmental costs to match energy consumption during the 5-month summer ozone season. Since Kentucky Power is a winter-peaking utility, its affiliated wholesale sales are greater during the summer. KIUC concluded that the total revenue allocation methodology was not biased against Kentucky Power, and while the current methodology understates the allocation to the AEP affiliates, it was more reasonable than the changes now proposed by Kentucky Power.[74]

Based on an extensive review of the record on the allocation issue, the Commission finds that Kentucky Power s proposed allocation, which excludes the revenue from affiliated wholesale sales, is unreasonable and should be rejected. To adopt Kentucky Power s proposal would require the Commission to abandon the bedrock principle of basing rates on cost causation. Nothing in the record justifies such a drastic step.

Throughout its brief, Kentucky Power argued that the Commission-approved surcharge allocation methodology is contrary to KRS 278.183, which it claims authorizes Kentucky Power to recover in full all of its current costs of environmental

[74] KIUC Brief at 3-10.

compliance. Thus, under Kentucky Power s interpretation of KRS 278.183, retail ratepayers are to be assessed a surcharge that includes the environmental costs to serve both retail and wholesale customers. The Commission finds no merit in this interpretation. Our jurisdiction extends only to retail sales and retail rates. The environmental surcharge statute authorizes Kentucky Power to recover by surcharge its retail environmental costs associated with its sales to retail customers. It is neither reasonable nor cost-effective to require Kentucky Power s retail ratepayers to pay by surcharge the environmental costs properly associated with wholesale sales.

Kentucky Power s proposal would allocate no environmental costs to affiliated wholesale sales, even though such sales represent just over 9 percent of its revenue and almost 24 percent of its energy.[75] Adopting Kentucky Power s proposal could lead to retail ratepayers paying for all environmental costs even if their consumption was zero and Kentucky Power s total generation was used to make affiliated wholesale sales.[76] Such a result would be absurd and clearly is not reasonable.

The basic premise for Kentucky Power s proposal is that the Big Sandy Unit 2 SCR is a fixed cost and, therefore, must be allocated on a demand basis. Arguing that the SCR was built exclusively to serve Kentucky Power s full requirements customers, Kentucky Power claims that affiliated wholesale sales must be excluded from any allocation, leaving 99 percent of costs to be paid by retail customers. The Commission rejects this argument because it fails to recognize that there is a relationship between the energy consumed and the pollution caused by generating the energy. The Big

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[75] Kentucky Power s response to Hearing Data Request, Item No. 1, p. 2 of 3.

[76] T.E., Vol.1 at 43.

Sandy Unit 2 SCR was not installed to achieve an optimal environmental control strategy exclusively for Kentucky Power. To the contrary, the SCR was installed as part of an optimal environmental control strategy for the total AEP System, to meet the overall needs of the AEP Pool.[77]

In allocating the costs of a facility such as the Big Sandy 2 SCR, a proper factor to consider is the use of that facility. Here, 24 percent of the energy produced by Kentucky Power goes to affiliated wholesale sales. Under these circumstances, it is not unreasonable to allocate 9 percent of the environmental costs to such sales.

Kentucky Power s argument that in a base rate case 99 percent of the Big Sandy 2 SCR would be allocated to retail customers is unpersuasive for numerous reasons. First, Kentucky Power s last litigated rate case was in 1984. The allocations used then are not now controlling since the issue of allocating environmental costs to wholesale sales was not raised at that time. Second, since that rate case, the FERC had an opportunity to review and reject the claim that Kentucky Power (and each of its affiliates) add generating facilities to meet the exclusive needs of its full requirements customers. As the FERC stated, Generation is planned and operated on a system-wide basis in order to meet the needs of all customers, regardless of which particular operating company serves a particular customer. [78] Thus, the Big Sandy 2 SCR was installed to meet AEP System needs, a factor not considered in the 1984 allocations. Third, in a retail base rate case the Commission is authorized to consider the extent to which utility property is used and useful in providing service to retail customers.

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[77] Kentucky Power s JJY Exhibit 1 at 13.

[78] FERC Opinion No. 266, 38 F.E.R.C. Para. 61,243 at 61,812 (1987).

Consequently, the Commission could find in a base rate case that the current uses of facilities are properly considered in determining the percentage of fixed costs to allocate to retail customers.

In its brief, Kentucky Power requested the Commission to take judicial notice that LG&E receives approximately the same level of environmental cost recovery through its environmental surcharge as it would in a base rate proceeding. The Commission has examined this claim and finds that Kentucky Power is in error. Unlike Kentucky Power and KU, LG&E has no full requirements wholesale customers that are assigned costs in a base rate proceeding. However, a review of LG&E s environmental surcharge monthly reports, as publicly filed with the Commission for the billing months of July 2001 through June 2002, shows that only between 72.07 percent and 88.68 percent of the monthly surcharge was allocated to LG&E s retail customers.[79] A similar review for KU shows that between 70.59 percent and 86.21 percent of the monthly surcharge was allocated to KU s Kentucky jurisdictional customers.[80] These numbers clearly show that environmental costs are consistently allocated to all wholesale sales made by LG&E and KU.

Kentucky Power has asked the Commission to recognize the benefits and obligations Kentucky Power receives and incurs as a member of the AEP System when

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[79] July 2001 through June 2002 was the 12-month period used in the analysis contained in Exhibit EKW-5 of the Wagner Direct Testimony.

