

NO. 2018 -

A RESOLUTION to clarify and re-state the Commission's policy for the replacement of water consumptively used by electric generating or cogenerating facilities during critical hydrologic conditions.

WHEREAS, during periods of low flow, when demand for power may also be high, consumptive uses can deplete freshwater inflows to the Delaware Estuary to the point where saline water migrates upstream, placing at risk important municipal and industrial intakes; and

WHEREAS, to avoid the depletion of stream flows in the event of an actual or threatened water shortage, the Commission is charged by sections 10.4 and 10.5 of the Compact with establishing standards and with granting, modifying or denying approvals; and

WHEREAS, power generation is the largest consumptive water use in the basin, comprising approximately 35 percent of total consumptive uses of water basin-wide; and

WHEREAS, to ensure that power generation is not subject to curtailment during periods of low flow and simultaneously to ensure that other vital water uses are protected, the Commission has conditioned approval of most electric generating or cogenerating facilities in the Basin upon a requirement that water consumptively used for power generation during periods of extreme low flows in the main stem Delaware River be replaced by means of daily releases from storage or other approved replacement sources for the duration of such periods; and

WHEREAS, because the wording of the consumptive use replacement condition and elements integral to it have varied over time, a policy statement is needed to define the elements of the provision and facilitate its consistent implementation, including by clarifying which facilities may be subject to the condition, which hydrologic conditions trigger the replacement obligation, and which types of water sources qualify as replacement sources;

WHEREAS, a small number of dockets currently in effect for electric generating facilities require modifications to implement this policy uniformly; and

WHEREAS, this policy was the subject of a duly noticed public hearing on February 14, 2018, after which it was substantively revised based upon written and oral comments received and was subjected to a second duly noticed public hearing on May 16, 2018; now therefore,

BE IT RESOLVED by the Delaware River Basin Commission that:

1. The attached Consumptive Use Replacement Policy for electric generating or cogenerating facilities ("Policy") is hereby adopted.
2. In evaluating electric generating or cogenerating facility projects that are subject to review under Section 3.8 of the Compact and implementing regulations, and in particular, in establishing requirements for the operation of such projects during critical hydrologic conditions, the Commission will refer to the Policy.

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3. Electric generating or cogenerating facilities that develop or acquire sources of replacement water for use during critical hydrologic conditions pursuant to the Policy will be protected from cessation of consumptive water use during such conditions.
4. The Policy is intended to supplement existing requirements. It is not an adjudication or a regulation, and the Commission does not intend to give it that weight or deference. Rather, the Policy establishes the framework within which the Commission will exercise its administrative discretion in the future. The Commission reserves the discretion to deviate from the Policy if circumstances warrant.
5. Under a separate action, amendments to Docket No. D-1977-110 CP-18 for the Merrill Creek Reservoir, as described in section VIII of the attached Policy, shall be considered as expeditiously as possible at a future meeting of the Commission.
6. In order to apply the Policy, as appropriate, certain active dockets for electric generating facilities within the Basin are hereby modified as follows:
  - a. Docket D-1970-025 CP issued to Martins Creek, LLC 3 and 4 (acquired by Talen Energy) shall expire on March 31, 2019. A renewal application is required to be submitted to the Commission before that date. If a renewal application is timely received, the docket will be deemed “administratively continued” pending Commission action upon such application.
  - b. Dockets D-1987-038 for the Wheelabrator Gloucester Company and D-1991-019 for Chambers Cogeneration L.P. – Carneys Point shall expire on March 31, 2019. A renewal application for each is required to be submitted before that date. If a renewal application is timely received, the docket in each instance will be deemed “administratively continued” pending Commission action upon such application.
  - c. Wheelabrator Technologies must submit by March 31, 2019 an application for review of its Wheelabrator Falls energy-to-waste facility pursuant to Section 3.8 of the Compact.

