

**DRAFT FACT SHEET  
NPDES PERMIT MODIFICATION  
WASHINGTON AQUEDUCT WATER TREATMENT PLANT  
Washington, D.C.  
November 14, 2003**

**NPDES Permit Number: DC0000019**

**1. NOTICE OF PERMIT MODIFICATION**

The United States Environmental Protection Agency, Region III has made a tentative determination to modify the permit issued on March 14, 2003 for the discharge of residual treatment solids that result from the drinking water treatment process from the Washington Aqueduct. As will be discussed further below, EPA finds modification to be necessary to include two additional outfalls within the coverage of the permit, and to clarify the terms of certain special conditions regarding environmental studies to be undertaken. Permit requirements are based on the Clean Water Act (33 U.S.C. § 1251 et seq.), hereinafter referred to as the Act, and NPDES regulations (40 C.F.R. Parts 122, 124, 125 and 133).

**2. PERMITTING AUTHORITY**

The NPDES permitting authority is: U.S. Environmental Protection Agency, Region III, Office of Watersheds, MD/DC Branch (3WP13), 1650 Arch Street, Philadelphia, PA 19103.

**3. APPLICANT**

The applicant is the following: Department of the Army, Washington Aqueduct, U.S. Army Corps of Engineers, Baltimore District, 5900 MacArthur Boulevard, NW, Washington, D.C. 20016-2514.

**4. EFFECTIVE DATES**

The permit became effective April 15, 2003, however, portions of the permit concerning the performance of scientific studies were appealed by the Corps of Engineers. On May 16, 2003, the Regional Administrator, EPA Region III issued a stay of the permit terms concerning the appealed studies. The unappealed portions of the issued permit remain in effect. In addition to the appeal filed by the Corps, portions of the final permit were also appealed by the National Wilderness Institute (NWI) on April 11, 2003. EPA made a determination that the NWI appeal did not require a stay of any permit conditions and NWI's appeal remains before the Environmental Hearing Board.

**It is EPA's intent to offer this draft permit for a 30-day public comment beginning November 17, 2003. EPA intends to close the public comment period December 16, 2003. During the public comment period, EPA will accept comment on only those portions of the permit that have been modified. Modification of the permit will not change its effective and termination dates.**

**In addition to modifying portions of the existing permit, new monitoring conditions have been added to Part I.C and new Parts I.E and F have been added to cover new outfalls 008 and 009. These conditions are also subject to public notice.**

**Any person that wants to appeal any modification to the permit that EPA adopts must submit comments during the public comment period. A request for an evidentiary hearing may be submitted within 30 days after receipt of the final agency action. In the event that EPA should receive no comments requesting a change to this draft permit during this public comment period, the new terms of the modified permit will become effective immediately.**

In May of 2000, EPA published a final rule that revises certain regulations pertaining to the NPDES program, including the procedures for appealing EPA determinations on NPDES permits. See Amendments to Streamline the National Pollutant Discharge Elimination System Program Regulations; Round II, 65 Fed. Reg. 30886 (May 15, 2000). Included in the rule are revisions to the permit appeals process that replace evidentiary hearing procedures with direct appeal to the EAB. The rule eliminates the evidentiary hearing process described at 40 C.F.R. Part 124, Subpart E-Evidentiary Hearings for EPA-Issued NPDES Permits and EPA-Terminated RCRA Permits, as part of its appeals process for NPDES permits. See 40 C.F.R. § 124.19.

## **5. PUBLIC NOTICE**

**The issuance of this NPDES permit has a lengthy history. EPA first published public notice of a 30-day comment period of a draft NPDES permit for this facility in the *Washington Post* and *Washington Times* on March 28, 2002. EPA extended this public comment period for an additional 60 days and ended it on June 28, 2002. During this 90-day public comment period, EPA received comments from 52 interested parties. In response to these comments, EPA amended the draft permit and fact sheet and offered a revised NPDES permit and fact sheet for public comment on December 18, 2002.**

**Notice of the December 2002, public comment period was published in the *Washington Post* and *Washington Times*. On January 21, 2003, EPA conducted a public hearing at Sibley Memorial Hospital in Washington, D.C. Three persons offered testimony during the public hearing. During this public comment period, which ended January 30, 2003, EPA received comments from thirteen interested parties and the Commonwealth of Virginia. You may see a summary of the comments received during the public hearing and the public comment period plus EPA's responses thereto in the Response to Comments, which is in the administrative record for this NPDES permit.**

**On March 13, 2003, EPA received certification of the December 2002, draft permit by the District of Columbia Department of Health (D.C. DOH), as required by Section 401(a)(1) of the Act, and 40 C.F.R. § 124.53. The final NPDES permit, which EPA issued on March 14, 2003, contained, among other things, conditions consistent with requirements specified by the District of Columbia in its certification letter. The D.C. DOH required the performance of scientific studies to be conducted by the Corps. Since permit issuance in March 2003, the DC DOH and the Corps have reached a separate agreement concerning these studies. EPA now proposes to drop these requirements from the permit. For addition information regarding these conditions see Part 14 of this Fact Sheet or the administrative record.**

