

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN INVESTIGATION INTO THE FEASIBILITY AND	)	
ADVISABILITY OF KENTUCKY-AMERICAN WATER	)	CASE NO.
COMPANY S PROPOSED SOLUTION TO ITS WATER	)	2001-117
SUPPLY DEFICIT	)	

ORDER

By its Order of August 21, 1997, the Commission directed Kentucky-American Water Company ( Kentucky-American ) to take the necessary and appropriate measures to obtain sources of supply so that the quantity and quality of water delivered to its distribution system shall be sufficient to adequately, dependably, and safely supply the total reasonable requirements of its customers under maximum consumption through the year 2020.<sup>1</sup> Throughout the course of that investigation, Kentucky-American advised the Commission of its intent to augment its water supply by purchasing treated water from the Louisville Water Company ( Louisville Water ) and constructing a pipeline to transport this water to its service area.

On December 9, 1999, the Lexington-Fayette Urban County Government ( LFUCG ) Council passed a resolution calling for a Kentucky River solution to the region s water supply shortage. Acceding to the LFUCG s wishes, Kentucky-American dropped its plans to purchase water from Louisville Water and focused exclusively on the Kentucky River as its sole source of supply.

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<sup>1</sup> Case No. 93-434, An Investigation of the Sources of Supply and Future Demand of Kentucky-American Water Company.

On May 15, 2001, the Commission initiated this proceeding to investigate the feasibility and advisability of Kentucky-American's proposed solution to its water supply deficit. By this Order, we present preliminary findings on our review of the adequacy of the proposed Kentucky River solution proposed by Kentucky-American to meet its raw water supply needs.

### BACKGROUND

In Case No. 92-452,<sup>2</sup> Kentucky-American's first forecasted test-period rate case, Kentucky-American requested rate base treatment for capital costs associated with constructing a pipeline from Louisville Water in eastern Jefferson County to the west side of Kentucky-American's water distribution system in Fayette County. In that proceeding, the Attorney General ( AG ) filed a motion requesting the initiation of an investigation into the need for the proposed pipeline.

On November 19, 1993, the Commission initiated Case No. 93-434 to investigate and explore in-depth the issues surrounding Kentucky-American's demand projections and sources of supply. On March 14, 1995, the Commission entered an Order terminating its investigation. By Order dated April 24, 1995, Kentucky-American's petition for rehearing was granted to allow the investigation to remain open until completion of a new safe-yield analysis of the Kentucky River. On October 7, 1996, the Kentucky River Authority ( KRA ) submitted a copy of the final draft of the Kentucky River Basin Water Supply Assessment Study ( Kentucky River Study ) compiled by the Kentucky Water Resources Research Institute ( KWRRRI ).

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<sup>2</sup> Case No. 92-452, Notice of Adjustment of the Rates of Kentucky-American Water Company.

The Commission by Order entered December 23, 1996 found that further proceedings were appropriate and a hearing was held on May 21, 1997. On August 21, 1997, Kentucky-American was ordered to take the necessary and appropriate measures to obtain sources of supply so that the quantity and quality of water delivered to its distribution system shall be sufficient to adequately, dependably, and safely supply the total reasonable requirements of its customers under maximum consumption through the year 2020. On December 9, 1999, the LFUCG Council passed a resolution calling for a Kentucky River solution to the region's water supply shortage.

### DISCUSSION

#### Supply Deficit

The evidence in Case No. 93-434 supports the conclusion that the Kentucky River cannot supply an adequate amount of water to meet the unrestricted demands of Kentucky-American's customers during drought conditions. The Kentucky River Study identified a baseline total annual water supply deficit for the entire Kentucky River Basin of 6.3 billion gallons under the 1994 demand forecast and the 1930 drought of record. Using the Louisville Data Center's high population growth scenarios for 2020, the Kentucky River Study shows that the deficit for the Kentucky River Basin could be as high as 9.7 billion gallons and that the deficit for Pool 9, where Kentucky-American's intakes are located, could reach 3.9 billion gallons. The Kentucky River Study also estimates that during the 1930 drought of record and the 2020 growth scenario that Kentucky-American's customers could face a 53-day period during which no water will be available. Kentucky-American proposed to modify the Kentucky River Study's parameters to reflect transmission losses from Buckhorn and Carr Fork reservoirs, the impact of the valves on Locks 9 through 14, and Kentucky-American's modified

withdrawal permit. By accepting these modifications, the Commission found that the Pool 9 deficit would decrease to 3.489 billion gallons in the year 2020. The KRA has stated that the sluice valves have been installed in dams 11 through 14 only, with plans to install the remaining valves in dams 9 and 10 during the renovation and stabilization of these dams.