[80] KU does have FERC jurisdictional wholesale customers, both in Kentucky and Virginia. In KU s last rate case, the jurisdictional allocation factor used to establish base rates was 86.74 percent. See Case No. 1998-00474, The Application of Kentucky Utilities Company for Approval of An Alternative Method of Regulation of Its Rates and Service, final Order dated January 7, 2000, Appendix C.

considering the appropriate methodology to utilize in allocating the ES revenue requirement. Kentucky Power again argues that its full requirements customers are the cost-causers and that the environmental surcharge should be allocated only to them. However, to do so would require the Commission to ignore Kentucky Power s acknowledgement that the AEP System plans and operates generation on a system-wide basis to meet the needs of all customers, without regard to which AEP company serves a particular customer.[81] Kentucky Power has stated that when it built Big Sandy Unit 2 in 1969, the 800 MW facility could never have been constructed if Kentucky Power was a stand-alone utility.[82] Given this relationship with the AEP System, the Commission concludes that cost-causers for the environmental costs at issue here are not only the full requirements customers of Kentucky Power, but the other operating companies of the AEP System to the extent of their energy purchases.

While Kentucky Power can purchase energy from its affiliates without paying a separately identified cost for environmental compliance, Kentucky Power does pay for the environmental costs of its affiliates through the capacity equalization charges. These charges are imposed on Kentucky Power as a capacity deficit member of the AEP System, with the payments going to the capacity surplus members of the AEP System. Thus, Kentucky Power is responsible for some of the environmental costs incurred by its affiliates. In any event, the price paid by Kentucky Power to purchase energy from its affiliates is a wholesale rate within FERC s exclusive jurisdiction. The issue in this case is the level of costs to be included in a retail surcharge.

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[81] T.E., Volume I, February 5, 2003, at 81.

[82] Kentucky Power Post-Hearing Brief at 22.

Kentucky Power noted that its alternatives to accepting less than 99 percent recovery of its environmental compliance costs was to either ask FERC to change the AEP Interconnection Agreement or file a base rate case. Kentucky Power has not adequately explained why these alternatives are inappropriate, unrealistic, or short-sighted. However, the Commission notes that, to date, Kentucky Power has not even attempted formal discussions with the other members of the AEP System to explore the possibility of making changes to the AEP Interconnection Agreement.[83] Subject to the provisions of the settlement agreement approved in Case No. 1999-00149, Kentucky Power always has the option of seeking rate relief when it believes such action is necessary.

Contrary to the opinions expressed by Kentucky Power, the Commission has not ignored the nature, operation, and benefits Kentucky Power receives as a member of the AEP System. However, the Commission has the responsibility to allocate the ES revenue requirement to the appropriate cost-causer. As we stated in Case No. 2000-00107,

> Kentucky Power s fixed and variable environmental costs must be allocated to the appropriate cost-causer. To the extent that Kentucky Power makes sales to other AEP affiliates, it is clearly inappropriate for the environmental costs associated with those sales to be recovered through a surcharge on Kentucky retail ratepayers, regardless of whether Kentucky Power is a surplus member of the AEP power pool.[84]

While Kentucky Power has acknowledged throughout this proceeding the previous Commission decisions on the surcharge allocation issue and the decision of

[83] T.E., Volume I, February 5, 2003, at 61-65.

[84] Case No. 2000-00107, February 8, 2001 Order at 13.

the Franklin Circuit Court, it has failed to adequately rebut and address the rationale that was the basis for those decisions. Instead, Kentucky Power has chosen to resubmit the same arguments. While the packaging may now be somewhat different, the content of Kentucky Power s arguments is the same as was heard, considered, and rejected in Case Nos. 1996-00489 and 2000-00107.

In affirming on appeal the Commission s total revenue allocation in Case No. 1996-00489, the Franklin Circuit Court stated,

> Because 98.6% of environmental costs are not the responsibility of Kentucky ratepayers, the fact that Kentucky ratepayers do not pay that percentage is simply proper ratemaking. There is no trapping when costs are allocated to the cost causer. The allocation of costs between retail and wholesale sales is a standard function of the Commission in every base rate, fuel adjustment and environmental surcharge rate proceeding. When that allocation is cost justified, as it is here, then nothing is trapped.[85]

Since that decision was issued, Kentucky Power could point to only two events that it claims were changed circumstances sufficient to justify the Commission changing the cost allocation methodology.

The first was the elimination of revenue from non-physical sales from the surcharge allocation. Since those revenues, by definition, came from non-physical sales, there was no generation used on Kentucky Power s system to produce any energy. Consequently, there were no environmental costs associated with those sales

[85] Commonwealth of Kentucky ex rel. Chandler v. Kentucky Public Service Commission, Nos. 97-CI-01138, 97-CI-01144, 97-CI-01319 (Ky. Franklin Cir. Ct. May 14, 1998) Opinion at 21.

since no energy was generated. The exclusion of the non-physical revenue falls far short of a change in circumstances to justify a change to the surcharge allocation.

The second was the FERC Settlement Agreement reached in AEP s corporate restructuring case. However, that agreement expressly stated that it was not to be considered as precedent for any future regulatory proceeding. Specifically, the FERC Settlement Agreement provided:

> This Settlement Agreement is made upon the express understanding that it constitutes a negotiated settlement, and except as otherwise expressly provided for herein to effectuate this Settlement Agreement, no Party shall be deemed to have approved, accepted, or agreed to any ratemaking or legal principle, precedent, or policy, nor shall any Party be deemed to have agreed or consented to any matter not expressly stated in this Settlement Agreement.[86]

Thus, Kentucky Power s reliance on this document as a change in circumstances is similarly misplaced.

