



# SUSQUEHANNA RIVER BASIN COMMISSION

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**Application 19961105**

## **ARTESIAN WATER COMPANY, INC. NEW CASTLE COUNTY, DELAWARE**

Purchase of up to 6.0 mgd from the Chester Water Authority  
located in Delaware County, Pennsylvania

### **Review Authority**

Pursuant to Article 3, Section 3.10 of the Susquehanna River Basin Compact, P.L. 91-575, and Sections 803.4 and 803.44 of the Commission's regulations, the Susquehanna River Basin Commission requested that the above referenced application be submitted to the Commission for review. The application has been reviewed by Commission staff for possible approval in accordance with the previously referenced sections of the Compact and regulations, and past decisions of the Commission regarding out-of-basin diversions.

### **Description**

**Purpose.** The purpose of the application is to request approval for the purchase of water for distribution in a public water supply system.

**Background.** The applicant has requested the right to purchase up to 6 million gallons of water per day from the Chester Water Authority (Authority) through an existing interconnection. The Commission has previously recognized the transfer of up to 4 mgd, based on a 30-day average, through the same interconnection (reference Commission Resolution 89-10).

**Location.** The water would be conveyed through an existing interconnection located at the Pennsylvania - Delaware boundary adjacent to Route 7.

**Project Features.** The applicant currently obtains its water from a mix of utility interconnections and groundwater sources. Water is treated as needed and stored in numerous storage facilities having a combined capacity of approximately 26 million gallons. The purchased water will flow directly into the existing distribution and storage system. All other sources and interconnections will be maintained. The applicant also plans over the next thirty years to continue locating and developing new groundwater sources that will supply approximately 6.5 mgd in order to help meet increasing demands.

The applicant's system is 100 percent metered. The disposition of waste water within the applicant's service area is entirely outside of the Susquehanna basin.

## Findings

The project is subject to Commission review and approval requirements as per Commission Regulation 803.4, 803.44 and Article 3, Section 3.10 of the Compact. The project is also subject to water conservation requirements as per Commission Regulation 804.20(a). Since this application also involves a diversion of water, a public hearing is required to be held (Reference SRBC Compact Section 3.10(5)) in conjunction with the Commission review process. The application has also been reviewed with respect to past decisions of the Commission regarding out-of-basin diversions.

An application fee has been paid in accordance with Commission Resolution 91-16, and the applicant has met the Commission's municipal notification requirements.

### *OUT-OF-BASIN DIVERSION CONSIDERATIONS*

*1. Will the project have any adverse effects on the ability of the Susquehanna River Basin to meet its own water needs?*

The project's increased taking from either the Octoraro Reservoir or the Susquehanna River will have very little net effect on the basin's ability to meet its own water needs. Although the proposed transfer will cause an increased diversion of water from the basin, the Chester Water Authority is in compliance with the Commission's consumptive use regulation, which assures that in periods of low flow any water transferred outside the Authority's original service area will be made up by releases from upstream storage reservoirs. The Authority is currently paying the Commission a flat rate for all water transferred outside its original service area. This money is in turn being used to purchase reservoir storage so that releases can be made to offset the incremental effects of this proposed transfer.

*2. How will the project affect the instream flow requirements of the river and the freshwater requirements of the Chesapeake Bay?*

Assuming all of the proposed increase in the quantity of water transferred (2 mgd) comes from the Susquehanna River, it is difficult to envision any effect on either the river or the Chesapeake Bay. The 2 mgd increase (3.1 cfs) represents just 0.008 percent of the long term annual mean flow of the Susquehanna River at Marietta. Focusing on just low flow periods, the proposed increase represents 0.03 percent of the mean flow for August, which is the lowest monthly average value for the year. At the most extreme case, the increase represents 0.13 percent of the lowest flow ever measured at Marietta. Keeping in mind that the increased taking would be offset by upstream releases, it can be comfortably stated that the proposed increase would have no impact on the flow regimes of either the Susquehanna River or the Chesapeake Bay. During low flow events, the 6 mgd release from upstream reservoirs would improve river habitat for some 250 miles.

3. *Has the applicant demonstrated a reasonably foreseeable need for the quantity of water requested?*

Yes. Average and maximum daily demands on the Company's water system currently are 18.0 mgd and 27.4 mgd, respectively. Projections by the applicant for the year 2030 indicate a maximum need of 37.6 mgd. The applicant estimates that by the year 2030 it will have an average daily demand deficit of about 4 mgd and a peak day demand deficit of about 10 mgd. Commission staff has reviewed these projections and have found them to be reasonable in light of the rapid growth occurring in the applicant's service area.

