COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In The Matter of:

ELECTRONIC APPLICATION OF KENTUCKY	)	
UTILITIES COMPANY FOR AN ADJUSTMENT	)	CASE NO.
OF ITS ELECTRIC RATES AND FOR CERTIFICATES	)	2016-00370
OF PUBLIC CONVENIENCE AND NECESSITY	)	
	)	

ATTORNEY GENERAL'S INITIAL DATA REQUESTS

Comes now the intervenor, the Attorney General of the Commonwealth of Kentucky, by and through his Office of Rate Intervention, and submits these Initial Data Requests to Kentucky Utilities Company [hereinafter "KU" or "Company"] to be answered by the date specified in the Commission's Order of Procedure, and in accord with the following:

(1) In each case where a request seeks data provided in response to a staff request, reference to the appropriate request item will be deemed a satisfactory response.

(2) Identify the witness who will be prepared to answer questions concerning each request.

(3) Repeat the question to which each response is intended to refer. The Office of the Attorney General can provide counsel for KU with an electronic version of these questions, upon request.

(4) These requests shall be deemed continuing so as to require further and supplemental responses if the company receives or generates additional information within the scope of these requests between the time of the response and the time of any hearing conducted hereon.

(5) Each response shall be answered under oath or, for representatives of a public or private corporation or a partnership or association, be accompanied by a signed certification of the preparer or person supervising the preparation of the response on behalf of the entity that the response is true and accurate to the best of that person's knowledge, information, and belief formed after a reasonable inquiry.

(6) If you believe any request appears confusing, request clarification directly from Counsel for the Office of Attorney General.

(7) To the extent that the specific document, workpaper or information as requested does not exist, but a similar document, workpaper or information does exist, provide the similar document, workpaper, or information.

(8) To the extent that any request may be answered by way of a computer printout, identify each variable contained in the printout which would not be self-evident to a person not familiar with the printout.

(9) If the company has objections to any request on the grounds that the requested information is proprietary in nature, or for any other reason, notify the Office of the Attorney General as soon as possible.

(10) As used herein, the words ''document'' or ''documents'' are to be construed broadly and shall mean the original of the same (and all non-identical copies or drafts thereof) and if the original is not available, the best copy available. These terms shall include all information recorded in any written, graphic or other tangible form and shall include, without limiting the generality of the foregoing, all reports; memoranda; books or notebooks; written or recorded statements, interviews, affidavits and depositions; all letters or correspondence; telegrams, cables and telex messages; contracts, leases, insurance

policies or other agreements; warnings and caution/hazard notices or labels; mechanical and electronic recordings and all information so stored, or transcripts of such recordings; calendars, appointment books, schedules, agendas and diary entries; notes or memoranda of conversations (telephonic or otherwise), meetings or conferences; legal pleadings and transcripts of legal proceedings; maps, models, charts, diagrams, graphs and other demonstrative materials; financial statements, annual reports, balance sheets and other accounting records; quotations or offers; bulletins, newsletters, pamphlets, brochures and all other similar publications; summaries or compilations of data; deeds, titles, or other instruments of ownership; blueprints and specifications; manuals, guidelines, regulations, procedures, policies and instructional materials of any type; photographs or pictures, film, microfilm and microfiche; videotapes; articles; announcements and notices of any type; surveys, studies, evaluations, tests and all research and development (R&D) materials; newspaper clippings and press releases; time cards, employee schedules or rosters, and other payroll records; cancelled checks, invoices, bills and receipts; and writings of any kind and all other tangible things upon which any handwriting, typing, printing, drawings, representations, graphic matter, magnetic or electrical impulses, or other forms of communication are recorded or produced, including audio and video recordings, computer stored information (whether or not in printout form), computer-readable media or other electronically maintained or transmitted information regardless of the media or format in which they are stored, and all other rough drafts, revised drafts (including all handwritten notes or other marks on the same) and copies of documents as hereinbefore defined by whatever means made.

(11) For any document withheld on the basis of privilege, state the following: date; author; addressee; indicated or blind copies; all persons to whom distributed, shown, or explained; and, the nature and legal basis for the privilege asserted.

(12) In the event any document called for has been destroyed or transferred beyond the control of the company, state: the identity of the person by whom it was destroyed or transferred, and the person authorizing the destruction or transfer; the time, place, and method of destruction or transfer; and, the reason(s) for its destruction or transfer. If destroyed or disposed of by operation of a retention policy, state the retention policy.

(13) Provide written responses, together with any and all exhibits pertaining thereto, in one or more bound volumes, separately indexed and tabbed by each response, in compliance with Kentucky Public Service Commission Regulations.

Respectfully submitted,

ANDY BESHEAR
ATTORNEY GENERAL

KENT A. CHANDLER
LAWRENCE W. COOK
REBECCA W. GOODMAN
ANGELA M. GOAD
ASSISTANT ATTORNEYS GENERAL
1024 CAPITAL CENTER DRIVE,
SUITE 200
FRANKFORT KY 40601-8204
(502) 696-5453
FAX: (502) 573-8315
Rebecca.Goodman@ky.gov
Larry.Cook@ky.gov
Kent.Chandler@ky.gov
Angela.Goad@ky.gov

Certificate of Service and Filing

Counsel certifies that: (a) the foregoing is a true and accurate copy of the same document being filed in paper medium; (b) pursuant to 807 KAR 5:001 § 8(7)(c), there are currently no parties that the Commission has excused from participation by electronic means in this proceeding; and (c) the original and six (6) copies in paper medium is being filed with the Commission no later than the second day after this electronic filing.

I further certify that in accordance with 807 KAR 5:001 § 4 (8), the foregoing is being contemporaneously provided via electronic mail to:

Hon. Kendrick Riggs
kendrick.riggs@skofirm.com

Hon. W. Duncan Crosby
duncan.crosby@skofirm.com

Hon. Lindsey W. Ingram III
l.ingram@skofirm.com

Hon. Monica Braun
monica.braun@skofirm.com

Hon. Gerald E. Wuetcher
gerald.wuetcher@skofirm.com

Hon. Sara Veeneman
sara.veeneman@lge-ku.com

Hon. Allyson Sturgeon
Allyson.Sturgeon@lge-ku.com

Hon. Iris Skidmore
batesandskidmore@gmail.com

Hon. Michael L. Kurtz
mkurtz@bkllawfirm.com

Hon. Jody Kyler Cohn
jkylercohn@bkllawfirm.com

Hon. Kurt Boehm
KBoehm@bkllawfirm.com

Hon. Robert C. Moore
rmoore@stites.com

Hon. David Barberie
dbarberi@lfucg.com

Hon. Andrea C. Brown
abrown2@lexingtonky.gov

Hon. Janet M. Graham
Jgraham@lexingtonky.gov

Hon. Jim Gardner
jgardner@sturgillturner.com

Hon. Todd Osterloh
tosterloh@sturgillturner.com

Robert Conroy
robert.conroy@lge-ku.com

Hon. Barry A. Naum
bnaum@spilmanlaw.com

Hon. Don C.A. Parker
dparker@spilmanlaw.com

Hon. Carrie M. Harris
charris@spiImanlaw.com

Hon. Joe F. Childers
Childerslaw81@gmail.com

Hon. Laurence Zielke
lzielke@zielkefirm.com

Hon. Janice Theriot
jtheriot@zielkefirm.com

Hon. Megan R. Grant
mgrant@sheppardmullin.com

Hon. Gardner F. Gillespie
ggillespie@sheppardmullin.com

Hon. Paul A. Werner
pwerner@sheppardmullin.com

Hon. Cheryl R. Winn
crwinn@waterslawgroup.com

Hon. Gregory T. Dutton
gdutton@goldbergsimpson.com

Hon. Carrie A. Ross
cross@sheppardmullin.com

Hon. Matthew R. Malon
mmalone@hdmfirm.com

Hon. William H. May, III
bmay@hdmfirm.com

This 11th day of January, 2017

____
Assistant Attorney General

I. REVENUE REQUIREMENTS

1. Provide any and all workpapers KU used to produce the schedules in the Company's filing, testimony exhibits, and Filing Requirements. To the extent they are in Excel (or similar spreadsheet program), provide such workpapers electronically, with formulas and calculations intact.

2. Provide the Excel files, with formulas and calculations intact that were used to produce the Company's filing, testimony, exhibits, studies, and workpapers.

3. For each KU witness that filed testimony, provide a complete set of workpapers supporting the witness's testimony and exhibits.

4. For each KU witness that filed testimony, identify all documents relied upon by the witness.

5. To the extent not already provided in response to discovery or other filings made in the current KU rate case, or in the witness' workpapers being provided in response to data requests, provide a copy of the documents relied upon by each KU witness.

6. For each KU witness filing testimony, provide the testimony electronically in native format (e.g., Word) and provide all exhibits and supporting calculations electronically in native format (e.g., Excel).

7. Reference KU's Application generally. Provide the rationale and justification for applying a large bulk of the rate increase upon the customer charge instead of upon the usage charge.

    a. Does the Company admit that by placing a large percentage of the rate increase upon the customer charge it will deprive its customers of the monetary incentive for conserving energy through less usage?
    b. Identify what incentives residential customers will have to conserve energy if the Company's requested rate design is approved.
    c. Does the Company acknowledge that many, if not most of its residential members would prefer to retain the ability to control the amount of the bill they owe, and that many are likely to view the company's proposal to place a large majority of the proposed increase on the monthly customer charge as an attempt to eliminate their ability to control the amount of their bill? Cite all studies the Company has conducted of its own ratepayer base to support the Company's decision to seek the proposed rate design in the instant case.

8. Provide copies of all studies that the Company has conducted addressing the impact that the proposed rate design will have on the elderly, low income, fixed income, and

home bound segments of its ratepayer base. Provide detailed information for each specified group.

9. State whether the Company's proposed conversion from a just-in-time approach to a five-year cycled approach to transmission vegetation management will:

    a. reduce O&M expense, and if so, by what amount;
    b. reduce both recurring annual transmission and distribution plant investment and removal costs due to longer line and equipment life; and
    c. increase revenues due to increased usage, which otherwise would have been foregone during outages; and
    d. increase the useful life of assets, and therefore lengthen the assets depreciation rates.

10. For each $1 million spent in the proposed distribution and transmission vegetation management, state the percentage improvement the Company expects to produce in the CAIDI, SAIFI, SAIDI indices.

11. Identify the Company's ten (10) worst-performing circuits.

12. How does the Company's proposed distribution and transmission maintenance spending give priority to its ten (10) worst-performing circuits, or would all circuits receive the same priority? Explain fully.

13. Provide the Company's line loss figures for each of the past ten (10) years.

14. Provide the annual actual late payment revenues for each year 2015 through 2016, and through the end of test year.

15. Reference the Application generally. How many customer complaints has the Company received in the past five (5) years? Provide the specific number of customer complaints for each year through 2016.

    a. How many customer complaints has the Company received specifically upon electricity outages?
    b. How many customer complaints has the Company received specifically upon the processes to report an electricity outage?

16. Reference the Application generally. What process(es) does the Company have in place to address customer complaints? Explain in full detail.

17. Reference the Application generally. What process(es) does the Company have in place for a customer to alert the Company that there is an electricity power outage?

18. Reference the Company's lead-lag study. Provide the electronic Excel files, with formulas and calculations intact, which were used to produce the lead-lag study that was used for the current rate case.

19. Data requests of others: With regard to all data requests served on the Company concerning the testimony of KU witnesses and other issues being addressed in this proceeding and to the extent that any of the responses to these data requests involve calculations using a program such as Microsoft Excel or Access, provide a complete copy of the electronic files, with formulas, calculations, macros, and cell references intact.

20. Provide the detailed chart of accounts used by the Company during the test year, and how the accounts used by the Company relate to and correspond with the FERC Uniform System of Accounts. Update for any subsequent changes.

21. Provide a complete copy of KU's detailed general ledger for 2015 and 2016. In addition, provide new monthly data as it becomes available through the course of this proceeding.

22. Provide a copy of KU's trial balances for 12/31/2015, 12/31/2016, and 9/30/2016. In addition, provide new monthly data as it becomes available throughout the course of this proceeding.

23. Provide a complete copy of all of the Company's internal accounting manuals, directives, policies, and procedures.

24. Provide a list of all internal audit reports for 2015 and 2016 to date, for departments and/or operations which charge costs to KU.

25. Gross Revenue Conversion Factor (GRCF). Refer to Schedule H-1. Show in detail how each of the following items was derived. Include all supporting calculations electronically in Excel and include all supporting workpapers and documentation.
    a. UNCOLLECTIBLE ACCOUNTS EXPENSE
    b. PSC FEES
    c. PRODUCTION ACTIVITIES DEDUCTION-STATE
    d. PRODUCTION ACTIVITIES DEDUCTION-FEDERAL

26. Provide the monthly level of prepaid taxes by type of tax for each month of 2015 and 2016.

27. Provide the monthly level of Materials and Supplies in total and by type for 2015 and 2016.

28. Provide the monthly level of Contributions in Aid of Construction for 2015 and 2016.

29. Provide the monthly level of Customer Advances for 2015 and 2016.

30. Provide the monthly level of Deferred Maintenance by component for 2015 and 2016.
    a. Identify and explain each item of Deferred Maintenance, when it first arose, when amortization commenced, when amortization will be completed, why the maintenance was deferred, and commission authorization for each maintenance item that is being deferred.

31. Provide the monthly level of Deferred Debits by component for 2015 and 2016.
    a. Identify and explain each item of Deferred Debits, when it first arose, when amortization commenced, when amortization will be completed, why the cost was deferred, and commission authorization for each Deferred Debit item that is being requested for inclusion in rate base.

32. Provide the monthly level of Prepaid Pension for 2015 and 2016.

33. Provide the monthly level of Accrued Pension for 2015 and 2016.

34. Provide the monthly level of each Deferred Credit item on KU's balance sheet for 2015 and 2016.

35. Accumulated Deferred Income Taxes (ADIT).
    a. Provide a detailed itemization of each item of ADIT, in total, as of 12/31/2014, 12/31/2015, 9/30/2016, and 12/31/2016.
    b. Provide the monthly level of Accumulated Deferred Income Taxes, by timing difference item, for 2015 and 2016.

c. For each item, identify the book/tax-timing difference that caused the ADIT, explain when that temporary timing difference first arose, identify the amount of the timing difference as of each date, and describe in detail whether and how that particular timing difference relates to an item of utility rate base, utility revenue and/or utility expense, and how the related item has been reflected in the Company's filing for ratemaking purposes.

