COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN INVESTIGATION OF THE SOURCES OF SUPPLY AND FUTURE DEMAND OF KENTUCKY-AMERICAN WATER COMPANY	)))	CASE NO. 93-434

O R D E R

Background

The Commission initiated this investigation by Order dated November 19, 1993, to explore on an in-depth basis the issues surrounding Kentucky-American Water Company's ("Kentucky-American") demand projections and sources of supply. A hearing was held in this matter on August 31, 1994 and September 1, 1994. On March 14, 1995, the Commission entered an Order terminating its investigation. The Commission by Order of April 24, 1995 granted Kentucky-American's petition for rehearing to the limited extent that the investigation would remain open to await a new safe-yield analysis of the Kentucky River. On October 7, 1996, the Kentucky River Authority filed with the Commission a copy of the final draft of the Kentucky River Basin Water Supply Assessment Study ("1996 Kentucky River Study") compiled by the Kentucky Water Resources Research Institute ("KWRRI"). The Commission by Order entered December 23, 1996 found that further proceedings were appropriate and adopted a procedural schedule setting the matter for hearing. That hearing was held on May 21, 1997 at the Commission's offices in Frankfort, Kentucky. The Commission began the hearing by reading the following opening statement from the Bench:

This case was initiated by the Commission's Order entered November 13, 1993, in response to a Motion filed by the Attorney General's Office. The purpose of this case, as set forth in that initiating Order, is to investigate the sources of supply and future demand, including Demand Side Management of Kentucky-American Water Company. After conducting extensive discovery, two informal conferences and a two-day public hearing, the Commission issued an Order on March 14, 1995. That Order stated that all of the projections of Kentucky-American's future water demands were within a zone of reasonableness and they all indicated a supply deficit under a drought of record scenario. On the issue of supply, the March 14, 1995, Order stated that there had been three relatively recent studies performed to determine the safe yield of the Kentucky River; however, each of those studies was based on different assumptions and there was significant variations in their conclusions. Consequently, the Commission determined that no definitive conclusion could be made on whether a source of supply deficit existed. This case was then held open specifically to receive the results of a new analysis of the Kentucky River to be performed on behalf of the Kentucky River Authority by the Kentucky Water Resources Research Institute at the University of Kentucky. That study has now been incorporated into the record of this case and the parties have filed testimony which is to be subjected to cross-examination today. After fully reviewing the filed testimony it is evident that a substantial portion of it addresses issues that are beyond the scope of this investigation. The only issues before us now are the adequacy of Kentucky-American's sources of supply and the magnitude of any deficiency. If'--and the Commission emphasizes the word `if'--"the evidence leads us to find that a deficiency does exist, any determination of the most feasible and cost effective solution will be done if and when Kentucky-American files a formal application for approval of a particular solution. Therefore, with this ruling in mind, we urge the parties to limit the witnesses summaries and the cross-examination of the issue of adequacy of supply and the magnitude of any deficiency.[1]

Analysis of Supply

Extensive testimony and evidence have been presented previously in this matter and have been further supplemented by the 1996 Kentucky River Study and additional testimony by the parties in this case. All of the evidence in this case supports the conclusion that the Kentucky River cannot supply enough water to meet the unrestricted

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[1] Transcript of Evidence ("T.E."), pages 6-8.

demands of Kentucky-American's customers during drought conditions. The 1996 Kentucky River Study identified baseline total annual water supply deficits for the basin ranging from 2.2 to 6.3 billion gallons. These figures represent the anticipated deficits that would occur under 1994 demand forecasts for the 1953 and 1930 drought conditions. Future baseline deficits under moderate and high population growth scenarios were projected out to the year 2020. Under the high population growth 1953 and 1930 drought scenarios, projected baseline total annual water supply deficits could range as high as 3.8 and 9.7 billion gallons, respectively.[2] For the 1930 baseline deficit projection under 1994 demand conditions, Pool 9 and Kentucky-American will experience a 3.9 billion gallon total annual water supply deficit and an estimated 53-day period during which no water will be available to Kentucky-American's customers.[3] A water shortage of this magnitude would impact the economic and environmental health of the region and the entire Commonwealth. Witnesses for both Kentucky-American and the Attorney General found KWRRI's computer-generated model of the Kentucky River to be an acceptable method of determining responses to various demand scenarios.[4] Detailed testimony was presented by various witnesses concerning the appropriate parameters to use in KWRRI's computer model and the resulting computation of a water supply deficit.

