

**AGREEMENT**  
**Effective November 26, 2013**

**Revision of FFMP Language in Section 7: Discharge Mitigation to Address a Change in  
How the Snow Water Equivalent will be Calculated Using OST**

The NYC Operation Support Tool (OST), while under development, was deployed in phases as component modules became available. With the completion of the full OST model the module from the National Weather Service that addresses snowmelt is now fully operational, incorporated into OST and will now be used to estimate the available snow water equivalent and potential snowmelt for the calculation of forecast available water and associated release rates for discharge mitigation. This modification to the OST will replace the procedure of adding a portion of the snow water equivalent to the combined storage to determine the release zone (L1a, L1b, L1c) and rates.

The Decree Parties have agreed to modify Section 7, Discharge Mitigation, in the June 1, 2013 Agreement to reflect how OST accounts for snowmelt as follows:

**7. DISCHARGE MITIGATION PROGRAM**

In order to enhance flood mitigation provided by the City Delaware Basin Reservoirs, NYC agrees to establish a Conditional Storage Objective (CSO) rule curve in Figure 2. Consistent with good practices for water supply reservoirs, and in order to ensure that sufficient resources are available during an extended dry period to support both lower basin and NYC needs, it is essential to ensure that the City Delaware Basin Reservoirs are filled on or around June 1st every year. To accomplish this, the CSO (boundary between the L1-b and L1-c storage zones in Figure 2) must be limited and ramped. For the duration of the current program NYC shall endeavor, to the maximum extent possible without impacting water supply reliability, to maintain reservoir levels at the CSO, thus creating a high probability of maintaining ten (10) percent void spaces from September 1, 2013 through March 15, 2014 to help mitigate flooding events. In determining the releases needed to maintain the CSO, the following parameters are considered in the OST evaluation: forecasted inflows over the next seven (7) days including inflow from snow water equivalent as forecast by the National Weather Service's (NWS) Hydrological Ensemble Forecasting System (HEFS), FAW table releases in effect over the next seven (7) days, anticipated diversions over the next seven (7) days, and the current usable reservoir storage. Based on any projected seven (7) day storage surplus, the City will calculate new release volumes, above the FAW table releases in effect, to progress toward the CSO and allocate those volumes over the upcoming 7-day period within the limitations of the release works for each reservoir.

Discharge Mitigation Program releases are designed to help mitigate the effects of flooding immediately below the City Delaware Basin Reservoirs. When the combined reservoir usable storage in Figure 1 is in Zone L1, the spill mitigation zone, Figure 2 defines three zones of

reservoir-specific storage (L1-a, L1-b and L1-c) relative to two rule curves for each reservoir. Tables 4a through 4g further define spill mitigation releases based on reservoir-specific storage when combined storage is in Zone L1. When combined usable reservoir storage is below Zone L1, reservoir-specific storage zones as defined in Figure 2 are not applicable, and the releases to be made, as set forth in the tables, are for conservation purposes only.

The City shall make discharge mitigation releases from the City Delaware Basin Reservoirs in accordance with the following:

- i. For the period June 16 through April 30, if combined reservoir usable storage is in Zone L1 in accordance with Figure 1, discharge mitigation releases shall be made based upon individual reservoir usable storage in accordance with Zones L1-a, L1-b and L1-c as provided in Figure 2 and Tables 4a through 4g. During the period October 1 through April 30, HEFS will explicitly model the amount and timing of snowmelt in reservoir inflow forecasts. By incorporating the most recent City snowpack survey data, as well as the City's automated snowpack sensor network data and the NWS's meteorological forecasts into a runoff model, HEFS will determine an up to date prediction of reservoir inflows from rainfall and snowmelt.

Sections 7ii through 7x and Table 5 remain unchanged.

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State of Delaware                      Date

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State of New Jersey                      Date

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State of New York                      Date

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Commonwealth of Pennsylvania                      Date

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City of New York                      Date