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DEPARTMENT OF THE ARMY
WALLA WALLA DISTRICT, CORPS OF ENGINEERS
DWORSHAK PROJECT, PO BOX 48
AHSAHKA, IDAHO 83520-0048

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AUG 29 2013
U.S. EPA REGION 10
OFFICE OF COMPLIANCE AND ENFORCEMENT

26 August 2013

U.S. Environmental Protection Agency (Region 10)
Attention: Mr. Chris Gebhardt
NPDES Compliance Unit
1200 Sixth Avenue, Suite 900, MS OCE-133
Seattle, Washington 98101

Re: Annual Status Report: Federal Facility Compliance Agreement, Dworshak Fish Hatchery (NPDES Permit No. IDG131003)

Dear Mr. Gebhardt:

The U.S. Army Corps of Engineers, Walla Walla District (Corps) and the U.S. Fish and Wildlife Service (USFWS) hereby submit the enclosed Annual Status Report for the Dworshak Fish Hatchery. This report consists of the previous years' information with fiscal year 2013 interim measures shown in red and underlined. This report is required in paragraph 31 of the Federal Facility Compliance Agreement (FFCA), signed last by the Environmental Protection Agency (EPA) on 7 September 2011, addressing alleged violations of the Idaho Cold Water Aquaculture NPDES Permit No. IDG131003 (Permit) and Sections 301(a) and 402(a) of the Clean Water Act (33 U.S.C. § 1251 *et seq.*). This Report was prepared in coordination with the Nez Perce Tribe (joint-manager of the Hatchery).

This Annual Status Report does not reflect recent discussions between the FFCA parties concerning the need to modify or terminate the FFCA. As discussed during the conference call with EPA on 12 August 2013, the Corps and USFWS have resolved/cured the three (3) violations specifically listed in the FFCA through implementation of interim measures. The Corps and USFWS will initiate additional FFCA modification/termination discussions after the Hatchery rehabilitation study is complete in 2014 and a rehabilitation plan has been sufficiently defined.

Please contact Mr. Damian Walter, Environmental Compliance Coordinator at (509) 527-7121 if you have additional questions or comments.

Sincerely,

Gregory A. Parker
Operations Project Manager
Dworshak Project

Enclosure

U.S. Army Corps of Engineers
Walla Walla District
Dworshak Project
PO Box 48
Ahsahka, ID 83520

U.S. Department of the Interior
Fish and Wildlife Service
Dworshak Fisheries Complex
276 Dworshak Complex Road
Orofino, ID 83544

August 26, 2013

Annual Status Report
Federal Facility Compliance Agreement, Dworshak Fish Hatchery (NPDES Permit No. IDG131003)

The U.S. Army Corps of Engineers, Walla Walla District (Corps), and the U.S. Fish and Wildlife Service (USFWS), hereby generate this Annual Status Report (Report) for the Dworshak Fish Hatchery (Hatchery), in accordance with paragraph 31 of the Federal Facility Compliance Agreement (FFCA), signed last by the Environmental Protection Agency (EPA) on September 7, 2011, addressing alleged violations of the Idaho Cold Water Aquaculture NPDES Permit No. IDG131003 (Permit) and Sections 301(a) and 402(a) of the Clean Water Act (33 U.S.C. § 1251 *et seq.*). This Report was prepared in coordination with the Nez Perce Tribe (co-manager of the Hatchery).