**To allow the Corps to meet its obligations under the National Environmental Policy Act (NEPA) and to have adequate time to install the necessary technology to meet the numeric discharge limits in the permit, EPA and the Corps entered into a Federal Facilities Compliance Agreement (FFCA) on June 12, 2003. EPA offered notice of a 30 day public comment period for the FFCA in the *Washington Post* and *Washington Times* on March 17, 2003. Other than the numeric discharge limitations described in Parts I.A., B, C and D of the permit, the permittee agreed to immediately comply with all provisions of the issued permit (including the prohibitions on discharges during the spring spawning season). The permittee committed to take any and all necessary steps within its power to achieve compliance with the numeric discharge limits as soon as practicable, consistent with the permittee's obligations pursuant to NEPA and to comply with limitations in the FFCA on sediment discharges based upon the flow of the River.**

**As noted above, EPA issued a final permit on March 14, 2003, which became effective on April 15, 2003. The final permit was appealed by the Corps on April 16, 2003, and by the National Wilderness Institute (NWI) on April 11, 2003. On May 16, 2003, the Regional Administrator for Region III issued a stay for those portions of the permit that were appealed by the Corps. The stayed portions were limited to the provisions of Part III.D, Additional Studies to be Performed. EPA determined that the NWI petition did not require any other portions of the permit to be stayed. The unchallenged portions of the permit have been in effect since April 15, 2003.**

**The purpose of this Fact Sheet and notice is to advise the public of the proposed modifications to the March 2003 permit and to solicit comment on those provisions. The modified provisions include the following:**

- Throughout the permit the prohibition to discharge, which formerly was Feb 15-June 15, is extended 15 days to June 30. This is based upon an analysis provided by the US FWS, which demonstrated that such an extension would be more protective of anadromous and resident fish species that are known to breed, feed, shelter, and migrate in the vicinity of the discharges and the associated plume.**

EPA dropped the requirement in Part III.D relating to the performance of three studies (the spawning study, formerly Part III.D.1; the DNA study, formerly Part III.D.2; and a soil study, formerly Part III.D.5) because they will be performed cooperatively by other federal agencies. In addition EPA has clarified the requirements for the toxicity study and modified the requirements of the solids effects study.

- A consortium of federal and state agencies is involved in the study of shortnose sturgeon spawning and genetics. One part of this work is being conducted by the United States Geological Survey (USGS) Biological Research Division, together with the NMFS and USFWS which are collaborating on a study titled *Status, Behavior, and Genetics of Potomac River Shortnose Sturgeon*. Field sampling is expected to be initiated in Spring 2004. The performance of the spawning and DNA studies originally envisioned in the issued permit would be duplicative of this multi-agency effort and have therefore been deleted from the modified permit.
- The soil sampling study is being performed as part of a study titled, *A Study of the Effects on the Macroinvertebrate Communities in Two Reservoir Release Channels from Reservoir Releases of the Georgetown Reservoir, Washington, DC*, which will be performed by the Department of the Interior. It is a one-year project intended to sample macroinvertebrates, water chemistry, and soil at the two 75 foot channels on National Park Service property.

Part III.C and E are modified to more accurately reflect the *Terms and Conditions* and *Reasonable and Prudent Measures* contained in the July 14, 2003 Biological Opinion (BiOp) issued by NMFS NOAA Fisheries.

EPA proposes to add new Parts I.E and F. These requirements concern discharges from outfalls 008 and 009. Outfall 008 is the discharge point for the second high reservoir and outfall 009 is the discharge point for the third high reservoir. As the Corps submitted an NPDES application requesting coverage for these outfalls for the first time in January of 2003, these discharges have not previously been regulated by an NPDES permit.

Part I.C has been modified to include a quarterly monitoring provision for perchlorate and chloroform from the continuous discharge to outfall 002. This discharge is comprised of leakage from under the Dalecarlia sedimentation basins and groundwater.

A new definition has been added as Part II.C.j which states that “batch discharge” means a planned basin discharge or upset or bypass. It is not a discharge that results from leakage from the Dalecarlia Sedimentation basins.

Former Part III.D.6 has been removed. These provisions were originally requested by the DC DOH in its letter certifying the issued permit dated March 13, 2003. DC DOH as informed EPA that it has reached a separate agreement with the Corps and other federal agencies for the performance of these requirements.

You may review copies of all documents pertaining to this matter in the administrative record in its entirety at the Martin Luther King, Jr. Library, 901 G Street, NW, Washington, D.C. 20001 during normal business hours.