The Commission has in this case conducted a full review of Kentucky Power s arguments and evaluated them on the basis of the evidence in this record. Based on this review, we find no substantial evidence to persuade the Commission to adopt a revenue-based surcharge allocation methodology that excludes affiliated wholesale sales. Therefore, the environmental costs should continue to be allocated on the basis of total revenue.

[86] American Electric Power Service Corporation; FERC Docket Nos. EC01-130-000 and ER01-2668-000, Settlement Agreement dated December 20, 2001.

DEPRECIATION STUDY

Kentucky Power has indicated that its last formal depreciation study was made in 1990, prior to Case No. 1991-00066.[87] Kentucky Power stated that a formal depreciation study should be considered as part of a formal general rate case filing, and that it will plan to incorporate a formal depreciation study into its next general rate case proceeding.[88] However, Kentucky Power indicated that if the Commission felt a new depreciation study should be performed within the next 3 years absent a rate case, it would have no problem performing the study.[89]

The Commission believes that after nearly 13 years, Kentucky Power should undertake a new depreciation study. Therefore, the Commission finds that Kentucky Power should perform and submit for approval a new depreciation study within 3 years from the date of this Order or by the filing of its next general rate case, whichever occurs first. Kentucky Power should not apply any new rates resulting from this study for accounting or rate-making purposes until it has secured the approval of the Commission.

KIUC MOTION TO STRIKE

The final issue pending in this case is KIUC s motion to strike Kentucky Power s February 14, 2003 response to Hearing Data Request, Item No. 3, on the grounds that the information provided was not based on costs incurred as of August 24, 2001 as

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[87] Response to the Commission Staff s First Data Request dated November 6, 2002, Item 9.

[88] Response to the Commission Staff s Second Data Request dated December 4, 2002, Item 7.

[89] T.E., Volume I, February 5, 2003, at 57.

requested. Kentucky Power subsequently filed on February 27, 2003 a revised response to this data request item which does include the requested information as of August 24, 2001. Based on Kentucky Power s revised response, the Commission finds that the motion should be denied as moot.

IT IS THEREFORE ORDERED that:

1. Kentucky Power s 2003 Plan consisting of four additional capital projects to meet federal, state, and local environmental regulations is approved.

2. Kentucky Power s E.S. tariff as modified herein is approved for service rendered on and after the date of this Order. The modifications include the separate cost listing of the RO Water System and those items discussed in the Tariff Modifications section of this Order.

3. Kentucky Power s proposed E.S. tariff is denied.

4. Kentucky Power s rate of return on common equity for the environmental surcharge shall be 11.00 percent, and shall be reviewed for reasonableness at each 2-year review.

5. Kentucky Power s capital structure and weighted average cost of capital for the environmental surcharge shall include its accounts receivable financing. The current period revenue requirement determination for the Big Sandy environmental compliance rate base will include a cash working capital allowance determined using the 1/8 formula approach. The monthly O&M expense accounts used in the cash working capital allowance calculation will be those identified in this Order.

6. Kentucky Power s weighted average cost of capital shall be 7.46 percent. During subsequent 6-month surcharge reviews, the cost of debt and accounts receivable financing shall be reviewed and re-established.

7. The base period and current period revenue requirements shall be calculated using the formulas included in Appendix A, which is attached hereto and incorporated herein.

8. The reporting formats included in Appendix B, which is attached hereto and incorporated herein, shall be used for each Kentucky Power monthly surcharge filing. Previous reporting formats shall no longer be submitted.

9. Within 10 days of the in-service date, Kentucky Power shall file documentation certifying the status of the Big Sandy Unit 2 SCR, as described in this Order. Kentucky Power shall submit this certification before the Big Sandy Unit 2 SCR is included in its monthly environmental surcharge calculations or report.

10. Kentucky Power shall utilize its inventory and report on transactions involving its ERCs as described in this Order.

11. By no later than June 30, 2003, Kentucky Power shall file with the Commission its NOx allowance management strategy.

12. Kentucky Power shall report its transactions involving its NOx emission allowances as described in this Order. The re-purchase of previously sold NOx emission allowances shall be reflected in the surcharge mechanism in the manner discussed in this Order.

13. Kentucky Power shall include amounts reflecting an allocation of 25 percent of the investment in and the operating expenses associated with the RO Water

System in its surcharge mechanism. In addition, Kentucky Power shall monitor and document the capacity of the RO Water System required by the Big Sandy Unit 2 SCR. During subsequent 6-month reviews, the allocation percentage shall be reviewed and re-established based upon the documented utilization of the RO Water System by the SCR.

14. Kentucky Power s request to include the Big Sandy Unit 1 Over-Fire Air with Water Injection and Boiler Tube Overlays and the Big Sandy Unit 2 Precipitator improvements in its surcharge mechanism in the monthly surcharge report effective in the month following this Order shall be approved, subject to the recognition of the applicable accumulated depreciation and deferred income taxes.

15. The partial retirement of the Big Sandy Unit 2 Precipitator shall be incorporated into the determination of the base period revenue requirement, as described in this Order.

16. Kentucky Power shall perform and submit for approval a new depreciation study within 3 years of the date of this Order or by the filing of its next general rate case, whichever occurs first. Kentucky Power shall not apply any new rates resulting from this study for accounting or rate-making purposes until it has secured the approval of the Commission.

17. Within 10 days of the date of this Order, Kentucky Power shall file with the Commission revised tariff sheets setting out the E.S. tariff as modified and approved herein.

18. KIUC s motion to strike Kentucky Power s Hearing Data Response, Item No. 3, is denied as moot.

Done at Frankfort, Kentucky, this 31st day of March, 2003.

