

**OFFICIAL COORDINATION REQUEST FOR
NON-ROUTINE OPERATIONS AND MAINTENANCE**

COORDINATION TITLE- 17 LWG 19 MOC Adult Entrance ROV inspection

COORDINATION DATE- 31 July 2017

PROJECT- Lower Granite Dam

RESPONSE DATE- 10 August 2017

Description of the problem: NPE 2 north operating cable was found broken April 17 and NPE 1 right side cable rigging was found detached from the weir gate May 19. NPEs normally remain on sill when operating at MOP elevation. Both gates were confirmed to be on sill when the problems were found. An ROV inspection is needed to determine requirements for repairing the gates during the winter outage. An additional inspection will need to be performed on the NSEs prior to winter maintenance dewatering and fish rescue to ensure personnel safety inside the collection channel past the transverse bulkhead at diffuser 13. This inspection will also be beneficial in preparation for permanent closure of NPE 3 and NSE 3 that is scheduled for the 2017-2018 winter maintenance outage. Inspection with the ROV requires the RSW be closed, likely shifting spill through different spillways (maintaining 18 kcfs), AWS pumps removed from service, and unit 5 and 6 in standby. The project is requesting removing the AWS pumps from operation and adjust spill as needed to inspect NPES and NSEs for a total of about six hours during the work week of 14-17 August. The Project would like to repair NPEs cables following the inspection if possible within a short period of time.

Type of outage required: Ladder AWS pumps will need to be removed from service for the duration of the inspections. Spill volume will remain around 18 kcfs with spillways adjusted as needed for successful inspections.

Impact on facility operation: Removing the AWS pumps from service will result in ladder operation outside of the entrance head differential and depth over entrance weir criteria.

Impact on unit priority: N/A

Impact on forebay/tailwater operation: Tailrace conditions will likely be impacted as spill pattern changes will be required for inspections.

Impact on spill: Spill volume will remain around 18 kcfs with spillways adjusted as needed for successful inspections.

Dates of impacts/repairs: The project proposed to do the ROV inspection the work week of 14 August -17 August.

Length of time for repairs: A total of about six hours will be required to complete the ROV inspections of all four gates.

Analysis of potential impacts to fish

1. The 10-year average passage during the work week of 14 August -17 August is about 57 Chinook and 245 steelhead. This timing falls between adult Sockeye and Fall Chinook passage. Collection from the adult trap for NPT and WDFW begins with the Fall Chinook passage season 18 August. Minimal impact to subyearling Chinook is expected.
2. Summer Chinook passage at Bonneville Dam 24-30 July was about 72% of the ten year average and Steelhead passage was about 25% of the ten year average.
3. Based on the 10 year average daily passage at Lower Granite a full day ladder outage has the potential to impact about 0.16% of annual Steelhead passage and about 0.16% of annual fall Chinook passage. However the project is not requesting the AWS pumps be removed from service for a full day.
4. During the ROV inspection AWS pumps will not supply attraction flow for Fall Chinook and Steelhead passage.

Summary statement - expected impacts on:

Downstream migrants- Minimal impacts are expected for subyearling Chinook.

Upstream migrants- See comments above.

Lamprey- There is the potential to impact lamprey passage.

Comments from agencies

-----Original Message-----

From: Bill Hevlin - NOAA Federal

[mailto:bill.hevlin@noaa.gov]

Sent: Tuesday, August 08, 2017 11:54 AM

To: Hockersmith, Eric E CIV USARMY CENWW (US)

<Eric.E.Hockersmith@usace.army.mil>; Peery, Christopher A

CIV (US) <Christopher.A.Peery@usace.army.mil>; Setter, Ann

L CIV USARMY CENWW (US) <Ann.L.Setter@usace.army.mil>

Cc: Bill Hevlin <bill.hevlin@noaa.gov>

Subject: [Non-DoD Source] Re: Official Coordination 17 LWG

19 MOC

Eric,

NOAA Fisheries supports the COE request to remove the Granite AWS pumps from operation for approximately 6 hours during the August 14-17 work week, for the adult entrance ROV inspection. Please coordinate with the region on this action during the August 10 FPOM meeting.

Thanks

Bill Hevlin

NOAA Fisheries

Final coordination results: Notes from August 10, 2017 FPOM meeting: Conder suggests doing the work in the afternoon. VanDyke doesn't agree with doing an August inspection but concurred. FPOM concurred with this action.

After Action update NPEs ROV inspection was performed with the AWS pumps removed from service and spill shifted to spillbays 5-8 from 1226-1431 hours 14 August. Ladder gravity flow and tailrace turbulence made it difficult to control the ROV and cables were not retrieved. The ESBS camera was used to assist in the inspection. Cables were located and it was confirmed that it is possible to replace the failed hardware and return the gates to service in less than a day. At MOP elevation (633.0-634.0 feet) NPEs are on sill at 628.0 feet. The end of MOP operation is scheduled for September 5 which will result in the tailrace operating between 636.0-637.0 feet. Too much depth over the weirs has the potential to impact channel/tailrace head differentials at the north powerhouse and north shore. Retrieval of the cables is being coordinated with a dive team and BPA for 1200-1700 hours August 28 if fisheries manager support this action (see 17 LWG 21 MOC NPE Adult Entrance Gates Repair). To reduce impacts to adult passage during repairs the Project will install NPE bulkheads prior to the dive. NPE bulkhead installation may require removing AWS pumps from service for less than an hour. Spill will need to be shifted to spillbays 5-8 during dive operation and possibly repairs. Spill volume of 18 kcfs will remain the same. SPEs and NSE1 will remain in service with AWS pumps operating while the repairs are made. Following repairs the bulkheads will be removed and normal ladder operation will resume. Deviations in spill and AWS pump outage times will be reported. The alternative option is to operate the remainder of the season with NPEs on sill for the remainder of the season and sacrifice channel/tailwater head differentials at the north powerhouse and north shore.

Please email or call with questions or concerns.

Thank you,

Elizabeth Holdren
Supervisory Fisheries Biologist
Lower Granite Lock and Dam
Ph. 1(509) 843-2263
Cell. 1(509) 592-6109
Elizabeth.a.holdren@usace.army.mil

Please email or call with questions or concerns.

Adult Passage

