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## RECEIVED

JUN 2 5 2012

PUBLIC SERVICE COMMISSION

Via Overnight Mail

June 22, 2012

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

#### Re: Case No. 2012-00063

Dear Mr. Derouen:

Please find enclosed the original and ten (10) copies of KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.'s SUPPLEMENTAL SET OF DATA REQUESTS TO BIG RIVERS ELECTRIC CORPORATION for filing in the above-referenced matter.

By copy of this letter, all parties listed on the Certificate of Service have been served. Please place these documents of file.

Very Truly Yours,

Muchael I. Kurtz -

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

MLKkew

Attachment cc:

Certificate of Service Quang Nyugen, Esq. Faith Burns, Esq. Larry Cook, Esq. Matt James, Esq. David C. Brown, Esq.

#### **CERTIFICATE OF SERVICE**

I hereby certify that a copy of the foregoing was served by electronic mail (when available) and by mailing a true and correct copy by regular, U.S. Mail, unless other noted, this  $22^{ND}$  day of June, 2012 to the following

Muhael.

Michael L. Kurtz, Esq. Kurt J. Boehm, Esq.

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KRISTIN HENRY, ESQ. SIERRA CLUB 85 SECOND STREET SAN FRANCISCO, CA 94105

### COMMONWEALTH OF KENTUCKY BEFORE THE PUBLIC SERVICE COMMISSION

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### IN THE MATTER OF:

APPLICATION OF BIG RIVERS ELECTRIC CORPORATION FOR APPROVAL OF ITS 2012 ENVIRONMENTAL COMPLIANCE PLAN, FOR APPROVAL OF ITS AMENDED ENVIRONMENTAL COST RECOVERY SURCHARGE TARIFF, FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY, AND FOR AUTHORITY TO ESTABLISH A REGULATORY ACCOUNT CASE NO. 2012-00063

### KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.'S SUPPLEMENTAL SET OF DATA REQUESTS TO BIG RIVERS ELECTRIC CORPORATION

Dated: June 22, 2012

### **DEFINITIONS**

- 1. "Document(s)" is used in its customary broad sense and includes electronic mail and all written, typed, printed, electronic, computerized, recorded or graphic statements, memoranda, reports, communications or other matter, however produced or reproduced, and whether or not now in existence, or in your possession.
- 2. "Study" means any written, recorded, transcribed, taped, filmed, or graphic matter, however produced or reproduced, either formally or informally, a particular issue or situation, in whatever detail, whether or not the consideration of the issue or situation is in a preliminary stage, and whether or not the consideration was discontinued prior to completion whether preliminary or final, and whether or not referred to in Big Rivers' direct testimony.
- 3. If any document requested herein was at one time in existence, but has been lost, discarded or destroyed, identify such document as completely as possible, including the type of document, its date, the date or approximate date it was lost, discarded or destroyed, the identity of the person (s) who last had possession of the document and the identity of all persons having knowledge of the contents thereof.
- 4. "Person" means any natural person, corporation, professional corporation, partnership, association, joint venture, proprietorship, firm, or the other business enterprise or legal entity.
- 5. A request to identify a natural person means to state his or her full name and residence address, his or her present last known position and business affiliation at the time in question.
- 6. A request to identify a document means to state the date or dates, author or originator, subject matter, all addressees and recipients, type of document (e.g., letter, memorandum, telegram, chart, etc.), number of code number thereof or other means of identifying it, and its present location and custodian. If any such document was, but is no longer in the Company's possession or subject to its control, state what disposition was made of it.
- 7. A request to identify a person other than a natural person means to state its full name, the address of its principal office, and the type of entity.
- 8. "And" and "or" should be considered to be both conjunctive and disjunctive, unless specifically stated otherwise.
- 9. "Each" and "any" should be considered to be both singular and plural, unless specifically stated otherwise.
- 10. Words in the past tense should be considered to include the present, and words in the present tense include the past, unless specifically stated otherwise.
- 11. "You" or "your" means the person whose filed testimony is the subject of these interrogatories and, to the extent relevant and necessary to provide full and complete answers to any request, "you" or "your" may be deemed to include any person with information relevant to any interrogatory who is or was employed by or otherwise associated with the witness or who assisted, in any way, in the preparation of the witness' testimony.
- 12. "BREC" means Big Rivers Electric Corporation and/or any of their officers, directors, employees, or agents who may have knowledge of the particular matter addressed.

### INSTRUCTIONS

- 1. If any matter is evidenced by, referenced to, reflected by, represented by, or recorded in any document, please identify and produce for discovery and inspection each such document.
- 2. These interrogatories are continuing in nature, and information which the responding party later becomes aware of, or has access to, and which is responsive to any request is to be made available to Kentucky Industrial Utility Customers. Any studies, documents, or other subject matter not yet completed that will be relied upon during the course of this case should be so identified and provided as soon as they are completed. The Respondent is obliged to change, supplement and correct all answers to interrogatories to conform to available information, including such information as it first becomes available to the Respondent after the answers hereto are served.
- 3. Unless otherwise expressly provided, each interrogatory should be construed independently and not with reference to any other interrogatory herein for purpose of limitation.
- 4. The answers provided should first restate the question asked and also identify the person(s) supplying the information.
- 5. Please answer each designated part of each information request separately. If you do not have complete information with respect to any interrogatory, so state and give as much information as you do have with respect to the matter inquired about, and identify each person whom you believe may have additional information with respect thereto.
- 6. In the case of multiple witnesses, each interrogatory should be considered to apply to each witness who will testify to the information requested. Where copies of testimony, transcripts or depositions are requested, each witness should respond individually to the information request.
- 7. The interrogatories are to be answered under oath by the witness(es) responsible for the answer.
- 8. Responses to requests for revenue, expense and rate base data should provide data on the basis of Total Company as well as Intrastate data, unless otherwise requested.