### Demand Forecast

The Louisville Data Center's latest population projection made in 1999 for the Lexington-Fayette urban area for the year 2020 is 250,282. However, the 2000 census results for the Lexington-Fayette County urban area show that the actual population for 2000 was 260,512, which is 10,230 greater than the population forecast for 2020.<sup>3</sup> This unanticipated population growth has had a corresponding impact on Kentucky-American's demand forecasts. In Case No. 93-434, Kentucky-American projected its demand for 2000 to be 36.69 million gallons per day (MGD), but its actual 2000 demand was 41.02 MGD, 4.33 MGD above the projection.<sup>4</sup> Furthermore, Kentucky-American has increased the forecast demand for 2020 from 39.27 MGD to 45.05 MGD, an increase of 5.78 MGD or 14.7 percent.<sup>5</sup>

### Proposed Deficit Reduction

Testimony presented in Case No. 93-434 showed that demand management and conservation alone would not be sufficient to eliminate the deficit that would occur

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<sup>3</sup> As of this date, the Louisville Data Center has not revised its population projections for 2010 or 2020 based on the 2000 census.

<sup>4</sup> Case No. 2001-117, Kentucky-American's Response to Item 25 of the Commission's May 15, 2001 Order.

<sup>5</sup> Id.

during the drought of record. KWRRRI has recently presented a scenario to repair and raise dams 9 and 10 by 4 feet, repair and construct a 4-foot crest gate on dam 11, and mine pools 12 and 13 up to 6 feet, which will decrease the deficit by approximately 3.05 billion gallons.<sup>6</sup>

The KRA is responsible for the management of the Kentucky River. Their short-term construction plan is to stabilize and raise dams 10, 9 and 8, in that order with no plans for dams 12 and 13 at this time. The raising of dams 10 and 9 could reduce the deficit by 1.9 billion gallons but the renovation to dam 8 will have no effect on the deficit to Kentucky-American.

The Division of Water ( DOW ) uses a permit process [t]o maintain the normal flow of all streams so that the proper quantity and quality of water will be available at all times to the people of the Commonwealth and [t]o ensure adequate supply of water for domestic, agricultural, recreational, and economic development uses.<sup>7</sup> The DOW is continuously monitoring the flows of the Kentucky River and how those flows impact the environment to ensure that all users have an adequate supply. Any additional river capacity will be allocated by DOW to all users of the Kentucky River on an equitable basis.

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<sup>6</sup> October 26, 1999 presentation of the KRRI, Water Supply Alternatives for Fayette County.

<sup>7</sup> KRS 151.110(1)(a).

## Schedule

The U.S. Army Corps of Engineers ( USACE ) has indicated that the renovation and elevation increase to dam 10 could be completed by the year 2007.<sup>8</sup> However, the USACE s schedule is questionable since it does not take into account delays from possible litigation resulting from permitting decisions, other regulatory decisions, or real estate acquisitions. The KRA has also indicated that up to 2 years could be added due to additional phases added by the USACE to execute a Project Cooperation Agreement between the USACE and KRA.<sup>9</sup> Dam 10 appears to be the only project that has secured any funding at this point.

In resolution 679-99, LFUCG recommended that future water supply for Fayette County should come from the Kentucky River and it developed separate time lines for the years 2000 through 2002 and 2002 through 2004. The time line for the period from 2000 through 2002 follows:

1. KRA should complete the acquisition of lock and dams 6, 7, 8, 9 and 11.
2. Complete geo-technical study for lock and dam 10.
3. Start and complete engineering design and environmental assessment of dam 10.
4. Complete a general assessment of locks and dams 5-14 to determine which dam should follow dam 10 in rehabilitation effort.
5. Study modifications to East Kentucky Power intakes.

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<sup>8</sup> Kentucky-American s Response to Item 38 of the Commission s May 15, 2001 Order.

<sup>9</sup> Letter dated February 15, 2001 from KRA to Kentucky-American and letter dated February 2, 2001 from USACE to KRA.

6. Begin design plans for water treatment plant capacity upgrades coincident with committed construction funding for dam 10.

7. The Bluegrass Water Supply Consortium should investigate a regional long-term water supply solution and prepare a report.

8. Develop a mutually agreeable water conservation and demand management plan.

The time line for the period 2002 through 2004 is as follows:

1. Start and complete construction work on dam 10.
2. Start and complete geo-technical study, engineering design and environmental assessment on dam 9 rehabilitation.
3. Implement conservation practices and consider demand management options, if necessary, to meet supply demands.

Resolution 679-99 also stated that Kentucky-American should start design to increase water treatment capacity for 15 million gallons daily when KRA can document existing or imminent increased water supply as a result of Kentucky River improvements and/or management. If sufficient progress on the Kentucky River improvements is not made, then LFUCG agreed to reassess all alternatives, including the Ohio River pipeline, and pipelines from regional counties in 2003.