A copy of the draft permit and draft fact sheet will also be available on the EPA Region III website. The address is the following: <http://www.epa.gov/region03>

## **6. ENDANGERED SPECIES ACT (ESA) CONSULTATION AND MODIFICATION OF THIS PERMIT**

Under section 7(a)(2) of the Endangered Species Act (ESA) EPA must consult regarding issuance of an NPDES permit that may affect any federally listed endangered or threatened species. In the spring of 2001, EPA and National Oceanic and Atmospheric Administration (NOAA) Fisheries entered into informal Section 7 consultation.

In November of 2001, USFWS informed EPA that no federally proposed or listed endangered or threatened species under their jurisdiction were known to exist within the boundaries of the proposed federal action area and that no further consultation with USFWS was required for this permit. Because the inclusion of outfalls 008 and 009 change the geographic scope of the permit, on October 23, 2003, EPA contacted USFWS to determine whether any listed species occurred in the vicinity of these discharges covered by the proposed modified permit. USFWS replied on October 28, 2003 indicating that no listed species are present or would be affected, and therefore consultation was complete.

EPA used the *Water Quality Studies* to develop a Biological Evaluation (BE) to assess the impacts of the discharges on shortnose sturgeon. NOAA Fisheries provided comments to EPA on the contents of the BE and EPA provided a final draft BE to NOAA Fisheries on June 13, 2002. In the BE, EPA concluded that the issuance of the March 2002 draft NPDES permit for the Washington Aqueduct was not likely to adversely affect shortnose sturgeon. This determination was based on EPA's opinion that the scientific studies performed showed that the conditions contained in the March 2002 draft permit were protective of aquatic species present in the action area and the D.C. Water Quality Standards.

It was also EPA's contention that the issuance of the March 2002 draft permit would be the first step in an overall plan to significantly reduce or eliminate Aqueduct discharges from the Potomac River. The permittee had indicated that the spring is typically the time when discharges occur most frequently due to the high river flows. For

the first time, the March 2002 draft permit would have prohibited discharges annually from February 15 to June 15 to protect anadromous species. The Permittee indicated that discharging during the spring spawning season might be necessary, which would require invoking the bypass or upset provision in the draft permit. Because shortnose sturgeon may be potentially present and spawning near the Aqueduct outfalls during the spring, NOAA Fisheries determined that this action may adversely affect shortnose sturgeon. Therefore, in a letter to NOAA Fisheries, dated June 13, 2002, EPA, requested the initiation of formal consultation on the issuance of an NPDES permit for the Washington Aqueduct discharges. On July 9, 2002, NOAA Fisheries informed the EPA that it agreed to formal consultation and would issue a Biological Opinion (BO) on or before November 5, 2002.

On November 5, 2002, NOAA Fisheries issued a BO for the March 2002 draft Washington Aqueduct permit. The BO concluded that the proposed issuance of the March 2002 draft NPDES permit may adversely affect shortnose sturgeon eggs and larvae but was not likely to jeopardize the continued existence of the Chesapeake Bay distinct population segment (DPS) of shortnose sturgeon. NOAA Fisheries also concluded that the proposed permit was not likely to adversely affect juvenile or adult shortnose sturgeon present in the vicinity of the Aqueduct discharge outfalls. Since no critical habitat has been designated for this species, none would be affected.

On December 18, 2002, EPA issued for public comment a revised draft permit. EPA incorporated additional notification requirements and the performance of additional studies, which NOAA Fisheries recommended in the BO, in the revised draft permit. The additional studies were at Part III.D and the additional notification requirements were at Part III.E. To protect against any unknown effects of the discharge, this revised draft permit would have retained the prohibition against discharges during the spring spawning season, and extended the spring spawning season for an additional two weeks to protect fish eggs and larvae that might spawn in mid-June. EPA removed the emergency provision that the March 2002 draft permit contained.

After reviewing the comments on the revised draft permit, the Region decided that it would be appropriate to reinstate consultation with NMFS. However, because the Region thought it was important to issue the permit as quickly as possible to protect the fish spawning during the 2003 fish spawning season, the Region decided to issue the permit and complete consultation after the permit was issued. It was the Region's view that it could take this course of action in accordance with Section 7(d) of the ESA. Formal consultation was reinstated on May 21, 2003. NMFS issued its Biological Opinion on July 14, 2003.

The July 14, 2003, BO concluded that a single spring discharge which occurs during the time in which the Washington Aqueduct is operating under the FFCA may adversely affect shortnose sturgeon eggs and larvae but is not likely to jeopardize the continued existence of Chesapeake Bay shortnose sturgeon or the species as a whole. NOAA Fisheries also concluded that the single spring discharge is not likely to adversely affect juvenile or

adult shortnose sturgeon present in the vicinity of the Aqueduct discharge outfalls. Since no critical habitat have been designated for this species, none would be affected by a single spring discharge. The BO required the permittee to take reasonable and prudent measures to minimize the impacts of the incidental take of endangered shortnose sturgeon. The BO also recommended that the Corps take other actions to protect the sturgeon.