36. Accumulated Deferred Income Taxes (ADIT). Identify by amount and account, the corresponding regulatory asset/(liability) and/or other deferred debit/(credit) relating to each item that comprises the total ADIT that KU has included in rate base. For each component of ADIT, provide the following information:

   a. Description of each item of ADIT that comprises the total amount KU has reflected in rate base.
   b. Balance sheet account in which KU recorded the ADIT.
   c. Related deferred asset, deferred credit, or liability account for each component of ADIT.
   d. Identification of whether and where the related deferred asset, deferred credit, or liability account for each component of ADIT is included in KU's proposed rate base, and for each item, if not, a detailed explanation of why not.

37. Provide the following monthly KU labor data, in total, for December 31, 2014 through December 31, 2016, showing annual totals:

   a. Number of actual employees broken down between type (e.g. salaried, hourly, union, non-union, temporary, etc.).
   b. Number of authorized employees broken down between type (e.g. salaried, hourly, union, non-union, temporary, etc.).
   c. Regular payroll broken down between expensed, capitalized, and other.
   d. Overtime payroll broken down between expensed, capitalized, and other.
   e. Temporary payroll broken down between expensed, capitalized, and other; and
   f. Other payroll (specify).

38. Provide the following monthly Company labor data, in total, for December 31, 2014 through December 31, 2016, showing annual totals:

   a. Number of actual employees broken down between type (e.g. salaried, hourly, union, non-union, temporary, etc.).
   b. Number of authorized employees broken down between type (e.g. salaried, hourly, union, non-union, temporary, etc.).
   c. Regular payroll broken down between expensed, capitalized, and other.

d. Overtime payroll broken down between expensed, capitalized, and other.
e. Temporary payroll broken down between expensed, capitalized, and other; and
f. Other payroll (specify).

39. Provide the actual number of KU employees for each month in 2014, 2015, and 2016.

40. Provide the actual number of employees at each affiliate that charges cost to KU for each month in 2014, 2015, and 2016.

41. Provide the budgeted number of KU employees for each month in 2014, 2015, and 2016.

42. Provide the budgeted number of employees at each affiliate that charges cost to KU for each month in 2014, 2015, and 2016.

43. Provide a detailed explanation of all variations between actual and budgeted employee counts for 2015 and 2016.

44. Provide the wage rate increases granted by KU by date and employee category for 2014, 2015, and 2016.

45. Provide the wage rate increases projected by KU by date and employee category for 2017 and 2018.

46. Does KU's application include any cost for anticipated 2017 or 2018 wage or salary increases? If so, identify the amounts by account, identify the related increases, and provide the support relied upon for each increase.

47. Does KU's application include any cost for anticipated LKS (LG&E and KU Services Company) 2017 or 2018 wage or salary increases? If so, identify the amounts, identify the related increases, and provide the support relied upon for each increase.

48. Provide the wage rate increases granted by LKS and each other affiliate that charges cost to KU by date and employee category for 2014, 2015 and 2016.

49. Indicate if the employee positions used in the Company's labor calculations are authorized or actually filled positions. Identify, quantify, and explain all labor-related costs in KU's filing that is for positions that had not been filled as of December 31, 2016.

50. The 2015 FERC Form 60 for PPL Services Corporation at page 307 shows $16,010,878 of charges to LG&E and KU Services Company.
    a. How much of that was charged to KU?
    b. Show the amounts charged to KU by account.
    c. Why is PPL Services Corporation allocating cost to LG&E and KU Services Company?
    d. How much cost by account has KU reflected for charges from PPL Services Corporation for the base period and projection period?
    e. How much cost by account has KU reflected for charges from LG&E and KU Services Company for the base period and projection period?

51. How many service companies exist in the overall PPL organization, which functions are performed by each affiliated service company, and why are there different service companies serving the utility operations in Kentucky and Pennsylvania?
    a. Are there any plans to consolidate the affiliated service companies? If not, explain fully why not. If so, explain.
    b. Provide copies of any and all studies that may have been performed regarding the feasibility and/or cost effectiveness of merging the affiliated service companies.

52. Provide a detailed list of responsibilities and duties that eligible incentive compensation employees must have or perform in addition to those necessary to meet the standards for base salary compensation in order to receive incentive compensation.

53. Explain what adjustments, if any, were made to base salary compensation levels of eligible incentive compensation employees at the time any such incentive compensation plan(s) were initiated.

54. Explain how the Company determines that the achievements of any incentive compensation goals are reached as a result of the incentive compensation plan, as opposed to other reasons. Provide all supporting empirical data.

55. Provide a description of KU's merit and cost of living wage rate increase policies.

56. Provide a description of the merit and cost of living wage rate increase policies for each affiliate that charges cost to KU.

57. Does the Company anticipate reducing the number of employees, including any voluntary early retirement or other force reduction programs, during 2017 or 2018? If yes, state the timing and number of affected employees. Also state the projected costs and savings of any such plan.

58. Do any affiliates that charge cost to KU anticipate reducing the number of employees, including any voluntary early retirement or other force reduction programs, during 2017 or 2018? If yes, state the timing and number of affected employees. Also state the projected costs and savings of any such plan.

59. Payroll. Explain how the Company determines that its work force level is not excessive and provide all related supporting documentation.

60. Payroll. Provide complete calculations, documents, and supporting workpapers for the projected period amounts of payroll cost, by account, by position, that KU has reflected in its filing.

61. Executive Compensation. Explain fully and in detail how KU and separately, each affiliate that charges cost to KU, determine that the total compensation package for executives, and/or separate parts thereof, reasonably compare with the competitive markets for such executives. In addition, provide copies of all related surveys, analyses, studies, etc.

62. Stock-Based Compensation.
    a. List, by amount and account, all stock-based compensation expense charged to KU during the test year, including but not limited to executive stock options, performance share awards, accruals made pursuant to ASC 718

(formerly SFAS 123R) and any other stock-based compensation awards that resulted in cost being charged to KU during the test year.

b. Provide a description of each distinct stock-based compensation program that resulted in charges to KU during the test year.
c. List, by amount and account, all stock-based compensation expense in KU's cost of service for the rate effective period, including but not limited to executive stock options, performance share awards, accruals made pursuant to ASC 718 (formerly SFAS 123R), and any other stock-based compensation awards that were charged to KU during the rate effective period.
d. Provide a description of each distinct stock-based compensation program that is included in the charges to KU during 2015 and 2016.

63. Stock-Based Compensation.

a. List, by amount and account, all affiliate stock-based compensation expense charged to KU during the test year, including but not limited to executive stock options, performance share awards, accruals made pursuant to ASC 718 (formerly SFAS 123R), and any other stock-based compensation awards that resulted in cost being charged or allocated to KU during the test year.
b. Provide a description of each distinct affiliate stock-based compensation program that resulted in charges or allocations to KU during the test year.
c. List, by amount and account, all stock-based compensation expense in KU's cost of service for the rate effective period, including but not limited to executive stock options, performance share awards, accruals made pursuant to ASC 718 (formerly SFAS 123R) and any other stock-based compensation awards that were charged or allocated to KU during the rate effective period.
d. Provide a description of each affiliate's stock-based compensation program that is included in the charges or allocations to KU during the test year and the rate effective period.

64. Supplemental Executive Retirement Program (SERP).

a. Provide the level of SERP expense, by account, included in the Company's cost of service for the test year.
b. Provide the level of SERP expense, by account, included in the Company's cost of service for the rate effective period.
c. Provide the comparable SERP expense for each calendar year 2014, 2015, and 2016.
d. Provide the most recent three actuarial reports for SERP.
e. Provide all actuarial studies, reports, and estimates used for SERP for the rate effective period.

f. If different for affiliated SERP costs charged or allocated to KU, also answer parts a-e above for each affiliate that incurred SERP costs that were charged or allocated to KU.

65. Defined Benefit Plan pension expense.

a. Provide the level of Defined Benefit Plan pension expense, by account, included in the Company's cost of service for the test year.
b. Provide the comparable Defined Benefit Pension Plan expense for each year, 2015 and 2016.
c. Provide the most recent three actuarial reports for Defined Benefit Pension Plan.
d. Provide all actuarial studies, reports, and estimates used for Defined Benefit Pension Plan for the test year.

66. Other Post Employment Benefits (OPEB) expense.

a. Provide the level of OPEB expense, by account, included in the Company's cost of service for the test year.
b. Provide the level of OPEB expense, by account, included in the Company's cost of service for the rate effective period.
c. Provide the comparable OPEB expense for each year, 2015 and 2016.
d. Provide the most recent three actuarial reports for OPEB.
e. Provide all actuarial studies, reports, and estimates used for OPEB for the test year.

67. Provide the following for each employee position during 2015 and 2016 that experienced a change of incumbent:

a. Position title;
b. Employee replaced;
c. Annual salary of replaced employee;
d. Replacement employee;
e. Annual salary of replacement employee; and
f. Date of replacement

68. Provide a description of each employee benefit program or plan.

a. Also show the related test year cost.
b. Provide this information:
    i. For KU employees

ii. For affiliate employees that had charged or allocated cost to KU during the test year.

69. Concerning worker's compensation expense:

    a. Provide the most current workers' compensation premiums and related invoices.
    b. Show in detail how the current workers' compensation premiums and/or invoices were used to derive KU's requested amount of workers' compensation cost.
    c. Reconcile the amount of KU's requested amount of workers' compensation cost to the most current invoices. Identify, quantify, and explain all differences.

70. Concerning health care cost:

    a. Provide the most current health care premiums and related invoices.
    b. Show in detail how the current health care premiums and/or invoices were used to derive KU's requested amount of health care cost.
    c. Reconcile the amount of KU's requested amount of health care cost to the most current invoices. Identify, quantify, and explain all differences.

71. Provide the basis for the Company's cost of each separate employee benefit (e.g., flat rate per employee, percentage of payroll, claims experience, etc.), and provide the most current known cost rate for each separate benefit.

72. Provide the monthly level of each separate benefit cost broken down between expensed, capitalized, and other for 2015 and 2016 with annual totals.

73. Provide the level of accumulated pension plan funding at December 31, 2015 and December 31, 2016 and estimated for February 28, 2017 and for June 30, 2018, and explain how such amounts are treated for ratemaking purposes, and why.

74. Provide an analysis (description, dates and amounts) of any gains or losses on utility property sold during 2014, 2015, and 2016. Also, explain how such amounts have been treated for ratemaking purposes.

75. Provide the level of country club dues incurred in the test year by account and indicate how they have been treated for ratemaking purposes.

a. Also, show amounts of affiliate country club costs charged to KU.

76. Provide the level of lobbying included in cost of service by separate payee, along with a description of each payee. In addition, indicate how lobbying expense has been treated for ratemaking purposes.

    a. Also, show amounts of affiliate lobbying costs charged to KU.

77. Provide the requested level of self-funded reserve accruals and balances for all types of injuries, claims, and damages by type of item.

78. Does KU have any self-funded reserves? If so, provide the following monthly data for each separate type of self-funded reserve for injuries, claims and damages in 2014, 2015, and 2016, by account, and provide the level reflected in revenue requirement and explain how such amounts have been treated for ratemaking purposes. Also, provide new monthly data as it becomes available through the course of this proceeding.

    a. Accruals;
    b. Actual claims; and
    c. Balance

79. Identify the amounts included in cost of service during the test year for the following items:

    a. Membership dues in service, social and professional organizations (identify);
    b. Lobbying expenses;
    c. Charitable contributions;
    d. Investor relations expenses; and
    e. Public relations expense, including an explanation of the nature and purpose of the activities

80. Rate Case Expense.

    a. Identify the test year, filing date and rate effective date for the Company's last three rate cases.
    b. Provide the level of rate case expense incurred for the last five rate cases broken down by payee or type of activity.

i. Also, indicate which cases were settled and which were litigated. For the settled cases, also indicate at which stage they were settled (e.g., after KU rebuttal, before hearings, etc.).

c. Explain fully and in detail why the Company normalized rate case expense over its proposed amortization period versus some other period.

81. Provide, in list form, the details of all judgments and/or settlements resulting from suits brought which involved the Company, its parent, and each of its affiliates that charge cost to KU, as a defendant in 2015 or 2016, which resulted in the payment or agreement to pay or being ordered to pay an amount in excess of $10,000, including but not limited to:

   a. The case name;
   b. The date filed;
   c. The date of settlement or the date of judgment; and
   d. The amount the Company was ordered or agreed to pay
   e. Provide this information even if appeals are pending and note every instance of an appeal.

82. Outside Services Expense. Provide an itemization of outside services expense in excess of $20,000 for 2015 and 2016. Indicate in what accounts the amounts are recorded, or would be recorded when incurred for the budgeted/forecast items.

83. Provide the test year, and if different, the most recent actual property tax assessments, rates, and property tax payment amounts and payment dates.

84. Uncollectibles. Provide the following annual data related to uncollectible accounts for 2015 and 2016:

   a. Bad debt expense;
   b. Bad debt write-offs;
   c. Collections of written-off accounts;
   d. Billed revenues

85. Uncollectibles. Provide the net charge-off percentage for uncollectibles for 2015 and 2016. Explain any material variations in the percentage between years.

86. Filing Information. As the Company discovers errors in its filing, identify such errors and provide documentation to support any changes. Update this response as additional information becomes available.

87. Precedent. Are there any aspects of the Company's accounting adjustments and revenue requirement claim which represents a conscious deviation from the principles and policies established in prior Commission Orders? If so:

    a. Identify each area of deviation, and for each deviation, explain the Company's perception of the principle established in the prior Commission Orders.
    b. Explain how the Company's proposed treatment in this rate case deviates from the principles established in the prior Commission Orders.
    c. Explain the dollar impact resulting from such deviation. Show which accounts are affected and the dollar impact on each account for each such deviation.

