	Standing Operation Procedure **09** **John Day Lock and Dam** Smolt Monitoring Facility Dewatering Procedures	US Army Corps of Engineers ® John Day/Willow Creek Project

Table of Contents **07, October 2012**

Forward

This Standing Operating Procedure (SOP) Smolt Monitoring Facility Dewatering Procedures provides a working tool that can be used to document routine procedures for John Day Lock and Dam / Willow Creek Project.

The proponent office for this document is the John Day Lock and Dam / Willow Creek / Operations Division staff and any questions or comments should be directed to this office at:

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Review. This document will be reviewed at a minimum of annually or if conditions change.

History. This is the initial publication of a Policy for this titled subject.

No changes to this document shall be made without concurrence of Management. Any change must be approved by the Project Operations Manager.

Record of Review and Changes				
Change No.	Page/Paragraph/Section:	Statement of Review or Change	Date:	Approval:
1.0	New	New	07 OCT 2012N	Miro Zyndol

1.0 Purpose.

This U.S. Army Corp of Engineers, Northwestern Division, Portland District, John Day Lock and Dam / Willow Creek Standing Operational Procedure (SOP), prescribes a procedure for dewatering the Smolt Monitoring facility at John Day Lock and Dam.

2.0 Applicability.

This SOP is applicable to all John Day Lock and Dam / Williow Creek employees. the Smolt Monitoring Facility (SMF) is dewatered annually for winter maintenance (December, January, February). Fisheries will coordinate dates and times for outage with all involved project personnel, COE Portland District and regional fish managers.

3.0 References.

FPP

4.0 Related Procedures.

Safety: Areas of the Smolt Monitoring Facility are considered Non-Permit required Confined Space due to the restrictive entry and exit. However, due to lack of atmospheric danger (it is wide open to outside) and its multiple entry/exit point, JD SMF does not require the Confined Space permits or any additional documentation apart from the Safety Clearances "Lock-Out Tag-Out".

5.0 Definitions.

During the juvenile sampling season, flow with collected fish from the JBS is sent over the crest gate and down an elevated chute to the dewatering structure. Most of the flow is dewatered and the remaining water, 30 cfs, is directed to the transport flume and past a switch gate. This gate directs fish to either the sampling building (SMF) or directly to the outfall (emergency bypass only). Fish diverted for sampling pass a fish and debris separator, where debris and adult fish are directed into a separate discharge flume, leading to the outfall. Juvenile fish are interrogated by PIT-tag detectors and are diverted either to the outfall or to the laboratory building for sampling.

6.0 Responsibilities.

Operations (JDO): JDO is designated as the group that will operate the JBS tainter gate and crest gate. JDO will make adjustments and hang clearances as necessary.

Structural (JDS): JDS will provide extension ladders at access locations, and notify project of potential deck blockages. Request safety clearances.

Mechanical (JDM): Schedule necessary preventative maintenance.

Electrical (JDE): Assure tainter gate, crest gate and valve electrical components in working order.

Fisheries (JFF): Coordinates dates and times for outage with all involved project personnel, COE Portland District and regional fish managers. Conducts a pre-work/safety meeting which covers; Activity Hazard Analysis, job responsibilities, radio contact plan, preparations status.

7.0 Procedures

General Order of Deactivation (Dewatering)

The general order for deactivation (dewatering) of the Sampling Facility is:

- Set Transport Flume switchgate to BYPASS mode.
- Flush and remove stranded fish and debris from holding tanks and distribution flumes.
- Lower Juvenile Bypass Tainter Gate to stop flow of water to Dewatering Structure (DWS).
- Drain water and herd stranded fish through Dewatering Structure fish drain to Transport flume bypass.

Detailed Deactivation Operation Procedures

The following procedure explains the sequential shut down of the various features to dewater the system from the Juvenile Bypass Tainter gate to the Sampling Facility holding tanks and distribution flumes.

SAMPLING FACILITY

1. Put distribution flume 3-way gate in Manual mode and set to bypass or center flume position.
2. Sampling Biologist should review checklist to verify that all conditions have been met.
3. Initiate Transport flume Switchgate sequence to **BYPASS** mode (release air pressure on Switchgate bladder seals prior to moving gate and re-inflate after moved).
4. Open Switchgate Control Valve 11 to flush flume to sampling facility.
5. Open fish drain flume trapdoor and knifegate upstream of Porosity Unit.
6. Close separator and adult hopper supply valves (Valves 7,8,9,20)
7. Allow system to flush for 30 minutes, check for holding fish throughout the system
8. Drain holding tanks, sorting troughs by removing stand pipes
9. If additional flushing water is needed, open supply Valve 33 on flushing system
10. Check all flumes, tanks, pipes, etc. for stranded fish and debris, remove if found

ELEVATED CHUTE AND DEWATERING STRUCTURE

11. Verify Building and Smolt Monitoring System downstream of switchgate is free of fish
12. Close 18-inch butterfly Valve V36 from Auxiliary Flushing Water on Dewatering Structure
13. Open Ogee Flush (V3) 100%
14. Open Transport Flume Flush (V27) 100%
15. Close JBS Tainter gate (gate closed by **OPERATIONS ONLY** at the rate of 0.5 ft. every 5 minutes)
16. Open Dewatering Structure Weirs 1 and 2 100% to drop water level to 236.5 (weir crest). The water will be 2 ft. at the Crest Gate
17. Remove plugs covering the 18-inch drain holes in the dewatering weir chambers for weirs number 1 and 2
18. Open High Capacity Drain (V6) to lower water level to Elevation 234 which will dry up Crest Gate
19. Raise Crest Gate when no longer under water and pin in upper position (Crest Gate and pins moved by **OPERATIONS ONLY**). Apply Safe Clearance
20. Two Biologists with dipnets or crowder enter elevated chute downstream of Crest Gate and herd fish downstream to fish drain and water level recedes. All fish are moved safely down drain.
21. Biologist enter Dewatering Structure at downstream end and herd fish to fish drain

22. Return JBS Tainter Gate to Auto
23. Close Ogee Flushing valve (V3)
24. Continue lowing water level at DWS until it is 2 ft. or less while crowding fish toward fish drain from both directions
25. Simultaneously open Fish Drain (V10) 100% and open Elevated Chute Flushing Valve (V4) 20%. Herd fish into drain. Flush for 10 minutes. Run foam ball through fish drain pipe to ensure all adults are cleared
26. Close Elevated Chute Flushing Valve (V4)
27. Close Flume Flushing Valve (V27) Check Transport and Bypass Flumes for entrained fish

Close High Capacity Drain (V6) and Fish Drain Valve (V10) when DWS completely drained. After closing V10, open Fish Drain Flushing Valve (V120) and continue flushing until project biologists deem it sufficient.

8.0 Records & Measurements.

8.1 SOP's on Sharepoint and station SOP folder.
8.2 Call-out list of personnel in the Control room.

Approving Signature

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Dennis C. Stocks
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John Day/Willow Creek Project