By the Commission

ATTEST:

Deputy Executive Director

APPENDIX A

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE COMMISSION IN CASE NO. 2002-00169 DATED March 31, 2003

Formulas Used When Calculating the Monthly Environmental Surcharge Factor and the Monthly Environmental Surcharge Gross Revenue Requirement E(m)

<u>Monthly Environmental Surcharge Factor</u>

Surcharge Factor = Net KY Retail E(m) / KY Retail R(m)

Where:

Net KY Retail E(m)	Monthly E(m) allocated to Kentucky Retail Customers, net of Over/(Under) Recovery Adjustment; Allocation based on Percentage of Kentucky Retail Revenues to Total Company Revenues in the Expense Month. (For purposes of this formula, Total Company Revenues do not include Non-Physical Revenues.)
KY Retail R(m)	Kentucky Retail Revenues for the Expense Month.

<u>Monthly Environmental Surcharge Gross Revenue Requirement, E(m)</u>

E(m) = CRR BRR

Where:

CRR	Current Period Revenue Requirement for the Expense Month.
BRR	Base Period Revenue Requirement.

<u>Base Period Revenue Requirement, BRR</u>

$$BRR = ((RB_{KP(B)})(ROR_{KP(B)})/12)) + OE_{KP(B)} + [((RB_{IM(B)})(ROR_{IM(B)})/12)) + OE_{IM(B)}](.15)$$

Where:

$RB_{KP(B)}$	Environmental Compliance Rate Base for Big Sandy.
$ROR_{KP(B)}$	Annual Rate of Return on Big Sandy Rate Base; Annual Rate divided by 12 to restate to a Monthly Rate of Return.

$OE_{KP(B)}$	Monthly Pollution Control Operating Expenses for Big Sandy.
$RB_{IM(B)}$	Environmental Compliance Rate Base for Rockport.
$ROR_{IM(B)}$	Annual Rate of Return on Rockport Rate Base; Annual Rate divided by 12 to restate to a Monthly Rate of Return.
$OE_{IM(B)}$	Monthly Pollution Control Operating Expenses for Rockport.

KP(B) identifies components from the Big Sandy Units Base Period, and IM(B) identifies components from the Indiana Michigan Power Company s Rockport Units Base Period.

The Rate Base for both Kentucky Power and Rockport should reflect the account balances as of December 31, 1990. The Operating Expense amounts should reflect the December 1990 expense. The amounts reflect retirements or replacements resulting from the 1997 Plan and the 2003 Plan.

The Rate of Return for Kentucky Power is a weighted average cost of capital calculation, reflecting the cost of debt as of December 31, 1990 and the rate of return on common equity authorized in Case No. 1996-00489. The Kentucky Power component in the Base Period Revenue Requirement is a result of the adoption of the settlement agreement in Case No. 1999-00149. As Kentucky Power s last general rate case had been settled, Kentucky Power proposed and the Commission accepted the use of the rate of return on common equity established in Case No. 1996-00489.

The Rate of Return for Rockport should reflect the requirements of the Rockport Unit Power Agreement.

The Base Period Revenue Requirement will remain fixed until either a) a 2-year review case results in the roll-in of the surcharge into existing base rates, or b) further retirements or replacements of pollution control utility plant occur due to the installation of new pollution control utility plant associated with the approved compliance plan.

Current Period Revenue Requirement, CRR

$$CRR = ((RB_{KP(C)})(ROR_{KP(C)})/12)) + OE_{KP(C)} + [((RB_{IM(C)})(ROR_{IM(C)})/12)) + OE_{IM(C)}](.15) - AS$$

Where:

$RB_{KP(C)}$	Environmental Compliance Rate Base for Big Sandy.
$ROR_{KP(C)}$	Annual Rate of Return on Big Sandy Rate Base; Annual Rate divided by 12 to restate to a Monthly Rate of Return.
$OE_{KP(C)}$	Monthly Pollution Control Operating Expenses for Big Sandy.

$RB_{IM(C)}$ — Environmental Compliance Rate Base for Rockport.

$ROR_{IM(C)}$ — Annual Rate of Return on Rockport Rate Base; Annual Rate divided by 12 to restate to a Monthly Rate of Return.

$OE_{IM(C)}$ — Monthly Pollution Control Operating Expenses for Rockport.

AS — Net Proceeds from the sale of SO_2 emission allowances, ERCs, and NOx emission allowances, reflected in the month of receipt. The SO_2 allowance sales can be from either EPA Auctions or the AEP Interim Allowance Agreement Allocations.

KP(C) identifies components from the Big Sandy Units Current Period, and IM(C) identifies components from the Indiana Michigan Power Company s Rockport Units Current Period.

The Rate Base for both Kentucky Power and Rockport should reflect the current costs associated with the 1997 Plan and the 2003 Plan. The Rate Base for Kentucky Power should also include a cash working capital allowance based on the 1/8 formula approach, due to the inclusion of Kentucky Power s accounts receivable financing in the capital structure and weighted average cost of capital. The Operating Expenses for both Kentucky Power and Rockport should reflect the current operating expenses associated with the 1997 Plan and the 2003 Plan.

The Rate of Return for Kentucky Power is the weighted average cost of capital as authorized by the Commission in Case No. 2002-00169.

The Rate of Return for Rockport should reflect the requirements of the Rockport Unit Power Agreement.

Net Proceeds from the sale of emission allowances and ERCs that reflect net gains will be a reduction to the Current Period Revenue Requirement, while net losses will be an increase.

The Current Period Revenue Requirement will reflect the balances and expenses as of the Expense Month of the filing.

