COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

NOTICE OF ADJUSTMENT OF RATES OF KENTUCKY-AMERICAN WATER COMPANY	))	CASE NO. 97-034

O R D E R

The Commission, having considered Kentucky-American Water Company's ("Kentucky-American") motion to modify the procedural schedule to extend the due date for responses to initial data requests from April 18, 1997 to April 21, 1997 and to allow rebuttal testimony to be filed no later than June 27, 1997, and finding good cause, HEREBY ORDERS that the procedural schedule appended to the March 24, 1997 Order is modified as requested by Kentucky-American.

Done at Frankfort, Kentucky, this 4th day of April, 1997.

PUBLIC SERVICE COMMISSION

Linda K Breathitt

For the Commission

ATTEST:

Don Mills

Executive Director

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

NOTICE OF ADJUSTMENT OF RATES OF KENTUCKY-AMERICAN WATER COMPANY	))	CASE NO. 97-034

O R D E R

IT IS ORDERED that Kentucky-American Water Company ("Kentucky-American") shall file the original, 6 hard copies, and 11 electronic copies of the following information with this Commission, with a copy to all parties of record. Each copy of the data requested should be placed in a bound volume with each item tabbed. When a number of sheets are required for an item, each sheet should be appropriately indexed, for example, Item 1(a), Sheet 2 of 6. Include with each response the name of the witness who will be responsible for responding to questions relating to the information provided. Careful attention should be given to copied material to ensure that it is legible. Where information requested herein has been provided along with the original application, in the format requested herein, reference may be made to the specific location of said information in responding to this information request. The information requested herein shall be filed no later than April 21, 1997. When applicable, the information requested herein should be provided for total company operations and jurisdictional operations, separately. Each response should include complete details of any items which are allocated among Kentucky-American and other affiliates.

1. Provide a comparison of Kentucky-American's forecasted rate base, capital structure, and income statement from Case No. 92-452[1] with its actual results. Include a detailed narrative for any variance that occurred.

2. Provide a comparison of Kentucky-American's forecasted rate base, capital structure, and income statement from Case No. 94-197[2] with its actual results. Include a detailed narrative for any variance that occurred.

3. When available provide a monthly comparison of Kentucky-American's forecasted construction expenditures from Case No. 95-554[3] with its actual results by construction project. Include a detailed narrative for any variance that occurred.

4. When available provide a comparison of Kentucky-American's forecasted rate base, capital structure, and income statement from Case No. 95-554 with its actual results. Include a detailed narrative for any variance that occurred.

5. Has Kentucky-American obtained all of the necessary approvals for the construction projects to be started and/or completed during the forecasted test period? Provide a list of those projects that need approval and include the type of approval required and the date approval will be requested.

6. For each budget project started and/or completed during the period 1987 through 1996, provide the following information in the format contained in Schedule 1:

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1 Case No. 92-452, Notice of Adjustment of the Rates of Kentucky-American Water Company, Order Dated November 19, 1993.

2 Case No. 94-197, Notice of Adjustment of the Rates of Kentucky-American Water Company, Order dated January 25, 1995.

3 Case No. 95-554, Notice of Adjustment of the Rates of Kentucky-American Water Company, Order dates September 11, 1996.

a. The number of budget projects that were completed ahead of schedule.

b. The number of budget projects that were completed on schedule.

c. The number of budget projects that were completed behind schedule.

7. Refer to the response to Item 9 of the Commission's March 7, 1997 Order. For the period 1987 through 1996, the 10 year average ratios of actual to budgeted capital construction expenditures ("slippage factors") are: 96.993 percent for Investment Projects 1A-5; and 82.813 percent for Budget Projects. Recalculate Kentucky-American's forecasted revenue requirement, rate base, and cost of service as follows:

a. Reduce all monthly Investment Project 1A-5 expenditures beginning December 1996 through the end of the forecasted period, using the 96.993 percent slippage factor.

b. Reduce all monthly Budget Project expenditures beginning December 1996 through the end of the forecasted period, using the 82.813 percent slippage factor.

c. Provide copies of all workpapers, assumptions, and calculations showing the impact of the slippage factors to each forecasted element of rate base, capital structure, and cost of service.

Refer to page 1 of the response to Item 9 of the Commission's March 7, 1997 Order, for questions 8 through 16.