#### SUPPLEMENTAL SET OF DATA REQUESTS OF KENTUCKY INDUSTRIAL UTILITY CUSTOMERS. INC. BIG RIVERS ELECTRIC CORPORATION Case No. 2012-00063

- Q2.1 With respect to Big Rivers' current arbitration with HMPL, please provide the following:
  - a. The current status of the arbitration proceedings or appeals;
  - b. A copy of the arbitration award or opinion;
  - c. The short and long term financial impact of this decision on Big Rivers;
  - d. What is the projected impact on the arbitration award or opinion on Big Rivers' margins in 2012-15?
  - e. What is the effect of this decision on any of the models that support Big Rivers' Application in this case?
- Q2.2 With respect to the dam repair work that will permit full resumption of energy purchases from SEPA, please provide the following:
  - a. the current status of the repair work;
  - b. When does Big Rivers expect to receive its full allocation of energy from SEPA?
  - c. Has Big Rivers included the full availability and price of SEPA energy in its modeling for this Application? Please explain. If not, why not?
- Q2.3 Please provide all documents and other communications provided to Cobank and CFC since the filing of Big Rivers' responses to KIUC's Initial Request for Information. Please note this is a continuing request requiring updated information.
- Q2.4 Please describe Big Rivers' current plans for the proposed bridge financing and later permanent financing of the construction projects proposed in this Application, including anticipated terms and conditions.
- Q2.5 When does Big Rivers plan to release and file its 2011 Annual Report? Please provide a copy when available.
- Q2.6 Please reference the Direct Testimony of Mark Hite, page 7, lines 20-22, which states that Big Rivers acquired forward pricing data (hourly energy prices, monthly coal prices, monthly natural gas prices and monthly allowance prices) from PACE Global which data were used by ACES in running the production cost model. Please also reference Big Rivers' Response to Item 32 of KIUC's Initial Request for information which states that Big Rivers relied on ACES and PACE Global for input assumptions surrounding commodity prices including emission allowances, fuel and wholesale energy market pricing. Please provide in narrative form and without reference to previously filed data disks an explanation whether the ACES production cost model used only

PACE Global assumptions or a combination of PACE Global and other projections with respect to the following forward pricing:

- a. wholesale energy prices;
- b. fuel prices;
- c. emission allowances,
- d. natural gas prices.

In your response, please provide by month, day or hour, the specific ACES data or data from any other non-PACE Global source actually used in the production cost model in a manner than can be compared with the PACE global data not used.

- Q2.7 Refer to the Company's response to KIUC 1-2(d). Please provide an electronic version of the exhibit attached to the response with cell formulas intact.
- Q2.8 Refer to the Company's response to AG 1-47(a) and the statement that "The financial analysis was performed by Big Rivers with input from ACES Power marketing and PACE Global."
  - a. Please describe each step of the financial analysis and the role and activities performed by ACES, PACE, and Big Rivers, respectively.
  - b. Please identify each person, the person's employer, and the specific responsibilities of each person in each step of the financial analysis described in response to part (a) of this question.
- Q2.9 Refer to the Company's response to AG 1-47(c) and the statement that "ACES Power Marketing provided the planning models for these [sensitivity] scenarios" used to assess the "economic impact of two compliance options with regard to a loss in Smelter load" described by Mr. Berry in his Direct Testimony at 15.
  - a. Please identify the "planning models" provided to Big Rivers by ACES for this purpose.
  - b. Please distinguish between the "planning models" provided to Big Rivers by ACES for this purpose and the Big Rivers model that was used for this purpose and described by Mr. Hite in his Direct Testimony at 7 as follow: "Big Rivers developed a financial model to determine the net present value of revenue requirements ("NPVRR") over the 2012 -2026 (15-year) study period."
- Q2.10 Does Mr. Hite personally possess the expertise and knowledge to run the Ventyx PAR model used by ACES Power Marketing?
  - a. If so, then: i) describe his expertise and knowledge, ii) specifically describe his experience in production cost modeling in general and the PAR model in particular, and iii) his personal involvement in running the Ventyx PAR model to quantify the production costs and any other amounts used in the "financial analysis" and/or in the "financial model" to assess the scenarios and sensitivity studies in this proceeding.