## **7. BRIEF DESCRIPTION OF THIS ACTION**

US EPA Region III, which is the NPDES permitting authority for the District of Columbia, is offering for public comment a draft NPDES permit for the Washington Aqueduct. As noted above, the proposed changes would modify the following conditions of the permit issued on March 14, 2003:

- **The spring spawning season is defined as February 15 to June 30 each year. This change is based upon a recommendation by the USFWS. The Corps has agreed to this extension;**
- **A new definition has been added as Part II.C.j which states that “batch discharge” means a planned basin discharge or upset or bypass. It is not a discharge that results from leakage from the Dalecarlia Sedimentation basins.**
- **Parts III.D.1, 2, and 5 have been removed. The Corps objected to these requirements which obliged it to carry out three studies. D.1 required the Corps to conduct a shortnose sturgeon spawning study; D.2 required the Corps to hold fish captured during the spawning study for DNA analysis; and D.5 required the Corps to perform a soil sampling study in the vicinity of its outfalls located on NPS land. After negotiations among EPA, the Corps, Department of the Interior (DOI), including the US Fish and Wildlife Service (USFWS), the National Park Service (NPS), and the United States Geological Survey (USGS), and the National Marine Fisheries Service (NMFS), and the DC Department of Health (DC DOH), the agencies reached agreement concerning the performance of these studies and two other studies discussed below. In accordance with a separate agreement which is outside the authority of this permit, these studies will be conducted as described in Part 5 of this Fact Sheet.**
- **Part III.D.3 has been rewritten as the new Part III.D.1. This condition requires the Corps to submit a study plan to EPA, USFWS, NMFS and NPS to evaluate discharges from outfalls 002 and 003 for acute and chronic toxicity. Although the Corps did not object to performing toxicity testing, it did object to the proposed language contained in the March 2003 permit and it appealed this condition. As a result of the discussions with the Corps and the other agencies, EPA agreed to new language which clarifies the intent and performance of this study. In the event that unacceptable toxicity is measured by the study, confirmatory tests will be required.**

- **The Department of the Interior is engaged in an additional study titled, *Ecological and Physical Effects of Sediment Loads to the Potomac River, Part 1: Chemical Evaluation* which will include chemical testing on sediment discharges to determine if any component(s) of the discharge have the potential to cause toxicity to aquatic organisms in the C&O Canal NHP or the Potomac River. This study is not intended to replace the toxicity studies required by the permit but may provide additional information regarding potential toxicity of the discharges.**

**Part III.D.4 has been rewritten and it is now the new Part III.D.2. This condition required the Corps to study the effect of the solids (settleable solids, suspended solids and depositional sediment) on fish growth and spawning success. The Corps objected to this requirement in its appeal of the March 2003 permit. As a result of the negotiations with the Corps and the other agencies, the modified permit requires the Corps to submit a study plan to EPA, USFWS and NMFS describing how it will evaluate the effect of solids discharged on embryo-larval fish if a discharge should occur during the spring spawning season. The proposed revision makes the study contingent upon the Corps discharging during the spring spawning season. EPA has agreed to this change because it thinks a discharge during the spring spawning season is unlikely to happen and thus the potential effect on the eggs and larval stages of fish in the River is also unlikely. Furthermore, tests required in the new Part III.D.1 will allow for an evaluation of the effects of the effluent, including that of suspended solids, on larval fish survival and growth ;**

**Part III.D.6 has been removed. These conditions were specified by the DC DOH in its Certification letter of March 13, 2003 and included the performance of sheer stress testing of sediments, collection of sediment cores, analytical requirements for these samples, performance of a sediment flux study, and the performance of an algal growth study. In June of 2003, DC DOH, NPS and the Corps reached an agreement regarding the scope and performance of these studies. As a result, by letter to EPA dated October 2, 2003, DC DOH withdrew its request that these studies be written into the permit.**

**New permitted outfalls 008 and 009 have been added to the draft permit. Outfall 008 is the discharge point for dechlorinated potable water from the Second High Reservoir to Mill Creek. Mill Creek is a tributary to Little Falls Branch. Outfall 009 is the discharge point for dechlorinated potable water from the Third High Reservoir to Mill Creek. These conditions can be seen at Part I.E (Outfall 008) and Part I.F (Outfall 009).**

**New monitoring requirements for perchlorate and chloroform have been added at Part I.C Other Dalecarlia Discharge. These monitoring requirements are the result of an investigation conducted by EPA regarding the continuous discharge of groundwater and leakage from the Dalecarlia Sedimentation Basins.**