1. **Findings**. The FFCA (Paragraphs 22-24) lists the following alleged violations of the Permit and Clean Water Act (Section 402(a)):

a. At the June 18, 2008 inspection, the EPA inspector observed the discharge of untreated cleaning wastewater from System II rearing units at the Facility in violation of Section II.B.2.d of the Current Permit. This constitutes one violation of the Permit.

b. As constructed, System III rearing units routinely discharge untreated cleaning wastewater in violation of Section II.B.2.d of the Current Permit. Between December 2007 and July 2011, every time the Facility discharged untreated cleaning wastewater from the System III rearing units into waters of the U.S., the Facility violated Section II.B.2.d of the Current Permit.

c. Section II.C of the Previous Permit and Section V.B of the Current Permit requires USFWS to submit monthly discharge monitoring reports ("DMRs") for the Facility. Between December 2004 and December 2007, the USFWS failed to submit DMRs for the Facility in violation of Section II.C of the Expired Permit and Section V.B of the Current Permit. This constitutes thirty-three (33) violations.

2. **Deadlines/Milestones.**

a. By September 30, 2011, the Facility was to have instituted the interim measure of adapting the System III biofilter reuse system ponds into a wastewater treatment system. This is intended to provide treatment to the cleaning wastewater from System III so as to bring that portion of the Facility into compliance with Section II.B.2.d of the Current Permit.

b. Attachment A to the FFCA sets forth a Compliance Plan that describes four (4) construction phases that are anticipated to correspond with annual congressional appropriations in amounts adequate to complete each phase. If annually appropriated or other funding is adequate to complete construction phases 1-3, the Facility shall achieve full compliance with the conditions and requirements set forth in the Current Permit by December 31, 2016.

3. **Progress.**

a. Various operational and infrastructure measures have been taken by USFWS and the Corps to achieve compliance. These measures are set forth in Attachment B of the FFCA.

b. The Corps and USFWS instituted the interim measures as described in 2.a above on or before September 30, 2011.

c. Compliance Plan.

i. Construction Phase 1.

A. Installation of Vacuum Degassing Towers on Main Aeration Sump. This action is being planned as a small capital improvement project. Most of the materials have been purchased, at a cost of $124,885, and are onsite. The additional funding ($650,000) to implement this action has been requested in the 2013 budget and will cover 50% of the degassing towers.

Update FY 13 annual report: This project was completed in fiscal year 2013.

B. Finalize Hatchery Strategic Plan Design (Strategic Plan). This action is complete. The Strategic Plan is being incorporated in the final integration design referenced in C below.

C. Finalize integration of CH2MHill NPDES Design, dated June 15, 2011, with the Strategic Plan. The Corps included a request for $747,000 in the fiscal year 2013 (FY13) budget to complete the integration design. The FY13 budget/funding request was not approved at the Corps' Headquarters level, given national priorities and critical mission requirements, but the Corps was able to set aside $165,000 to initiate the integration design action. The Corps expects to receive a 30% design package by the end of 2012. The Corps has requested funding in the FY14 budget request to complete the integration design. Additionally, the Corps will continue to try and identify other funding sources for this action.

Update FY 13 Annual Report: The integration design action was completed November of 2012 to determine feasibility of the CH2MHill NPDES Design and the strategic plan of circular tanks.

ii. Construction Phase 2. Convert System II to circular tanks with partial reuse to reduce water consumption up to approximately 80% and energy consumption by approximately 60.5% of system II; Install covering over System II; and Commence construction of NPDES compliant wastewater treatment screen system for Systems I, II, III, the nursery and incubation.

A. FY13 Budget. The Corps included a request for $3,332,000 in the FY13 budget to complete the Phase 2 construction actions. The FY13 budget/funding request was not approved at the Corps' Headquarters level, given national priorities and critical mission requirements.

B. FY14 Budget. The included a request for 1,345,000 to develop plans and specifications, and implement construction of facility modifications to upgrade effluent treatment at the hatchery. This request was not granted due to economic restraints and other more critical national priorities.

C. FY 15 The Corps included a request for funding in the FY15 budget to develop plans and specification associated with the Dworshak Fish Hatchery rehabilitation to allow effluent to meet compliance with the Clean Water Act. Additionally, the Corps will continue to try and identify other funding sources for these actions.

d. Operational and Infrastructure Measures taken by the Corps and USFWS. See Attachment A (updated attached).