#### CONCLUSION

Administrative Regulation 807 KAR 5:066, Section 10(4) requires: The quantity of water delivered to the utility's distribution system from all source facilities shall be sufficient to supply adequately, dependably and safely the total reasonable requirements of its customers under maximum consumption. In Case No. 93-434, the

Commission ordered Kentucky-American to take the necessary and appropriate measures to obtain sources of supply to comply with the requirement of 807 KAR 5:066, Section 10(4).

The unanticipated increase in the Lexington-Fayette County area's population and the corresponding impact on demand indicates that the annual water supply deficit of 3.489 billion gallons projected in Case No. 93-434 for the year 2020 is underestimated. The Louisville Data Center's population estimates were relied upon in the development of Kentucky-American's demand forecasts and ultimately the 2020 deficit. The 2000 census data shows the Lexington-Fayette population has grown to a level that is 10,230 greater than the population growth levels projected for 2020. To reflect the impact of growing population, Kentucky-American has increased its projected demand for 2020 from 39.27 MGD to 45.05 MGD, an increase of 5.78 MGD or 14.7 percent. The increased population projection and corresponding increase in demand should increase the deficit projected in Case No. 93-434.

The time and process required to construct the proposed Kentucky River improvements raise serious concern whether it will be implemented in a timely or economically efficient manner. The projected construction schedules by the USACE, KRA and LFUCG have shown to be inconsistent and uncertain with the potential for additional delays that are possible with projects of this magnitude. Based upon the USACE and KRA schedules and comments presented in this proceeding, 2009 appears to be a reasonable time frame for the completion of dam 10. However, as previously stated, potential problems do exist that could further extend the completion date. Design and construction of dam 9 will follow but no schedule has been developed for its



completion. The evidence in this case further indicates that the net effect of the KRA's proposed improvements to dams 10 and 9, if implemented, could reduce the 3.489 billion gallon deficit in pool 9 by 1.9 billion gallons.

Kentucky-American's withdrawal from the Kentucky River depends upon DOW approval. Even though plans presented by KWRRRI and the KRA could possibly reduce the deficit to Kentucky-American, it does not address the entire basin deficit. The DOW will allocate the additional water supplies created by the KWRRRI plans to all users based on the extent of their demands, allowing for environmental protection and public use. The amount of the additional water supply that the DOW will allocate to Kentucky-American has yet to be determined.

Based on the facts discussed herein, the Commission makes a preliminary finding that the proposed improvements to the Kentucky River are not sufficient to adequately, dependably and safely supply the total reasonable requirements of Kentucky-American's customers under maximum consumption through the year 2020.

We stress that this finding is preliminary in nature and is subject to change based upon the evidence added and argument presented in the next phase of this proceeding. We therefore encourage the full and active participation of all parties to ensure a complete review of the feasibility and adequacy of the proposed Kentucky River solution. The Commission is of the opinion that the procedural schedule appended hereto will provide adequate time for such review.

IT IS THEREFORE ORDERED that:

1. Parties shall have until January 22, 2002 to submit comments upon and objections to the preliminary findings of facts.

2. The procedural schedule set forth in Appendix A to this Order shall be followed.

Done at Frankfort, Kentucky, this 11<sup>th</sup> day of January, 2002.

By the Commission

ATTEST:

Deputy W. H. Fowler  
Executive Director

APPENDIX A

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE  
COMMISSION IN CASE NO. 2001-117 DATED January 11, 2002

PROCEDURAL SCHEDULE

Parties may file comments on and objections to preliminary findings of fact .....	01/22/2002
Publication of list of contested issues upon which an evidentiary hearing will be conducted.....	01/28/2002
Each party may serve interrogatories and requests for production of documents upon other parties.....	02/04/2002
Parties shall file with the Commission and serve upon all parties of record responses to interrogatories and requests for production of documents no later than .....	02/14/2002
Each party may file written testimony in verified form no later than.....	02/21/2002
Each party may serve interrogatories and requests for production of documents upon parties filing written testimony no later than .....	03/04/2002
Parties shall file with the Commission and serve upon all parties of record responses to interrogatories and requests for production of documents no later than .....	03/14/2002
Parties may file written rebuttal testimony in verified form with the Commission and serve upon all parties of record no later than.....	03/25/2002
Each party may serve interrogatories and requests for production of documents upon parties filing written rebuttal testimony no later than .....	04/04/2002
Parties shall file with the Commission and serve upon all parties of record responses to interrogatories and requests for production of documents no later than .....	04/15/2002
Public hearing to begin at 9:00 a.m., Eastern Daylight Time, in Hearing Room 1 of the Commission s offices at 211 Sower Blvd., Frankfort, Kentucky for the purpose of cross-examination of witnesses.....	04/30/2002
Parties may file written briefs with the Commission no later than .....	05/30/2002