

## Interim Guidance for Rapid Flow Change Mitigation

### 2017 Flexible Flow Management Program

Version 1: May 2018

During periods of low baseflow on the Delaware River, releases from the New York City reservoirs directed by the Office of the Delaware River Master (ODRM) to meet the Montague Flow Objective can be significantly higher than the base releases specified in the 2017 Flexible Flow Management Program (FFMP2017). Under these circumstances, when sudden increases in streamflow at Montague are projected, the directed release can be significantly reduced over very short periods of time, sometimes to zero. The implementation of such a rapid reduction of release from Cannonsville Reservoir can result in very abrupt reductions in streamflow and may have a negative effect on the aquatic habitat of the West Branch and Mainstem of the Delaware River. Section 3.c.iii of Appendix A of the 2017 FFMP designates a dedicated Rapid Flow Change Mitigation (RFCM) bank for the partial amelioration of these potentially negative effects. This document describes a procedure intended as an interim guidance and is expected to be replaced or updated after additional experience is gained and/or future studies on the subject are completed.

Use of the Rapid Flow Change Mitigation bank shall be made as follows, unless otherwise specified by the Decree Parties:

1. The application of the RFCM procedure shall not result in any release that is not sufficient to meet the Montague Flow Objective or maintain the minimum release required by the 2017 FFMP.
2. The term "Lower Rate" as used below means the higher of the applicable L1 or L2 release rate from Table 4 of the 2017 FFMP and the new release rate required to meet the Montague Flow Objective computed by the ODRM.
3. If the current Cannonsville release is above or equal to 700 cfs because of additional releases directed by the Office of the Delaware River Master for the purpose of meeting the Montague Flow Objective, then releases should not be immediately reduced to the Lower Rate. Instead:
  - a. Normal operations would apply starting on the first day if the Lower Rate is above or equal to 500 cfs.
  - b. If the Lower Rate is below 500 cfs, the release shall be lowered to 500 cfs for the first day after directed releases are discontinued or significantly reduced.
  - c. Normal operations would apply starting on the second day if the Lower Rate is above or equal to 300 cfs.
  - d. If the Lower Rate is below 300 cfs, the releases will be reduced to 300 cfs for the second day. Normal operations would apply starting on the third day when the Lower Rate would be released.

4. If the current Cannonsville release is above 450 cfs and below 700 cfs because of additional releases directed by the Office of the Delaware River Master for the purpose of meeting the Montague Flow Objective, and the Lower Rate is below 300 cfs then releases should not be immediately reduced to the Lower Rate. The release shall be reduced to 300 cfs for the first day after directed releases are discontinued or significantly reduced. Normal operations would apply starting on the second day when the Lower Rate would be released.
5. Only the actual quantity of water required to be released to meet the intermediate reduction(s) in release rate in excess of the Lower Rate shall be debited from the Rapid Flow Change Mitigation bank.
6. The quantity of water and ramping schedule will be calculated by the New York City Department of Environmental Protection and reported to ODRM. ODRM will provide regular reporting to the Decree Parties and the Delaware River Basin Commission on the status and availability of the RFCM bank.
7. The total volume of the RFCM releases shall not exceed the total volume of the RFCM bank. RFCM releases shall cease when the volume of the bank is exhausted. If Step 3 (or 4) above would otherwise apply to a release reduction but there is insufficient water remaining in the RFCM bank to meet the target release(s), then the Step 3 (or 4) target release(s) shall be made until the volume of the bank is exhausted.