APPENDIX B

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE COMMISSION IN CASE NO. 2002-00169 DATED March 31, 2003

Environmental Surcharge Monthly Report Formats

These report formats shall be used by Kentucky Power for all monthly surcharge filings submitted after the date of this Order. These report formats will replace all previously approved report formats developed for Kentucky Power s environmental surcharge filings. Kentucky Power will not modify any format without the prior consent of the Commission Staff.

Index of Formats

ES Form 1.00 Calculation of E(m) and Surcharge Factor

ES Form 2.00 Base Period Revenue Requirement (BRR)

ES Form 2.10 BRR Costs Associated with Big Sandy

ES Form 2.11 BRR Costs Associated with Rockport

ES Form 2.20 BRR Big Sandy Cost of Capital

ES Form 2.21 BRR Rockport Cost of Capital

ES Form 3.00 Current Period Revenue Requirement (CRR)

ES Form 3.10 CRR Costs Associated with Big Sandy

ES Form 3.11 CRR SO_2 Emissions Allowance Inventory

ES Form 3.12 CRR ERC and NOx Emission Allowance Inventory

ES Form 3.13 CRR Cash Working Capital Allowance

ES Form 3.14 CRR Gavin Scrubber Costs

ES Form 3.15 CRR Big Sandy Cost of Capital

ES Form 3.20 CRR Costs Associated with Rockport

ES Form 3.21 CRR Rockport Cost of Capital

ES Form 3.30 CRR Monthly Revenues, Jurisdictional Allocation Factor, and Over/(Under) Recovery Adjustment

AMERICAN ELECTRIC POWER ENVIRONMENTAL SURCHARGE REPORT
CALCULATION OF E(m) and SURCHARGE FACTOR
For the Expense Month of ______________

CALCULATION OF E(m)

E(m) = CRR BRR

1.	CRR from **ES Form 3.00**, Line 4	$	
2.	BRR from **ES Form 2.00**, Line 3	$	
3.	E(M) [Line 1 Line 2]	$	
4.	Kentucky Retail Jurisdictional Allocation Factor, from **ES Form 3.30**, Schedule of Revenues, Line 1		%
5.	KY Retail E(m) [Line 3 x Line 4]	$	
6.	Over/(Under) Recovery Adjustment, from **ES Form 3.30**, Over/(Under) Recovery Adjustment Schedule, Line 5	$	
7.	Net KY Retail E(m) [Line 5 + Line 6]	$	

SURCHARGE FACTOR

8.	Net KY Retail E(m) [Line 7]	$	
9.	KY Retail R(m) from **ES Form 3.30**, Schedule of Revenues, Line 1	$	
10.	Environmental Surcharge Factor for Expense Month [Line 8 / Line 9]		%

Effective Date for Billing: ____________________________

Submitted By: ____________________________

Title: ____________________________

Date Submitted: ____________________________

AMERICAN ELECTRIC POWER   ENVIRONMENTAL SURCHARGE REPORT
BASE PERIOD REVENUE REQUIREMENT
For the Expense Month of December 1990

CALCULATION OF BASE PERIOD REVENUE REQUIREMENT

Line No.	Components	
1.	First Component Associated with Big Sandy $((RB_{KP(B)})(ROR_{KP(B)})/12)) + OE_{KP(B)}$ **ES Form 2.10**, Line 11	$
2.	Second Component Associated with Rockport $[((RB_{IM(B)})(ROR_{IM(B)})/12)) + OE_{IM(B)}](.15)$ **ES Form 2.11**, Line 12	$
3.	Total Base Period Revenue Requirement, BRR Record on **ES Form 1.00**, Line 2	$

AMERICAN ELECTRIC POWER ENVIRONMENTAL SURCHARGE REPORT
BASE PERIOD REVENUE REQUIREMENT
COSTS ASSOCIATED WITH BIG SANDY
For the Expense Month of December 1990

Line No.	Cost Component		
	Return on Rate Base:		
1.	Utility Plant at Original Cost	$	
2.	Less Accumulated Depreciation	$	
3.	Less Accumulated Deferred Income Taxes	$	
4.	Total Rate Base [Line 1 thru 3]		$
5.	Weighted Average Cost of Capital	%	
6.	Monthly Weighted Average Cost of Capital [Line 5 / 12]		%
7.	December 1990 Return on Rate Base [Line 4 x Line 6]		$
	Operating Expenses:		
8.	December 1990 Depreciation Expense		$
9.	December 1990 Property Tax		$
10.	Total Operating Expenses [Line 8 + Line 9]		$
11.	Total Revenue Requirement Big Sandy [Line 7 + Line 10] Record on **ES Form 2.00**, Line 1		$

AMERICAN ELECTRIC POWER ENVIRONMENTAL SURCHARGE REPORT
BASE PERIOD REVENUE REQUIREMENT
COSTS ASSOCIATED WITH ROCKPORT
For the Expense Month of December 1990

Line No.	Cost Components		
	Return on Rate Base:		
1.	Utility Plant at Original Cost	$	
2.	Less Accumulated Depreciation	$	
3.	Less Accumulated Deferred Income Taxes	$	
4.	Total Rate Base [Line 1 thru 3]		$
5.	Weighted Average Cost of Capital	%	
6.	Monthly Weighted Average Cost of Capital [Line 5 / 12]		%
7.	Monthly Return on Rate Base [Line 4 x Line 6]		$
	Operating Expenses:		
8.	Monthly Depreciation Expense		$
9.	Monthly Indiana Air Emissions Fee		$
10.	Total Operating Expenses [Line 8 + Line 9]		$
11.	Total Revenue Requirement Rockport [Line 7 + Line 10]		$
12.	Kentucky Power Portion of Rockport Total Revenue Requirement [Line 11 x 15%] Record on **ES Form 2.00**, Line 2		$