8. Budget project 91-01, 3.0 MG Pumped Storage Clays Mill Road, was originally scheduled to be completed by December 1991, but was not completed until March 1996. Provide a detailed explanation for Kentucky-American's 51 month delay in completing this budget project.

9. In 1996, $423,442 was spent to complete budget project 91-01. Explain why Kentucky-American failed to budget for this project in 1996.

10. In 1996, $243,274 was spent to complete budget project 90-06, KRS Chemical Feed Building. Explain why Kentucky-American failed to budget for this project in 1996.

11. Kentucky-American's 1996 budget included $585,000 for budget project 90-07, Install 17,500' of 20" in South End in 1996, but $773,150 was actually spent on that project. Explain why Kentucky-American exceeded its budget for this project by $188,150.

12. Budget project 90-07 was originally scheduled to be completed by December 1990, but is still not completed. Provide a detailed explanation for Kentucky-American's delay in completing this budget project.

13. Kentucky-American's 1996 budget included $692,400 for budget project 93-02, RRS Chemical Feed Building No. 2 Improvement, but $965,875 was actually spent on that project. Explain why Kentucky-American exceeded its budget for this project by $273,475.

14. Kentucky-American's 1996 budget included $592,000 for budget project 96-15, Office Renovations and Improvements, but $946,151 was actually spent on that project. Explain why Kentucky-American exceeded its budget for this project by $354,151.

15. In 1996, $117,475 was spent on budget project 96-17, Business Systems Software. Explain why Kentucky-American failed to budget for this project in 1996.

16. Budget project 96-17 was originally scheduled to start in November 1996, but was not started until January 1997. Provide detailed explanations for Kentucky-American's

delay in beginning this budget project and why it has estimated that this budget project will take approximately 20 months to complete.

Refer to pages 1 and 2 of the response to Item 9 of the Commission's March 7, 1997 Order for questions 17 and 18.

17. The 1995 budget included $527,100 for budget project 92-12, Develop Ohio River Supply line, and in 1996 $905 was spent on this project. Explain why Kentucky-American failed to budget for this project in 1996.

18. Explain why budget project 95-11 is identified as Zebra Mussel Prevention on page 2, but it is identified as Coagulant Aid-Polymer Feed - KRS on page 1.

19. Refer to page 13 of the response to Item 9 of the Commission's March 7, 1997 Order. Kentucky-American states that the scope of budget project 95-12, Scott County Main Extensions, was expanded. Provide a detailed description of this expansion and how it affected the agreement between Kentucky-American and Scott County.

20. Refer to page 18 of Linda Bridwell's Direct Testimony. In 1997 and 1998 Kentucky-American has projected that it will spend $1,474,000 for the design of the water supply project referred to as the Louisville Pipeline. Provide a detailed description of the design work Kentucky-American intends to perform in 1997 and 1998.

Refer to page 19 of Linda Bridwell's Direct Testimony for questions 21 and 22.

21. Describe the work that has been completed in preparing Kentucky-American's application for a Certificate of Public Convenience and Necessity for the Louisville Pipeline.

22. When does Kentucky-American anticipate filing an application for a Certificate of Convenience and Necessity for the Louisville Pipeline?

23. Provide Kentucky-American's updated Louisville Pipeline construction schedule.

24. In Case No. 92-452, the Commission found that the Louisville Pipeline costs should be removed from rate base because of "the nature of the pipeline costs, the USoA requirements, and the uncertainty surrounding the construction." The Commission, in Case No. 95-554, determined that, "until Case No. 93-434[4] is concluded and a subsequent decision is made on the need for a Certificate of Public Convenience and Necessity, construction of Ohio River supply line is uncertain." Identify any changes that have occurred or provide any evidence that would persuade the Commission to reconsider its prior decisions.

25. Kentucky-American has identified the Ohio River supply line costs included in the forecasted period as design work. The Uniform System of Accounts for Class A and B Water Companies ("USoA") requires that all expenditures for preliminary surveys, plans, investigations, etc., made for determining the feasibility of construction projects under contemplation be charged to Account 183 - Preliminary Survey and Investigation Charges. Given the Commission's past determination concerning the uncertainty of the Ohio River supply line, explain why these costs should be included in CWIP rather than Account 183 as required by the UsoA.