88. Injuries and Damages. State the amount of injuries and damages expense for 2015 and 2016.

89. Insurance Expense. Itemize each component of insurance expense included in the test year, and provide comparative information for calendar years 2015 and 2016. Indicate the accounts and amounts in which each item of insurance is recorded.

90. Legal Expense. Itemize the amount of non-rate case legal expense, by account, for the test year. For each distinct item over $20,000, show payee, amount, account, and indicate what services were performed and what the subject matter of the services was.

91. Are any one time or non-recurring expenses included in the test year? If so, provide the dollar amount, account and a brief description of the expense.

92. Pension Expense.

    a. Reconcile the amount of pension expense in the test year to the most recent actuarial reports concerning the determination of the net periodic benefit cost for each pension plan in which KU employees participate. Identify, quantify, and explain each reconciling item.
    b. Reconcile the amount of pension expense in the test year to the most recent actuarial reports concerning the determination of the net periodic benefit cost for each pension plan in which affiliate employees charging cost to KU participate. Identify, quantify, and explain each reconciling item.

93. OPEB Expense.

    a. Reconcile the amount of OPEB expense in the test year to the most recent actuarial reports concerning the determination of the net periodic benefit cost for each Postretirement Benefit Plan in which KU employees participate. Identify, quantify, and explain each reconciling item.
    b. Reconcile the amount of OPEB expense in the test year to the most recent actuarial reports concerning the determination of the net periodic benefit cost for each Postretirement Benefit Plan in which affiliate employees charging cost to KU participate. Identify, quantify, and explain each reconciling item.

94. Provide the consolidation pages and schedules for the parent company federal income tax returns for tax years 2013 through 2015.

95. For each KU and parent company pension plan for 2015 and 2016, provide a list of the pension plan investments by category or type of investment, and provide the earned return for each investment category for 2014, 2015, and 2016, and in total.

96. Provide an itemization of each project that is included in KU's test year request for inclusion of CWIP in rate base.

97. Show in detail how the CWIP included by KU in the test year was financed.

98. Provide the details of KU's AFUDC rates for each year, 2015 and 2016.

99. Provide a complete description of KU's procedures for accruing AFUDC including how KU identifies which construction projects accrue AFUDC.

100. Provide a detailed breakout of the affiliate labor costs included in the KU filing, including complete details on the costs included for each affiliate department and function that has charged or allocated cost to KU.

101. Affiliate management fee charges. Has KU included any costs in operating expenses or in rate base for affiliated management fee charges? If so, (a) provide the information that underlies the KU expenses for affiliate company cost allocations; (b)

provide similar information as of each of the following periods: (1) calendar 2014, (2) calendar 2015, and (3) calendar 2016.

102. Meter replacements. (a) Provide the dollar amount and quantity of meters, by type, (1) in service and (2) replaced as of December 31 for each of the past five years through December 31, 2016. (b) Provide the dollar amount and quantity of meters, by type, for each month of 2015 and 2016.

103. Provide a copy of the Company's meter change-out program.

104. Has the Company included any rate case expense in rate base? If so, explain fully why and identify by amount and account.

105. Does the Company's request for rate case expense include any amounts related to past cases? If not, explain fully why not. If so, identify the amount, and identify and explain the basis for including expense for past cases.

106. Identify each type of revenue based tax and revenue based assessment that was paid during the test year. Also, provide the related returns, and the amount and date of each such payment, and identification as to which type of revenue-based tax each such payment was for.

107. Has the Company included any plant in rate base for which the Company has not received permits to begin construction? If so, identify the amounts by account.

108. Pension Trust Fund Assets. Provide the following:

a. The overall expected rate of return used for pension assets;

b. The expected rates of return for alternative assets classes (long-term bonds, common stock) used in determining the overall expected rate of return used for pension assets; and

c. Copies of all documentation used in determining the expected rates of return for alternative assets classes (long-term bonds, common stock).

109. Show in detail how KU has reflected the inclusion of net negative salvage in accumulated depreciation (a rate base reduction).

110. Provide a list of the items included in the increase to rate base since the last case. In both cases, show the applicable accounts and amounts.

111. Identify and explain all new or upgraded software and systems costing over $20,000 per year for KU since the last KU rate case, including software and systems charged to KU from affiliates. For each new software and system:

a. Provide all costs and expenses associated with the software since inception. Include both capital costs associated with this software and as well as any O&M expenses. Include a description of each cost or expense.
b. For the costs and expenses shown in part a., indicate how much of each cost and expense was charged to KU.
c. Were any prudence reviews conducted prior to purchasing the software? If yes, provide those reviews. If not, explain why not.
d. Provide any cost-benefit studies conducted prior to purchasing such software.

112. Provide a copy of the KU and parent company Board of Directors minutes for 2015 and 2016.

113. Identify each KU and parent company Board committee. Provide a copy of the KU and parent company Board committee meeting minutes for 2015 and 2016.

114. List all procedures the Company follows to ensure that there was a proper assignment of costs to the test year and that the test year only includes charges incurred during the test period.

115. Provide a copy of each adjusting entry proposed by the Company's independent Auditors in the two most recent audits of the Company, the parent company, and the affiliated service company. Include supporting documentation.

116. Provide a copy of the Company's (and the parent company's) two most recent management letters and recommendations received from the Company's independent auditors.

117. Provide a copy of the Company's most recent management and operations audit.

118. Have there been any independent audits or regulatory commission sponsored reviews done of KU in 2015 or 2016? If so, identify each such review and provide a copy of the related reports and testimony.

119. Indicate whether and how check-clearing time was included in the revenue or expense lag calculations in the lead-lag study. If included in the study, indicate the number of days it added to the lead or lag by category.

120. If check-clearing time was not included in the revenue or expense lag calculations in the lead-lag study, indicate the number of days between the receipt of a customer's payment and the time the Company has use of the funds. Also, provide an estimate of the number of days after a check mailed to a vendor is reduced from the Company's bank account. If the number of days varies by type of expense or vendor, indicate those differences if known. Indicate any payments made by wire (in total by expense category).

121. Indicate whether tax payment lead days are calculated on actual or statutory percentages and payment dates in the cash working capital calculation.

122. Indicate whether in the cash working capital calculation, the payroll expense lead day result is based upon a composite of the separate net wage lag and withholding deposit period lag, or whether it is based on the single lag associated with gross wages (i.e., middle of pay period to payroll date).

123. Indicate the average period of time between rendering of service to customers to meter reading date (by type of customer if different), meter reading to billing date, and billing date to receipt of payment for Kentucky jurisdictional customers, if known; otherwise for total company if known.

124. Provide for each month from December 2014 to the present, the following information:

a. Monthly revenues
b. Accounts receivable
c. Allowance for Doubtful Accounts
d. Accounts receivable (aging and amounts) net of uncollectibles.

125. Customer Advances.

a. What is the ratemaking treatment for customer advances proposed by the Company in its filing? Where is such proposal found in the filing?
b. Provide the monthly level of customer advances for the period December 2014 through December 2016 and also provide monthly updates when available.
c. Provide the monthly interest expense paid by the Company on customer advances for the same period.

126. Customer Deposits.

a. What is the ratemaking treatment for customer deposits proposed by the Company? Where is such proposal found in the filing?
b. Provide the monthly level of customer deposits for the period December 2014 through December 2016.
c. Provide the monthly interest expense paid by the Company on customer deposits for the same period.

127. Customer Deposits.

a. What is the interest rate on customer deposits?
b. Identify the tariff or statute that establishes the interest rate.
c. Does the Company accrue interest on inactive customer deposits?
d. How often is interest on customer deposits paid?
e. Is interest on customer deposits paid by check, in the form of a bill credit, or credited as an addition to the customer deposit balance?
f. What is the Company's policy on customer deposits for collection, refund, and use as an offset against an uncollectible balance?
g. Provide a copy of the Company's policy(s) relating to customer deposits.

128. For the test year and the preceding two years, has the Company sold any property which had formerly been included in Plant Held for Future Use or devoted to utility service? If so, for each sale, describe the property sold; state whether, when and in what manner it had been included in rate base; show the details of how the gain or loss was calculated; indicate when the sale occurred; explain how and whether the Company is amortizing such gain or loss; and show how such amortization was computed.

129. The following questions are related to the Company's policies regarding accounting for CWIP, plant in service and depreciation:

a. For each item of CWIP which the Company has transferred into utility plant in service for purposes of this filing, has a full 12 months of depreciation expense been included in the cost of service?
b. For each item of CWIP which the company has transferred into utility plant in service for the purposes of this filing, has an amount representing a full 12 months of depreciation expense been added to the total accumulated depreciation by which rate base is reduced?
c. Provide the same information as requested in subsection b. above for the deferred taxes related to the depreciation timing differences.

130. List all revenue, expense, and rate base amounts by account included in the test year relating to any Company or affiliate owned or leased airport, airplane, and helicopter facilities, if applicable.

131. Has the Company included any amounts in its requested cost of service for affiliate owned or leased aircraft? If so, provide the following information:

a. the amount of expense in the test year by account.
b. the amount in the projected period through June 30, 2018 by account.
c. flight logs for all affiliate owned or leased aircraft for 2015 and 2016.

132. Identify how much of the Company's materials and supplies balance at December 31, 2014, December 31, 2015, and December 31, 2016 is related to construction activities.

133. Provide a copy of the parent company's corporate federal tax returns and supporting "M" schedules and all consolidating schedules for tax years 2014 and 2015.

134. Provide workpapers detailing the calculation of each statutory addition and deduction used in arriving at taxable income in the above calculation, as well as the calculations provided in the filing. Also provide a narrative explanation of the effect of each statutory addition and deduction on tax and/or book income, and the Internal Revenue Code Section or Treasury Regulation calling for the adjustment.

135. For tax years 2014 and 2015, provide a copy of the parent company and KU's Kentucky Corporate Income Tax Return and all other Kentucky Tax Returns. If separate returns were not prepared, provide the detailed worksheets that were used to prepare the consolidated return.

136. Provide the following information regarding deferred income taxes (DFIT):

a. Calculation of all timing differences reflected in DFIT; show book amount and tax amount; indicate when amounts were included in book and in tax returns;
b. Tax rate applied to each timing difference;
c. Calculation of actual DFIT;
d. If different, reconcile book amount per cost of service and book amount in DFIT calculation. Identify and quantify all reconciling items.
e. For each year 2015 and 2016, identify the gross and net additions to deferred taxes. Breakdown such additions within each year by sub-account, providing the number and name for each account and sub-account. For each item by year, reconcile the gross to net additions and explain how that reconciliation was derived.
f. For 2016 provide information requested in (e) above for each month.

137. State whether the Company has or will claim bonus tax depreciation on its federal or state tax return for 2016 and if so, list the KU 2016 plant additions by account and amount that are expected to qualify for 2016 bonus tax depreciation.

a. Also, show the estimated impact on test year ADIT from 2016 bonus tax depreciation.
b. If not included in its filing, specify the expected test year jurisdictional revenue requirement impact of including bonus tax depreciation allowance in the Company's overall cost of service for qualified property placed into service by June 30, 2018.
c. Provide all of the adjustments that would be necessary to produce the Company's test year jurisdictional revenue requirements that include the impact of bonus tax depreciation for qualified property placed in service prior to June 30, 2018, summarized for all applicable rate base and expense categories presented in the Company's Filing Requirements schedules.
d. The adjustments referenced in part b., above should allow for a complete assessment of the revenue requirement impact of inclusion of bonus tax depreciation on plant additions through June 30, 2018 in the overall cost-of-service. As part of this response, include all electronic workpapers with formulas intact used in the derivation of the bonus tax depreciation impact.

138. Does KU's filed rate base reflect impacts from bonus tax depreciation for plant additions made in 2016 and projected to be made in 2017 and in 2018 (through June 2018)?

a. If not, explain why not.
b. If so, identify the amounts and show how they were calculated.

139. List the name and business function of all Company subsidiaries and affiliates and separately list those which are included in this case, and which charged cost to KU during 2015 and 2016.

140. Provide a detailed derivation of 2014, 2015 and 2016 research and development credits, including:

a. A list of all research, development and experimentation expenditures, and for each item provide;
b. Separately the amounts payable to inside and outside contractors;
c. The amount payable in the test year;
d. The total expenditures to be expensed in determining federal taxable income; and
e. The total expenditures qualifying for the R & E credit under I.R.C. paragraph 44f.

141. In tax years 2014 or 2015, did the Company claim any tax deductions under section 174 of the Internal Revenue Code? If so, identify and explain each deduction claimed under section 174.

142. Identify all net operating loss carrybacks and carryforwards for KU for each tax year 2014 through 2016, and show in detail how KU has accounted for those on its books.

143. Provide detailed descriptions of any IRS audit, settlements with the Internal Revenue Service, or audit adjustments made during the three years ending December 31, 2016.

144. Provide a copy of any and all revenue ruling requests, IRS responses, and correspondence between the Company and the IRS during the ten years ending December 31, 2016.

145. List total property taxes and property tax refunds or abatements each year, for the test year and the most recent three calendar years, 2014 through 2016. Describe

and show the accounting treatment accorded to each item, showing journal entries, dates, accounts, amounts, and descriptions.

146. List all amounts of property taxes under dispute at December 31, 2016, and indicate the tax year and the taxing district to which each relates.

147. List all property tax refunds, by geographical area and taxing authority, by year, received in the most recent three years through 2016.

148. State whether any settlements, penalties or interest resulting from audits by taxing authorities are included in expense per books in the test year either as incurred by the Company or as charged to KU by an affiliate. If so, provide full details including the periods and issues resolved, the dollar amounts of settlement by issue, the taxing authority penalty or interest by issue, the taxing authority involved, the date of settlement, the current status of the payment, and the final resolution of the matter or status of the protest if unresolved.

149. Provide hard copies of all workpapers underlying the Depreciation Study. Provide Excel files for all portions of the Depreciation Study that were prepared using Excel.

150. Provide all notes taken during any meetings or site visits regarding the depreciation study. Identify by name and title all KU personnel who provided the information, and explain the extent of their participation and the information they provided.