- **The permit has been modified to include recommendations, *Terms and Conditions* and reasonable and prudent measures required by the July 14, 2003 Biological Opinion issued by NOAA Fisheries. The *Terms and Conditions* require: 1) 24 hours in advance of a bypass or 24 hours of the commencement of a discharge occurring between March 1 and May 15, the permittee must provide NOAA Fisheries with information regarding the water temperatures in the vicinity of the outfall at which the discharge occurs. 2) In order to monitor the level of incidental take, in accordance with NMFS protocols and the ichthyoplankton sampling protocol for this facility, permittee must perform ichthyoplankton sampling immediately before, during and after a discharge which occurs during the spring spawning period (March 1 through May 15) or when water temperatures are between 8° C and 15° C. If it is not possible to perform such sampling within 24 hours of the discharge event, the permittee must explain in writing why such sampling was not performed. In the event that the ichthyoplankton sampling documents the take of shortnose sturgeon, the permittee must immediately contact EPA and NOAA Fisheries. The *Terms and Conditions* are contained in Parts III.C.1 and E.2.**
- **Additional clarifying language has been added to Part III.E.1 to correct an omission in the issued permit. This paragraph is intended to cover both an anticipated or unanticipated upset or bypass and the upset language was inadvertently left out.**
- **Additional clarifying language has been added to Part II.A.13 and Part II.C.5 specifying that the compilation of DMRs is to be sent to the receiving agencies based upon a calendar year.**

## **8. FACILITY DESCRIPTION**

**The U.S. Army Corps of Engineers owns and operates the Dalecarlia and McMillan Water Treatment Plants, which supplies potable water to approximately one million residents in the District of Columbia, Arlington County, the City of Falls Church, and portions of Fairfax County and Maryland. The Plants provides the water at cost to the Wholesale Customers, e.g., the District of Columbia, Arlington County and the City of Falls Church, Virginia. The customers approve the capital construction budget and are responsible for depositing with the Washington Aqueduct sufficient funds to cover their proportional share of the total costs for running and/or funding improvements to the Aqueduct.**

**An act of Congress created the Washington Aqueduct Division Water Supply System in the mid-1800's with the construction of the Great Falls Dam and intake, which is located in Maryland and on the Potomac River. Besides the intake at the Great Falls Dam, there is a second intake at Little Falls, which is also located in Maryland. Water flows by gravity from the Great Falls intake to a forebay adjacent to the Dalecarlia Reservoir. From this forebay, a low-lift booster pump station pumps water into the Dalecarlia Reservoir. The Little Falls Pumping Station also delivers water directly to the Dalecarlia Reservoir.**

**The Dalecarlia Reservoir is a 46-acre earthen basin that serves as a pretreatment reservoir for two water treatment plants. By this it is meant that approximately 51% of the untreated sediments, which are naturally occurring solids in the raw water taken from the Potomac River, are separated from the aqueous portion of the untreated water in the Dalecarlia Reservoir. These untreated sediments are high quality soil that is periodically removed from the reservoir and land applied.**

**Water from the Dalecarlia Reservoir is delivered by gravity to both the Dalecarlia Water Treatment Plant (Dalecarlia sedimentation basins) and the Georgetown sedimentation basins, also locally known as the Georgetown Reservoir. Water from the Georgetown sedimentation basins is delivered to the McMillan Water Treatment Plant. Regardless of which plant processes the water, treatment is a three-step process that includes sedimentation, filtration and disinfection. The average production is 180 million gallons per day, however, the summertime peak may approach 265 million gallons per day.**

**Water delivered to the sedimentation basins at Dalecarlia and the Georgetown sedimentation basins contains solids that did not physically settle out at the Dalecarlia Reservoir. To make the water drinkable, these solids must be chemically treated. The Aqueduct does this by adding aluminum sulfate (alum), a widely used drinking water flocculent.**

## **9. PERMITTED OUTFALLS**

**A. Outfall 002 - Outfall 002 is the primary outfall for process water and the alum treated sediments from Dalecarlia sedimentation basins 1, 2, 3, and 4.**

**In addition, Outfall 002 is the discharge point for leakage from the sedimentation basins and groundwater from beneath the Dalecarlia basins. This is a continuous flow to a 30 inch pipe which discharges into outfall 002. The average flow of this discharge has been corrected to 110,000 gallons per day. Although this flow is continuous, it varies with temperature and seasonal change in groundwater levels.**

**B. Outfall 003 - Outfall 003 is the principal outfall for the process water and alum treated sediments from Georgetown sedimentation basin 2.**

**C. Outfall 004 - Outfall 004 is the outfall for process water and alum treated sediments from Georgetown sedimentation basin 1 and basin 2.**

**D. Outfall 006 - Outfall 006 is the outfall for discharges from the Georgetown Conduit. These discharges consist of treated river water blowoff discharged once per year for the purpose of inspecting the Georgetown Conduit. The average annual flow is one million gallons per year. The Potomac River is the receiving stream for this outfall.**