AMERICAN ELECTRIC POWER ENVIRONMENTAL SURCHARGE REPORT
BASE PERIOD REVENUE REQUIREMENT
BIG SANDY COST OF CAPITAL
For the Expense Month of December 1990

Line No.	Component	Balances	Cap. Structure	Cost Rates	WACC (Net of Tax)	GRCF	WACC (Pre-Tax)
1.	Long-Term Debt						
2.	Short-Term Debt						
3.	Common Equity						
4.	Totals						

WACC = Weighted Average Cost of Capital
Rate of Return on Common Equity per Case No. 1996-00489

Gross Revenue Conversion Factor (GRCF) Calculation:

1. Operating Revenue
2. Uncollectible
3. Income Before State Income Taxes
4. Less: State Income Tax [Line 3 x 8.25%]
5. Income Before Federal Income Taxes
6. Less: Federal Income Tax [Line 5 x 34%]
7. Operating Income Percentage
8. Gross Revenue Conversion Factor [100% / Line 7]

AMERICAN ELECTRIC POWER ENVIRONMENTAL SURCHARGE REPORT
BASE PERIOD REVENUE REQUIREMENT
ROCKPORT COST OF CAPITAL
For the Expense Month of December 1990

Line No.	Component	Balances	Cap. Structure	Cost Rates	WACC (Net of Tax)	GRCF	WACC (Pre-Tax)
1.	Long-Term Debt						
2.	Short-Term Debt						
3.	Short-Term Inv. Debt						
4.	Common Equity						
5.	Totals						

WACC = Weighted Average Cost of Capital
Cost Rates per the Provisions of the Rockport Unit Power Agreement

Gross Revenue Conversion Factor (GRCF) Calculation:

1. Operating Revenue
2. Less: Indiana Supplemental Tax [Line 1 x 4.34%
3. Income Before Federal Income Tax
4. Less: Federal Income Tax [Line 3 x 34%]
5. Operating Income Percentage
6. Gross Revenue Conversion Factor [100% / Line 5]

AMERICAN ELECTRIC POWER ENVIRONMENTAL SURCHARGE REPORT
CURRENT PERIOD REVENUE REQUIREMENT
For the Expense Month of ____________________

CALCULATION OF CURRENT PERIOD REVENUE REQUIREMENT

Line No.	Components		
1.	First Component Associated with Big Sandy $((RB_{KP(C)})(ROR_{KP(C)})/12)) + OE_{KP(C)}$ **ES Form 3.10**, Line 20		$
2.	Second Component Associated with Rockport $[((RB_{IM(C)})(ROR_{IM(C)})/12)) + OE_{IM(C)}](.15)$ **ES Form 3.20**, Line 12		$
3.	Third Component Net Proceeds from Emission Allowance Sales AS		
	1) **SO_2** EPA Auction Proceeds received during Expense Month	$	
	2) **SO_2** Net Gain or Loss from Allowance Sales, in compliance with the AEP Interim Allowance Agreement, received during Expense Month	$	
	Total Net Proceeds from SO_2 Allowances	$	
	1) **NOx** ERC Sale Proceeds, received during Expense Month	$	
	2) **NOx** EPA Auction Proceeds, received during Expense Month	$	
	3) **NOx** Net Gain or Loss from NOx Allowance Sales, received during Expense Month	$	
	Total Net Proceeds from NOx Allowances	$	
	Total Net Proceeds from Allowance Sales [Total SO_2 and NOx Sales]		$
4.	Total Current Period Revenue Requirement, CRR Record on **ES Form 1.00**, Line 1		$

AMERICAN ELECTRIC POWER ENVIRONMENTAL SURCHARGE REPORT
CURRENT PERIOD REVENUE REQUIREMENT
COSTS ASSOCIATED WITH BIG SANDY
For the Expense Month of ____________________

Line No.	Cost Component		
	Return on Rate Base:		
1.	Utility Plant at Original Cost	$	
2.	Less Accumulated Depreciation	$	
3.	Less Accumulated Deferred Income Taxes	$	
4.	Net Utility Plant		$
5.	SO_2 Emission Allowance Inventory from **ES Form 3.11**		$
6.	ERC & NOx Emission Allowance Inventory from **ES Form 3.12**		$
7.	Cash Working Capital Allowance from **ES Form 3.13**, Line 11		$
8.	Total Rate Base [Line 4 thru Line 7]		$
9.	Weighted Average Cost of Capital	%	
10.	Monthly Weighted Average Cost of Capital [Line 9 / 12]		%
11.	Monthly Return on Rate Base [Line 8 x Line 10]		$
	Operating Expenses:		
12.	Monthly Depreciation Expense		$
13.	Monthly Property Taxes		$
14.	Monthly Kentucky Air Emissions Fee		$
15.	Monthly Gavin Scrubber Cost from **ES Form 3.14**		$
16.	Monthly 2003 Plan Non-Fuel O&M Expenses from **ES Form 3.13**		$
17.	Monthly SO_2 Allowance Consumption		$
18.	Monthly ERC & NOx Allowance Consumption		$
19.	Total Operating Expenses [Line 12 thru Line 18]		$
20.	Total Revenue Requirement Big Sandy Record on **ES Form 3.00**, Line 1		$

AMERICAN ELECTRIC POWER ENVIRONMENTAL SURCHARGE REPORT
CURRENT PERIOD REVENUE REQUIREMENT
SO_2 EMISSIONS ALLOWANCE INVENTORY
For the Expense Month of ____________________