BY THE COMMISSION

ADOPTED:

**DELAWARE RIVER BASIN COMMISSION**  
**CONSUMPTIVE USE REPLACEMENT POLICY FOR POWER GENERATORS**

**I. Background**

The Commission's concern regarding the consumptive use of water by electrical generating facilities dates from at least the early 1970's. By Resolution No. 71-3 on April 7, 1971, the Commission articulated its "concern for the effect, separately and cumulatively, of nuclear powered electrical generating projects and comparable fossil fueled plants upon the water resources and general ecology of the basin." To address this concern, the April 1971 resolution among other things amended DRBC's Rules of Practice and Procedure (RPP) to provide that an application for Section 3.8 review of an electric generating project with a design capacity of 100,000 kw or more be accompanied by a master siting study and site selection analysis. The resolution also provided for the creation of a siting advisory committee to assist the Executive Director in evaluating projects.

In that same year, the Delaware River Basin Electric Utilities Group (DRBEUG) was formed to coordinate and perform "master siting studies" for power development in the basin. In 1972, on behalf of the DRBEUG, the report "Water Resource Study for Power Systems" was submitted to the Commission. The report identified more than 100 potential sites for the development of supplemental water supply in the basin to support power generation.

During the early 1970's, the Commission issued dockets approving several nuclear power facilities. Each required the docket holder to provide offsite storage capable of replacing water consumptively used by the facility during periods when main stem flow at the Trenton gage was below 3,000 cfs. If flow constraints prevented the docket holder from operating at full load, the plant was to be operated only at such percentage as the stored water supply allowed. The conditions of approval placed on generators in these early dockets comprise the basis for the current consumptive use replacement policy.

On September 30, 1976, the Commission by Resolution No. 76-13 determined that "it is necessary and desirable that the applicants build, or cause to be built, facilities of sufficient storage capacity to assure the water supply needed for consumptive use by the Limerick and Hope Creek plants..." and directed the applicants "to proceed to develop, or cause to be developed, an application under Section 3.8 of the Compact, supported by an environmental report in compliance with the Commission's rules and regulations, for the construction of the required supplemental storage." The application and accompanying environmental report were initially to be submitted by October 1, 1977, a date which was subsequently revised to December 30, 1977.

In accordance with Resolution No. 76-13, on December 30, 1977 a consortium of power generating companies called the Merrill Creek Owners Group (MCOG) submitted an application to the Commission for the review of a reservoir, pumping station, and water transmission line project to "provide for low-flow augmentation in the Delaware River estuary and bay to replace present and future evaporative losses of cooling water by electric generating stations located in the Delaware River Basin." The Commission issued Docket No. D-1977-110 CP approving the Merrill Creek project on October 24, 1984, and Merrill Creek Reservoir became operational in 1988.

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Docket No. D-1977-110 CP Amendment 1, issued on May 23, 1990, provided that “‘Compensation Releases,’ in lieu of curtailment, shall be made for all ‘Designated Units’ [(electric generating plants for which releases from Merrill Creek are made to replace water consumptively used by the plants during periods of low flow)]...whenever the Commission’s Drought Management Plan(s) (present or future) causes [sic] the flow objective at the Trenton gage to drop below 3,000 cfs ....” “Table A” of the docket listed approximately 36 power generating facilities within the basin as “Designated Units.”

Since 1984 the Commission has issued or renewed for dozens of electrical generating facilities dockets that contain versions of a condition establishing the requirement that compensating releases be made to replace water consumptively used during critical hydrologic conditions (the “consumptive use replacement requirement”). The term “critical hydrologic conditions” was not uniformly defined.

Since 1984 the Commission has amended the MCOG docket over 15 times, including in some instances to add and/or remove from the list of “Designated Units” electric generating facilities not owned or operated by the MCOG entities but subject to the consumptive use replacement requirement.

By Resolution No. 92-22 the Commission on December 9, 1992 reiterated that as a matter of policy, new electric generating facilities within the basin would be subject to the requirement that their consumptive water use be replaced during critical hydrologic periods. The Commission also recognized that not all electric generating facilities operate a withdrawal or discharge, and acknowledged that the existing RPP did not account for such circumstances. As a result, the Commission modified the RPP to require Section 3.8 review for electric generating or cogenerating facilities designed to consumptively use in excess of 100,000 gallons per day of water during any 30-day period.

