

Operations of the New York City Reservoirs in the Absence of a Flexible Flow Management Program

The following paragraphs outline the understanding of the Delaware River Master of the relevant provisions of documents addressing the Operation of the New York City Reservoirs, Diversions, Flow Objectives, and Drought Management, and allocation and use of the Excess Release Quantity (ERQ) in the absence of a Flexible Flow Management Program (FFMP). This material is not intended to serve as a legal position, but merely summaries basic provisions and operational expectations. It is based on a review of relevant sections of the Delaware River Basin Water Code (Water Code) in consultation with Steve Tambini (Executive Director, Delaware River Basin Commission (DRBC)); DRBC Docket D77-20 CP (revised), commonly referred to as Rev 1; and applicable sections of the 1954 Supreme Court Decree. In most cases, the material reflects the consensus of the thoughts and opinions of the Decree Party Principals (principals), their staffs, and the Executive Director and staff of the DRBC.

The phased reductions in diversions and flow objectives during drought conditions and other drought management provisions are specified clearly in the Water Code. The River Master's interpretation of the section of REV 1 relating to thermal relief and triggering of releases for it, place significant responsibility for the evaluation of river conditions and management of the thermal relief "bank" on the NY Department of Conservation (NYDEC). The River Master's interpretation of uses of the ERQ reflects the section 2.5.6 of the Water Code, which only references drought assistance and ties that assistance to flow at Trenton under normal combined storage conditions in the NYC reservoirs. The Water Code does not mention or list other uses, such as thermal relief, habitat protection or special events, for which the Interim Excess Release Quantify established under previous FFMPs could be applied.

Out of Basin Diversions, Flow Objectives, and Drought Management

The 1954 Supreme Court Decree established the right of NYC to divert 800 MGD from its reservoirs (Cannonsville, Pepacton, and Neversink Reservoirs) located in the headwaters of the Delaware River Basin, provided it made compensating releases to meet a flow objective of 1,750 cfs at Montagu, the right of NJ to divert up to 100 MGD from the river, and the determination and discharge of the excess release quantity (ERQ). However, extended drought in the 1960s, demonstrated that these diversions and compensating releases could not be sustained during severe drought. Subsequent discussions among the Decree Parties established an agreement (known as the 1983 Good Faith Agreement) in which the flow objectives and NYC and NJ diversion rates were linked to hydrologic conditions, defined by the combined storage in the NYC reservoirs, and established the flow objective at Trenton. These rates and defining hydrologic conditions were incorporated into the DRBC Water Code in Section 2.5.3 as Figure 1. -- Operation curves for Cannonsville, Pepacton, and Neversink Reservoirs; Table 1. -- Operation formula for reductions in diversions, releases, and flow objectives during

periods of drought; and Table 2. --Flow objectives for salinity control during drought periods. Figure 1 defines drought phases, based on the combined storage in the NYC reservoirs, which result in the reductions in diversions and flow objectives indicated in Table 1. Table 2 specifies the flow objectives for various levels of salinity. The “schedule of reductions” is described in paragraphs B and C of section 2.5.3 of the Water Code. Entry, exit, and duration of drought conditions are described in paragraph E and Section 2.5.4. Drought reductions are binding for at least 180 days during a drought and may be extended by the principals. If the reductions are not extended, all parties are released from them and may pursue their rights under the Compact and Decree. Drought emergency actions were also included as Section 2.5.4.

Computation of permitted diversions is described in paragraph D. Computations during normal hydrologic conditions are the same as described in the 1954 Supreme Court Decree. During drought conditions, the computations are referenced to the day in which the drought operations become effective.

Section 2.5.6 of the Water Code describes considerations for the banking and use of the ERQ. The ERQ may be “banked” to be used for lower basin drought relief and to meet the Trenton flow objective.

In the absence of an FFMP, the Office of the Delaware River Master (ODRM) will direct releases to meet the flow objectives at Montague in accordance with the 1954 Supreme Court Decree and the Water Code section 2.5.3 Table 1 and Table 2 consistent with hydrologic conditions defined in Figure 1. The ODRM will direct the release of the ERQ in accordance with standard past practice under Rev 1 until such a time as the parties may decide to bank the balance for drought assistance. If the ERQ is banked for drought assistance during normal conditions, ODRM will collaborate with the DRBC to monitor drought conditions and coordinate releases in support of the Trenton Flow Objective and salinity repulsion.

Conservation and Thermal Relief Releases

The Supreme Court Decree was silent on both conservation and thermal relief releases (or other special uses of Delaware River water.) Litigation between NYC and the NY in 1976 resulted in an agreement between the two parties to establish conservation releases downstream of each NYC reservoir. These releases were implemented on an experimental basis. On November 23, 1983 at the request of NY, DRBC adopted Docket D77-20 CP (Revised) (which, again, are referred to as Rev1) (URL: http://www.state.nj.us/drbc/library/documents/Reservoir_NYC/D-77-20CPRev.pdf) to codify the conservation releases and index them to hydrologic conditions.

Absent the FFMP, minimum conservation releases from the NYC reservoirs will revert to those provided in Rev 1. Under Rev 1, conservation release rates for the NYC reservoirs are substantially lower than those provided in the FFMP for all hydrologic conditions and seasons except for June 15 through August 15, when conservation releases from Cannonsville may be higher during normal hydrologic conditions. Conservation releases

may be reduced as a function of hydrologic conditions defined in Rev 1, Figure 1. – “Operation curves for Cannonsville, Pepacton, and Neversink reservoirs”, to levels shown in Table 1 of Rev 1. Transitions into and out of drought conditions for augmented conservation releases are described in Section “D” of Rev 1. Conservation releases are included in reservoir releases directed by the River Master to ensure maintenance of flow at target rates at Montague.

Rev 1 also provides for special thermal relief releases totaling as much as 6,000 cfs-days as directed by the NYDEC. The reading of the River Master is that when water temperatures at any of four monitoring locations listed in Rev 1 exceed targeted temperatures described in section “C”, NYDEC may request additional flows at times and rates it deems appropriate to reduce water temperatures – subject to the limitation of the total volume, 6,000 cfs-days and prior to October 1. Thermal releases will be added onto directed releases and debited to the thermal relief volume.

ERQ Allocation and Uses

Section 2.5.6 of the Water Code addresses a potential use of the ERQ, banking for drought assistance, which differs from the 1954 Supreme Court Decree. As described in paragraph A of that section, the principals, together with the DRBC, and the River Master will review hydrologic conditions and outlook and decide whether to “bank” the ERQ for possible deferred use for lower basin drought assistance or release as specified by the Decree. If the ERQ is banked, and the combined storage in the NYC reservoirs is above the drought warning curve (Upper-Half Drought Warning in the Water Code is the same as the Drought Watch line in the 2016 FFMP), it may be used to provide releases to assist in meeting the Trenton flow objective for “normal conditions” (3,000 cfs). The DRBC will decide on the amount and timing of the releases, which will be directed by the River Master. Section 2.5.6 of the Water Code does not address the banking and/or use of the ERQ for purposes other than lower basin drought assistance.