- b. If not, then please identify the witness supporting the production cost modeling and the quantification of the production costs used in the "financial analysis" and/or in the "financial model" to assess the scenarios and sensitivity studies in this proceeding. If there is no such witness, then please so state.
- Q2.11 Refer to the Company's response to PSC 1-1.
  - a. Please provide the support for the estimates for each vendor, including, but not limited to, all workpapers, engagement letters, purchase orders, and correspondence (internal and external) and describe how the Company developed the estimates from these source documents. In addition, please identify the person(s) who developed these estimates and provide their name(s), company affiliation, and position (title).
  - b. Please provide a copy of the service agreement with APM and any special agreements related specifically to the Company's ECR application in this proceeding.
  - c. Does the service agreement with APM allow APM to bill Big Rivers for work that it performs for Big Rivers?
- Q2.12 Refer to the Company's response to PSC 1-7. Please update this response for the current status of the Station 2 review being conducted by HMP&L. Identify the approvals, if any, that HMP&L needs to provide in order for Big Rivers to proceed and describe the status and future timing of each such approval.
- Q2.13 Refer to the Company's response to PSC 1-9 and the potential effects of compliance with the EPA regulation on coal combustion residuals and EPA rules relating to impingement mortality and entrainment.
  - a. Please address whether, and if so, the manner in which, the Company could comply with these rules through constrained operation of its generating units. Please provide a copy of and a narrative description of all analyses that the Company or outside advisors on behalf of the Company have performed.
  - b. If constrained operation is a viable compliance option, then please provide a sensitivity study against the base case and against the Partial Build scenario to quantify the effects of this option.
- Q2.14 Refer to the Company's response to PSC 1-22 and the conclusion that "It is believed that EPA will likely overcome challenges to the rule and will ultimately prevail."
  - a. Please provide a copy of all analyses and all supporting documents relied on for this conclusion.
  - b. What is the likely effective compliance date if EPA overcomes the challenges? Please provide a copy of all analyses and all supporting documents relied on for your response.
- Q2.15 Refer to the Company's response to PSC 1-24 and the conclusion that "Big Rivers found it unnecessary to make assumptions about Smelter rates well beyond the 2023 time horizon because longer periods of time would only serve to improve the "Build Case."

- a. Please describe in more detail why the Company believes that this conclusion is correct. In your response, address the fact that the NPV of the revenue requirements associated with the Build Case after the 15 years would increase the cost of the Build Case, not reduce it.
- b. Please provide a copy of all quantitative analyses that supports this conclusion.
- Q2.16 Refer to the Company's response to PSC 1-26 and the statement that the sensitivity where the Company loses the load of one smelter, "the remaining smelter is assumed in the model to shoulder its proportionate share of the cost increase associated with the departure of the other smelter."
  - a. Please explain the basis for this assumption and provide a copy of all documents relied for the assumption or used to test the validity of this assumption.
  - b. Please confirm that in base rate proceedings, the Commission uses the off-system sales margins as a reduction to the revenue requirement. If the Company cannot confirm this statement, then please describe how the Company believes that the Commission uses the off-system sales margins in the revenue requirement. Please cite to and provide copies of all source documents relied on for your response.
  - c. Please identify where this assumption is reflected in the sensitivity where the Company loses the load of one smelter.
- Q2.17 Refer to the Company's response to AG 1-21. Please update this response with the current status of the engineering and design process. Be specific.
- Q2.18 Please describe in detail how the Company's accounting for its fuel and purchased power costs changed after it joined MISO to reflect the fact that the Company bids all of it resources and load into MISO, if at all. In addition, please describe in detail the related effects on the costs included in its revenue requirement, including clause recoveries.
- Q2.19 Please refer to the market prices shown on line 8 on the Risk spreadsheet in the Excel workbooks provided in response to KIUC's Motion to Dismiss for each of the scenarios.
  - a. Provide the source(s) of these market prices and all analyses used to develop these prices, including all input sources, adjustments, assumptions, and electronic spreadsheets with formulas intact, including, but not limited to, the conversion of hourly or other data into the average annual rates reflected in this spreadsheet. Describe each step in the analytical process that led to the use of these specific market prices and make sure that each step is documented with all input, computations, and output files.
  - b. Please provide a narrative description of these market prices, i.e., what do they represent, e.g., MISO energy prices averaged across all hours.
  - c. Please confirm that the market prices include capacity costs. Describe how the changes in the MISO capacity auction process have been reflected in the market prices, if at all.
     If the changes have not been reflected in the market prices, then please provide a description of how these changes will be reflected in future market prices.

- Q2.20 Refer to the Company's response to KIUC 1-17, which included a confidential chart labeled Forward Power Price Comparison. The chart compared the forward power prices obtained from Pace, APM, and IHS.
  - a. Please describe how this comparison was used and by whom to develop the market prices shown on line 8 on the Risk spreadsheet in the Excel workbooks provided in response to KIUC's Motion to Dismiss for each of the scenarios, if at all.
  - b. Please provide the data reflected on this chart in an electronic spreadsheet and provide all source documents used to obtain the data shown on this chart, including, but not limited to, all spreadsheets used to average projected hourly prices.
  - c. Please provide another version of this chart that includes the market prices that were used for each of the Company's scenarios.
- Q2.21 Refer to the Company's response to AG 1-46 and the attached copy of the January 19, 2012 and February 21, 2012 presentations to the Board.
  - a. Please confirm that the January presentation indicated that capital expenditures to comply with CSAPR and MATS would total \$213.5 million and the February presentation increased the expenditures to \$283.5 million.
  - b. Please provide a detailed explanation why the capital expenditures reflected in the February BOD presentation, and the Application in this proceeding, are significantly more than the January 19, 2012 estimate presented to the Board. Provide a copy of all quantitative comparisons, electronically, that explain the significant increase in capital expenditures during the 4 week period between the January and February BOD meetings.
- Q2.22 Refer to the Company's response to AG 1-67.
  - a. Please describe how the Company will reflect the retirement of the Wilson scrubber in the ECR. Address each of the following components: i) gross plant, ii) accumulated depreciation, iii) net salvage, iv) changes in operating costs.
  - b. Does the Company's estimate of capital expenditures for the Wilson scrubber include any costs to remove the existing scrubber? If not, then where are the removal costs reflected in the Company's financial models used to evaluate the various scenarios?
  - c. Please provide the Company's estimate of costs to remove the existing scrubber.
  - d. Please describe how the Company plans to track the costs to remove the existing scrubber to ensure that the costs are not included in the ECR?
  - e. Please describe how the Company plans to recover the net book value and the costs to remove the existing scrubber.
- Q2.23 Refer to the Company's response to AG 1-70. Please confirm that the Company's capital expenditure estimate in this proceeding is net of HMP&L's share of the costs to retrofit HMP&L