**E. Outfall 007 - Outfall 007 is the outfall for discharges from the City Tunnel. These discharges consist of treated river water blowoff discharged once per year for the purpose of draining to inspect the City Tunnel. The annual average flow is 0.08 million gallons per year. Rock Creek is the receiving stream for this outfall.**

**F. Outfall 008 - Outfall 008 is the outfall for discharges from the Second High Reservoir to Mill Creek. This discharge consists of dechlorinated potable water. This discharge is expected to occur approximately once every 5 - 8 years. The flow rate is 14 MG per discharge over 2 days. This discharge is the result of complete draining or lowering the water level for inspection or maintenance.**

**G. Outfall 009 - Outfall 009 is the outfall for discharges from the Third High Reservoir to Mill Creek. This discharge consists of dechlorinated potable water. This discharge is expected to occur once every 5 - 8 years. The flow rate is 20 MG per discharge. The flow rate of this discharge is 20 MG for this discharge over two days. This discharge is the result of complete draining or lowering the water level for inspection or maintenance.**

## **10. EFFLUENT LIMITS AND OTHER REQUIREMENTS**

### **A. For Dalecarlia Sedimentation Basins discharges to Outfall 002:**

- **Effluent limits for this discharge remain unchanged from the March 2003 permit.**
- **The draft modified permit contains the water quality-based prohibition against untreated discharge from February 15 and June 30 of each calendar year. EPA based this condition upon a recommendation by the USFWS and is intended to be protective of resident and anadromous fish species during the periods of the year when early life stages might be present in the river.**
- **The draft modified permit contains a water quality-based requirement for the performance of acute and chronic toxicity tests. As noted above at Part 7 the language for the toxicity study has been rewritten to provide greater clarity regarding the intent and performance of the studies.**
- **The draft modified permit contains a water quality-based requirement for the development of a study plan for sediments in the event of a discharge during the prohibition period. This condition has been rewritten to provide greater clarity and specificity.**
- **The draft modified permit contains a provision to record surface, mid-depth and bottom water temperatures in the event of an anticipated or unanticipated discharge during the spring prohibition period. This requirement is based upon the July 14, 2003, Biological Opinion issued by the NMFS. This condition is similar to a**

provision contained in the issued permit but the requirement has been rewritten to provide greater clarity and specificity.

- **The draft modified permit contains a provision to perform an ichthyoplankton sampling in order to monitor the level of an incidental take should a discharge occur during the prohibition period. This requirement is based upon the July 14, 2003, Biological Opinion issued by the NMFS. This condition is similar to a provision contained in the issued permit but the requirement has been rewritten to provide greater clarity and specificity.**
- **The draft permit retains the prohibition to discharge dredged material from the Dalecarlia Reservoir to the Potomac River. This requirement is based upon DC Water Quality Standards. This condition is unchanged from the issued permit.**
- **Should rock removal become necessary at outfall 002, the draft modified permit requires the permittee to seek necessary permits from the National Park Service. This requirement is based upon federal permitting requirements overseen by the National Park Service. This condition is unchanged from the issued permit.**

#### **B. For Georgetown Sedimentation Basin discharges to Outfalls 003 and 004**

- **Effluent limits for this discharge remain unchanged from the March 2003 permit.**
- **The draft modified permit contains the water quality-based prohibition against untreated discharge from February 15 and June 30 of each calendar year. EPA based this condition upon a recommendation by the US FWS and D.C. WQS 1104.1 which states that surface waters of the District shall be free from substances in amounts or combinations that do any one of the following: (d) cause injury to, are toxic to, or produce adverse physiological or behavioral changes in humans, plants or animals and (f) impair the biological community that naturally occurs in the waters or depends on the waters for its survival and propagation.**
- **The draft modified permit contains a water quality-based requirement for the performance of acute and chronic toxicity tests. As noted above at Part 7 the language for the toxicity study has been rewritten to provide greater clarity regarding the intent and performance of the studies.**
- **The draft modified permit contains a water quality-based requirement for the development of a study plan for sediments in the event of a discharge during the prohibition period. This condition has been rewritten to provide greater clarity and specificity.**
- **The draft modified permit contains a provision to record surface, mid-depth and bottom water temperatures in the event of an anticipated or unanticipated discharge**

during the spring prohibition period. This requirement is based upon the July 14, 2003, Biological Opinion issued by the NMFS. This condition is similar to a provision contained in the issued permit but the requirement has been rewritten to provide greater clarity and specificity.

- The draft modified permit contains a provision to perform an ichthyoplankton sampling in order to monitor the level of an incidental take should a discharge occur during the prohibition period. This requirement is based upon the July 14, 2003, BO issued by the NMFS. This condition is similar to a provision contained in the issued permit but the requirement has been rewritten to provide greater clarity and specificity.
- The requirement to perform a soil sampling study to characterize the 75 foot channels on National Park Service property has been deleted from the modified permit. This requirement was deleted because it is duplicative of a project being performed by the Department of Interior as part of a study of the effects of Aqueduct discharges on macroinvertebrate communities in the two reservoir release channels.