26. Provide the impact on forecasted rate base, capital structure, and cost of service if budget projects 90-13, Ky River Lock/Aquatic Study; 90-14, Source of Supply Evaluation; and 92-12, Source of Supply, are excluded from Construction Work in

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4 Case No. 93-434, An investigation of the Sources of Supply and Future Demand of Kentucky-American Water Company, Order dated April 24, 1995.

Progress. Include copies of all workpapers, assumptions, and calculations used to arrive at the impact.

Refer to workpaper W/P-1-11, page 5 and 6, for questions 27 and 28.

27. The deferred maintenance project M1015, KRS Hydro #6, was scheduled to be completed in January 1997. When available, provide the actual cost of this deferred maintenance project and any revenue requirement impact. Include copies of all workpapers, assumptions, and calculations used to arrive at the impact.

28. Provide the same information requested in Question 27 for the other deferred maintenance projects scheduled to be completed prior to the hearing.

Refer to page 7 of Stephen Hopkins direct testimony for questions 29 and 30.

29. As of December 31, 1996, Kentucky-American spent $369,811 on Case No. 93-434 and has included $969,811 of the unamortized cost in its forecasted rate base. Provide a detailed analysis of the $600,000 that Kentucky-American has forecasted it will spend on Case No. 93-434.

30. In Case No. 95-554, the Commission viewed the "costs of Case 93-434 as preliminary cost of construction that should be afforded the same rate-making treatment as the other preliminary Ohio River supply line costs. Therefore, rate base was reduced by $285,668 to reflect the transfer of those costs to account 183 until the investigation is concluded." Identify any changes that have occurred or provide any evidence that would persuade the Commission to reconsider its prior decision.

31. Pending the outcome of the rehearing in Case No. 95-554, provide the revenue requirement impact of excluding the unamortized cost of the AMR Study from

forecasted rate base. Include copies of all calculations, assumptions, and workpapers used in the determination.

32. For the deferred maintenance projects that were started or completed during the period 1987 through 1996, provide the following:

a. The number of deferred maintenance projects that were completed ahead of schedule.

b. The number of deferred maintenance projects that were completed on schedule.

c. The number of deferred maintenance projects that were completed behind schedule.

d. The number of deferred maintenance projects completed below the projected cost.

e. The number of deferred maintenance projects completed above the projected cost.

33. Refer to the statement on page 10 of Coleman Bush's direct testimony that, "The amount of overtime hours was based on actual levels experienced in the past with adjustments made based on judgement and forecasted operational needs." Cite specific instances in the calculation of overtime hours where management judgement and operation needs were used to adjust the forecasted hours.

34. Explain the process Kentucky-American uses when it allocates forecasted overtime-hours to its employees.

35. Identify the effect, if any, the switch from quarterly to monthly billing has on the forecasted overtime hours.

36. Provide an analysis of the overtime hours for the period of 1987 through 1996 comparing the budgeted overtime hours with the actual overtime hours. Include a brief description for any instance where a 5 percent variance is exceeded.

37. Cite instances in the calculation of Kentucky-American's fuel and power expense where operational judgement was used to adjust averages.

38. Cite instances in the calculation of Kentucky-American's chemical expense where operational judgement was used to adjust averages.

39. Refer to the statement on page 9 of Stan Stockton's direct testimony that, "The cost of utilizing new chemicals is estimated from laboratory data, other operating company experiences or system water quality recommendations." Cite instances in the calculation of Kentucky-American's chemical expense where any of these three options was used to estimate the cost of new chemicals.

40. Provide comparisons of the annual budgeted amounts and actual results for programmed maintenance projects for the period 1987 through 1996. The comparison should be divided into deferred programmed maintenance and other programmed maintenance. Include a brief description for any instance where a 5 percent variance is exceeded.

41. Provide comparisons of the annual budgeted amounts and actual results for non-programmed maintenance projects for the period 1987 through 1996. Include a brief description for any instance where a 5 percent variance is exceeded.

42. Identify any programmed maintenance project included in the forecasted operations that was delayed from a previous year. Include a brief explanation describing the reasons for the delay.

43. If a programmed maintenance project is delayed, does this decrease the reliability of Kentucky-American's distribution system?

