AGREEMENT

Temporary Thermal Releases Program
For Fishery Protection

Unseasonably high air temperatures in the upper Delaware River Basin in mid-July 2013 resulted in rapid and large increases in water temperature in the main stem of the upper Delaware River downstream of the New York City Delaware Basin reservoirs. In response to the extraordinary thermal stress conditions on the cold-water fishery, on July 16, 2013, the Pennsylvania Department of Environmental Protection requested the unanimous approval of the Decree Parties to implement a temporary program of emergency releases from Cannonsville Reservoir to provide additional thermal protection for the main stem of the upper Delaware River.

On July 16, 2013, the Decree Parties unanimously agreed that during the period July 17 - 18, 2013, emergency thermal releases would be made from Cannonsville Reservoir as follows:

Release an additional 300 cubic feet per second from Cannonsville Reservoir starting at midnight July 16/17 and continue the additional release through midnight July 18/19, 2013. Begin ramping down at midnight on July 18/19, 2013, according to established operational procedures, down to releases called for under the operative OST-FFMP release table.

The Interim Excess Release Quantity shall provide the water required for this temporary releases program.

Evaluation of Temporary Thermal Releases Program

A study should be performed in conjunction with the Temporary Thermal Releases Program (TTRP) of July 17-18, 2013 to evaluate the effectiveness of the Program. This study may also identify potential improvements that could increase the effectiveness of future programs. Since the water used in the TTRP will be allocated out of the limited resources of the IERQ, it is essential that this allocation is justified.

Past evaluations have been made by NYSDEC and PFBC for the Temporary Thermal Release Programs that were approved for July 7-10, 2010 and June 20-21, 2012. These evaluations simulated the water temperatures that would have occurred at West Branch and Mainstem locations in the absence of special releases and compared them to the observed temperatures during the special release period.

USGS stream gages measure the temperature at several sites on the West Branch (Hale Eddy), East Branch (Harvard and Fishs Eddy), and Mainstem (Hancock, Lordville, Callicoon) of the Delaware River as well as the Neversink River (Bridgeville). Data collected from these sites will be analyzed along with air temperature and other meteorological data to assess the effectiveness of the TTRP. The results should be compared to past programs to explore whether the effectiveness of a cold water pulse is diminished as the rate of base releases and unregulated flow increases.

If possible, the time of travel of the enhanced cold water plume to the downstream nodes will also be analyzed with the goal of improving special release programs that may potentially be made in the future.

The Office of the Delaware River Master will direct the administration of the study. Data used for this study should be reliable and have professional quality controls.

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State of Delaware	Date	State of New Jersey	Date
_____		_____	
State of New York	Date	Commonwealth of Pennsylvania	Date
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City of New York	Date		