4. **Noncompliance (if any)**. None.

5. **Other**. The Walla Walla District is conducting a study to examine ways to raise fish more efficiently and effectively at Dworshak Hatchery. The Dworshak Hatchery Rehabilitation Study will evaluate existing conditions, identify problem areas, and costs to develop a recommended plan for rehabilitation of the hatchery in order to enable the Corps to best meet fish mitigation requirements. A draft report is scheduled to be completed by December 2013. Following technical and policy review a final report will be available in FY14. The Rehabilitation Study is a decision document that will support a funding request for rehabilitation work at the Dworshak Hatchery. Although not anticipated, the results of the Rehabilitation Study could indicate a need to modify the FFCA Compliance Plan and the Corps and USFWS will initiate discussions with EPA if that becomes necessary.

IN WITNESS WHEREOF, I hereby certify the information contained in this Annual Status Report is true and accurate to the best of my knowledge, signed this 26th day of August, 2013.

Gregory A. Parker,
Operations Project Manager, Dworshak Project
U.S. Army Corps of Engineers, Walla Walla District

STATE OF IDAHO
COUNTY OF CLEARWATER

Signed and sworn to (or affirmed) before me by Gregory A. Parker on the 26th day of Aug, 2013.

TERRI KIELE
Notary Public
State of Idaho

(SEAL)

Notary Public (State of Idaho)
My commission expires on 10-25-17.

IN WITNESS WHEREOF, I hereby certify the information contained in this Annual Status Report is true and accurate to the best of my knowledge, signed this 26th day of August, 2013.

Steven Rodgers
Complex Manager, Dworshak Hatchery
USFWS

STATE OF IDAHO
COUNTY OF CLEARWATER

Signed and sworn to (or affirmed) before me by Steven Rodgers on the 26 day of Aug, 2013.

TERRI KIELE
Notary Public
State of Idaho

(SEAL)

Notary Public (State of Idaho)
My commission expires on 10-25-17

Attachment A.

Operational and Infrastructural Measures

Status Report September 2011-2012

Status Report September 2012-2013

3. c. ii. D. **Progress-** Measures taken to address the discharge of untreated cleaning wastewater discharge to Clearwater River (River) (Section II.B.2.d of the Current Permit)

1. History: Cleaning waste from System III rearing units discharged directly to the River. (Map of facility on page 5.)

2. Interim measures 2011-2012:

a. In 2011 steelhead rearing densities in Systems I and II were increased allowing reduced use of the System III. The steelhead are initially reared in the nursery and then moved to System I where they are reared on reservoir water into late-July. At this time, reservoir water is a limiting factor so the larger/older fish are then moved to System III to allow for younger steelhead to be moved from the nursery to System I. Through August and September, the steelhead are gradually moved from System I into System II. A total of 9 ponds were used in System III in 2011. In 2012, plans were made to utilize 16 ponds (10 steelhead, 6 Coho). At this level, all water was pumped to the System III settling basin to allow solids to settle during cleaning operations.

b. In July 2011 the installation of two slide gates was completed; however the gates were not needed until we began using 15 ponds in 2012. The gates enable the discharged water from the 16 rearing units on south side of System III and 2 units on the north side to be separated from the remaining 16 ponds on the north side of System III. Once the flow was separated, we were able to redirect all water generated during cleaning from either side of System III separately. Decreased flow to the bio-filter beds allows the solids during cleaning operations to settle out, effectively creating a treatment.

c. By August 30, 2011 the crew had devised a way to use the System III bio-filters as a settling basin for the water discharged during System III cleaning operations; the

first protocol had been written. The low volume of water added to the basin when cleaning the 9 units did not require the use of discharge pipes from the bio-filters (outfalls 006a and 006b) as previously thought. Treated water from the bio-filters was discharged to the settling pond (outfall 005). Refer to attached map for location of outfalls.