Units 1 & 2. Please describe where the Company has reflected this reduction in the Excel financial models of each of the scenarios.

- Q2.24 Refer to the last paragraph of the Company's response to KIUC 1-33, which states that "it was obvious that there were some significant differences between the two projections."
  - a. Please provide a detailed description of the concern and why the Big Rivers believed it was necessary to acquire a third set of forward power prices from IHS Global.
  - b. Please describe each of the steps taken by Big Rivers and/or its advisors to address the "significant differences" between the two projections.
  - c. Please describe the resolution of this review and how this was reflected in the scenarios presented in this proceeding.
  - d. Please identify, describe, and provide a copy of each sensitivity study using the APM or HIS forward price curves. Provide all supporting input files and output reports as well as the CFM workbooks. In addition, please describe what attempts were made to ensure that the forward power prices and natural gas prices used in each sensitivity were consistent and provide a copy of all documentation that addresses the consistency of these assumptions.
- Q2.25 With regard to Big Rivers' response to AG 1-46, please provide all analyses, including electronic spreadsheets with formulas intact and supporting workpapers, included in the February 21, 2012 "Big Rivers Environmental Surcharge (ES) Rate Formula" presentation to the Big Rivers' Board and the "Environmental Surcharge (ES) Update Rate Formula" presentation of March 16, 2012.
- Q2.26 Regarding data found in the file PACE\_Big Rivers Data Request Inputs\_120524.xlsx
  - a. Is it correct, that this is one of just two files that PACE developed and was produced based on a KIUC request (the other being PACE\_Big Rivers Data Request Outputs\_120524.xlsx)?
  - b. The file contains natural gas prices, coal prices, load forecast, CO2 costs, and Capital Cost Recovery Target Inputs for New Regional Expansion units. For all of these categories of data, PACE supplied 200 sets of data (200 iterations). Please provide a detailed explanation of the process, methodology, and assumptions used by PACE in creating the 200 iterations worth of data for each of these categories of data. Be sure to explain what was done to create this large number of iterations.
  - c. How has the 200 iterations of data factored into any analyses that were discussed in any of Big Rivers' witnesses testimony?
  - d. Please provide the revenue requirements model that led to the calculation of the Capital Cost Recovery Target Inputs for New Regional Expansion for each resource CC, CT and Wind.
  - e. Why did PACE supply coal prices for only the Illinois Basin region, when its market price analysis clearly must have included a forecast of coal prices in other regions?

- Q2.27 Regarding the Reference data found in the file PACE\_Big Rivers Data Request Inputs 120524.xlsx
  - a. Please provide documentation describing the process, methodology and assumptions used by PACE in developing the Reference natural gas price inputs that were then used by ACES in its modeling that led to the results filed in any Big Rivers witness' testimony.
  - b. Provide the same information for the Reference Illinois Basin coal prices.
  - c. Provide the same information for the Reference Capital Cost Recovery Target inputs.
  - d. Provide the same information for the Reference CO2 prices. Also, please confirm that these CO2 inputs were not used in any analysis that ACES performed to develop results that were included in its modeling that led to the results filed in any Big Rivers witness' testimony.
- Q2.28 Regarding data found in the file PACE\_Big Rivers Data Request Outputs\_120524.xlsx.
  - a. What are the hours included in the on-peak and off-peak periods for each month?
  - b. In the worktab Output Stochastic Energy Prices, there are 200 iterations worth of annual average on-peak, off-peak and all hours market price data for each year between 2012 and 2030. Please provide a detailed explanation of the process, methodology, and assumptions used by PACE in creating the 200 iterations worth of data. Be sure to explain what was done to create this large number of iterations.
  - c. How has the 200 iterations of market price data factored into any analyses that were discussed in any of Big Rivers' witnesses testimony?
  - d. In that same worktab there is no reference case market price data. Is that because the data found in the Output Hourly Energy Prices worktab is the reference case? Please explain.
  - e. Why weren't emissions allowance prices included in the files that PACE supplied?
- Q2.29 Please provide documentation describing the process, methodology and assumptions and all worksheets developed in constructing the data assumptions (e.g. natural gas price forecasts, environmental cost assumptions, etc.) used by ACES in developing any sensitivity cases that it performed. In doing, please describe all sensitivity cases performed by ACES.
- Q2.30 In the 20 scenarios that ACES supplied, only 5 included an Assumptions folder. Please explain why 15 scenarios did not contain that folder, and if this was an oversight, please provide the missing folders.
- Q2.31 Was it the case that Big Rivers did not develop financial analyses/NPV analyses of all of the 20 cases that ACES performed? If not, why not, and if so please explain why Big Rivers has not supplied that information. If corporate financial analyses were developed for the sensitivity cases, please supply those, electronically, and in the same format as has been provided for the other financial models that the Company has supplied.
- Q2.32 If any additional cases have been performed by PACE/ACES/Big Rivers to date, that have not already been provided, please provide:
  - a. A narrative description of the case.

