**OFFICIAL COORDINATION REQUEST FOR**

**NON-ROUTINE OPERATIONS AND MAINTENANCE**

**COORDINATION TITLE-** 24BON012 B1 Fish Salvage Operations on Oil Sheen Investigation Units (REVISED)

**COORDINATION DATE-** 28 May 2024 (Revised on 10 July 2024)

**PROJECT-** Bonneville Lock & Dam Powerhouse 1

**RESPONSE DATE-**

**Description of the problem**

Extremely light oil sheens have been observed in the tailrace of Powerhouse 1 (PH1) at Bonneville Lock & Dam over the past year. Please see MFRs 24BON001, 24BON003, 24BON004, 24BON005, 24BON007, and 24BON009 for more details on each event. The type of oil used in the turbines that has been observed in the tailrace is petroleum-based Shell T-68.

The result of the oil sheen observations has caused PH1 Units 2, 3, 4, 5, 6, 7, 8, 9, and 10 to be forced out of service until a thorough oil leak investigation and inspection can occur on each Unit. To perform thorough investigations, inspections, and repairs, each Unit must be dewatered at the start of its investigation period and will remain so until the source of the oil leaks have been properly addressed.

Bonneville has two full sets of serviceable tail logs and head gates for PH1. Thus, only two PH1 Units may be dewatered at a time. A third set of tail logs is presently undergoing a rehab process with the intention of working on three Units, simultaneously. At the time of writing this MOC, Units 10 and 4 are currently dewatered with tail logs installed. The remaining Units forced out of service must sit without tail logs until the proceeding Units in the priority to fix order are returned to service.

The remaining Unit will be investigated in the following sequence: 9, 3, 6, 5, 8, 7, 2. The estimate for the next Unit (U9) to be dewatered is August 2024.

Per FPP BON Section 5.5.3.: “If a turbine unit has been idle and the draft tube is to be dewatered, it will be operated, when possible, at full load for a minimum of 1 hour, 4 hours preferred. Stop logs will then be placed immediately. It is recommended adjacent Units also be operated for a minimum of 1 hour, 4 hours preferred, to flush fish prior to placing tail logs in the Unit to be OOS.”

This present status of PH1 places Bonneville Lock & Dam in a unique situation with conflicting goals and requirements; i.e., balancing FPP and fish-related Endangered Species Act (ESA) objectives with Clean Water Act (CWA) spill prevention objectives. Following months of active discussions with the EPA’s Federal on Scene Coordinator and Emergency Response and Prevention Unit and an EPA site visit of Bonneville PH1, Bonneville is in agreement with EPA to proceed with normal fish salvage operation procedures with the expectation that spill response teams will be staged at the PH1 tailrace as precaution during the fish flushing portion of the operation. This collaborative effort and approval of operation aligns with our commitment to environmental stewardship while ensuring the health and safety of both fish and personnel involved.

**Type of outage required:**

Shut down ITS momentarily (30 mins to 2 hours) during the flushing of Unit 2 to properly observe for oil discharge.

**Impact on facility operation** (FPP deviations):

Shut down ITS momentarily (30 mins to 2 hours) while Unit 2 is run to watch for oil discharge.

**Impact on unit priority:** N/A

**Impact on forebay/tailwater operation:**

Shut down ITS momentarily (30 mins to 2 hours) when Unit 2 is run to flush fish. Place oil catching booms in tailrace. Stage boats and Bonneville Spill Response Team near tailrace for prompt oil recovery.

**Impact on spill:** N/A

**Dates of impacts/repairs:**

Present – Fall 2025

**Length of time for repairs:**

Present – Fall 2025

Current estimated return to service dates are:

U10 – Est. RTS: August 2024

U4 – Est. RTS: October 2024

U9 – Est. RTS: November 2024

U3 – Est. RTS: December 2024

U6 – Est. RTS: February 2025

U5 – Est. RTS: March 2024

U8 – Est. RTS: May 2025

U7 – Est. RTS: June 2025

U2 – Est. RTS: August 2025

**\*\*\*\*\* NOTE: these dates are estimates and actual return to service dates may vary depending on investigatory findings, lead time on materials, and labor required for repairs\*\*\*\*\***

**Analysis of potential impacts to fish**

Potential oil exposure to fish in the PH1 tailrace. Potential for delays in migration for juveniles or kelts using the ITS momentarily (30 mins to 2 hours) during the flushing of Unit 2.

**Summary statement - expected impacts on:**

 **Downstream migrants:**

The PH1 ITS must be shut when running Unit 2 during fish flushing operations to properly observe for oil discharge in the PH1 tailrace. This short closure of the ITS (30 mins to 2 hours) delay downstream migration for fish in the PH1 Forebay. Alternate routes at Bonneville will still be available, including Spillway (during spill season), B2CC (during normal operations), and the DSM2 at PH2.

**Upstream migrants (including Bull Trout):** N/A

 **Lamprey:** N/A

**Comments from agencies:**

**From:** Mackey,Tammy M (BPA) - PGB-5 <TMMackey@bpa.gov>
**Sent:** Tuesday, June 4, 2024 10:02 AM
**To:** Madson, Patricia L CIV USARMY CENWP (USA) <Patricia.L.Madson@usace.army.mil>; Flemmer, Jeanette C CIV USARMY CENWP (USA) <Jeanette.C.Wendler@usace.army.mil>; Walker, Christopher E CIV USARMY USACE (USA) <Christopher.E.Walker@usace.army.mil>
**Cc:** Scott Bettin <swbettin@bpa.gov>; Hausmann,Benjamin J (BPA) - EWP-4 <bjhausmann@bpa.gov>; Sullivan,Leah S (BPA) - PGB-5 <lssullivan@bpa.gov>
**Subject:** [Non-DoD Source] RE: [EXTERNAL] FPOM Official Coordination: 24BON012 MOC B1 Fish Salvage Operations on Oil Leak Investigation Units

I have a few comments/recommendations.  This MOC took a long time to get out of the District, I would have expected it to be a bit more comprehensive in the details.  The less than complete sections will leave you vulnerable to unnecessary questioning from our regional partners.  My recommendations are below.  Obviously, you are free to ignore them but a solid MOC builds a better admin record and leaves less opportunity to pick it apart.