## **II. Purpose and Effect of this Policy Statement**

- A. Purpose. Most of the electric generating or cogenerating facilities in the Basin operate under dockets that contain a requirement for the replacement of water that is used consumptively; however, a uniform policy statement is needed to improve clarity and facilitate consistent implementation of such provisions. In particular, clarification is needed regarding which hydrologic conditions trigger the replacement obligation, which types of water sources qualify as replacement sources, and the consequences for generators that elect not to secure a source or sources of replacement water. Better understanding also is needed with respect to which facilities may be subject to a consumptive use replacement requirement and which facilities may be exempt by virtue of their location or water sources.
- B. Effect. This Policy is not an adjudication or a regulation, and the Commission does not intend to give it that weight or deference. Rather, the Policy establishes the framework within which the Commission will exercise its discretion in the future, in issuing docket approvals and/or invoking its authority under Section 10.4 of the Compact to limit withdrawals during a Commission-declared water supply emergency.

DRBC docket actions and emergency declarations all are subject to further public process. The Commission reserves the discretion to deviate from this Policy if circumstances warrant.

### III. Definitions

For purposes of this Policy, the following definitions apply:

- A. Critical hydrologic condition – A critical hydrologic condition is deemed to exist whenever the following conditions are satisfied:
1. the Flow Objective at the USGS Trenton gage is reduced to a level below 3,000 cfs in accordance with the Delaware River Basin Water Code;<sup>1</sup> and
  2. the sum of the following actual flows and releases remains below 3,000 cfs:
    - (a) the flow measured at the USGS Trenton gage at approximately 8:00 a.m.; plus
    - (b) average daily releases from Blue Marsh Reservoir in excess of the minimum conservation release rate; plus
    - (c) an amount of water as determined by the Commission to account for flows withdrawn above and returned below the USGS Trenton gage; less
    - (d) the average daily release of Compensation releases from Merrill Creek Reservoir for the previous day.
- B. Consumptive use replacement plan (CURP) – A consumptive use replacement plan (CURP) describes the manner in which a facility will implement its consumptive use replacement requirement. Typically required as a condition of a docket approval, the CURP includes a description of the replacement water source, including the volume of water secured, the terms of use of the replacement source, including the duration of the use agreement if applicable, and the docket holder’s primary point of contact (POC) concerning the CURP. If an owner or operator elects not to secure consumptive use replacement water, the plan includes a commitment that the facility will cease the consumptive use of water within 24 hours of receipt by the POC of DRBC notification that a critical hydrologic condition is occurring. In addition, for those owners or operators who elect not to secure consumptive use replacement water, the CURP shall include a copy of a letter from the docket holder to the grid operator (e.g. PJM Interconnection LLC) disclosing that the docket holder has elected not to secure consumptive use make-up water and is subject to the cessation of consumptive water use during critical hydrologic conditions.
- C. Relative effect factor – The relative effect factor determines the ratio of replacement to consumptive use that may be required for a given facility, based on the location of the

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<sup>1</sup> See Delaware River Basin Water Code, §§ 2.5.3 A. and B. and 2.5.6. C.2 and D.2.

facility's intake, as depicted in Figures 1 and 2 below. In general, a relative effect factor of 1.0 applies to power generation facilities located upstream of river mile (R.M.) 92.4 (the mouth of the Schuylkill River). A relative effect factor of between 0 and 1 applies to power generation facilities located between R.M. 92.4 and R.M. 38 (the mouth of the Cohansey River). Consumptive use replacement is not deemed to be necessary for facilities withdrawing water downstream of R.M. 38.

- D. Replacement source – A replacement source is a water source approved by the Commission for use in replacing water consumptively used by an electric generating or cogenerating facility during a critical hydrologic condition. In general, replacement sources may consist of water stored in a reservoir other than Beltzville or Blue Marsh; groundwater that does not directly influence surface water flows; and/or water imported from outside the Delaware River Basin. Docket holders may use their discretion as to the amount of water they elect to secure from a replacement source. The Commission recommends that each docket holder secure an amount sufficient supply the docket holder's projected consumptive use (multiplied by the applicable relative effect factor) over a period of 120 days.