- b. Explain why the Company or its consultant has decided to continue developing new cases.
- c. Provide all spreadsheets, workpapers, analyses, production cost model input databases in native database format (fully populated database), output results, etc, to the same extent that the Company has supplied for previous cases it has provided.
- Q2.33 In the base case folder that ACES supplied containing Assumptions, there is a file containing what appears to be generic assumptions, List.xls. Please explain the purpose of the data included in the file. For example, that data includes startup data, forced outages, scheduled outages, etc, but no indication of any unit that the data applies to.
- Q2.34 Two files were supplied in the ACES folder related to the Base Case Assumptions, MidOffice Emission Curve 1-30-2012.xlsx and PCM (1-18-12) nominal.xlsx. Please explain in detail what was the information found in each of the files was used for in ACES analyses.
- Q2.35 Regarding the files, Load Shape Data.xlsx and Price Shape Data.xlsx, please explain how they were created and what they were used for. If they were used in the analysis that ACES performed, please supply any other workpapers, electronically, used in the creation of the files.
- Q2.36 Refer to the response to KIUC-1-14. Please supply all workpapers that contains S&L's derivation of upgrade costs used in this study. Mr. DePriest indicates that costs were derived from other sources, and this request is that the input assumptions and calculations be provided electronically with all formulas included. If the workpapers have been supplied, please provide a map between where the upgrade costs have been developed and have been input into corporate financial model net present value analysis.
- Q2.37 Refer to the response to KIUC-1-24. Has the excel spreadsheet referred to in Mr. Miller's May 18, 2012 email been supplied. If so please state the name and where it may be found, if not, please supply the spreadsheet any referenced spreadsheets in excel format, with all formulas active.
- Q2.38 Refer to the response to KIUC-1-25.
  - a. Please explain in additional detail why the ACES model (Planning Model) does a better job reflecting market interaction between dispatching generating units versus buying power from the market?
  - b. What did ACES mean by "creating a least cost solution". Does that mean least cost in the sense of creating an expansion plan, or a least cost dispatch/commitment process which interacts with a market price profile?
  - c. The response indicates that the ACES model has the ability to run to show risks in costto-serve. What that capability used in any analyses presented in testimony in this case. If so, please explain how, and if not please explain why not.
- Q2.39 Refer to the response to KIUC-1-32. Was any analysis performed by Big Rivers or any of its consultants to determine whether the production cost results produced in the current studies were consistent with results developed in the most recent IRP published in 2010? If not, please explain why not, if so, please discuss the findings of that review, and supply any written documentation of that process or consideration of that process.
- Q2.40 Refer to the response to KIUC-1-33.

- a. What did Big Rivers mean when it said "analyses of the same size and scope"?
- b. Is that the explanation why it was reasonable for PACE to have included CO2 costs in its analysis while ACES did not include CO2 costs in its analysis?
- Q2.41 In the work that PACE performed,
  - a. Please provide a detailed explanation of how coal retirements were determined in the MISO market, and please supply any workpapers or documents of any type that were developed analyzing the coal retirement issue in MISO.
  - b. Please explain how environmental regulations were incorporated in the analysis PACE performed, and supply any workpapers or documents of any type that were developed analyzing the environmental regulations, and how those regulations should be incorporated in the modeling that PACE performed.
  - c. Please discuss the findings of how coal retirements and environmental regulations factored into the analysis that PACE conducted, and how those impacted the market price results that PACE produced.
- Q2.42 In the work that ACES performed developing market price forecasts,
  - a. Please provide a detailed explanation of how coal retirements were determined in the MISO market, and please supply any workpapers or documents of any type that were developed analyzing the coal retirement issue in MISO.
  - b. As it relates to the market price forecasts that ACES created for any purpose associated with this study, please explain how environmental regulations were incorporated in the analysis, and supply any workpapers or documents of any type that were developed analyzing the environmental regulations, and how those regulations should be incorporated in the modeling that ACES performed.
  - c. As it relates to the market price forecasts that ACES created for any purpose associated with this study, please discuss the findings of how coal retirements and environmental regulations factored into the analysis that ACES conducted, and how those impacted the market price results that ACES produced.
- Q2.43 Refer to KIUC-1-34. Was anything other than nominal energy market prices from PACE Global used in the analysis that was presented in Mr. Hite's testimony. If so please explain how it was used, if not why not?
- Q2.44 In its June 1, 2012 filing of confidential material, Big Rivers filed a draft document entitled "Load Concentration Analysis and Mitigation Plan" dated May 2012 ("Draft Mitigation Plan"). In connection with the Draft Mitigation Plan, please respond to the following:
  - a. Who or what group within Big Rivers prepared or participated in the preparation of the Draft Mitigation Plan? Please state the names of those persons.
  - b. Why is the Draft Mitigation Plan in draft form? Has the Draft Mitigation Plan been reviewed or approved by the Big Rivers Board of Directors? When does Big Rivers expect to finalize the Draft Mitigation Plan?
  - c. Please provide all prior drafts of the Draft Mitigation Plan.