Respectfully,

Tammy

Description of the problem – my understanding is that USACE met with the Coast Guard and EPA.  That should be included in the MOC.  Failing to include it will lead to the appearance that you have been holding on to the MOC and not doing anything to further coordinate either Plan 1 or Plan 2.  Presumably Plan 1 is only an option because concessions have already been made to appease the Coast Guard and EPA.  If that is incorrect, then adding that coordination with those entities still needs to occur should also be added.

Type of outage - should include the need to close the ITS for flushing the unit.

Impact on facility operation –

Plan 1 requires the ITS be closed.  This would be a deviation from the FPP guidance.

Plan 2 requires extensive fish handling.  This cannot be stressed enough.

Impact on FB/TW –

Plan 1 cannot be NA and other than...  There are impacts, just list them.

Length of time for repairs – years is not really going to go over well.  Do you have an estimate for how long each unit takes?  Provide that and the number of units.  It is best to provide specifics because if you don’t, regional partners will ask or assume you are not being forthcoming with information.

Upstream migrants – Bull trout (if in the draft tube), salmon, steelhead, resident fish, lamprey, and sturgeon are all impacted.

Plan 1 – flushes fish out without the additional stress of handling and transport.

Plan 2 – forces intensive handling and transportation from the draft tube back to the river.  This impacts their stress levels, as well as the physical safety of the biologists and maintenance crews assisting with the dewatering.

**From:** Trevor Conder - NOAA Federal <trevor.conder@noaa.gov>
**Sent:** Wednesday, June 5, 2024 11:48 AM
**To:** Flemmer, Jeanette C CIV USARMY CENWP (USA) <Jeanette.C.Wendler@usace.army.mil>; Madson, Patricia L CIV USARMY CENWP (USA) <Patricia.L.Madson@usace.army.mil>
**Subject:** Re: [Non-DoD Source] Fwd: FPOM Official Coordination: 24BON012 MOC B1 Fish Salvage Operations on Oil Leak Investigation Units

Ok, if this is a matter of having the ITS down for only an hour or two only for the southern two units, then we are supporting option one. If it is a longer term ITS shutdown, or for more than 1-2 units, we will have to look more closely at the tradeoffs between the two options in terms of salmonid impacts. Could you work with Patricia and clarify the ITS shutdown duration in the MOC? Are there any environmental compliance folks within the Corps that need confirmation that NOAA prefers option 1?

On Tue, Jun 4, 2024 at 3:27 PM Flemmer, Jeanette C CIV USARMY CENWP (USA) <Jeanette.C.Wendler@usace.army.mil> wrote:

Over this past winter we had been shutting the ITS for a few minutes at a time when we were testing Units 1-2. I’d say the longest we had the ITS down was about an hour sometime in January when we realized this was systemic and began testing all the Units. The outfall of the ITS would make it impossible to see the small amounts of oil being discharged from the closest 2 Units.

Scheduling/time of year is a little more complicated. As you can imagine, the schedule for work on these Units is very “speculative” and highly dependent upon what is found upon inspection, lead time on material, and labor hours required for each fix. Unit 1 is still operational and not a factor here. The initial schedule is showing that we “should” be getting into Unit 2 in the summer of 2025. Just a reminder, U2 is the last Unit on our priority list of Units to return to service, so its start date depends on how quickly we can make it through the other 8 Units OOS.

**From:** Trevor Conder - NOAA Federal <trevor.conder@noaa.gov>
**Sent:** Tuesday, June 4, 2024 2:47 PM
**To:** Flemmer, Jeanette C CIV USARMY CENWP (USA) <Jeanette.C.Wendler@usace.army.mil>
**Subject:** [Non-DoD Source] Fwd: FPOM Official Coordination: 24BON012 MOC B1 Fish Salvage Operations on Oil Leak Investigation Units

What B1 Units would shut down the ITS and what time of year would that occur under option 1?

Comments from June 2024 FPOM meeting (06/13/2024)

1. Charlie Morrill (WDFW) asked if there was anything outside agencies could do to assist in the process.
	1. BON response: Nothing at this time, but Bonneville will be sure to let outside agencies know if there is need of help.
2. Erick Van Dyke (ODFW) inquired about impacts on rock removal work in the spill basin and other needed activities in the Columbia River System.
	1. Mike Adams (BON) reached out to USACE Northwestern Division on budget impacts. There are a number of prioritized projects, none of which are delaying any Fish Passage projects.
3. Erick Van Dyke (ODFW) asked about coordination with state water quality and Oregon DEQ.
	1. BON/NWP response: Coordination is ongoing EPA and Coast Guard. Coordination with the States will begin as needed, likely later in July/August.

**Final coordination results:**

**After Action update** (After action statement stating what the effect of the action was on listed species. This statement could simply state that the MOC analysis was correct, and the action went as expected, or it could explain how the actual action changed the expected effect (e.g., you didn’t need to close that AWS valve after all, so there was no impact of the action). List any actual mortality noted as a result of the action)

Please email or call with questions or concerns.

Thank you,

**Jeanette Flemmer**Chief of Fisheries – Bonneville Lock & Dam

541-374-3878

Jeanette.C.Wendler@usace.army.mil