**C. For Outfall 002. Effluent consisting of leakage from basin joints and groundwater beneath the Dalecarlia sedimentation basins which is discharged through a pipe to outfall 002.**

- Effluent limits for this discharge remain unchanged from the March 2003 permit.
- The Permittee has advised EPA that the correct flow rate for this discharge is 110,000 gallons per day rather than the 110,000 gallons per year as reported on the NPDES permit application. This flow is variable depending upon groundwater levels. In July of 2003, EPA performed a detailed analysis of a sample taken from this discharge, including an analysis for metals and organics. The results showed below detection levels for arsenic, mercury, lead, cadmium, selenium, iron and silver. Aluminum, barium, calcium magnesium, manganese, nickel and sodium were found. These metals are commonly found in ground water. Aluminum is already limited in the permit and the amount in the sample was within the permit limits. Although EPA thinks that the levels of the other metals do not justify repeated monitoring for these metals, EPA is investigating the ground water, which is most likely the major source of these metals.
- As for the monitoring results for organics, EPA's results from the July 2003 sampling showed detectable amounts of perchlorate, chloroform and bis (2-ethylhexyl) phthalate. As a result, monitoring requirements for perchlorate and chloroform have been added to the modified permit. The monitoring frequency is once per quarter so seasonal variations due to groundwater flow can be evaluated.

**As bis (2-ethylhexyl) phthalate is a common laboratory contaminant the modified permit does not require monitoring for this pollutant.**

**These monitoring requirements are the result of an investigation conducted by EPA Region III Superfund and Water Protection Division. The July 2003 sampling investigation found perchlorate concentrations at 6.49 ug/l (ppb) and 7.64 ppb in two samples. In September, an additional sample was analyzed to confirm the July result and 6.7 ppb perchlorate was reported. The Corps also sampled the effluent and found perchlorate at 7.6 ppb and 7.9 ppb. Detectable levels of perchlorate have not been found in samples of the finished drinking water taken by the Corps. There is no indication that the source of the perchlorate is part of the Aqueduct operations. The monitoring information may also be useful in the design of a treatment option for this discharge.**

**An effluent limit for perchlorate has not been established because there is no water quality standard upon which to base a numeric limit.**

**The Corps has advised EPA that this continuous discharge is included in the treatment technology design for discharges from this facility.**

**The Corps performs weekly tests of the raw intake water, sedimentation basins, underdrains and finished water for perchlorate. The purpose of this testing is to ensure the continued safety of the drinking water.**

**Additional information on perchlorate is available at <http://clu.in.org/contaminantfocus/default.focus/sec/perchlorate/cat/Overview/>**

**The District's water quality standard for chloroform is 3000 ug/L. The concentration of chloroform found in the July 2003 discharge was reported as 2.9 ug/L. Since the concentration of chloroform will not exceed water quality standards no effluent limit is indicated. However, the modified permit requires quarterly monitoring to evaluate whether or not there is a seasonal variation in the concentration.**

**The Corps routinely performs monthly testing on the finished drinking water for chloroform. The purpose of this testing is to ensure the continued safety of the drinking water.**

**Additional information on chloroform is available at [www.atsdr.cdc.gov/tfacts6.html](http://www.atsdr.cdc.gov/tfacts6.html)**

**The sampling point for this discharge remains the access port in the discharge pipe located where the basin underdrains tie into the pipe which outfalls at 002.**

**There are no surface drinking water intakes downstream from this discharge.**

**D. For Outfalls 006 and 007.**

- **Effluent limits for these discharges remain unchanged from the March 2003 permit.**
- **The sampling regimen specified in the permit requires that each discharge from these outfalls is to be sampled by taking grab samples in the beginning and mid-point of the discharge.**

**E. For Outfalls 008 and 009**

- **Flow for Outfall 008 is an engineered estimate at approximately 7 million gallons per day for 2 days.**
- **Flow for Outfall 009 is an engineered estimate at approximately 10 million gallons per day for 2 days.**
- **Although it is not required by the permit, the Corps has agreed to work with the NPS regarding the timing of the discharges to Outfalls 008 and 009 such that they do not occur during high flow conditions in Mill Creek or Little Falls Branch.**
- **Effluent limits for Outfalls 008 and 009 for total suspended solids are 30 mg/L monthly average and 60 mg/L daily maximum. These limits are based upon Best Conventional Technology (BCT).**
- **Effluent limit for total aluminum is 4 mg/L monthly average and 8 mg/l daily maximum and is technology based.**
- **Effluent limit for dissolved iron is 4 mg/L monthly average and 8 mg/L daily maximum and is technology based (BAT and BCT).**
- **Effluent limit for total residual chlorine is non-detect which is defined as <0.10 mg/L. This limit is based on the DC water quality standards**
- **pH shall not be less than 6 standard units or greater than 8.5 standard units and are based on the DC water quality standards.**
- **The sampling regimen specified in the permit requires that each discharge from these outfalls is to be sampled by taking grab samples in the beginning and mid-point of the discharge.**