- d. When did work begin on the Draft Mitigation Plan and when was the current draft completed?
- e. Did Big Rivers engage any consultant(s) to assist in preparation of the Draft Mitigation Plan?
- f. Have any consultants reviewed the Draft Mitigation Plan or given input to Big Rivers? If so, please identify all consultants.
- g. Please provide all internal emails regarding preparation of the Draft Mitigation Plan since January 1, 2012.
- h. Please provide all documents and communications between Big Rivers and third parties regarding preparation of the Draft Mitigation Plan since January 1, 2012.
- i. To whom or to what third party has the Draft Mitigation Plan been circulated outside Big Rivers (other than to the Commission and Intervenors in this docket)?
- Q2.45 On Page 4, Paragraph 3, the Draft Mitigation Plan states that Big Rivers used both the PACE Global price curve and a more conservative ACES forward price curve in its preparation. Please state whether both the PACE Global price curve and a more conservative ACES forward price curve were also used in the production cost modeling prepared by ACES and later included in the Big Rivers financial model? If the answer is Yes, please explain how this was done and provide which hourly data were used for the period of the modeling study. If the answer is No, please explain why Big Rivers chose to use only one price curve in the modeling and multiple price curves in preparing the Draft Mitigation Plan.
- Q2.46 On Page 8, Paragraph 3, the Draft Mitigation Plan states that benchmarking data indicates Big Rivers' generation costs currently rank better than more than half of similar utilities. Please provide all data and documents supporting and demonstrating that statement. In your answer please include the names of all utilities in this statement, identifying those utilities that are "similar."
- Q2.47 On Page 8, following Paragraph 3, the Draft Mitigation Plan contains five bullets, the first indicating that to reduce market risks, Big Rivers will evaluate the option of executing forward bilateral sales with counterparties and wholesale sales agreements. Please provide the names of all perspective counterparties which Big Rivers has contacted regarding bilateral sales or wholesale sales agreements and the status of those discussions. Please state whether Big Rivers has entered into a confidentiality agreement with any such perspective counterparties. If so, please identify the counterparty and the status of those discussions.
- Q2.48 On Page 9, first literary paragraph, the Draft Mitigation Report indicates long-term approaches will include executing long-term wholesale agreements.
  - a. Please state whether Big Rivers has commenced any such investigations and, if so, state the identity of those counterparties.
  - b. Please describe all steps taken to date in pursuance of this approach.
- Q2.49 On Page 9, first literary paragraph, the Draft Mitigation Report indicates long-term approaches will include existing load expansion.

- a. Please state whether Big Rivers has commenced any such investigations and, if so, state the identity of those parties.
- b. Please describe all steps taken to date in pursuance of this approach.
- Q2.50 On Page 9, first literary paragraph, the draft Mitigation Report indicates long-term approaches will include load expansion by increasing the existing industrial load and by attracting new industries.
  - a. Please state whether Big Rivers has commenced any such investigations and, if so, state the identity of those parties.
  - b. Please describe all steps taken to date in pursuance of this approach.
- Q2.51 On Page 9, first literary paragraph, the draft Mitigation Report indicates long-term approaches will include load expansion by attracting new Members.
  - a. Please state whether Big Rivers has commenced any such investigations and, if so, state the identity of those parties.
  - b. Please describe all steps taken to date in pursuance of this approach.
  - c. Please state your understanding of the notice period in the contracts between TVA and the five Kentucky cooperatives in Kentucky being served by TVA.
- Q2.52 On Page 10, Final Paragraph, the Draft Mitigation Plan discusses the additional option of layingup individual generating units or entire generating stations. Scenarios 3, 4, 6 and 7 include this option.
  - a. Please describe the extent to which Big Rivers has investigated this option.
  - b. Please provide copies of all studies and documents prepared in connection with same.
- Q2.53 On Page 11, First Paragraph, the Draft Mitigation Plan discusses the additional option of liquidating generating stations.
  - a. Please describe the extent to which Big Rivers has investigated this option.
  - b. Please provide copies of all studies and documents prepared in connection with same.
- Q2.54 On Page 10, Final Paragraph, the Draft Mitigation Plan discusses the additional option of a (i) merger with another G&T cooperative, (ii) acquisition of Big Rivers by another G&T cooperative or (iii) acquisition of Big Rivers by an Investor-Owned Utility.
  - a. Please describe the extent to which Big Rivers has investigated this option and provide copies of all studies and documents prepared in connection with same.
  - b. If Big Rivers would consider the three options listed above <u>after</u> smelter closure, would Big Rivers consider investigating either of those options <u>before</u> smelter closure to determine if such options would prevent smelter closure and be beneficial to Big Rivers, the smelters and save the Western Kentucky jobs. If your answer is No, please explain fully.