d. In 2012, we continued to pond System I at high densities as steelhead were moved from the nursery to outside rearing. However given the information learned from 2011, the decision was made to use up to 16 rearing units in System III as the fish needed to be moved from System I as reservoir water became limiting.

e. In July 2012, the discharge piping from the System III bio-filter was connected to the outflow piping of the old reuse system sump. The modification and the installation of a submersible pump in the adjacent channel allows supernatant from the biofilter to be drawn off, combined with full-flow water from the ladder and attraction channel and then discharged to the River (outfall 002). The settled solids in the bio-filter are pumped by an effluent pump to the off-line settling basin. In effect this System III discharge water is settled twice before discharging to the River (outfall 005).

f. The USFWS in collaboration with the Freshwater Institute held a class on July 24-25, 2012 in Boise, Idaho. The training provided information on the use of circular tanks and water reuse technology. The benefits of such technology are numerous including waste water treatment and improved water quality.

g. On July 31, 2012 water quality samples were taken during cleaning operations of System III. The results showed that the basin was effective at treating full-flow and cleaning waste from up to 15 rearing units flowing at a rate of approximately 600 gpm for approximately 45 minutes without exceeding our current permit.

h. Solids were removed from the Off-line Settling Basin on August 10, 2012.

i. On August 15, DNFH managers were notified that the primary line from the reservoir had been damaged. Clearwater Hatchery operates only on reservoir water to rear their fish. With the loss of water they needed alternative rearing space at another hatchery for the survival of the fish they had on station. It was determined that DNFH was the best alternative so plans were made to move 2.5 million spring Chinook to System III rearing units.

j. The Clearwater Hatchery transported 2.5 million Spring Chinook Salmon to the Dworshak Hatchery on August 27-29, 2012. These fish will be reared until March 2013 and then transported to release sites in March and early April. This addition puts system III at full loading capacity. Cleaning operations have been modified to clean approximately ½ of the system on two different days each week to allow all water during cleaning operations to be pumped to the System III biofilters.

k. The emergency situation prompted the USFWS to seek immediate action to figure out how to treat the waste water discharge in System III and do everything possible to avoid discharge cleaning waste to the River. Concurrently engineers at the USACE discovered an abandoned pipeline which had previously been capped off. By September 7 the pipe had been excavated and connected with a larger adjacent pipe which leads to the System II bio-filter. The joining of these pipes allows an increased volume of clean full-flow water to be discharged from the Systems I, II, and III to the River (new outfall point 017). Decreasing the clean water flowing into the bio-filters allows more water to be treated during cleaning operations and provides additional space for settling solids from Systems II and III.

l. To date (September 25, 2012), we continue to improve our standard operating procedures and document improved cleaning protocols to increase the efficiency of the waste water treatment we currently have available to us. On September 19, 2012, we completed the water quality sampling for this quarter while cleaning of System II. We conducted a second sampling while cleaning System III on September 26, 2012. We expect the results of these discharge samples on October 1, 2012. We believe Dworshak is NPDES compliant as a result of the modifications to infrastructure and operational procedures. USFWS and Nez Perce Tribe's intent, taking NPDES considerations into account, is to utilize System III for additional production of Chinook salmon. The intent would be to utilize 25 to 34 of the burrows ponds in System III in the spring of 2013.

m. Since 2008 the Nez Perce Tribe has been conducting an adult steelhead reconditioning study at DNFH. Each of four 618 gallon circular tanks was discharging about 50 gpm into the offline settling basin. On September 21 the outflow was rerouted to the System III bio-filters.

n. In 2011 we reported that we had stopped the discharge from the Fish Planting Line (outfall 003) during normal operation. Since that time rearing densities have

increased, the raceways now operate on serial reuse, and we have increased the flow rates. To compensate for the increased volume of water, we reopened the discharge point in August 2012. The outfall is compliant with the permit.