44. Describe Kentucky-American's current relationship with the American Waterworks Service Company ("Service Company") and any planned changes that will occur in the future.

45. Implementation of several recommendations from Kentucky-American's 1991 Management Audit are tied to Kentucky-American's and the Service Company's strategic planning efforts. Provide a detailed explanation of the strategic planning efforts, including the manner in which Kentucky-American employees were involved, and discuss the current status of the strategic plan.

46. Is the Hershey, Pennsylvania data processing center providing any of the data processing service to Kentucky-American? If yes, describe those services.

47. Provide a description of the data processing services being provided at the Richmond, Indiana data processing center.

48. Provide a description of the data processing services performed in-house by Kentucky-American.

49. Refer to pages 6 through 10 of James E. Salser's direct testimony. Is this similar to the evidence presented in Case No. 95-554, concerning the Commission's continued use of the 1971 Service Company agreement for rate-making purposes?

50. In Case No. 90-321, the Commission stated that "The problem with the Service Company's approach is that it has allocated all costs in the same manner without looking at the underlying characteristics of each cost separately." Since Case No. 90-321,

has the Service Company or Kentucky-American performed any studies to look at each cost separately to identify the underlying characteristic?

51. Identify any changes that have occurred since Case No. 95-554 that would cause the Commission to reconsider its position on the customer allocation methodology in the 1989 Service Agreement.

52. Refer to the response to Item 32 of the Commission's March 7, 1997 Order. The 1971 Agreement allocates customer billing based on the number of bills mailed, and the 1989 contract allocates this cost based on the total number of customers. Since Kentucky-American switched to monthly billing, explain why there is a $47,346 difference between the 1971 and 1989 Agreements for the allocation of the customer billing cost.

53. Provide a comparison of the testing performed at the Belleville Lab for Kentucky-American during the base period with the forecast period. Include explanations for increases in the cost or number of tests performed and identify the tests required by the Clean Water Act.

54. Provide a comparison of the testing performed by Kentucky-American in-house during the base period with the forecast period. Include explanations for increases in the cost or number of tests performed and identify the tests required by the Clean Water Act.

55. Provide comparisons of the budgeted and actual group insurance premium increases for the period 1987 through 1996. Include a brief description of any variance.

56. Describe the impact the electronic filing will have on Kentucky-American's estimated cost to prepare this rate case.

57. Provide comparisons of the budgeted and actual insurance other than group insurance premium increases for the period 1987 through 1996. Include a brief description of any variance.

58. Provide comparisons of the budgeted and actual financing requirements for the period 1987 through 1996. Include a brief description of any variance.

59. In Case No. 95-554, Kentucky-American informed the Commission of the joint meter reading study it had entered into with Kentucky Utilities Company. The venture was to begin on March 8, 1996 and last approximately 1 year. Provide the evaluation of the joint venture when the information is available.

60. Provide the Standard & Poor's 1996 credit rating commentary mentioned in Mr. Mulle's testimony at page 11, lines 9, 10, and 17.

61. Provide the rate of return on common equity most recently approved for other American Water Works Company ("AWWC") utilities by their respective regulatory commissions.

62. Provide the rate of return on common equity most recently approved for the non-water utilities listed as comparable companies on page 33 of Mr. Mulle's testimony.

63. What is the basis for the projected 7.5 percent interest rate for the proposed 1998 long-term debt issuance?

64. Why did Kentucky-American choose 5.7 percent as its short-term debt cost rate?

65. Provide a list of all utility regulatory proceedings in which Edward L. Spitznagel, Jr. has supplied written or oral testimony and identify the subject matter of each testimony.

66. Describe the consulting work performed by Dr. Spitznagel for the St. Louis County Water Company, the Missouri-American Water Company, the Capital City Water Company, and Kentucky-American.

67. Is the consulting client list shown on Appendix A, page 1 of Dr. Spitznagel's testimony complete? If not, provide the names of any other water utilities or companies for whom Dr. Spitznagel has provided consulting services and describe the nature of the consulting work performed for each.

68. Provide a copy of all testimony related to weather-normalization or forecasts of customer water utilization provided by Dr. Spitznagel in any utility regulatory proceeding other than the instant case.