- Q2.55 Refer to page 8 of the Load Concentration Analysis and Mitigation Plan, which states, "Benchmarking data indicates Big River's generation costs currently rank better than more than half of similar unit's costs, thus Big Rivers should be able to market a significant amount of its excess power."
  - a. Please supply the benchmarking data and any analysis performed or reports written associated with that data.
  - b. What parties has Big Rivers entered into discussions with concerning marketing its excess power, and what discussions were held? Please supply any written communication of any form that went back and forth between Big Rivers and that party?
- Q2.56 On page 9 (Load Concentration Analysis), Big Rivers states that many entities were short of generating capacity prior to the economic downturn and will likely return to the same situation when the economy strengthens. Please supply any analysis or support of any kind that the Company possesses that it based that statement on.
- Q2.57 On page 9 (Load Concentration Analysis), Big Rivers also states that it has "a cost competitive advantage over many of its peers because it has a lower cost generating fleet than most which has largely already been retrofitted with pollution controls."
  - a. Does this mean that Big Rivers generating fleet is lower in cost because Big Rivers has not already been retrofitted with pollution controls, while the others have? Please explain.
- Q2.58 Referring to the Load Concentration Analysis. Once the requested environmental upgrades have been made, will Big Rivers generating fleet still be lower in cost than the others? Please explain.
- Q2.59 Concerning Scenarios 1 through 8 of the Load Concentration Analysis, did ACES perform the modeling work using the PAR model? If not, who performed the modeling work and what production cost model was used?
- Q2.60 Concerning Scenario 1 of the Load Concentration Analysis:
  - a. Was that scenario the same scenario as the Build, No Smelter Scenario in the Company's ECP filing? If not, please explain the differences (process, data assumptions, etc).
  - b. Other than the market price forecast, did PACE Global supply any other data that was used in the analysis. If so, please provide all information, documentation, etc, that PACE supplied for the production cost analysis.
  - c. If this scenario is different than the Build, No Smelter Scenario in the Company's ECP filing, provide a list of all assumptions that differentiated this case from the Build, No Smelters case in the ECP filing. Also, provide a fully populated, input database to the production cost model that was used to conduct the analysis and provide all results electronically from the production cost model used to develop that case. In addition, provide the input assumptions for the production cost model in excel spreadsheet format as the Company did for other cases supplied.
  - d. Finally, provide all models, workpapers, analyses, etc that were created and used to develop the results that are found on page 13 of the report. These models should be supplied electronically, with all referenced spreadsheets attached, and all formulas active.

- e. Provide all models, data assumptions, workpapers, analyses, etc. that were created to perform an economic analysis (Net Present Value or similar analysis). These models should be supplied electronically, with all referenced spreadsheets attached, and all formulas active.
- Q2.61 Concerning Scenario 2 of the Load Concentration Analysis:
  - a. Was that scenario the same scenario as the Buy, No Smelter Scenario in the Company's ECP filing? If not, please explain the differences (process, data assumptions, etc).
  - b. Other than the market price forecast, did PACE Global supply any other data that was used in the analysis. If so, please provide all information, documentation, etc, that PACE supplied for the production cost analysis.
  - c. If this scenario is different than the Buy, No Smelter Scenario in the Company's ECP filing, provide a list of all assumptions that differentiated this case from the Build, No Smelters case in the ECP filing. Also, provide a fully populated, input database to the production cost model that was used to conduct the analysis and provide all results electronically from the production cost model used to develop that case. In addition, provide the input assumptions for the production cost model in excel spreadsheet format as the Company did for other cases supplied.
  - d. Finally, provide all models, workpapers, analyses, etc that were created and used to develop the results that are found on page 14 of the report. These models should be supplied electronically, with all referenced spreadsheets attached, and all formulas active.
  - e. Provide all models, data assumptions, workpapers, analyses, etc. that were created to perform an economic analysis (Net Present Value or similar analysis). These models should be supplied electronically, with all referenced spreadsheets attached, and all formulas active.
- Q2.62 Concerning Scenario 3 of the Load Concentration Analysis:
  - a. Please provide the ACES market price forecast (referred to as lower market prices), and all models, assumptions, documentation, etc, used or produced in developing the market price forecast. Please supply all models and spreadsheets electronically, with all formulas active.
  - b. Provide a list of all assumptions that differentiated this case from the Buy, No Smelters case in the ECP filing. Also, provide a fully populated, input database to the production cost model that was used to conduct the analysis and provide all results electronically from the production cost model used to develop that case. In addition, provide the input assumptions for the production cost model in excel spreadsheet format as the Company did for other cases supplied.
  - c. Finally, provide all models, workpapers, analyses, etc that were created and used to develop the results that are found on page 15 of the report. These models should be supplied electronically, with all referenced spreadsheets attached, and all formulas active.
  - d. Provide all models, data assumptions, workpapers, analyses, etc. that were created to perform an economic analysis (Net Present Value or similar analysis). These models

should be supplied electronically, with all referenced spreadsheets attached, and all formulas active.

- Q2.63 Concerning Scenario 4 of the Load Concentration Analysis:
  - a. Provide a list of all assumptions that differentiated this case from Scenario 3 of the Load Concentration Analysis. Also, provide a fully populated, input database to the production cost model that was used to conduct the analysis and provide all results electronically from the production cost model used to develop that case. In addition, provide the input assumptions for the production cost model in excel spreadsheet format as the Company did for other cases supplied.
  - b. Finally, provide all models, workpapers, analyses, etc that were created and used to develop the results that are found on page 16 of the report. These models should be supplied electronically, with all referenced spreadsheets attached, and all formulas active.
  - c. Provide all models, data assumptions, workpapers, analyses, etc. that were created to perform an economic analysis (Net Present Value or similar analysis). These models should be supplied electronically, with all referenced spreadsheets attached, and all formulas active.