151. Identify all plant tours taken during the preparation of the Depreciation Study.

a. Identify those in attendance and their titles and job descriptions.
b. Provide all conversation notes taken during the tour.
c. Provide all photographs and images taken during the tour.

152. Regarding the current and proposed depreciation rates:

a. How are the depreciation rates currently in use calculated?
b. Provide the details of KU's current depreciation rates in electronic format (Excel), with all formulae intact, including (1) Plant Balances, (2)

Accumulated Depreciation, (3) Net Plant, (4) Cost of Removal/Salvage, (5) Remaining Useful Life, (6) Annual Accrual, (7) Depreciation Ratio, etc.

153. Does the Company's depreciation study include any adjustment or calculation to amortize the variance between the book depreciation reserve and the calculated accrued depreciation?

a. If so, provide that calculation in electronic (Excel) format with all formulae intact. If not, explain fully why not.
b. Based on the Company's calculations, does KU have a reserve excess or deficiency?
c. Is KU proposing any amortization of any reserve imbalance? If yes, explain where that is shown in his study and also in the Company's revenue requirement filing.

154. Provide all internal and external audit reports, management letters, consultants' reports, etc. which address in any way, the Company's property accounting and/or depreciation practices.

155. Provide copies of all Board of Director's minutes and internal management meeting minutes in which the subject of the Company's depreciation rates or retirement unit costs was discussed.

156. Provide copies of all internal correspondence which deals in any way with the Company's retirement unit costs, depreciation rates, and/or the 2015 Depreciation Study.

157. Provide copies of all industry statistics used by the Company and witness Spanos relating to electric company depreciation rates.

158. Identify all industry statistics upon which KU witness Spanos relied in formulating the depreciation proposals.

159. Provide explanatory examples of the debits and credits relating to customer advances and contributions-in-aid of construction.

160. Provide explanatory examples of the debits and credits relating to the accounts for which depreciation is charged to clearing accounts.

161. Provide a copy of the Company's current capitalization policy. If the policy has changed at all since 2014, provide a copy of all prior policies in effect during any portion of that period.

162. Identify and explain all changes since the last depreciation study which might affect depreciation rates.

163. Provide on diskette or CD all tabulations included in the Depreciation Study and all data necessary to recreate in their entirety, all analyses and calculations performed for the preparation of the study. Provide this and all electronic data in Excel (or .txt format if appropriate), with all formulae intact. Provide any record layouts necessary to interpret the data. Include in the response electronic spreadsheet copies of all of the schedules and/or tables included in the Depreciation Study, with all formulae intact.

164. If not provided elsewhere, provide KU's amortization calculations and workpapers for general plant accounts in electronic format (Excel) with all formulae intact.

165. For each plant account, and for each year since the inception of the account up to and including 2016, provide the following standard depreciation study data as identified at pages 30-33 of the August 1996 NARUC Public Utility Depreciation Practices Manual ("NARUC Manual"). Provide the data in electronic format (Excel or .txt). Also, provide aged vintage data if available. Use the codes identified for each type of data, unless the Company regularly uses other codes. In those circumstances, identify and explain the Company's coding system.

Code	**Data Type**
9	Addition
0	Ordinary Retirement
1	Reimbursement
2	Sale

3	Transfer – In
4	Transfer – Out
5	Acquisition
6	Adjustment
7	Final retirement of life span property (see NARUC Manual, Chapter X)
8	Balance at Study Date
	Initial Balance of Installation

166. If the depreciation study data provided in response to the preceding question is not the exact set of data used for the depreciation study submitted in this case, explain all differences and reconcile the amounts provided to those used in the case.

167. If not provided elsewhere, provide the cost of removal and gross salvage data used in the Depreciation Study net salvage calculation. If this data differs from that reflected on the Company's books, explain the differences and provide a reconciliation. Provide this data in electronic (Excel or .txt) format.

168. Provide the following annual accumulated depreciation amounts for all plant accounts for the last 15 years (up to, and including, 2016). If the requested data is not available for the last 15 years, provide the data for as many years as are available. Provide data in electronic format (Excel or .txt).

a. Beginning and ending reserve balances,
b. Annual depreciation expense,
c. Annual retirements,
d. Annual cost of removal and gross salvage,
e. Annual third party reimbursements.

169. Provide a comparison of the annual cost of removal and gross salvage amounts shown on KU's federal tax returns with the corresponding book amounts, for the last 5 years. Provide the annual deferred tax expense associated with each of the differences. Also, provide the beginning and ending accumulated deferred tax balances and state whether they are rate base additions or rate base deductions.

170. Provide a summary of annual maintenance expense by USOA account (for all accounts) for the last 10 years through 2016. If the requested data is not available for the last 10 years, provide the data for as many years as are available. Provide data in electronic format.

171. Explain what consideration, if any, was given to annual maintenance expense data in KU's estimation of service lives, dispersion patterns, and net salvage.

172. If not already provided elsewhere, provide the calculation of the rates proposed in the Depreciation Study in electronic format (Excel) with all formulae intact.

173. Provide the proposed depreciation rates, split into three separate components: capital recovery, gross salvage, and cost of removal.

174. Provide a calculation of the theoretical reserves reflecting both KU's proposed procedures and the existing procedures. Provide these calculations in electronic format (Excel) with all formulae intact and include all supporting calculations and workpapers.

175. Does the Company maintain its book reserve by plant account? If not, explain why not.

176. If the Company does not maintain its book reserve by plant account, provide the calculation of the book reserve shown in the depreciation study.

177. If applicable, calculate all depreciation rates using the same weighting procedure used in the current depreciation rates, i.e., the same procedure used the last time depreciation rates were calculated.

178. If not provided elsewhere, provide all remaining life calculations resulting from the depreciation study in electronic format (Excel) with all formulae intact.

179. If not provided elsewhere, provide electronic (Excel) versions of the net salvage studies included in the depreciation study, with all formulae intact.

180. If not provided elsewhere, provide all workpapers supporting terminal net salvage (decommissioning) estimates for each account for which terminal net salvage is a factor. Include any decommissioning studies relied upon, and explain how the results of those studies were incorporated into the net salvage estimate proposed by KU. Include all calculations in electronic format (Excel), with all formulae intact.

181. Do KU's net salvage recommendations, including any terminal net salvage estimates, incorporate inflation expected to be incurred in the future? If yes, explain fully how this inflation is factored into each recommendation, and provide supporting calculations in electronic format (Excel). If not, provide support showing no future inflation was included.

182. If KU's net salvage recommendations include inflation expected to be incurred in future periods beyond June 30, 2018, provide the net present value of KU's net salvage recommendations.

183. Explain, and provide examples of, the Company's retirement unit cost procedures for each account. Identify all changes to retirement unit costs which have occurred over the years.

184. Explain the Company's accounting procedures for gross salvage and cost of removal.

185. Explain how cost of removal relating to replacements is allocated between cost of removal and new additions. Provide copies of actual source documents showing this allocation.

186. Does KU agree that, in the case of a replacement, KU has control over how much of the cost of the replacement is assigned to the retirement as cost of removal, and how much is capitalized to plant-in-service? If not, explain fully why not.

187. Provide all manuals, guidelines, memoranda, or other documentation that deals with the Company's policies on the assignment of capital costs and net salvage with regard to the replacement of retired plant. Also, provide a sample work order for a replacement project, showing these cost assignments.

188. Identify and explain the Company's expectations with respect to future removal requirements and markets for retired equipment and materials. Provide the basis for these expectations.

189. Provide the Company's construction and capital budgets for the years 2014-2016 inclusive. Identify all retirements, replacements, new additions and cost of removal reflected in these budgets. Provide by account where available and explain how the cost estimates are derived for these items.

190. Provide narrative explanations of the Company's aging and pricing procedures.

191. Explain how the Company accounts for third-party reimbursements and how they are reflected in the depreciation study.

192. If third-party reimbursements were excluded from the net salvage studies, was the related retirement also excluded from the life studies?

193. Identify and explain all Company programs which might affect plant lives.

194. Provide all internal life extension studies prepared by the Company. Life extension refers to any program, maintenance, or capital, designed to extend lives and/or increase capacity of its existing plant-in-service. Identify the functions to which these studies relate.

195. Provide the following information for all retirements by plant account for the last 15 years. If requested data is not available for the last 15 years, provide the data for as many years as are available:

a. Date of retirement
b. Amount of retirement
c. Account

d. Reason for retirement
e. Whether or not retirement was excluded from historical interim retirement rate studies.

196. Provide a copy of the Company's most recent prior depreciation study and the Order(s) establishing the present deprecation rates.

197. Provide a calculation of the current depreciation rates in electronic format (Excel) with all formulae intact. Show all parameters used, and provide a source for those rates and underlying parameters. If the rates and parameters are not the same as approved in the most recent prior case, explain why not. Also, if there are any differences in the account numbers used, provide a reconciliation.

198. Identify and explain all changes between the current study and the most recent prior study.

199. Provide the current depreciation rates, split into three separate components: capital recovery, gross salvage, and cost of removal.

200. Provide any and all internal studies and correspondence concerning the Company's and the parent company's implementation of FASB Statement No. 143 and FIN 47.

201. Provide complete copies of all correspondence with the following parties regarding the Company's implementation of FASB Statement No. 143 and FIN 47:

a. External auditors and other public accounting firms.
b. Consultants
c. External counsel
d. Federal and State regulatory agencies
e. Internal Revenue Service

202. Regarding FASB Statement No. 143 and FIN 47, on a plant-account-by-plant-account basis, identify any and all "legal obligations" associated with the retirement of the assets contained in the account that result from the acquisition, construction, development and (or) the normal operation of the assets in the account. For the purposes of this question, use the definition of a "legal obligation" provided in FASB Statement No. 143: "an obligation that a party is required to settle as a

result of an existing or enacted law, statute, ordinance, or written or oral contract under the doctrine of promissory estoppel."

203. For any asset retirement obligations identified above, provide the "fair value" of the obligation. For the purposes of the question, fair value means "the amount at which that liability could be settled in a current [not future] transaction between willing parties, that is, other than in a forced or liquidation transaction." Provide all assumptions and calculations underlying these amounts.

204. Provide the accounting entries (debits and credits) used to implement SFAS No. 143 and FIN 47, along with all workpapers supporting those entries. Provide all these workpapers and calculations in electronic format (Excel) with all formulae intact.

205. Has KU recorded any regulatory asset or regulatory liability relating to cost of removal or accounting for asset retirement obligations? If so, identify the amounts recorded in each account for (1) cost of removal and (2) AROs, as of each date: (a) 12/31/2014; (b) 12/31/2015; (c) 12/31/2016; and (d) 9/30/2016.

206. Does KU record any removal costs as O&M expense? If not, explain fully why not. If so, identify the amounts of removal costs recorded as O&M expense by account for each of the five years through 2016.

207. Provide an analysis of the regulatory liability for cost of removal since inception identifying and explaining each debit and credit entry and amount.

208. Indicate, if known and quantifiable, any anticipated changes in jurisdictional allocation factors and the impacts thereof on the rate effective period.

209. Provide as complete a breakdown as possible of the expenses billed by affiliates to KU included in jurisdictional expense for the years 2014 and 2015. Include separately:

a. Labor
b. Employee benefits (by type)
c. Employment taxes
d. Outside services
e. Promotional, institutional and/or corporate advertising

f. Contributions (by entity)
g. Dues to organizations and social clubs (by entity)
h. Affiliate owned or leased aircraft
i. Regulatory costs (list docket no., jurisdictional entity, dates and description)
j. Travel costs
k. Lobbying or politically related activities
l. Miscellaneous. (describe)

210. Provide a copy of all incentive compensation/bonus plans and provide the level of related bonus payments included in cost of service.

211. Has the Company considered reducing the amount of post-retirement health care, dental and life insurance coverage? If yes, provide details of any proposed reductions. If no, provide an explanation of why not.

212. List each athletic and employee association to which the Company contributes and the associated amounts for the test year and preceding year. State how the Company has treated these expenses for ratemaking purposes in the test year.

213. List all Company owned automobiles, other than service vehicles, and state the Company's policy for charging employees for the personal use of these automobiles and the Company policy of reporting the personal usage of these automobiles for Federal income tax purposes.

214. Does the Company maintain any recreational sites for the use of the public and/or Company employees? If so:

a. Identify each site and the type of recreational facility.
b. State whether each site is for public use or exclusively for employee use.
c. For each site identified in (a) above, state the amount of expense incurred during the test year to maintain it.

215. For the base year list all payments made for employee gifts, employee awards, employee luncheons and dinners, employee picnics and all other similar type items. For each, list the dollar amount paid, the payee, the account charged and state the purpose. Provide copies of invoices which exceed $5,000.

216. Identify all expenses incurred during the test year for athletic events, tickets, sky boxes and all sporting activities.

a. Specifically identify the activity and dollar amount.
b. Provide copies of paid vouchers and invoices supporting these expenditures.

217. List all steps the Company has taken to reduce the cost of medical insurance.

a. Does the Company's insurance coverage require a coordination of benefits and, if so, how does it function?
b. Does the Company plan require a co-pay percentage by the employee? If so, what is the percentage and has it increased over the past three years? State the various levels over the past three years.

218. For each advertising expense over $10,000 recorded during the base year state the payee, amount, date, and purpose. Also provide a copy of the associated invoice and a copy of (or if a non-print ad, the text of) each advertisement.

219. Are there any advertising costs being requested by the Company which cannot be identified with a specific advertisement? If so, itemize and describe each such cost, and list the associated amounts for the test year.

220. Break down the Company's advertising expense for the test year and the three calendar years, 2014, 2015, and 2016 into its components, i.e., labor, overhead, materials and fees to agencies, etc.

221. Provide a listing of any and all Commission Orders the Company has reviewed or relied upon in preparation of its filing in this case concerning the ratemaking treatment of costs for each distinct type of advertising expense it incurs, including but not limited to these categories: (1) sales or promotional, (2) institutional, (3) conservation related, (4) rate case, and (5) other.

222. Does the Company's proposed rate increase include any claim for attrition or suppression of sales or for declining per-customer usage?

a. If so, reference where this is presented. If not, explain fully why not.
b. Provide a complete copy of any and all attrition or customer usage studies or analyses prepared by or for the Company during the period 2001 through 2016.