69. Refer to the Testimony of Dr. Spitznagel, page 2, line 15.

a. Identify the water-conserving plumbing fixtures and appliances being introduced by Kentucky-American in its service territory.

b. Describe how these devices are being introduced in Kentucky-American's service territory.

c. Describe how and to what extent these devices are resulting in a gradual decline in residential water usage. Quantify this decline in water usage.

d. Are these devices being introduced as part of a water conservation plan or effort by Kentucky-American?

e. Describe Kentucky-American's water conservation activities, programs, and plans.

70. Refer to the Testimony of Dr. Spitznagel, page 2, line 18. Explain why "month of the year" is a powerful predictor of water utilization.

71. Refer to the Testimony of Dr. Spitznagel, page 2, line 27. Are the drought indices referred to here the same as those described in Exhibit ELS-1, Schedule 3?

72. Refer to the Testimony of Dr. Spitznagel, page 2, line 27. Describe "soil moisture," how it is measured, and how it affects water utilization.

73. Refer to the Testimony of Dr. Spitznagel, page 3, line 2. Explain why there would be a "limited amount of recent utilization data available" from a water company's records. Is the case for Kentucky-American?

74. Refer to the Testimony of Dr. Spitznagel, page 3, line 3. Explain how and under what circumstances a predictor variable may be "selected by accident."

75. Refer to the Testimony of Dr. Spitznagel, page 3, line 11.

a. Explain why only variables that had strong correlations in "most or all" of AWWC's operating companies were used as candidate predictor variables in the weather-normalization methodology in the instant case.

b. Would it not be more appropriate to use only those variables that had strong correlations in Kentucky-American's service territory in the weather-normalization methodology in the instant case? Explain.

76. Refer to the Testimony of Dr. Spitznagel, page 3, line 16. Are the "modifications" referred to here the same as the Modified Palmer Drought Severity Index described on page 5 of Exhibit ELS-1, Schedule 3?

77. Refer to the Testimony of Dr. Spitznagel, page 3, lines 16-17. Explain the degree to which rainfall and the soil moisture index in Kentucky-American's service territory correlated with water utilization.

78. Refer to the Testimony of Dr. Spitznagel, page 3, lines 20-22. Explain how the affects of heat and moisture were removed from calendar month water usage in order to create "calendar month" as a predictor variable in the weather-normalization model. If such affects were not removed from the monthly usage data, explain why not.

79. Refer to the Testimony of Dr. Spitznagel, page 3, line 24. Describe what is meant by "categorized predictor."

80. Refer to the Testimony of Dr. Spitznagel, page 3, line 21. Was the predictor variable "calendar month" created as a dummy variable (i.e., values of 1 through 12) or as the actual water usage amount in a particular calendar month?

81. Refer to the Testimony of Dr. Spitznagel, page 3, line 26 through page 4, line 4. Provide an intuitive explanation of why "temperature" would be found to be an insignificant predictor variable, yet "calendar month" would be a significant variable.

82. Refer to the Testimony of Dr. Spitznagel, page 4, line 6. Explain how the ten year period of 1987-1998 was determined to be the appropriate period of review in this analysis.

83. Refer to the Testimony of Dr. Spitznagel, page 4, lines 7-9. Is the serial correlation referred to here the same as that discussed on page 8 of Exhibit ELS-1? Describe the "specialized procedure" used to account for serial correlation. What factors or circumstances caused the serial correlation?

84. Refer to the Testimony of Dr. Spitznagel, page 4, lines 15-21. Explain why two time variables, "month" and "year," would be used as predictors in a normalization model. What important characteristics or explanatory abilities distinguish these two variables?

85. Refer to the Testimony of Dr. Spitznagel, page 4, line 15.

a. Explain why "residential monthly" is not a customer class since Kentucky-American has converted to monthly billing.

b. How will this change in billing frequency affect the results of this weather-normalization analysis?

86. Refer to the Testimony of Dr. Spitznagel, page 5, line 9. List the customer classes whose water utilization proved to be insensitive to weather.

87. Refer to the Testimony of Dr. Spitznagel, page 5, line 19. Is a specific "non-predictor" being referred to here? If so, identify the variable.

88. Refer to the Testimony of Dr. Spitznagel, page 6, line 1. How was the 30-year period 1967-1996 determined to be the appropriate period for review in this analysis?