	(1) Allowance Activity in Month	(2) Cumulative Balance	(3) Dollar Value of Activity	(4) Cumulative Dollar Balance	(5) Weighted Average Cost
Beginning Inventory				$	$
Additions					
EPA Allowances			$	$	$
Gavin Reallocation			$	$	$
P&E Transfers In			$	$	$
Intercompany Purchases			$	$	$
Other (List)			$	$	$
Withdrawals -					
P&E Transfers Out			$	$	$
Intercompany Sales			$	$	$
Off-System Sales			$	$	$
Allowances Consumed By Kentucky Power			$	$	$
Ending Inventory Record Balance in Column (4) on **ES Form 3.10**, Line 5				$	$
Expense Month Member Load Ratio for AEP/Kentucky Power					

Columns 1 and 2 Record the number of allowances involved in any transaction (purchase, sale, transfer) which occurred during the Expense Month. Multiple transactions for a given category are to be shown as the total activity for that category during the Expense Month. For each transaction shown in Column 1, update the cumulative balance in Column 2.
Columns 3 and 4 For each transaction reflected in Column 1, record the total dollar amount of the transaction. Multiple transactions for a given category are to be shown as the total dollar amount for that category during the Expense Month. For each transaction shown in Column 3, update the cumulative dollar balance in Column 4. Include transactions that total zero dollars. Record amounts in whole dollars.
Column 5 Compute the Weighted Average Cost by dividing the Cumulative Dollar Balance (Col. 4) by the corresponding Cumulative Balance (Col. 2). Perform this calculation for the Beginning Inventory, Ending Inventory, and all additions and withdrawals made during the Expense Month. The Weighted Average Cost should be carried out to 3 decimal places.

AMERICAN ELECTRIC POWER ENVIRONMENTAL SURCHARGE REPORT
CURRENT PERIOD REVENUE REQUIREMENT
ERC and NOx EMISSIONS ALLOWANCE INVENTORY
For the Expense Month of ____________________

	(1) Allowance Activity in Month	(2) Cumulative Balance	(3) Dollar Value of Activity	(4) Cumulative Dollar Balance	(5) Weighted Average Cost
Beginning Inventory				$	$
Additions					
EPA Allowances			$	$	$
P&E Transfers In			$	$	$
Intercompany Purchases			$	$	$
Other (List)			$	$	$
Withdrawals -					
P&E Transfers Out			$	$	$
Intercompany Sales			$	$	$
Off-System Sales			$	$	$
ERCs Consumed By Kentucky Power			$	$	$
NOx Allowances Consumed By Kentucky Power			$	$	$
Ending Inventory Record Balance in Column (4) on **ES Form 3.10**, Line 6				$	$

Columns 1 and 2 Record the number of allowances involved in any transaction (purchase, sale, transfer) which occurred during the Expense Month. Multiple transactions for a given category are to be shown as the total activity for that category during the Expense Month. For each transaction shown in Column 1, update the cumulative balance in Column 2.
Columns 3 and 4 For each transaction reflected in Column 1, record the total dollar amount of the transaction. Multiple transactions for a given category are to be shown as the total dollar amount for that category during the Expense Month. For each transaction shown in Column 3, update the cumulative dollar balance in Column 4. Include transactions that total zero dollars. Record amounts in whole dollars.
Column 5 Compute the Weighted Average Cost by dividing the Cumulative Dollar Balance (Col. 4) by the corresponding Cumulative Balance (Col. 2). Perform this calculation for the Beginning Inventory, Ending Inventory, and all additions and withdrawals made during the Expense Month. The Weighted Average Cost should be carried out to 3 decimal places.
Note: For any sale or transfer of ERCs or NOx emission allowances, attach to this report documentation showing the currently available market prices for similar ERC or NOx allowances.

AMERICAN ELECTRIC POWER ENVIRONMENTAL SURCHARGE REPORT
CURRENT PERIOD REVENUE REQUIREMENT
CASH WORKING CAPITAL ALLOWANCE
For the Expense Month of ____________________

Line No.	O&M Expenses		
	1997 Plan:		
1.	Monthly Kentucky Air Emissions Fee	$	
2.	Monthly Gavin Scrubber Cost	$	
3.	Monthly SO_2 Allowance Consumption	$	
4.	Total 1997 Plan O&M Expenses		$
	2003 Plan:		
5.	Monthly Variable Cladding at Big Sandy Unit 1	$	
6.	Monthly Urea Consumption at Big Sandy Unit 2	$	
7.	Monthly Catalyst Replacement at Big Sandy Unit 2	$	
8.	Monthly ERC and NOx Allowance Consumption	$	
9.	Total 2003 Plan O&M Expenses		$
10.	Total Monthly O&M Expenses		$
11.	Cash Working Capital Allowance [Line 10 x 1/8]		$

AMERICAN ELECTRIC POWER ENVIRONMENTAL SURCHARGE REPORT
CURRENT PERIOD REVENUE REQUIREMENT
GAVIN SCRUBBER COSTS
For the Expense Month of ____________________