**11. SUMMARY OF TECHNOLOGY-BASED LIMITS**

**TSS concentrations of 30/60 mg/l have been identified as consistent with best practical control technology for water treatment plants (WTP) discharges, with 30 mg/l**

**“typically” required (ASCE et al, 1996). A review of permits for more than 400 other in Region III showed that other WTP facilities have achieved a TSS limit of 30 mg/l (Colley 1995). In addition, other states such as Michigan use 30 mg/l monthly average as a treatment-based BPJ limit for WTP backwash discharges.**

**With the exception of new technology based limits for TSS, aluminum and iron at outfalls 008 and 009, all other technology based limits remain unchanged from the March 14, 2003, issued permit.**

**For outfall 002, effluent limits remain unchanged from the issued permit, however, new monitoring requirements have been added to the modified permit.**

**In accordance with the FFCA, the Corps will complete an alternatives evaluation and disposal study. The purpose of this study is to identify a range of engineering and /or best management practices capable of achieving the technology-based permit limits.**

## **12. SUMMARY OF WATER QUALITY-BASED LIMITS**

**With the exception of the water quality based limit which has been added for chlorine at outfalls 008 and 009, all other water quality based limits remain unchanged from the March 14, 2003, issued permit. As the discharge from outfalls 008 and 009 is finished water a water quality based limit of non-detect is added to the modified permit.**

## **13. STANDARD CONDITIONS**

**Standard conditions are requirements that must be incorporated into every permit, in accordance with 40 C.F.R. Sections 122.41 and 122.42. These requirements delineate the legal, administrative and procedural requirements of the permit. It includes the standard provisions governing discharges that may be bypasses or upsets. With one exception, the Standard Conditions remain unchanged from the final permit that was issued in March of 2003. The Agency proposes to modify the reopener provision at Part II.A.12 to acknowledge completion of the formal consultation under Section 7(a)(2) of the ESA. Further, this provision states that Part III.C.1 and E. have been revised to include recommendations, reasonable and prudent measures and terms and conditions which resulted from formal consultation.**

## **14. SPECIAL CONDITIONS**

**In June of 2003, representatives of the U.S. EPA, the Department of the Interior (DOI) (specifically the NPS and the USFWS) the NMFS, the DC DOH and the permittee met to resolve issues related the NPDES permit for the Washington Aqueduct. The permittee had appealed provisions in the permit which required certain studies. The agencies asked the permittee to ensure that they be involved in its actions to comply with the**

terms of the permit. The permittee has an interest in studies that are being conducted by the other agencies.

The agencies agreed to the following:

- **DOI, with assistance from NMFS, would fund and carry out the shortnose sturgeon spawning study formerly found at Part III.D.1 of the issued permit, the shortnose sturgeon DNA study formerly found at Part III.D.2 and the soil sampling study formerly found at Part III.D.5 of the issued permit. These studies were added to the issued permit at the request of the resource agencies.. Although they will be performed outside the NPDES permit, they will be performed with oversight from the appropriate federal and state agencies.**
- **The permittee, NMFS, EPA and USFWS agreed upon revised language for the toxicity and solids effects studies. The toxicity study formerly was Part III.D.3 and is Part III.D.1. The solids effects study formerly was Part III.D.4 and presently appears as Part III.D.2. These studies are based upon water quality requirements.**
- **The March 14, 2003, issued permit at Part III.D.6 contained five parts requiring the permittee to preform stress tests; take core samples at each of the stress test sites; measure sediment fluxes; perform algal growth assays; and coordinate all future testing with DC DOH. These requirements were contained in the March 13, 2003, certification letter from the District of Columbia. The Clean Water Act section 401 (a)(1) states that EPA may not issue a permit until a certification that the permit meets the state's water quality standards is granted or waived by the State. Since the issuance of the March 2003 permit the DC DOH has advised EPA by letters dated April 15, 2003 and September 26, 2003, that it has reached agreement with DOI and the permittee on the performance of these studies. The DC DOH has requested that these studies be removed from the permit. On the basis of this request, EPA proposes to remove this requirement.**
- **EPA has received the July 14, 2003, Biological Opinion from the NOAA Fisheries. The modified permit has been updated at Part III.A., B., C.1, and E to reflect these new requirements. Please refer to Section 7.A of this Fact Sheet for a description of these changes.**
- **Part III.A would prohibit the direct discharge of the Dalecarlia and Georgetown sedimentation basins from February 15 through June 30. The proposed modification extends the prohibition period from June 15 (issued permit) to June 30. This is based upon a recommendation and justification for this extension which was provided by the USFWS.**

The remaining special conditions in Part III would not be changed by the proposed modifications.