Q2.64 Concerning Scenario 5 of the Load Concentration Analysis:

- a. Provide a list of all assumptions that differentiated this case from Scenario 1 of the Load Concentration Analysis. Also, provide a fully populated, input database to the production cost model that was used to conduct the analysis and provide all results electronically from the production cost model used to develop that case. In addition, provide the input assumptions for the production cost model in excel spreadsheet format as the Company did for other cases supplied.
- b. Finally, provide all models, workpapers, analyses, etc that were created and used to develop the results that are found on page 17 of the report. These models should be supplied electronically, with all referenced spreadsheets attached, and all formulas active.
- c. Provide all models, data assumptions, workpapers, analyses, etc. that were created to perform an economic analysis (Net Present Value or similar analysis). These models should be supplied electronically, with all referenced spreadsheets attached, and all formulas active.
- Q2.65 Concerning Scenario 6 of the Load Concentration Analysis:
  - a. Provide a list of all assumptions that differentiated this case from Scenario 4 of the Load Concentration Analysis. Also, provide a fully populated, input database to the production cost model that was used to conduct the analysis and provide all results electronically from the production cost model used to develop that case. In addition, provide the input assumptions for the production cost model in excel spreadsheet format as the Company did for other cases supplied.
  - b. Finally, provide all models, workpapers, analyses, etc that were created and used to develop the results that are found on page 18 of the report. These models should be

supplied electronically, with all referenced spreadsheets attached, and all formulas active.

- c. Provide all models, data assumptions, workpapers, analyses, etc. that were created to perform an economic analysis (Net Present Value or similar analysis). These models should be supplied electronically, with all referenced spreadsheets attached, and all formulas active.
- Q2.66 Concerning Scenario 7 of the Load Concentration Analysis:
  - a. Provide a list of all assumptions that differentiated this case from Scenario 6 of the Load Concentration Analysis. Also, provide a fully populated, input database to the production cost model that was used to conduct the analysis and provide all results electronically from the production cost model used to develop that case. In addition, provide the input assumptions for the production cost model in excel spreadsheet format as the Company did for other cases supplied.
  - b. Finally, provide all models, workpapers, analyses, etc that were created and used to develop the results that are found on page 19 of the report. These models should be supplied electronically, with all referenced spreadsheets attached, and all formulas active.
  - c. Provide all models, data assumptions, workpapers, analyses, etc. that were created to perform an economic analysis (Net Present Value or similar analysis). These models should be supplied electronically, with all referenced spreadsheets attached, and all formulas active.
- Q2.67 Concerning Scenario 8 of the Load Concentration Analysis:
  - a. Provide a list of all assumptions that differentiated this case from Scenario 1 of the Load Concentration Analysis. Also, provide a fully populated, input database to the production cost model that was used to conduct the analysis and provide all results electronically from the production cost model used to develop that case. In addition, provide the input assumptions for the production cost model in excel spreadsheet format as the Company did for other cases supplied.
  - b. Finally, provide all models, workpapers, analyses, etc that were created and used to develop the results that are found on page 20 of the report. These models should be supplied electronically, with all referenced spreadsheets attached, and all formulas active.
  - c. Provide all models, data assumptions, workpapers, analyses, etc. that were created to perform an economic analysis (Net Present Value or similar analysis). These models should be supplied electronically, with all referenced spreadsheets attached, and all formulas active.
- Q2.68 In the ECP filing production cost analyses, ACES used a single reference case fuel forecast, market price forecast, allowance price forecast from PACE Global even though PACE supplied 200 iterations.
  - a. In the Load Concentration Study, was the same approach used in which a single reference case forecast for market prices, fuel costs, and allowance prices were used?

- b. If not, please explain why it was appropriate to conduct the studies differently?
- c. If so, please explain why single forecasts were used when PACE created multiple iterations.
- Q2.69 On page 23 of the Load Concentration Study report, it states that Big Rivers will continue to conduct analyses. What analyses have been conducted since the Draft Report has been produced, or will be conducted? Please provide a detailed description of what have been or will be conducted.
- Q2.70 Concerning the LMP Impact Study Loss of Smelter Load
  - Please explain how results of this study factored into any results filed in the Company's ECP filing, or factored into any of the Scenarios 1 – 8 of the Load Concentration Analysis.
  - b. Please provide all outputs from the LMP Impact Study that were treated as inputs to any study discussed in part a of this question.
  - c. Why wasn't the PROMOD model used to conduct the studies discussed in part a of this question?
- Q2.71 Regarding the PACE Global MISO Power Price Assessment dated January 12, 2012
  - a. Are the reference price forecasts the same as what were used in the ACES analyses for the ECP Filing (Base Case, Build Case, etc)?
  - b. Please provide an explanation of how the forecasts found on page 4 relate to the 200 iteration forecasts found in PACE\_Big Rivers Data Request Outputs\_120524.xlsx.
    Explain the difference in the way that the forecasts were created, and the difference in the way that the forecasts were used in any studies.
  - c. Please supply all models, input data assumptions, spreadsheets, and documentation of any type, used in creating the data found on page 4 (HH Gas Prices), page 5 (coal prices), page 7 (CO2 prices), page 10 12 (market prices), and results found on pages 13 15. Also spreadsheets and models, should be provided electronically, with all formulas included. The spreadsheets and models for the data found on these pages should also be provided.
  - d. Page 17 indicates that PACE Global would supply detailed data on MISO power price projections. Please supply the detailed data that PACE Global supplied to Big Rivers. This should be provided electronically, and all spreadsheets and models should have all referenced spreadsheets included and all formulas included.

Respectfully submitted,

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