o. Previous operations included automatic operation of the pump in the raceway sump. In this mode the pump turns on when the float reaches a certain level and pumps water to the offline settling basin. The revised protocol now calls for turning the pump "On" during cleaning events and to "Auto" 30 minutes after cleaning. This reduces wear on the pumps and expedites removal of solids to the settling basin.

p. Future actions include a second training on water reuse in Orofino, Idaho on October 2-3, 2012; an on-site visit from EPA, ACOE and other interested parties to view and discuss the recent modifications on October 4, 2012

q. Mud valves which are used to divert cleaning waste from the rearing units to the offline settling basin do not seal tightly. The unnecessary pumping of water over works the pump and discharges clean water into the settling basin. We have purchased the new gaskets and plan on replacing them in October, 2012.

3. Interim measures October 2012 to September 2013

a. The cross-connect line for removal of water from System II and System III rearing units was completed in September 2012. This cross-connect allows flow through water to be directed away from the bio-filter beds so that cleaning waste can be treated in the bio-filters, lessening the potential for flooding the treatment basin.

b. The second Aquaculture Reuse Workshop was held at the Best Western in Orofino, Idaho on October 2nd and 3rd, 2012.

c. To facilitate understanding and communication, a meeting was held on October 4, 2012 to review and discuss the hatchery's infrastructure and operational changes relative to previous violations of the NPDES permit. In attendance were Chris Gebhardt from the EPA, and representatives from the U.S. Army Corps of Engineers, Bonneville Power Administration, the Nez Perce Tribe, Idaho Fish and Game and the U.S. Fish and Wildlife Service.

d. In October, 2012 a flow meter was installed on pump 3 and a Variable Frequency Drive (VFD) ultrasonic probe was placed in the aeration chamber. These upgrades reduce the volume of water drawn from the river and conserve energy.

e. Gasket replacements completed in October, 2012 on the mud valves in the raceway rearing units were unsuccessful; there was no significant reduction of flow from the mud valve leakage to the off-line settling basin (OLSB). The OLSB pump operating plan calls for leaving one pump on "auto" after cleaning to prevent the sump from overflowing to the river.

f. Roto-Rooter of Lewiston, Idaho began removal of the plastic "licorice" media from the System II chamber (old bio-filter) on October 29, 2012. Removing the media reduces potential for discharging the media and provides for a larger solids settling basin.

g. Four experimental reuse tanks were installed in the nursery in November, 2012.

h. Flow meter taps were installed on the main pump headers allowing the efficiency of the pumps to be monitored and inflow from the river to be measured in November, 2012.

i. In November, 2012 Roto-Rooter removed sediment and debris from the lines supplying water to the Burrow's ponds.

j. In January, 2013 the old concrete nursery tanks were resurfaced and sealed with epoxy allowing for more efficient removal of solids.

k. Reuse pumps were installed on the experimental reuse tanks in February, 2013. The reuse pumps increase energy efficiency and reduce effluent discharge.

l. An increase in solids settling in Holding Pond 9 on February 12, 2013 initiated the use of freshwater in the brood stock holding ponds rather than serial reuse water from System 3 burrow's ponds, and incorporation of vacuum removal of solids in holding ponds

m. The VFD and probe were programmed on System I in March, 2013 allowing for water flow to be regulated and metered for water conservation and energy conservation

n. Two StanCorp pumps were installed in the System III bio-filter channel in March, 2013. These pumps allow supernatant from the effluent water from the Burrow's

ponds to be more efficiently removed and also allow increased settling time for solids removal.

o. Raceways were prepped and sealed with epoxy coating allowing for improved solids removal. The project was completed in April, 2013.

p. A screen was constructed and installed on discharge point 008 to collect media and debris that has collected the System I and System II header pipes. The header pipes were flushed during the month of May, 2013.

q. Removed the perforated pipe and remaining media from the System II bio-filters in May, 2013.

r. Cut an access point for NPDES sampling of the Ladder and Attraction channel in May, 2013. (discharge point 002).