223. List by customer and amount and by year for the period 2015 through 2016 any uncollectible accounts which have been written off and which exceeded $50,000.

224. Do any of the Company's personnel actively participate on Committees and/or any other work for any industry organization to which the Company belongs?

a. If so, state specifically which employees participate, how they are compensated for their time (amount and source of compensation), and the purpose and accomplishments of any such association related work.
b. List any and all reimbursements received from industry associations, for work performed for such organizations by Company employees.

225. For each injury and damage claim, where the settlement exceeded $10,000 for the years 2015 and 2016, list by year each such claim, the basis for the claim, the dollar amount of the claim paid and the associated legal fees.

226. State the amount of injuries and damages expense for each calendar year 2015 and 2016 and the test year ending 2/28/2017.

227. List all fees during the test year and for calendar years 2015 and 2016 for maintaining lines of credit. List such fees for each line of credit which the Company maintains. Indicate in which account such fees are recorded.

228. Does the Company employ a fringe-benefit or overhead factor to assign overhead costs to specific projects? If so, state what these factors were in 2015 and 2016 and show in detail how they were calculated.

229. List each facility, location, and asset which is included as rental expense. For each item include a description, the annual or monthly rental rate, the account and amount included in the base year and forecast period expense.

230. List storm damage expense for each year for the 10-year period ending with 2016.

231. Provide, by year, all affiliated operating expenses charged to the Kentucky jurisdiction for the 3 years ending 2016 plus as forecasted for 2017 and 2018.

232. Provide a general ledger listing or similar report of all transactions that comprise the corporate and affiliated charges allocated to KU for the test year.

233. Provide the following information:

a. Ash pond closure estimates in total and by year, by facility. (2016-2045)
b. Ash pond closure and remediation accrued liabilities as of December 31, 2015 and as of December 31, 2016
c. Has the Company been using any landfills for ash disposal? If so, identify each landfill that is being used and provide the related closure and remediation accrued liabilities as of December 31, 2015 and as of December 31, 2016.

234. Provide an overview of current status (dismantlement and ash pond closure) at each generating unit and ash pond and landfill and provide detailed timelines, budgets and cost estimates.

235. Capitalization.

a. Explain fully and in detail why the Company's revenue requirement is calculated using the capitalization amount versus the Kentucky jurisdictional rate base amount.
b. Cite by date and docket number, the Commission Order which authorized KU to use a capitalization amount in its revenue requirement calculation that is different from the rate base amount.
c. Provide a breakout of the components which comprise the difference between (1) the jurisdictional capitalization amount and (2) the jurisdictional rate base amount.

236. For 2015 and 2016, provide the Company's budgeted and actual vegetation management costs.

237. Vegetation Management. For each year 2011 through 2016, provide, by account, the amount expensed and the amount capitalized for scheduled tree trimming, for other right of way clearing and for tree trimming other than scheduled tree trimming.

238. Vegetation Management. For each year 2011 through 2016, provide:

a. By account, the amount expensed, the amount capitalized and the amount deferred for storm tree trimming, for other tree trimming and for other storm related right of way clearing.
b. The number of distribution and, separately, transmission miles subject to trimming or if the number of miles subject to trimming is not available, provide the total distribution and transmission system miles.
c. Referring to parts "a" and "b" above, break out the requested information between distribution and transmission.

239. List KU's ten largest commercial and industrial customers and the level of demand and energy sales and revenue from each in 2015 and 2016.

240. Has KU added any large commercial or industrial customers since 2016 or 12/31/2016?

a. If so, list the customers (can be by code to address confidentiality concerns) and identify the MWh sales and revenues related with such customer additions.

241. Have any of KU's large commercial or industrial customers told KU about expanding operations or increasing electricity purchases in 2016 or since 12/31/2016?

a. If so, list the customers (can be by code to address confidentiality concerns) and identify the MWh sales and revenues related with such customer increases in demand or usage.

242. Have any of KU's large commercial or industrial customers told KU about closing operations or decreasing electricity purchases in 2016 or since 12/31/2016?

a. If so, list the customers (can be by code to address confidentiality concerns) and identify the MWh sales and revenues related with such customer changes in demand and/or usage.

243. Fuel inventory.

a. Identify the quantity and cost of the coal inventory at each coal-fired generating plant for each month of 2014, 2015, and 2016 and the estimated coal inventory quantity and cost for each month of 2017 and through June 2018, or if earlier, through anticipated closure of existing coal-fired generating units.
b. Has the Company included any amounts in its revenue requirement request for coal inventory remaining at units after closure of existing coal-fired generating units? (1) If so, explain fully and show in detail how the amounts requested for each such unit's coal inventory were derived, and exactly how and where the request for remaining coal inventory has been reflected in KU's filing.

244. Postage. Does the Company have any program in which customer bills are transmitted electronically, e.g., through email? If so, provide the following information:

a. Identify the number of bills transmitted electronically each month in 2015 and 2016.
b. Identify the number of customers that elected into the electronic bill transmittal program as of each month-end in 2015 and 2016.

245. Postage.

a. Identify the Company's total postage expense, by account, for each month in 2015 and 2016.
b. Identify the Company's postage expense, by account, for calendar years 2015 and 2016.
c. Identify the number of bills, notices, and letters mailed each month of 2015 and 2016.

246. Economic Development.

a. Clarify which amounts KU is attempting to recover from ratepayers for economic development and show in detail how each of those amounts were developed.
b. Clarify which amounts are being funded by shareholders.
c. Was any economic development in KU's service area achieved in 2015 or 2016? If not, explain fully why not. If so, identify, quantify and explain the additional MWh sales and job creation that resulted in each year, 2015 and 2016, from KU's economic development efforts.
d. Does KU project that any economic development in KU's service area will be achieved in 2017 or 2018? If not, explain fully why not. If so, identify, quantify and explain the additional MWh sales and job

creation that is expected by KU to result in each year, 2017 and 2018, from KU's economic development efforts (i) without additional ratepayer-charged funding and (ii) with any additional ratepayer-charges that KU is proposing.

II. RETURN ON EQUITY

247. Provide a copy of Mr. McKenzie's testimony in Microsoft Word.

248. Provide copies of Mr. McKenzie's Exhibit Nos. 2 through 11 in Microsoft Excel, with data and formulas intact.

249. Provide copies of all source documents, articles, cited documents listed in footnotes, regulatory decisions, work papers, and other sources used in the development and preparation of the testimony of Mr. McKenzie.

250. Provide copies of the source documents, work papers, and underlying data used in the development of all exhibits for Mr. McKenzie (Exhibit No. 2 through Exhibit No. 11). Provide the data and work papers in both hard copy and electronic formats (Microsoft Excel), with all data and formulas intact.

251. With reference to pages 20-23 of Mr. McKenzie's testimony: (1) indicate the universe of electric and utility companies as indicated by *Value Line Investment Survey,* (2) the companies eliminated from each group from each of the screens; and (3) the reasons each of the companies were eliminated.

252. With reference to pages 20-23 of Mr. McKenzie's testimony, provide copies of all studies performed that compare the business, financial, and overall investment risk of Kentucky Utilities to: (1) PPL Corporation and (2) the proxy group of electric and gas companies.

253. With reference to pages 45-46 of Mr. McKenzie's testimony, provide the theoretical and empirical studies that support the use of the size premium.

254. With reference to page 47 of Mr. McKenzie's testimony, provide the theoretical and empirical studies that support the use of the ECAPM with the .25/.75 weights versus the traditional CAPM.

255. With reference to pages 49-52 of Mr. McKenzie's testimony and Exhibit No. 9, provide the following: (1) the individual authorized ROEs that are used in computing the annual Allowed ROEs in Column (a); (2) for each of the individual ROEs, include all of the following: the order or docket number, the state, the utility,

the decision date, the authorized ROE, the authorized common equity ratio, whether the rate case was fully litigated or settled, and whether the authorized included any specific ROE adders and/or penalties; and (3) the data and work papers for (1) and (2) in both hard copy and electronic formats (Microsoft Excel), with all data and formulas intact. Also include electronic copies (Microsoft Excel) of the Schedule, leaving all data and formulas intact.

256. With reference to page 59, provide: (1) the details of the 3.6% flotation cost and how much is associated with the underwriting spread, company issuance costs, market pressure, and other expenses; and (2) the equity floatation costs paid by Kentucky Utilities over the past two years.

257. With reference to pages 59-63: (1) list the screens applied to the *Value Line* database in establishing the Non-Utility Proxy Group; (2) indicate the justification for each of the screens applied to the companies in the Value Line Investment Survey in establishing the Non-Utility Proxy Group; (3) the companies eliminated from the group from each of the five screens; and (4) the reasons that each of the companies were eliminated.

258. Provide a copy of Mr. Arbough's testimony in Microsoft Word.

259. Provide copies of all source documents, articles, cited documents listed in footnotes, regulatory decisions, work papers, and other sources used in the development and preparation of pages 8-13 the testimony of Mr. Arbough.

260. With reference to page 8, lines 9-13, provide the quarterly capitalization amounts and ratios for Kentucky Utilities and PPL Corporation for the years 2014 – 2016. Provide the data and work papers in both hard copy and electronic formats (Microsoft Excel), with all data and formulas intact. Also include electronic copies (Microsoft Excel) of the Exhibit, leaving all data and formulas intact.

261. With reference to page 9, lines 8-16, provide the data, source documents and calculations detailing the Moody's debt percentage ratios. Provide the data and work papers in both hard copy and electronic formats (Microsoft Excel), with all data and formulas intact. Also include electronic copies (Microsoft Excel) of the Exhibit, leaving all data and formulas intact.

262. With reference to page 10, lines 15-21, provide the data, source documents and calculations detailing the S&P debt percentage ratios. Provide the data and work papers in both hard copy and electronic formats (Microsoft Excel), with all data and formulas intact. Also include electronic copies (Microsoft Excel) of the Exhibit, leaving all data and formulas intact.

263. Provide copies of all presentations made to rating agencies and/or investment firms by PPL, and/or Kentucky Utilities between January 1, 2015 and the present.

264. Provide copies of all prospectuses for any security issuances by PPL and/or Kentucky Utilities between January 1, 2013 and the present.

265. Provide copies of credit reports for PPL and/or Kentucky Utilities between January 1, 2015 and the present from the major credit rating agencies (Moody's, S&P, and Fitch).

266. Provide the corporate credit and bond ratings assigned to PPL and Kentucky Utilities since the year 2010 by S&P, Moody's, and Fitch. For any change in the credit and/or bond rating, provide a copy of the associated report.

267. Provide the breakdown in the expected return on pension plan assets for Kentucky Utilities. Specifically, provide the expected return on different assets classes (bonds, US stocks, international stocks, etc) used in determining the expected return on plan assets. Provide all associated source documents and work papers.

268. For the past five years, provide the dates and amount of: (1) cash dividend payments made to PPL by Kentucky Utilities; and (2) cash equity infusions made by PPL into Kentucky Utilities.

269. Provide the Company's authorized and earned return on common equity for Kentucky Utilities over the past five years. Provide copies of all associated work papers and source documents. Provide copies of the source documents, work papers, and data in both hard copy and electronic (Microsoft Excel) formats, with all data and formulas intact.

270. Provide copies of the financial statements (balance sheet, income statement, statement of cash flows, and the notes to the financial statements) for PPL and Kentucky Utilities for 2014, 2015, and 2016 (when available). Provide copies of the financial statements in both hard copy and electronic (Microsoft Excel) formats, with all data and formulas intact.

271. Provide the working electronic copies of all pages of Schedule J – Cost of capital. Provide the copies of the data in both hard copy and electronic (Microsoft Excel) formats, with all data and formulas intact.

272. With regard to Schedule J: (1) provide copies of all data, source documents, calculations and work papers associated with development of the short-term and long-term debt costs; (2) detail all assumptions and show calculations for projected amounts and costs of short and long-term debt; (3) provide copies of prospectuses and inter-company loan agreements for all debt issuances; and (4) provide the data and work papers in (1) and (2) in both hard copy and electronic (Microsoft Excel) formats, with all data and formulas intact.

273. Provide copies of all data, source documents, calculations and work papers associated with development of the proposed capital structure in of Schedule J. Provide copies of the source documents, work papers, and data in both hard copy and working electronic (Microsoft Excel) formats, with all data and formulas intact.

III. RATE DESIGN

274. With regard to Mr. Seelye's Loss of Load Probability ("LOLP") study, he indicates that <u>hourly</u> loads were utilized for individual classes. In this respect, provide:

a. a detailed narrative description of how class hourly loads were developed;
b. each class hourly load for the forecasted test year (or the period utilized by Mr. Seelye within his CCOSS). Because of the joint dispatch of the Companies' generation facilities, include both KU and LG&E classes (showing KU and LG&E classes separately). In addition, also include each non-jurisdictional class;
c. a detailed explanation of how curtailable load or curtailable load credits are reflected within the class hourly loads;
d. all workpapers, analyses, spreadsheets, etc. showing the development of each hourly load for each class; and,
e. an explanation of whether the hourly loads provided in (b) are measured at the meter or generation level.

Provide all data in hardcopy as well as in executable electronic format. Excel preferred. If data is not available in Excel format, provide ASCII comma-delimited format with all fields defined.

275. With regard to Mr. Seelye's LOLP study, he indicates that <u>hourly</u> characteristics of LG&E and KU's generating facilities were utilized. In this respect, provide:

a. a detailed narrative description of how hourly generation output was developed;
b. each hourly generation output (by unit) for the forecasted test year (or the period utilized by Mr. Seelye within his CCOSS). Because of the joint dispatch of the Companies' generation facilities, include both KU and LG&E generation resources. For facilities jointly-owned by LG&E and KU, provide total unit output by hour. For facilities partially owned by LG&E and KU combined, provide KU and LG&E (combined) percentage output;
c. hourly purchases of electricity (KU and LG&E combined); and,

d. hourly wholesale sales of electricity (KU and LG&E combined).