#### **IV. Consumptive Use Replacement Provision**

For any electric generating or cogenerating facility subject to Section 3.8 review and not in one of the exempt categories listed in paragraph V.B. below, the following provision will be considered as a condition of approval, whether in a docket issued by the Commission or in a permit issued by a signatory party agency pursuant to the one permit program rule:

“For the duration of a critical hydrologic condition as announced by the Commission, on a daily basis the docket holder shall cause to be released from a replacement water source approved by the Commission an amount of water equal to the amount consumptively used by the docketed facility, multiplied by the applicable relative effect factor, if assigned. For the duration of such critical hydrologic condition, the docket holder shall operate its facility only at a level commensurate with the amount of replacement water it is capable of causing to be released.”

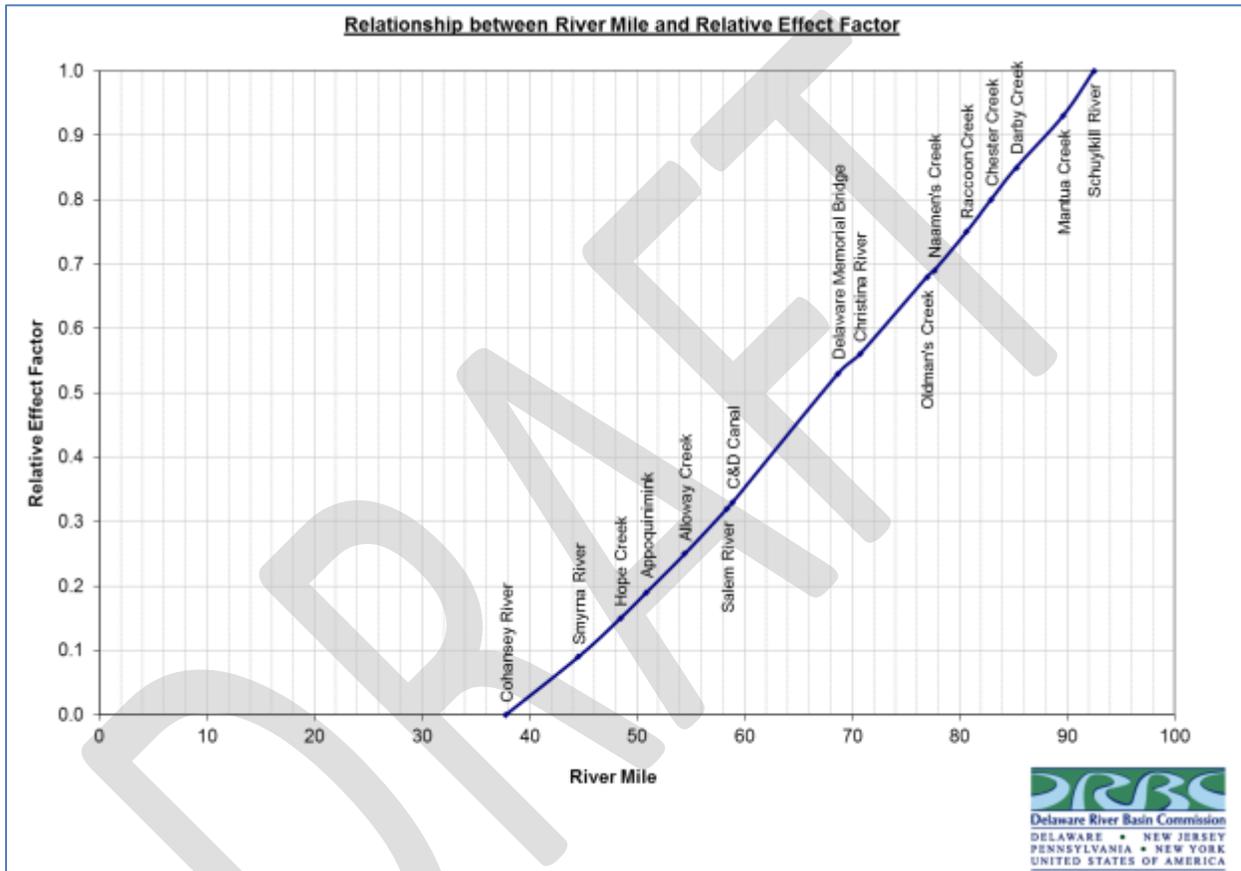
#### **V. Applicability**

- A. An electric generating or cogenerating facility designed to consumptively use in excess of 100,000 gallons per day of water during any 30-day period will be subject to the consumptive use replacement requirement if its primary water source is either:
1. surface water located upstream of R.M. 38; or
  2. wastewater effluent that would otherwise be discharged to surface water upstream of R.M. 38.
- B. An electric generating or cogenerating facility designed to consumptively use in excess of 100,000 gallons per day of water during any 30-day period will be deemed exempt from the application of a consumptive use replacement requirement if its primary water source is:

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1. groundwater without a direct influence on streamflows; or
2. water imported from outside the Delaware River Basin; or
3. located in the drainage area of the basin downstream of R.M. 38.

Figure 1





**VI. Notifications**

DRBC will advise docket holders when a critical hydrologic condition is imminent and will notify them when it occurs. Notification also will be provided on the [Drought Information page](#) of the Commission's website.

**VII. Implementation – Merrill Creek Docket D-1977-110 CP-18**

The Commission at the earliest possible date will consider amending paragraph C.II.s. of Docket No. D-1977-110 CP-18 to make it consistent with this Policy.

The existing provision reads as follows:

- s. Compensation releases, in lieu of curtailment, shall be made for all Designated Units in **EXHIBIT III** of **ATTACHMENT 2** (See DECISION Condition II.m.) whenever the Commission's Drought Management Plan (DMP) causes the flow objective at the Trenton gage to drop below 3,000 cfs and the Equivalent Flow at Trenton drops below 3,000 cfs. In addition, Compensation Releases will be required if and when the Equivalent Flow at Trenton drops below 3,000 cfs for five consecutive days due to reasons beyond the control of the DRBC.