s. On June 17, 2013 the debris collection boom was installed in OLSB to prevent discharge of residual media holding up in the System II bio-filter beds.

t. To facilitate understanding and communication a meeting was held on July 2, 2013 to review and discuss the status of the FFCA and NPDES compliance at Dworshak Hatchery. In attendance were Chris Gebhardt from the EPA, and representatives from the U.S. Army Corps of Engineers, Bonneville Power Administration, the Nez Perce Tribe, Idaho Fish and Game and the U.S. Fish and Wildlife Service.

u. To continue coordination a teleconference was held on August 12, 2013 to focus on FFCA compliance expectations by EPA in relation to Dworshak Hatchery rehabilitation by the U.S. Army Corps of Engineers. In attendance were technical and legal representatives from EPA, the USFWS and ACOE, as well as staff from the hatchery.

v. Around August 20, 2013 the core drilling of three 14" holes in the walls of the System II and System III bio-filters was completed.

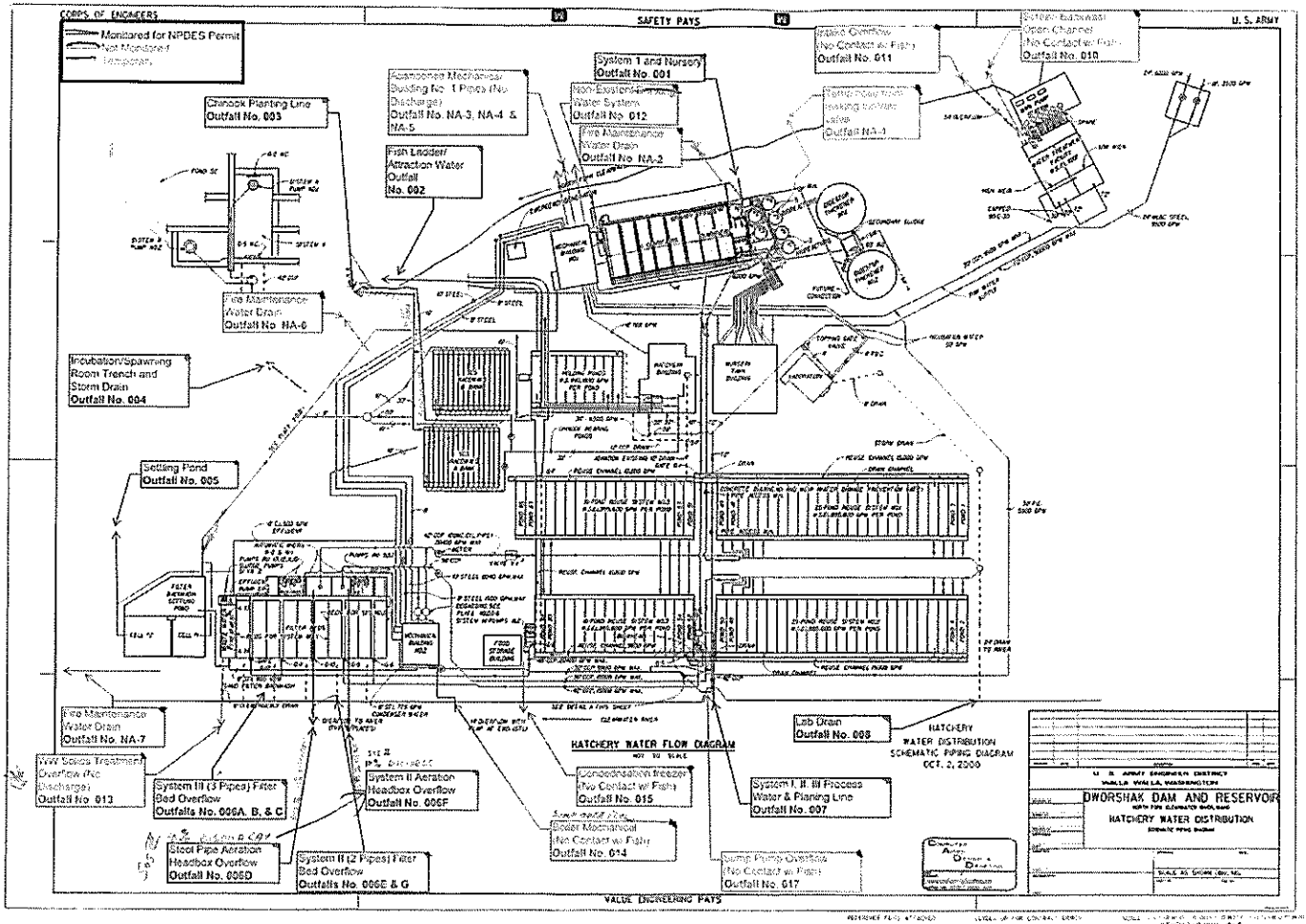
w. The installation of the first half of the degassing towers in the main aeration chambers was completed on July 1, 2013. The second half is scheduled to be completed in FY 15.