Provide all data in hardcopy as well as in executable electronic format. Excel preferred. If data is not available in Excel format, provide ASCII comma-delimited format with all fields defined.

276. With regard to Mr. Seelye's LOLP study, provide a detailed explanation along with all mathematical formulae showing how hourly LOLP was calculated. In this response, specifically explain how off-system sales, wholesale purchases of power, curtailment capabilities, reserve margin requirements, and outage rates are considered, evaluated, and quantified in developing hourly LOLP.

277. With regard to Mr. Seelye's LOLP study, provide all analyses, workpapers, spreadsheets, etc. showing the following:

a. hourly system Loss of Load Probability;
b. hourly system load (MW);
c. hourly forced outage MW (by unit as available);
d. hourly planned outage MW (by unit as available);
e. available generation production from KU/LG&E-owned facilities;
f. wholesale sales (if applicable or utilized in determining hourly LOLP);
g. wholesale purchased power (if applicable or utilized in determining hourly LOLP); and,
h. required reserve margin (percent or MW as applicable).

In this response, provide all data and formulae necessary to replicate each hourly system Loss of Load Probability. Provide all data in hardcopy as well as in executable electronic format. Excel preferred. If data is not available in Excel format, provide ASCII comma-delimited format with all fields defined.

278. Provide LG&E and KU combined generation reserve margin for the following period:

a. fully forecasted test year;
b. most recent actual period; and,
c. December 31, 2015.

279. Provide a copy of the Company's most recent Integrated Resource Plan.

280. Provide all workpapers, analyses, spreadsheets, etc. showing the development of each class' weighted LOLP as shown in Exhibit WSS-17 (LG&E) and Exhibit

WSS-12 (KU). Provide in hardcopy as well as in executable electronic (Excel) format.

281. If not previously provided, explain and provide all analyses, workpapers, spreadsheets, etc. showing the development of:

a. minimum system demand of 2,303 MW;
b. winter system peak demand 6,021 MW; and,
c. summer system peak demand 6,698 MW,

As shown in Exhibit WSS-16 (LG&E) and Exhibit WSS-11 (KU).

282. For each of the last ten years, provide the following:

a. annual minimum system demand (KU and LG&E combined);
b. annual minimum native load (jurisdictional) demand (KU and LG&E combined)
c. annual winter system peak demand (KU and LG&E combined);
d. annual winter native load (jurisdictional) peak demand (KU and LG&E combined);
e. annual summer system peak demand (KU and LG&E combined); and,
f. annual summer native load (jurisdictional) peak demand (KU and LG&E combined).

283. With regard to the minimum system demand, winter system peak demand, and summer system peak demand utilized in Mr. Seelye's Modified BIP CCOSS, do these loads include off-system sales and/or other non-jurisdictional loads? If these amounts include non-jurisdictional loads, provide forecasted test year, minimum system demand, winter system peak demand, and summer system peak demand for jurisdictional business only.

284. For each KU and LG&E generating unit owned individually, jointly, or partially, provide the following for the most recent actual 12-month available:

a. names of owners (and ownership percentages);
b. type of fuel(s);
c. total nameplate (rated) capacity (MW);
d. total and individual company gross investment at the end of the period;
e. total individual company depreciation reserve at the end of the period;
f. total and individual company annual book depreciation expense;
g. gross KWh produced during the period; and,
h. net (less station use) KWh produced during the period.

Provide in hardcopy as well as in executable electronic (Excel) format.

285. For each KU and LG&E generating unit owned individually, jointly, or partially, provide the following for the fully forecasted test year ending June 30, 2018:

a. names of owners (and ownership percentages);
b. type of fuel(s);
c. total nameplate (rated) capacity (MW);
d. total and individual company gross investment at the end of the period;
e. total individual company depreciation reserve at the end of the period;
f. total and individual company annual book depreciation expense;
g. gross KWh produced during the period; and,
h. net (less station use) KWh produced during the period.

Provide in hardcopy as well as in executable electronic (Excel) format.

286. Provide the combined KU and LG&E generating order of dispatch by unit and the basis for this order of dispatch.

287. For each KU and LG&E generating unit, provide average monthly and annual fuel costs per KWh during the most recent 12-months available.

288. For each KU and LG&E generating unit, provide forecasted average monthly and annual fuel costs per KWh for the fully forecasted test year ending June 30, 2018.

289. With regard to wholesale sales, resale sales, and all other non-jurisdictional sales of electricity, provide the following for each customer for the fully forecasted test year for KU and LG&E separately:

a. identification of customer;
b. sales of electricity revenue;
c. KWh at meter;
d. maximum peak demand;
e. maximum contract demand; and,
f. voltage level at delivered service.

290. Explain or verify that within Mr. Seelye's CCOSSs, sales for resale customers are not allocated any costs but rather, revenues are credited back to jurisdictional customers.

291. Provide the most recent loss factors for energy and demand separated by voltage level; i.e., transmission, sub-transmission, primary, secondary.

292. Provide the current number of customers (accounts) by rate schedule for each zip code within the Company's service area. Note: street lighting accounts may be excluded from this data set. Provide in executable electronic (Excel) format.

293. For each residential account, provide an electronic database of each account's billed KWH for each month during the most recent 12-month period as well as the number of days within each billing cycle (as readily available). In this response, exact account numbers are not required, however, provide a unique numerical identification for each account. Provide in ASCII, comma-delimited format with all fields defined or in Microsoft Access format.

294. Explain and reconcile the differences in KWh sales (at meter) between Filing Schedule M-2.2 (Tab 66 of MFRs) with Mr. Seelye's CCOSS Tab: "Allocation Proforma," Row 844.

295. Explain and reconcile the differences in number of bills between Filing Schedule M-2.2 (Tab 66 of MFRs) with Mr. Seelye's CCOSS Tab: "Allocation Proforma," Row 848.

296. With regard to the discussion of distributed generation at Pages 15 and 16 of KU witness Seelye, provide the following for the most recent period available:

a. the KW capacity of the distributed generation by type;
b. the annual KWH output of the distributed generation by type; and,
c. the number of customers by rate class participating in distributed generation.

297. Provide references to each instance known to Mr. Seelye that the LOLP method has been proposed before State regulatory commissions to allocate generation plant for retail class cost allocations purposes. In this response, provide the name of the utility, year, jurisdiction, docket number, and proposing party as available.

IV. ADVANCED METERING SYSTEMS

298. Reference the Garret KU testimony at page 30, line 15, regarding the Companies' plans to create a regulatory asset for the net book value of in-service meters to be retired in the event the CPCN is awarded. Mr. Garret testifies that the creation of the regulatory asset will have no impact on base rates proposed in this proceeding, as the Companies propose to delay cost recovery of the regulatory asset until after the AMS program is implemented. Confirm or deny that the Companies will neither charge nor accrue carrying costs, such as interest expense and return on equity, or depreciation expense, on the regulatory asset during AMS implementation.

299. Reference the Malloy testimony regarding the Companies' plans to recover the cost of the retired meter regulatory asset. Mr. Malloy testifies that these costs will be recovered over a five-year period once the AMS implementation is complete at a total cost of about $40 million. Confirm or deny that the Companies will neither charge nor accrue carrying costs, such as interest expense and return on equity, or depreciation expense, on the regulatory asset balance in associated cost recovery calculations.

    a. Estimate the total costs to ratepayers of the recovery of the $26.935 million regulatory assets KU plants to establish if the CPCN is approved.

300. Reference the Malloy testimony at page 3, line 5, regarding the Companies' Residential Competitive Customer Satisfaction Study. Provide the results of the most recently completed Study.

301. Reference the Malloy testimony at page 19, line 9, regarding the Companies' experience with smart meters. Mr. Malloy testifies that KU installed more than 4,000 Landis + Gyr meters in Wilmore, Kentucky in 1999 as part of a TS1 system.
    a. Provide the model names and numbers of the Landis + Gyr models installed.
    b. Describe the capabilities of the model names and numbers provided.
    c. State whether each model is digital/electronic or analog/mechanical.
    d. Of the meters originally installed in 1999, provide a count of those still in operation by model.

302. Reference the Malloy testimony at page 19, line 13, regarding the Companies' experience with smart meters. Mr. Malloy testifies that LG&E installed 2000 smart meters as part of a responsive pricing pilot in 2007.
    a. Provide the results of the responsive pricing pilot.

b. Provide the results of any other responsive pricing pilots the Companies have conducted in the last 10 years.
c. Provide the manufacturer, model names, and model numbers of the smart meters installed for the 2007 responsive pricing pilot described.
d. Describe the capabilities of the model names and numbers provided.
e. State whether each model is digital/electronic or analog/mechanical.
f. Of the meters originally installed in 2007, provide a count of those still in operation by model.

303. Provide the length of time, in years, which Landis + Gyr is willing to warranty the smart meters the Companies would install as part of the proposed AMS deployment.

304. Reference the Malloy testimony at page 21, line 1, which states that 4,000 customers have enrolled in the AMS Customer Offering since June, 2015.
a. Describe the marketing efforts used to promote the AMS customer offering.
b. Provide a breakdown of the 4,000 enrollees by rate class (RS, RTOD, and RS).
c. Provide total customer counts in rate classes RS, RTOD, and RS as of December 31, 2016.

305. Reference the Malloy testimony beginning at page 24, line 18, which states ". . . all customers will be able to use a web portal to access information about their usage at any time of day or night, download consumption patterns to better understand how they use energy, and explore different products and programs that may align to their needs."
a. provide any research the Companies have conducted on their overall residential customer base that indicates an interest in these capabilities.
b. provide any "willingness to pay" research the Companies have conducted on their overall residential customer base with regard to these capabilities
c. If the Companies have conducted no such research, use the proprietary online customer panel of 1500 LG&E and KU customers referenced in Mr. Malloy's testimony (page 4, line 1) to conduct such research and report the results. In such research, reference a variety of monthly incremental bill impacts (i.e., $1 per month, $3 per month, $5 per month, etc.)

306. Reference the Malloy testimony at page 25, line 2, which states that the proposed AMS deployment will "enable the Companies to deploy time-of-day or more dynamic rate structures that could help customers reduce their bills."
a. Provide any research the Companies have conducted on their overall residential customer base that indicates an interest in time-of-day or more dynamic rate structures.
b. Provide any so-called "willingness to pay" research the Companies have conducted on their overall residential customer base regarding the option to participate in time-of-day or more dynamic rate structures.

c. If the Companies have conducted no such research, use the proprietary online customer panel of 1500 LG&E and KU customers referenced in Mr. Malloy's testimony (page 4, line 1) to conduct such research and report the results. In such research, reference a variety of monthly incremental bill impacts (i.e., $1 per month, $3 per month, $5 per month, etc.).

307. Reference the Malloy testimony at page 25, line 4, which states that the proposed AMS deployment ". . . will improve customer service representatives' ability to address customers' questions and concerns regarding individual customer outages, power quality, and energy usage." Provide summary results from customer-experience transactional surveys from high-bill complaint calls for 2013, 2014, 2015, and 2016. (Customer-experience transactional surveys are described in the Malloy testimony at page 3, line 15.)

308. Reference the Malloy testimony at page 25, line 7, which states that the proposed AMS deployment will enhance the Companies' ability to ". . . localize and resolve power outages, which will help reduce customer outage times."

a. Describe how the Companies will use the proposed AMS system to localize and resolve power outages and reduce customer outage times.
b. Quantify the improvements in the Companies-wide SAIDI (and, if applicable, SAIFI) the Companies anticipate from the use of the AMS system in this manner. Include all calculations and assumptions used in the development of this estimate in your response.
c. Provide any so-called "willingness to pay" research the Companies have conducted on their overall residential customer base regarding improved SAIDI and SAIFI performance.
d. If the Companies have conducted no such research, use the proprietary online customer panel of 1500 LG&E and KU customers referenced in Mr. Malloy's testimony (page 4, line 1) to conduct such research and report the results. In such research, reference various SAIDI improvements in minutes per year (i.e. 5 minutes, 10 minutes, etc.) and reference various monthly incremental bill impacts (i.e., $1 per month, $3 per month, $5 per month, etc.)

309. Reference the Malloy testimony at page 25, line 8, which states that under the proposed deployment of AMS meters, ". . . customers will be able to participate in numerous programs where information is shared via outbound call, email, or text message, including information about power disruptions, voltage spikes, demand response events, power restorations, and other notifications more specific to a customer's usage." The OAG is aware of one such type of program, offered by several utilities, which the utilities report is popular with customers. Generally known as high bill alert programs, these programs provide customers who register with weekly outbound calls, emails, or text messages (at the customer's option) which estimate the size of their next monthly bill using current month usage-to-date information from their AMS meter. One of the best examples is Southern California

Edison's "Budget Assistant".[1] Duke Energy Kentucky proposed to make such a program, tentatively labeled *Predictive Usage Estimator Alerts*, available as part of its smart meter CPCN.[2] Describe any commitment the Companies are willing to make regarding the implementation of such a program for its customers within 6 months of the completion of the proposed AMS deployment.

310. Reference the Malloy testimony at page 26, line 17, which states that the Companies will not offer a smart meter opt-out option. Describe any commitment the Companies would be willing to make regarding a smart meter opt-out option if such an option were to be accompanied by a tariffed incremental rate based on the initial and ongoing cost of individual customers' choices to opt-out of smart meter installation.

311. Reference the AMS Business Case provided as part of Exhibit JPM-1, page 19, regarding the implementation of Green Button download my data functionality. Will the Companies commit to implementing Green Button standards for Connect My Data using standard authorization processes defined by the Internet Engineering Task Force?

312. Reference the AMS Business Case provided as part of Exhibit JPM-1, pages 22 and 23, regarding the use of AMS to provide data for Volt-VAr Control (VVC). To achieve the 2-3% energy conservation savings cited by the Companies, VVC must be highly automated; operate 24 hours a day, 365 days a year; and utilize remote, automated operation of several types of field devices (load tap changers, voltage regulators, and capacitor banks).

a. The Companies' testimony on Distribution Automation makes no reference to VVC or remote field device operation, and the AMS Business Case includes no energy conservation benefits from VVC. Clarify the Companies' intentions regarding VVC implementation.
b. Confirm or deny that the proposed AMS system and mesh communications network can provide the near real-time data required for automated, continuous VVC operation.
c. Given the Companies' CPCN proposals for AMS and Distribution Automation, and the extensive conservation benefits available as cited by the Companies, explain why the Companies have not included automated, continuous VVC in one of its CPCNs.
d. If the Companies are not including VVC in either the AMS or Distribution Automation CPCN, explain why the Companies tout AMS data availability for VVC as a benefit.