4. *Has the applicant demonstrated that reasonable efforts have been made to develop sources within the basin of need?*

Yes. The applicant has some 46 operating wells with a total safe yield of 12.95 mgd. Three of those wells, two in the Old County Road and one in the Artisan Village wellfields, combined provide 3 mgd and were constructed in 1995. The Company feels there may be as much as 6.5 mgd of additional ground water which can be developed in their service area, if water quality is satisfactory. Maximum demand in 2030 is proposed to be met by 26.23 mgd of self-supply and purchases from others of 11.41 mgd, including the 6.0 mgd from Chester Water Authority. The Artesian Water Company has been an active partner with New Castle County in planning and studying various future water supply alternatives to meet the water supply needs of its steadily increasing population. Currently, the County is involved in the Environmental Impact Analysis of a storage project known as Churchmans Reservoir. This is only one of several water supply projects being pursued, including water conservation, use of groundwater and other interconnections. While these alternatives have been helpful, and several have been implemented, most are prohibitively costly, have water quality problems, environmental problems or quantity limitations. This pipeline project, while only a partial solution, is a key project to meeting the existing and future needs of the company.

5. *Does the proposed project have the potential to adversely impact the economic development within the Susquehanna basin?*

Commission staff feels that the proposed project has the potential to positively impact that portion of the basin immediately adjacent to the basin boundary. By providing the water needed to sustain the current rate of growth in the I-95 Philadelphia/Wilmington/Baltimore corridor, Commission staff feels that the project will have a positive economic "spin-off" effect in those areas of the basin within Lancaster and Chester Counties in Pennsylvania and in Harford and Cecil Counties in Maryland.

The applicant's system is 100 percent metered with unaccounted for water being approximately 14.4 percent in 1995.

In an effort to reduce demand, the applicant has undertaken a very aggressive water conservation program. The applicant has encouraged the use of water conserving plumbing fixtures, has instituted a public information program on conservation, and most importantly has

instituted an increasing block rate structure whereby high use results in high prices. The applicant is considering a further modification of its pricing structure whereby there would be seasonal pricing structures in order to alleviate high summer demands. Water used during summer would be the highest priced water available to a consumer.

The applicant's 17 well fields currently have a safe yield estimated to be about 13 mgd. However, the applicant is constrained in the operation of these well fields by conditions established by the Delaware Department of Natural Resources and Environmental Control (DNRC) whereby wells and/or well fields can not be operated continuously. The DNRC mandates shutdown periods in order to prevent extensive drawdowns which may cause adjacent well interference problems.

The Pennsylvania Department of Environmental Protection (Pa. DEP) proposes to issue a modification order giving the Chester Water Authority the right to transfer 6.0 mgd, based on a 30-day average, to the applicant. The pending modification order would be for a period of approximately twenty-five years, until December 31, 2021. Since the Chester Water Authority is currently using about 35 mgd and is permitted to take 30 mgd on an annual basis from the Octoraro watershed as well as 30 mgd from the Susquehanna River, the Authority has more than sufficient supply available to satisfy the Company's request.

Following a thorough review of the material submitted by the applicant, Commission staff has determined that the proposed purchase of water will not conflict with nor adversely affect the Comprehensive Plan, is physically feasible, and will not adversely influence the present or future use and development of the water resources of the basin.

### **Decision**

The purchase of up to 6.0 mgd from the Chester Water Authority, Delaware County, Pa. is approved pursuant to Article 3, Section 3.10 of the Compact and Sections 803.4 and 803.44 of the regulations subject to the following conditions:

a. The applicant shall comply with Commission Regulation 804.20(a) regarding water conservation. This regulation calls for metering of all users, reduction of unaccounted-for water to 20 percent or less, and the adoption of a pricing structure which encourages water conservation.

b. The applicant shall, in times of drought conditions, concurrently institute upon its customers restrictions concerning conservation and water use similar to those required by the Chester Water Authority's Drought Contingency Plan. Also, the applicant shall impose water use restrictions consistent with any drought emergencies declared by the Susquehanna River Basin Commission.

c. This action does not obviate the need for the applicant to obtain any other federal, state, or local approvals required for the project.

d. The Commission reserves the right, based upon new findings, to reopen any project docket and make additional orders that may be necessary to mitigate or avoid adverse impacts or otherwise to protect the public health, safety, or welfare. Commission approval confers no property rights upon project sponsors.

e. This approval is effective until December 31, 2021, in accordance with the term of Pa. DEP Permit WA 23-275B as modified. Should Pa. DEP Permit 23-275B revoked for any reason, this Commission docket shall also be terminated concurrently.

By the Commission:

Dated: November 26, 1996

  
Chairman