x. On July 20, 2013 two flight pumps with flow totalizers were installed in bio-filters II and III. These new pumps have a higher pumping capacity than the previously installed pumps and provide a longer settling time for wastewater coming from the System II and III Burrow's ponds, and the kelt tanks.

y. Removal of the System III "coke ring" media was completed on August 9, 2013.

z. Standard operating procedures for cleaning of the System II and System III Burrow's ponds continue to be modified at the writing of this report (August, 2013). Current SOP's by file title for cleaning these two systems are: "SOP Cleaning System II BurrowsPonds_08_19_13.doc" and "System III Cleaning Operations_08_19_13.doc".

aa. A meeting is scheduled for September 16, 2013 between BPA, the ACOE, FWS, NPT and others to continue coordination and communication regarding Dworshak rehabilitation by the ACOE. This meeting will also focus on NPDES and how that fits into facility changes.


CORPS OF ENGINEERS
SAFETY PAYS
U. S. ARMY
Monitored for NPDES Permit
Not Monitored
Temporary
Chinook Planting Line
Outfall No. 003
Fish Ladder/
Attraction Water
Outfall
No. 002
System 1 and Nursery
Outfall No. 001
Water System
Outfall No. 012
Water Overflow
No Contact w/ Fish
Outfall No. 011
Outfall No. 010
Fire Maintenance
Water Drain
Outfall No. NA-6
Incubation/Spawning
Room Trench and
Storm Drain
Outfall No. 004
Settling Pond
Outfall No. 005
Fire Maintenance
Water Drain
Outfall No. NA-7
WW Solids Treatment
Overflow (No
Discharge)
Outfall No. 013
System III (3 Pipes) Filter
Bed Overflow
Outfalls No. 006A, B, & C
System II Aeration
Headbox Overflow
Outfall No. 006F
Steel Pipe Aeration
Headbox Overflow
Outfall No. 006D
System II (2 Pipes) Filter
Bed Overflow
Outfalls No. 006E & G
HATCHERY WATER FLOW DIAGRAM
Coordination Freezer
No Contact w/ Fish
Outfall No. 015
Boiler Mechanical
No Contact w/ Fish
Outfall No. 014
Lab Drain
Outfall No. 008
System I, II, III Process
Water & Planing Line
Outfall No. 007
Sump Pump Overflow
No Contact w/ Fish
Outfall No. 017
HATCHERY
WATER DISTRIBUTION
SCHEMATIC PIPING DIAGRAM
OCT. 2, 2000
U. S. ARMY ENGINEER DISTRICT
WALLA WALLA, WASHINGTON
DWORSHAK DAM AND RESERVOIR
HATCHERY WATER DISTRIBUTION
VALUE ENGINEERING PAYS