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[1] More information is available at https://www.sce.com/wps/portal/home/residential/my-account/budget-assistant-and-you/

[2] See Exhibit 9, Weintraub pre-filed testimony, at page 10, line 6 in Kentucky PSC Case No. 2016-00152.

313. Reference the AMS Business Case provided as part of Exhibit JPM-1, page 31. Explain why they Companies chose a 20-year benefit period for their AMS business case.

314. Reference the AMS Business Case provided as part of Exhibit JPM-1, page 38, and the table "AMS Cost-Benefit Summary (2016-2039)". Recalculate the Net Present Value column of this table using all projected Nominal Values in the current business case using a 15-year benefit period rather than a 20-year benefit period.

315. Reference the AMS Business Case provided as part of Exhibit JPM-1, page 38. The present value of AMS costs and benefits appear to have been calculated using a discount rate of 6.62%. Explain why the Companies chose this discount rate for its AMS business case.

316. Reference the AMS Business Case provided as part of Exhibit JPM-1, page 32. The Companies project a savings of $166.3 million over 20 years from the ePortal. Provide all calculations and assumptions used to arrive at this projection, including a 20-year breakdown by year.

317. Reference the AMS Business Case provided as part of Exhibit JPM-1, page 34. The Companies project a savings of $4.1 million over 20 years from more rapid outage restoration. Provide all calculations and assumptions used to arrive at this projection, including a 20-year breakdown by year, for each of the following savings categories cited by the Companies:
   a. Crew Time
   b. Overtime
   c. Fleet Costs
   d. Contractor expenditures

318. Reference the AMS Business Case provided as part of Exhibit JPM-1, page 34. The Companies project a savings of $6.9 million over 20 years from reductions in "OK on Arrival" truck rolls. Provide all calculations and assumptions used to arrive at this projection, including a 20-year breakdown by year, for each of the following savings categories cited by the Companies:
   a. Crew Time
   b. Fleet Costs

319. Provide the following data on the Companies' 2015 and 2016 distribution O&M spending:
   a. "Crew" headcount (with "crew" defined as those employees likely to support outage restoration and/or outage investigations.)
   b. Average, fully-loaded costs per full-time equivalent employee of the type designated in (a.) above.
   c. Distribution O&M overtime

d. Distribution Fleet Costs
e. Distribution O&M Contractor expenditures

320. Reference the AMS Business Case provided as part of Exhibit JPM-1, page 34. The Companies project a savings of $203 million over 20 years from reductions in recurring meter reading. Provide all calculations and assumptions used to arrive at this projection, including a 20-year breakdown by year, for each of the following savings categories cited by the Companies:
a. Employee overtime
b. Contractor usage

321. Reference the AMS Business Case provided as part of Exhibit JPM-1, page 34. The Companies project a savings of $92 million over 20 years from reductions in ad hoc field services. Provide all calculations and assumptions used to arrive at this projection, including a 20-year breakdown by year, for each of the following savings categories cited by the Companies:
a. Employee overtime
b. Contractor usage

322. Provide the following data on the Companies' 2015 and 2016 metering operations spending, including recurring reads and ad hoc field services:
a. Employee overtime
b. Contractor usage

323. Reference the AMS Business Case provided as part of Exhibit JPM-1, page 36. The Companies project a savings of $489 million over 20 years from reductions in non-technical losses. Provide all calculations and assumptions used to arrive at this projection, including a 20-year breakdown by year, for each of the following savings categories cited by the Companies:
a. Theft
b. Metering errors

324. Describe the processes that will be employed to increase revenue recovery from theft through the use of the AMS system and data. Relate the processes described to the calculation method used to arrive at the theft revenue improvement projection provided in response to question 323a.

325. Describe the processes that will be employed to increase revenue recovery from reductions in metering errors through the use of the AMS system and data. Relate the processes described to the calculation method used to arrive at the metering error revenue improvement projection provided in response to question 323b.

326. Provide the amounts recovered by the Companies in 2015 and 2016 from:
a. Identified theft

b. Identified metering errors

327. Reference the AMS Business Case provided as part of Exhibit JPM-1, page 40. The cost detail provided indicates an AMS System Capital Expenditure contingency of $34.2 million.

a. Given the Companies' smart meter experience, as well as the smart meter experience of the companies' affiliates, explain why such a large contingency, which is equal to almost 12% of AMS capital budget items, is needed.
b. Describe any commitments the Companies are willing to make regarding the return to ratepayers of unused capital expenditure contingency budget.

328. Acknowledge that if the Commission approves KU's application, the company, once the meter upgrade program has been completed, will be replacing those meters on an earlier and more frequent basis than the replacement rate applicable to the company's current metering infrastructure.

329. Discuss the extent (if any) to which the proposed new meters and associated infrastructure will be capable of receiving remote downloads of firmware and/or software upgrades. Provide copies of all manufacturer's specifications in this regard.

a. How many such upgrades are the proposed new meters and associated infrastructure capable of receiving before this process begins to shorten the lifespans of the equipment?
b. How many such upgrades does the company believe it will download on an annual basis?

330. Have any of LG&E-KU's affiliated utilities executed a system-wide conversion to AMI meters? If so, state when the conversions occurred, and provide the style of the case in which any such affiliates obtained approval from their regulatory authorities.

331. Provide copies of (or hyperlinks to) all studies that LG&E-KU, its parent and affiliated entities consulted showing that system-wide deployment of AMI leads to long-term conservation and savings on bills for ratepayers.

332. Assuming the Commission approves the CPCN pertaining to AMS, provide the revised charges that LG&E-KU will employ for remote electric connects, disconnects, and reconnects?

a. Describe the procedures LG&E-KU will follow for remote disconnects for non-payment. Does LG&E-KU believe these procedures will comply with Kentucky PSC legal requirements?
b. In the event the Commission approves the CPCN pertaining to AMS, will LG&E-KU agree to follow all existing legal requirements pertaining to connection of service, disconnections, and reconnections? If not, why not?

c. Will the implementation of remote disconnect features incent the company to rely on disconnection as opposed to efforts to contact the customer to resolve non-payment situations? Explain fully.
d. Does LG&E-KU anticipate that utilizing remote disconnect features will increase the volume of disconnections from their current level? Explain fully.

333. In the event the Commission approves the CPCN pertaining to AMS, would LG&E-KU be willing to track and report the following data separately for both credit-based and prepayment residential customers:

a. Number of customers with arrears of 30 days or more;
b. Dollar value of arrears;
c. Number of disconnection notices sent;
d. Number of service disconnections for non-payment;
e. Number of service reconnections after disconnection for non-payment;
f. Number of new payment agreements entered;
g. Number of payment agreements successfully completed; and
h. Number of failed payment agreements.

334. With regard to pre-pay customers, will LG&E-KU charge more for customers who pre-pay at any applicable kiosks and/or through third-parties?

335. Assuming the Commission approves the CPCN pertaining to AMS, explain whether LG&E-KU will be hiring more customer service representatives. If so, explain why, and provide the number of new employees the companies expect to hire.

a. Explain whether the enhanced customer service which the company believes customers will experience once AMS is fully deployed will lead to net cost savings, and if so, provide quantifications and/or estimates of any and all such net savings.

336. Explain whether KU anticipates any aggregate energy savings from the AMS upgrade, and if so, provide estimates.

337. On an annual basis, state how much more revenue KU will capture as a result of the proposed metering upgrade.

a. Provide copies of any and all studies in this regard.
b. Will the anticipated increase in revenue capture lead to a drop in uncollectible expense, and if so, by how much?
c. How does KU propose to reflect the anticipated increased revenues in its books? Will there be any way to directly trace any such additional revenue capture to the proposed metering upgrade, and if so, explain fully.

338. Confirm that the cost-benefit analysis upon which KU relies in support of its CPCN pertaining to AMS contains only estimates of both costs and benefits.

a. In the event KU's estimates of the amounts of costs and benefits should change, will the company file updated estimates into the record of the instant case? If not, why not?
b. Is KU willing to provide semi-annual updated, experience-based cost-benefit studies until the project is completed? If not, why not?

339. Will KU be willing to restrict the availability of any potential pre-payment plans to vulnerable populations, including but not limited to: (i) elderly; (ii) disabled; and (iii) those with serious illnesses? If not, why not?

340. Provide copies of the RFPs the company issued for both the AMS meters and the gas indices modules.

a. Provide the per unit cost of the AMS meters, and the gas indices modules.
b. Are there any gas indices modules being manufactured with a longer service life than the twenty (20) year projected lifespan of the modules the company contemplates using based on the instant filing?
   (i) If the response to subpart (b) above is "yes," identify the manufacturer, model numbers, and explain why KU did not select that manufacturer.

341. Describe the other types of metering technology and associated infrastructure from other manufacturers that KU considered but did not elect to utilize in its proposed deployment under the instant filing.

342. State to what extent the hardware, firmware, and software associated with the company's proposed AMS meters and associated infrastructure will comply with the National Institute of Standards and Technology (NIST)'s interoperability standards set forth in "NIST Framework and Roadmap for Smart Grid Interoperability Standards, Release 3.0."[3]

343. To what extent will the proposed AMI architecture and infrastructure be interoperable with LG&E-KU's other systems, including but not limited to: IT office systems, metering systems, SCADA and DSM systems, outage management systems, analytic systems, and external partners and services? For purposes of this question, the term "interoperable" means the ability of different information technology systems and software applications to communicate, exchange data, and use the information that has been exchanged.

[3] Accessible at https://www.nist.gov/news-events/news/2014/10/nist-releases-final-version-smart-grid-framework-update-30

344. State whether the expected lifespan of the AMS meters and gas indices modules the company has already deployed differs from the projected lifespans of the meters and indices modules to be deployed under the CPCN pertaining to AMS. If so, state the difference(s).

345. With regard to the cost-benefit analysis the company performed regarding the proposed AMS deployment, describe all costs associated with the program that the cost-benefit analysis took into consideration.

a. Describe any and all costs associated with the proposed meter replacement program which the cost-benefit analysis did not take into consideration. With regard to any such costs not taken into consideration, explain fully why they were not considered.

346. Describe whether LG&E-KU's cost-benefit analysis took into consideration that some of their residential customers do not have home computers and/or lack remote internet access through which they could otherwise view the company's internet-based energy usage portal. If not, why not?

347. Does the companies' cost-benefit analysis take into consideration that any AMI meters deployed as a result of the program will have to be replaced in 20 years?

a. In the event new AMI metering technology and/or infrastructure is developed, are LG&E-KU willing to commit that they will not seek to deploy such new technology prior to the end of the projected lifespan of the technology that will be deployed in the instant project? If not, why not?

348. For purposes of this question and its subparts, the term "customer data" refers to any and all data regarding or pertaining to LG&E-KU's customers and/or their family members or other persons residing in the same residential household or unit, including but not limited to the following: (i) customers' identity; (ii) personal information, including but not limited to street address, e-mail address, telephone number(s), credit history, checking account(s), credit and/or debit card data; and (iii) electrical and/or gas consumption usage, consumption and usage patterns.

a. For how long will the company retain customer data?
b. Does KU believe that customer data belongs to its customers, or to the company? Explain the reasons for KU's beliefs.
c. What will the company do with customer data when the retention period which the company selects has expired?
d. How will KU allow its customers to decide whether to allow KU to sell or otherwise disclose customer data? Will it be via affirmative "opt-in," or by an affirmative "opt-out" which customers will have to select in order to not allow KU to disclose their data?

(i) provide copies of the "opt-in" or "opt-out" choices regarding the disclosure/sale of customer data which KU plans to provide to its customers.

e. Will the company sell customer data regarding those customers who opt to allow the company to disclose such information to third parties?

f. If your response to subpart (e), above is yes:
   (i) state what protections, if any, the company plans to employ to protect confidentiality of customer data;
   (ii) state what the company intends to do with the proceeds of the customer information which it sells; and
   (iii) state whether those customers who opt to allow disclosure of their customer data will receive any monetary benefit, and if so, how much and in what form.

g. If KU does not intend to sell customer data, but will otherwise disclose customer data pertaining to customers who authorize KU to do so, state what protections, if any, the company plans to employ to protect confidentiality of data that can identify customers, including but not limited to information such as account numbers, credit card numbers, etc.

349. In the event the Commission should approve KU's CPCN pertaining to AMS, state whether the company would be willing to allow residential customers to opt-out of the program for medical purposes, in the event such customers agree to pay:

a. any and all costs associated with manual connects/disconnects;
b. for manual meter readings; and
c. for any and all other metering-related costs included within customers' existing rates, which otherwise would have to be socialized within the remaining residential customer rate base.

350. If KU's CPCN pertaining to AMS is approved, and after the completion of the upgrade program, in the event that the company's cost-benefit analysis does not establish that benefits are greater than costs, would KU be willing to make a partial rate refund to restore its ratepayers to at least the point at which they suffer no financial detriment? If not, why not?

a. Does KU's cost-benefit analysis include all costs and all benefits? If not, why not?
b. Does KU's cost-benefit analysis provide a monetary value for all quantifiable benefits? If so, explain how that monetary value was derived.
c. As part of KU's commitment that its proposed meter upgrade will provide greater quantifiable benefits than the cost of the program, is KU willing to provide annual reporting under the docket for the instant case for each of five

(5) years following the completion of the program that would update both costs and benefits? If not, why not?

d. Provide a per-meter breakdown of costs and quantifiable benefits (in monetary terms) which KU believes ratepayers in each class will receive.

351. Since KU asserts that the meter upgrade program will lead to enhanced revenue collection and operational savings to the company, does it agree that if the program is approved, it will face less financial risk? If it does not so agree, why not?

352. Regarding KU employees who currently perform meter reading services, describe what will be done with those positions in the event the Commission should approve all or a portion of the company's application in the instant matter.

