



CITY OF VIRGINIA BEACH

DEPARTMENT OF PUBLIC UTILITIES
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FERC Secretary (by regular mail, final report only)

Re: Lake Gaston Water Supply Project Storage Report for 2002

Gentlemen:

Enclosed please find a copy of a report on the use of Virginia Beach's storage in Kerr Reservoir for 2002. By FERC order dated October 24, 1997, the City is required to file an annual report every year, whether its storage is used, or not.

The Corps of Engineers did not officially use the City's storage in 2002 because average releases from Kerr Reservoir were always in excess of what Dominion North Carolina Power was required to release downstream. However, as explained in the report, an argument can be made that as a practical matter, the Virginia Beach withdrawal would have contributed to lower elevations in Kerr Reservoir from January until May and again from July until November of 2002.

This report is being sent via e-mail in adobe reader format (*.pdf), or via regular mail. If you have any questions, please respond using the e-mail, fax, or regular mail address provided above.

Sincerely,

Thomas M. Leahy, P.E.
Water Resources Manager

May 02, 2003

**CITY OF VIRGINIA BEACH, VIRGINIA
LAKE GASTON WATER SUPPLY PROJECT
DRAFT REPORT ON USE OF KERR STORAGE IN 2002**

I. BACKGROUND

By FERC order dated October 24, 1997 regarding the City of Virginia Beach's Lake Gaston Water Supply Project, the City is required to report annually on the use of its storage in Kerr Reservoir (regardless of whether the storage was actually used). The City must file a draft report on the previous year's use with Dominion North Carolina Power, the US Army Corps of Engineers Wilmington District, and the North Carolina Wildlife Resources Commission. The City must file a final report with the FERC by May 1, including documentation of the consultation process on the draft report.

II. SUMMARY OF USE OF STORAGE IN KERR RESERVOIR IN 2002

The Corps of Engineers did not officially use the City's storage in 2002 because average releases from Kerr Reservoir were always in excess of what Dominion North Carolina Power was required to release downstream. However, as explained below, an argument can be made that as a practical matter, the Virginia Beach withdrawal may have contributed to lower lake elevations in Kerr Reservoir from January until May and again from July until November of 2002.

For calendar year 2002, releases from Kerr Dam averaged 3281 cfs and releases from Roanoke Rapids Dam averaged 3340 cfs. However, these averages were influenced by relatively higher releases during the last six weeks of the year. Average releases from Kerr Dam and Roanoke Rapids reservoir from January 1 thru November 12, 2002 were only 2,100 cfs and 2440 cfs, respectively. Twelve-month moving-average inflows to Kerr Reservoir were only 1,956 cfs by September 2002. Not only was this the lowest annual inflow to Kerr Reservoir in 91 years of record, it was 33% lower than the previous record low of 2,932 set in December 1981. The Virginia Beach withdrawal averaged 43 cfs in 2002. It was 1.3 % of the year 2002 average flow at the Roanoke Rapids Dam and 1.8% for the period January 1 thru November 12, 2002.

Of the 76 days in the 2002 spawning season, zero days had flows above the lower limit of the striped bass spawning flow regime. Flows averaged 2286 cfs during this period compared to flow regime limits of 6,600 to 4,000 cfs. The City's withdrawal during this period was 37 cfs, or about 1.6% of the average downstream flow.

Although it could have done so, the Corps of Engineers *did not* release any water from Virginia Beach's storage during the 2002 spawning season. If it had, average releases from the Roanoke Rapids Dam during that period would have been 2323 cfs (instead of 2286 cfs), and water levels in Kerr would have been about 1.5 inches lower than what they were.

In November 2001, the Corps of Engineers declared a drought and reduced releases from Kerr Dam in order to maintain lake levels. Before the reduction, releases from Kerr Reservoir averaged about 3,000 cfs. As Virginia Beach understands the situation, the Corps reduced releases from Kerr Reservoir to the minimums necessary to protect the downstream environment and to help moderate the impact of saltwater intrusion on an industrial intake at the mouth of the river. Net inflows to Lake Gaston (i.e., local watershed inflow less evaporation and the Virginia Beach diversion) were considered in making these releases. This condition occurred approximately from January 1 thru May 6, and again from July 22 thru November 9. The VA Beach diversion during those periods averaged 41 cfs and 49 cfs, respectively.

Therefore, if it were assumed that as a practical matter, all the water withdrawn by Virginia Beach from January 1 thru May 6 and from July 22 thru November 9 was supplied from Kerr Reservoir, then the City's withdrawal would have lowered Kerr Reservoir by approximately 2.5 inches and 3.2 inches, respectively.

III. CONSULTATION

A draft of this report was filed by e-mail with Dominion North Carolina Power, the US Army Corps of Engineers Wilmington District, the North Carolina Wildlife Resources Commission, the North Carolina Division of Water Resources, and FERC staff. Only minor comments were received from Dominion North Carolina Power with respect to the proper citation of the Company's name, and they were incorporated, herein.