89. Refer to the Testimony of Dr. Spitznagel, page 6, lines 19-20. Describe in greater detail and demonstrate how the truncation at -1, 0, and +1 was performed on the Palmer drought severity index and how these truncated values were tested as predictors.

90. Refer to the Testimony of Dr. Spitznagel, page 6, line 21. How was it determined that the predictor truncated at 0 was the best predictor?

91. Refer to the Testimony of Dr. Spitznagel, page 6, line 25. Provide an intuitive explanation of why residential customers differ from other customer classes as pertains to the use or applicability of an unlagged, nontruncated Palmer drought severity index.

92. Refer to the Testimony of Dr. Spitznagel, page 7, line 5. Identify which customer classes or subclasses are billed monthly and which are billed quarterly.

93. Refer to the Testimony of Dr. Spitznagel, Exhibit ELS-1, page 3. Provide the Missouri Public Service Commission formula for available moisture and describe how it was used in the analysis in this case.

94. Refer to the Testimony of Dr. Spitznagel, Exhibit ELS-1, page 3. Describe the "data that was clearly incorrect or unusable due to billing frequency." Describe why it was necessary to remove this data from the analysis and the methods used to remove it.

95. Refer to the Testimony of Dr. Spitznagel, Exhibit ELS-1, page 3. Provide labels for each column of data shown on ELS-1, Schedule 5. Are these all of the variables and data used in the weather-normalization analysis? If not, provide and label all remaining data.

96. Refer to the Testimony of Dr. Spitznagel, Exhibit ELS-1, page 3. Was data from states other than Kentucky used to calculate drought indices shown on Schedule 3? If so, explain why drought data from other states is useful or predictive of water utilization in Kentucky.

97. Refer to the Testimony of Dr. Spitznagel, Exhibit ELS-1, page 4.

a. Describe how and why these 14 cities or areas were chosen for the SAS programs shown in Schedule 6.

b. How were the correlation or regression results from the programs of non-Kentucky cities or areas used in the ultimate Kentucky-American weather-normalization methodology and analysis?

98. Refer to the Testimony of Dr. Spitznagel, Exhibit ELS-1, page 4.

a. Describe how the fourteen SAS programs were modified to reflect billing frequency.

b. Describe how Kentucky-American's residential data is modified to reflect billing frequency (i.e., monthly or quarterly).

99. Refer to the Testimony of Dr. Spitznagel, Exhibit ELS-1, page 5. Describe any statistical problems or affects that could be experienced by having, in the same regression equations, a time variable labeled "month" and interaction variables labeled "PDSI*month" and "CDD*month" that, in part, consist of the time variable "month."

100. Refer to the Testimony of Dr. Spitznagel, Exhibit ELS-1, Schedule 5. For any interaction variables shown in this schedule, list separately the value of each component (i.e., for "PDSI*month" list the values for the two components, "PDSI" and "month").

101. Refer to the Testimony of Dr. Spitznagel, Exhibit ELS-1, page 6. Explain why a significance probability value of 0.01 is recommended instead of 0.05 for these regression models.

102. Refer to the Testimony of Dr. Spitznagel, Exhibit ELS-1, page 7. Discuss the appropriateness of using normalized residential usage amounts based on an assumption of a quarterly billing frequency to forecast residential customer usage for a company that actually bills those customers on a monthly basis.

103. Refer to the Testimony of Dr. Spitznagel, Exhibit ELS-1, page 8.

a. What was the cause for the autocorrelation in the residential quarterly model?

b. The time trend variable was retained in the residential quarterly model even though there was a large increase in the standard error. How large of a change in either the standard error or coefficient would have been required for the trend variable to be dropped from the model?

104. Refer to the Testimony of Dr. Spitznagel. Using any relevant statistical test results, data, or information contained in Exhibit ELS-1, Schedules 1 through 15, create an exhibit which clearly and completely demonstrates the derivation of the four customer class utilization projections shown on page 1 of Exhibit ELS-1 (i.e., residential quarterly, commercial quarterly, commercial monthly, and OPA monthly).

Done at Frankfort, Kentucky, this 4th day of April, 1997.

PUBLIC SERVICE COMMISSION

Linda K Breathitt

For the Commission

ATTEST:

Don Mills

Executive Director