Kentucky-American's witness, Donald F. Distante, presented a comprehensive review and discussion of the 1996 Kentucky River Study and concluded that the planning

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2 Task III - Deficit Analysis, 1996 KWRRI Study, page 42.

3 Id., page 27.

4 Testimony, Linda C. Bridwell, page 7; Testimony, Donald F. Distante, page 3; Testimony, Scott J. Rubin, page 3.

period deficit should be modified to reflect certain changes in the parameters. Mr. Distante proposed that the population component be based on the Louisville Data Center's high population growth estimate for 2020 and the inclusion of expanded water service to the public. He also factored in a computation of the transmission losses from Buckhorn and Carr Fork reservoirs, the effect of valves installed in Locks and Dams 9 through 14, and the effect of Kentucky-American's modified withdrawal permit. With these parameter changes, Mr. Distante arrived at the total annual water supply deficit for Pool 9 as 3.489 billion gallons.[5]

The Attorney General's witness, Scott J. Rubin, characterized Kentucky-American's demand deficit projection as "worst case assumptions." He argues that under drought conditions governmental authorities would move to restrict water use. Mr. Rubin testified that it was his opinion that the Kentucky River Authority is the entity that is responsible for managing the raw water supply on the Kentucky River. He assumes that the Kentucky River Authority will do its job during the next 25 years, and, if it does, there will be enough water to meet the unrestricted demands of Kentucky-American.[6] The Attorney General's position is based on extensive modifications to the Kentucky River which themselves are not the subject of this proceeding.[7]

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5 T.E., pages 89-97.

6 T.E., pages 109-111.

7 However, Mr. Rubin acknowledges that KRA has elected not to install crest gates at Dams 11 and 12. The Commission also notes that KRA's installation of low level release valves in Pool 10 may cause problems with East Kentucky Power Cooperative, Inc.'s water intake system at its Dale Generating Station, and that agricultural concerns may inhibit some of KRA's proposed actions.

While the record in this case contains conflicting testimony regarding the magnitude, duration, and the probability of a drought on the Kentucky River, the Commission finds that a water supply deficit would exist during an extreme drought situation. The evidence submitted in this case provided estimates of the total annual water supply deficit in Pool 9 ranging from 1.688 billion gallons to 6.553 billion gallons for Kentucky-American's planning period.[8] The Commission finds 3.489 billion gallons to be a reasonable estimate of the magnitude of Kentucky-American's total annual water supply deficit for the planning horizon through the year 2020.

Responsibility for Supply

The issues raised in this case resolve themselves into essentially whose responsibility is it to address the deficit? While testimony was presented that demand management and conservation could reduce the total customer demand and possibly slow the anticipated growth in future customer demand, demand management alone will not be sufficient to meet either a 1930 or 1953 drought situation. The evidence before this Commission indicates that additional steps must be taken and financial resources will have to be committed to develop an adequate and reliable source of water supply, not only for the customers of Kentucky-American, but for all the citizens served by the Kentucky River. The evidence further indicates that the net effect of the Kentucky River Authority's proposed activities, if implemented, will be insufficient. Anything Kentucky-American does which affects its withdrawals from the Kentucky River during such an occurrence also affects the drought's impact on others that depend on the Kentucky River as a source of

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[8] Task III, Deficit Analysis, 1996 KWRRI Study, page 34.

water. The responsibility to develop an adequate and reliable source of water supply for Kentucky-American's customers is the direct obligation of Kentucky-American itself. [9] The responsibility for developing watershed management and drought response planning for the entire Kentucky River Basin resides by statute with the Kentucky River Authority.[10] The Commission considers these responsibilities to be not only compatible, but complimentary. For the Commonwealth to successfully survive a catastrophe as serious as the reoccurrence of the 1930 drought of record will require the highest degree of cooperative effort from all agencies, organizations, and individuals.

IT IS THEREFORE ORDERED that Kentucky-American shall 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.

Done at Frankfort, Kentucky, this 21st day of August, 1997.

PUBLIC SERVICE COMMISSION

Chairman

Vice Chairman

Commissioner

ATTEST:

Executive Director

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9 807 KAR 5:066, Section 10(4).

10 KRS 151.720.