353. In the event the Commission should approve KU's CPCN pertaining to AMS, state the number of years following the completion of the project until projected total savings will exceed projected total costs.

354. State whether KU has any net metering customers, and if so, explain whether such customers will continue to be able to net meter if they so choose.

a. Describe all costs KU requires net metering customers to pay under its current net metering tariff.
b. Describe all changes to KU's net metering tariff that will result in the event the Commission approves the CPCN pertaining to AMS.
c. Does KU anticipate that AMS meters to be installed under this project will more accurately capture the amounts of electricity that net metering customers sell to the company? If so:
   (i) provide all estimates that LG&E-KU and/or any of the companies' affiliates have performed regarding effects that net metering customers can anticipate once they receive a new AMS meter under the instant program; and
   (ii) state whether the solar credit reporting system will report actual meter reading, or readings from the prior month.

355. In the event that the Commission approves the CPCN pertaining to AMS, state whether KU believes that the company would be sharing in the risks associated with the deployment of the new technologies identified in the application, and if so, state how it would be so sharing.

356. In the event that the Commission approves the CPCN pertaining to AMS, if total program costs should exceed total program benefits, would KU object to having shareholders being made responsible for that portion of costs that exceed benefits? If so, why?

357. Provide a complete description of the education program LG&E-KU plan to undertake to inform ratepayers of the goals of the program, and its costs and benefits.
   a. Provide copies of any and all bill inserts or scripts of advertisements the companies plan to use in this regard. If such materials are not yet completed, will the companies agree to provide them to the Commission and the Attorney General when they are available? If not, why not?
   b. State whether the companies' education program will explain: (i) how much the bill of a residential customer will increase as a result of program implementation; and (ii) how the program will eventually pay for itself.

358. If the Commission should approve the CPCN pertaining to AMS, state whether the companies plan to introduce: (a) mandatory dynamic pricing; and/or (b) demand charges for the residential class.

V. TRANSMISSION AND DISTRIBUTION

359. Regarding third quartile SAIDI "Transmission Performance", as discussed beginning on page 23 of the Testimony of Paul W. Thompson, provide the following:
   a. SAIDI industry benchmarking data.
   b. KU's SAIDI 5-year historical performance.

360. Regarding NATF OHMY "Transmission Performance", as discussed beginning on page 23 of the Testimony of Paul W. Thompson, provide the following:
   a. OHMY industry benchmarking data.
   b. KU's OHMY historical performance.

361. Regarding SAIDI of individual transmission lines as discussed beginning on page 26 of the Testimony of Paul W. Thompson, provide the following:
   a. Threshold limits of SAIDI used to determine which transmission lines will be targeted for inline circuit breakers and switching equipment.
   b. A detailed explanation of how it was determined whether circuit breakers or other switching equipment would be used.
   c. For KU historic SAIDI values for each transmission line.
   d. For KU detailed equipment description for each transmission line determined in need of sectionalization.

362. Regarding transmission system resiliency as discussed beginning on page 26 of the Testimony of Paul W. Thompson, provide the following:

a. Describe in detail what is meant by enhancing access of spare equipment inventory.
b. Describe physical security improvements
c. Describe how key locations were determined

363. Regarding the 2-year capital investment in transmission reliability and resiliency improvements shown in the table on page 27 of the Testimony of Paul W. Thompson, provide the following:
a. For KU historic annual investments for each category over the past 5 years (2012-2016).

364. Regarding the 2-year capital expenditures in transmission shown in the table on page 28 of the Testimony of Paul W. Thompson, provide the following:
a. For KU historic annual investments for each category over the past 5 years (2012-2016).

365. Regarding the annual transmission expansion plan discussed on page 32 of the Testimony of Paul W. Thompson, provide the following:
a. For KU the latest and the four previous annual transmission expansion plans.

366. Regarding the 2016 security assessment for transmission substations as discussed on page 33 of the Testimony of Paul W. Thompson, provide the resulting consultant report.

367. Regarding second quartile SAIDI "Distribution Performance", as discussed beginning on page 35 of the Testimony of Paul W. Thompson, provide the following:
a. SAIDI industry benchmarking data.
b. KU's SAIDI 5-year historical performance.

368. Regarding second quartile SAIFI "Distribution Performance", as discussed beginning on page 35 of the Testimony of Paul W. Thompson, provide the following:
a. SAIFI industry benchmarking data.
b. KU's SAIFI 5-year historical performance.

369. Regarding the CIFI program, as discussed beginning on page 36 of the Testimony of Paul W. Thompson, provide the following:
a. KU's 5-year annual historical CIFI with details including identified circuits and subsequent actions taken.

370. Regarding the AIR program, as discussed beginning on page 36 of the Testimony of Paul W. Thompson, provide the following:

a. KU's 5-year annual historical AIR with details including identified assets and subsequent actions taken.

371. Regarding the Distribution Substation Transformer Contingency program, as discussed beginning on page 37 of the Testimony of Paul W. Thompson, provide the following:

a. A detailed description of the program, the management process for reviewing the results, and all related reports and recommendations.
b. Explain what is meant by "permanent contingency".
   i. Provide an example analysis where permanent installation of redundant. transformer proves to reduce operating costs compared to using a portable or spare transformer.
   ii. Does such an analysis consider capital costs and redundant maintenance costs?
c. All distribution transformers identified by the program, their location, a description of the load they serve, their size and the proposed resolution under the program.
d. A detailed list and description of all multiday outages related to substation transformer failure on KU's system over the past 5 years and subsequent actions taken to prevent recurrence.

372. Regarding Distribution Energy Resources (DER), as discussed beginning on page 40 of the Testimony of Paul W. Thompson, provide the following:

a. A detailed explanation of how the 1,400 SCADA capable reclosers under the DA program support and enable DER.
b. A detailed explanation of how the SCADA DMS software under the DA program supports and enables DER.
c. Is it assumed that DER will be customer owned resources?
d. Is it assumed that all customers will bear the costs of DA enhancements needed to employ DER?
   i. How are these costs allocated?
e. Provide all internal reports regarding projections of DER penetration in the combined territory of LG&E and KU.

373. Regarding DA real time data from reclosers to provide intelligence to support switching, as discussed beginning on page 41 of the Testimony of Paul W. Thompson, provide the following:

a. An explanation of why AMS information would not also supply data to operate system.

b. How proposed AMS system will be integrated with SCADA DMS software.
c. Describe how company organization will support incorporating data from SCADA DMS and AMS
   i. Describe data flow of AMS into company organization and who is responsible for AMS implementation and data.
   ii. Describe data from of SCADA DMS into company organization and who is responsible for SCADA DMS implementation and data.

374. Regarding AIS decision-support model, as discussed beginning on page 41 of the Testimony of Paul W. Thompson, provide the following:
a. All reports detailing the results of the comparison of the Companies existing portfolio of distribution and resiliency programs.
b. All reports and written conclusions.
c. Will DA replace CIFI?
   i. Will the Company no longer identify worst performing circuits?

375. Regarding implemented programs that contribute to operational efficiencies in distribution, as discussed beginning on page 43 of the Testimony of Paul W. Thompson, provide the following:
a. Written procedures, procedures and directives detailing all programs related to incident management.
   i. Explain how real-time information gained from SCADA DMS and AMS will be incorporated into each of these programs.
b. Written procedures, procedures and directives detailing all programs related to system/asset management.
   ii. Explain how real-time information gained from SCADA DMS and AMS will be incorporated into each of these programs.
c. Written procedures, procedures and directives detailing all programs related to resource management.
   iii. Explain how real-time information gained from SCADA DMS and AMS will be incorporated into each of these programs.

376. Regarding the 2-year distribution capital investment shown in the table on page 46 of the Testimony of Paul W. Thompson, provide the following:
a. For KU historic annual investments for each category over the past 5 years (2012-2016).

377. Regarding section 4.1.2 of Exhibit PWT-2 provide the total work estimate developed by Environmental Consultants, Inc. regarding vegetation management.

378. Regarding section 4.1.3 of Exhibit PWT-2 provide detailed annual information regarding the 5-year line sectionalizing program including line segments identified for improvement and sectionalization solutions and related costs, as well as expected SAIDI improvement related to each installation.

379. Regarding Table 5 of Exhibit PWT-2 provide annual 5-year historic data for each of the listed categories (from 2012-2016).

380. Regarding Table 6 of Exhibit PWT-2 provide annual 5-year historic data for each of the listed categories (from 2012-2016).

381. Regarding Line Sectionalizing Program Cost table at the bottom of page 27 of Exhibit PWT-2 provide annual 5-year historic data (from 2012-2016).

382. Regarding Table 7 of Exhibit PWT-2 provide annual 5-year historic data for each of the listed categories (from 2012-2016).

383. Regarding Overhead Line Replacement Program Cost table at the top of page 33 of Exhibit PWT-2 provide annual 5-year historic data (from 2012-2016).

384. Regarding Table 8 of Exhibit PWT-2 provide annual 5-year historic data for each of the listed categories (from 2012-2016).

385. Regarding Breaker Replacement Program Cost table at the top of page 41 of Exhibit PWT-2 provide annual 5-year historic data (from 2012-2016).

386. Regarding Underground Line Replacement Program Cost table at the top of page 44 of Exhibit PWT-2 provide annual 5-year historic data (from 2012-2016).

387. Regarding Switch Replacement Program Cost table at the top of page 45 of Exhibit PWT-2 provide annual 5-year historic data (from 2012-2016).

388. Regarding Substation Insulator Replacement Program Cost table at the bottom of page 45 of Exhibit PWT-2 provide annual 5-year historic data (from 2012-2016).

389. Regarding Substation Arrester Replacement Program Cost table at the bottom of page 47 of Exhibit PWT-2 provide annual 5-year historic data (from 2012-2016).

390. Regarding Coupling Capacitor Replacement Program Cost table on page 48 of Exhibit PWT-2 provide annual 5-year historic data (from 2012-2016).

391. Regarding the discussion of Investment selection methodology in Section 3 of Exhibit PWT-5, provide:
   a. The detailed results of the DA evaluation against existing portfolio of system reliability and resiliency capital programs.
   b. Data from this evaluation in electronic format, preferably excel.

392. Regarding Table 3 of Exhibit PWT-5 provide annual 5-year historic data for each of the listed categories (from 2012-2016).

393. Regarding the telecommunications consultant engagement discussed in section 5.1.3 of Exhibit PWT- 5 provide all written reports, findings and conclusions.

394. Regarding Table 5 of Exhibit PWT-5 identify transformers affected and detailed investment estimates for each identified transformer in the years of the N1DT contingency program.

395. Regarding Exhibit PWT-6 provide the estimated O&M expense vs Expected O&M savings for the each of the years 2017 through 2022.

396. Regarding Exhibit PWT-7, page 1, provide background calculation for NPVRR's in electronic format, preferably excel, with active cells.

397. Regarding Exhibit PWT-7, page3, provide:
   a. Background calculation for all entries in electronic format, preferably excel, with active cells.
   b. A detailed explanation of all cost savings and assumptions used in deriving cost savings.

398. Regarding Exhibit PWT-7, page 4, provide:
   a. Background calculation for all entries in electronic format, preferably excel, with active cells.
   b. A detailed explanation of all cost savings and assumptions used in deriving cost savings.

399. Regarding Exhibit PWT-8 provide:
   a. A detailed explanation of all projects.

b. Annual 5-year historic costs for each category from 2012 to 2016.

400. Regarding AMS benefits discussion beginning on page 24 of the Testimony of John P. Malloy, provide the following information regarding benefits related to enabling better localization and resolution of power outages:

a. All plans, software and communications planning documents related to providing AMS information to distribution and transmission operations.
b. A detailed explanation of how AMS information will be used to localize and resolve power outages including a description of information flow.

401. Regarding the Section 5.5 diagram at the top of page 13 of Exhibit JPM-1 provide the following information:

a. Detailed description of how information from customer services is transmitted to deployment operations including communication software from AMS to deployment operations to work orders or other field activities.
b. Detailed description of how information from the meter operations center is transmitted to deployment operations including communication software from AMS to deployment operations to work orders or other field activities.
c. Describe equipment, personnel, and facilities anticipated at the meter operations center.

402. Regarding discussion in Section 5.5.9 on page 20 of Exhibit JPM-1 describe how proposed AMS system will communicate with ADA.

a. Will the AMS system being deployed communicate with the current planned distribution automation?
b. Explain how proposed AMS equipment is compatible with future ADA.

403. Regarding discussion in Section 5.7.2 of Exhibit JPM-1 describe how proposed AMS system will communicate with Volt/VAR optimization.

a. Describe the current a Volt/VAR optimization program or system and required AMS compatibility.
b. Describe future Volt/VAR optimization program or system and required AMS compatibility.

404. Regarding discussion in Section 5.7.3 of Exhibit JPM-1 describe how proposed AMS system will communicate with FLISR.

a. Describe the current FLISR capability and required AMS compatibility.
b. Describe future FLISR capability and required AMS compatibility.

405. Regarding discussion in Section 5.7.3 of Exhibit JPM-1 describe how proposed AMS system will communicate with DERMS.

a. Describe the current DERMS and required AMS compatibility.
b. Describe future DERMS and required AMS compatibility.

406. Regarding the discussion on page 34 of the Testimony of Robert M Conroy, explain why KU is not seeking a CPCN for volt/var resources.

407. Regarding the discussion on page 38 of the Testimony of Robert M Conroy requesting a deviation from the quarterly meter reading requirement, describe how KU proposes to make sure that meter reads from an AMS meter are properly assigned to the address of the customer. The description should include procedures in place to assure proper meter assignment as well as the process a customer would take if readings appear inappropriately assigned to an address.

408. Regarding the response to PSC 1-12 provide the following:
a. Latest approved Integrated Resource Plan.
b. Latest 10-year plan for replacing key components in each power station.
c. Latest Transmission Expansion Plan.
d. Last 5 annual electric distribution plans.
e. Last 5 annual gas system plans.

409. Provide a copy of the latest study LG&E-KU conducted regarding the feasibility and cost-effectiveness of joining a Regional Transmission Organization.