The amended provision is proposed to read as follows:

- s. Compensation releases, in lieu of curtailment, shall be made for all Designated Units listed in **EXHIBIT III** of **ATTACHMENT 2** (See DECISION Condition II.m.) whenever the Commission notifies Merrill Creek that a critical hydrologic condition is occurring.

The "Plan of Operation for the Merrill Creek Reservoir" approved on July 12, 2017 is also proposed to be modified in accordance with this Policy.

**VIII. Implementation – Other Dockets / Permits**

- A. The proposed docket and/or permit next considered pursuant to section 3.8 of the Compact for any electric generating or cogenerating facility (a) that is listed in Exhibit III of Merrill Creek Docket D-1977-110 CP-18, or (b) that has been issued a DRBC docket or signatory party agency permit with an expiration date, or (c) for which a docket application is pending before the Commission will include a consumptive use replacement provision consistent with this Policy.
- B. The facility listed below is included in Exhibit III of Docket D-1977-110 CP-18 for Merrill Creek Reservoir and has been issued a DRBC docket that lacks an expiration date. In accordance with the Commission's resolution adopting this Policy, the docket issued to this facility will expire on March 31, 2019, and a renewal application is required to be submitted to the Commission prior to that date.

Martins Creek, LLC 3 & 4 (Talen)

D-1970-025 CP

- C. The facilities listed below operate under DRBC dockets that lack expiration dates. However, they do not fall within one of the exempt categories listed in paragraph V.B. hereof; are not included in Exhibit III of Docket D-1977-110 CP-18 for Merrill Creek Reservoir; do not have Consumptive Use Replacement Plans as described in paragraph III.A hereof; and have not secured a source or sources of replacement water approved by the Commission. In accordance with the Commission's resolution adopting this Policy, these dockets will expire on March 31, 2019, and a renewal application for each is required to be submitted to the Commission prior to that date.

Wheelabrator Gloucester Company

D-1987-038

Chambers Cogeneration L.P. - Carneys Point

D-1991-019

- D. Also by the resolution adopting this Policy, and pursuant to Section 3.8 of the Delaware River Basin Compact, the Commission has directed Wheelabrator Technologies to submit by March 31, 2019 an application for review of its Wheelabrator Falls energy-from-waste facility.

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