Line No.	Cost	Amount
	Operations:	
1.	Disposal (501.91)	$
2.	Lime (502.9)	$
3.	Lease (507)	$
4.	Total Operations [Line 1 thru Line 3]	$
	Maintenance:	
5.	Scrubbers (512.8)	$
6.	½ of Scrubber Maintenance [Line 5 x 50%]	$
7.	Total Fixed O&M [Line 4 + Line 6]	$
	Impact on Weighted Average Capacity Rate:	
8.	Ohio Power Steam Capacity (kw)	
9.	Gavin Scrubber Rate ($/kw) [Line 7 / Line 8]	$
10.	Ohio Power Surplus Weighting	%
11.	Portion of Weighted Average Capacity Rate Attributed to Gavin Scrubber ($/kw) [Line 9 x Line 10]	$
	Gavin Costs to Kentucky Power:	
12.	Gavin Scrubber Portion ($/kw) [Line 11]	$
13.	Kentucky Power Capacity Deficit (kw)	
14.	Scrubber Cost to Kentucky Power Record on **ES Form 3.10**, Line 15	$

AMERICAN ELECTRIC POWER ENVIRONMENTAL SURCHARGE REPORT
CURRENT PERIOD REVENUE REQUIREMENT
BIG SANDY COST OF CAPITAL
For the Expense Month of ____________________

Line No.	Component	Balances	Cap. Structure	Cost Rates	WACC (Net of Tax)	GRCF	WACC (Pre-Tax)
1.	Long-Term Debt						
2.	Short-Term Debt						
3.	Accts. Rec. Financing						
4.	Common Equity						
5.	Totals						

WACC = Weighted Average Cost of Capital
Rate of Return on Common Equity per Case No. 2002-00169

Gross Revenue Conversion Factor (GRCF) Calculation:

1. Operating Revenue
2. Uncollectible
3. Income Before State Income Taxes
4. Less: State Income Tax [Line 3 x 8.25%]
5. Income Before Federal Income Taxes
6. Less: Federal Income Tax [Line 5 x 34%]
7. Operating Income Percentage
8. Gross Revenue Conversion Factor [100% / Line 7]

AMERICAN ELECTRIC POWER ENVIRONMENTAL SURCHARGE REPORT
CURRENT PERIOD REVENUE REQUIREMENT
COSTS ASSOCIATED WITH ROCKPORT
For the Expense Month of ____________________

Line No.	Cost Components		
	Return on Rate Base:		
1.	Utility Plant at Original Cost	$	
2.	Less Accumulated Depreciation	$	
3.	Less Accumulated Deferred Income Taxes	$	
4.	Total Rate Base [Line 1 thru 3]		$
5.	Weighted Average Cost of Capital	%	
6.	Monthly Weighted Average Cost of Capital [Line 5 / 12]		%
7.	Monthly Return on Rate Base [Line 4 x Line 6]		$
	Operating Expenses:		
8.	Monthly Depreciation Expense		$
9.	Monthly Indiana Air Emissions Fee		$
10.	Total Operating Expenses [Line 8 + Line 9]		$
11.	Total Revenue Requirement Rockport [Line 7 + Line 10]		$
12.	Kentucky Power Portion of Rockport Total Revenue Requirement [Line 11 x 15%] Record on **ES Form 3.00**, Line 2		$

AMERICAN ELECTRIC POWER ENVIRONMENTAL SURCHARGE REPORT
CURRENT PERIOD REVENUE REQUIREMENT
ROCKPORT COST OF CAPITAL
For the Expense Month of ____________________

Line No.	Component	Balances	Cap. Structure	Cost Rates	WACC (Net of Tax)	GRCF	WACC (Pre-Tax)
1.	Long-Term Debt						
2.	Short-Term Debt						
3.	Short-Term Inv. Debt						
4.	Common Equity						
5.	Totals						

WACC = Weighted Average Cost of Capital
Cost Rates per the Provisions of the Rockport Unit Power Agreement

Gross Revenue Conversion Factor (GRCF) Calculation:

1. Operating Revenue
2. Less: Indiana Supplemental Tax [Line 1 x 4.34%
3. Income Before Federal Income Tax
4. Less: Federal Income Tax [Line 3 x 34%]
5. Operating Income Percentage
6. Gross Revenue Conversion Factor [100% / Line 5]

AMERICAN ELECTRIC POWER ENVIRONMENTAL SURCHARGE REPORT
CURRENT PERIOD REVENUE REQUIREMENT
MONTHLY REVENUES, JURISDICTIONAL ALLOCATION FACTOR,
And OVER/(UNDER) RECOVERY ADJUSTMENT
For the Expense Month of ________________

SCHEDULE OF MONTHLY REVENUES

Line No.	Description	Monthly Revenues	Percentage of Revenues
1.	Kentucky Retail Revenues	$	%
2.	FERC Wholesale Revenues	$	%
3.	Associated Utilities Revenues	$	%
4.	Non-Associated Utilities Revenues	$	%
5.	Total Revenues for Surcharge Purposes	$	100.0%
6.	Non-Physical Revenues for Month	$	
7.	Total Revenues for Month	$	

The Kentucky Retail Monthly Revenues and Percentage of Revenues [Line 1] are to be recorded on **ES Form 1.00**, Lines 9 and 4 respectively. The Percentage of Kentucky Retail Revenues to Total Revenues is the Kentucky Retail Jurisdictional Allocation Factor; for surcharge purposes, Total Revenues does not include Non-Physical Revenues.

OVER/(UNDER) RECOVERY ADJUSTMENT

Line No.	Description	Amount
1.	Kentucky Retail Surcharge Factor for (Month)	%
2.	Kentucky Retail Revenues for Current Expense Month	$
3.	Surcharge Collected [Line 1 x Line 2]	$
4.	Surcharge Amount To Be Collected	$
5.	Over/(Under) Recovery [Line 4 Line 3] Record on **ES Form 1.00**, Line 6 Over-recoveries will reduce KY Retail E(m) while Under-recoveries will increase KY Retail E(m)	$