

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

COORDINATION TITLE – 24 LWG 04 Fish Ladder AWS Pump 2 Return to Service

COORDINATION DATE - 7 August 2024

PROJECT - Lower Granite Dam

RESPONSE DATE – 16 August 2024

Description of the problem- Lower Granite normally operates the fish ladder with two auxiliary water supply (AWS) pumps in service and one in standby mode. Currently pumps 1 and 3 are in operation. AWS pump 2 was returned to service at 1208 hours on 1 August from tri-annual maintenance. Pump 2 needs to be brought online for operational reliability testing. LWG is prioritizing completion of this work as soon as it is approved to minimize impacts to fish passage.

Type of outage required- AWS pumps will be taken out of service to swap discharge bulkheads from pump 1 to pump 2. If the test of pump 2 is successful, AWS pumps 2 and 3 will remain in operation.

Impact on facility operation (FPP deviations)- The two-hour AWS pump outage will impact adult fish ladder channel/tailwater head differentials and depth over the entrance weirs. In the event AWS pump 2 has a problem during operational testing an addition 2 hours will be needed to swap discharge bulkheads.

Impact on unit priority- N/A

Impact on forebay/tailwater operation- N/A

Impact on spill- N/A

Dates of impacts/repairs- 19 August from 1300-1500 hrs. If testing AWS pump 2 is not successful during this work window additional time will be needed to exchange bulkheads back for AWS pump 1 operation.

Length of time for repairs- The bulkhead swap and test are estimated to be completed in about two hours.

Analysis of potential impacts to fish

1. 10-year average passage by run during the period of impact for adults and juvenile listed species, as appropriate for the proposed action and time of year;
The 10-year average adult passage for 19 August is 78 adult Chinook, 13 Jack Chinook, and 36 steelhead. Work is expected to take less than 2 hours and the estimated proportion of fish is based on the total day counts. Based on the 16-hour count day about 5 adult Chinook, 1 jack Chinook, and possibly 2 steelhead may be impacted during the stoplog swap.

2. Statement about the current year's run (e.g., higher or lower than 10-year average);

Adult salmon and steelhead runs are projected to be below the 10-year average.

3. Estimated exposure to impact by species and age class (i.e., number or percentage of run exposed to an impact by the action);

Based on the 16-hour fish count day and the 10-year average it is expected that about 0.09% of adult Chinook, 0.09% of jack Chinook, and 0.19% of steelhead will be passing LWG on 19 August. The work is scheduled outside of the adult fish passage daily peak hours to minimize the impacts.

4. Type of impact by species and age class (increased delay, exposure to predation, exposure to a route of higher injury/mortality rate, exposure to higher TDG, etc.);

Repairs are scheduled after 1300 hours to reduce the potential for increased adult delays during the adult morning peak migration hours. No impacts to juvenile passage are expected.

Summary statement - expected impacts on:

Downstream migrants: N/A

Upstream migrants (including Bull Trout): Potential minor delay in adult fish passage due to reduction in attraction flow.

Lamprey: N/A

Comments from agencies:

From: VANDYKE Erick S * ODFW <erick.s.vandyke@odfw.oregon.gov>

Sent: Wednesday, August 7, 2024 1:23 PM

To: Stoeckig-Dixon, Tiffany M CIV (USA) <Tiffany.M.Stoeckig-Dixon@usace.army.mil>

Subject: [Non-DoD Source] RE: 24 LWG 04 MOC AWS Pump2 RTS

Hi Tiffany,

Thanks for the MOC. Can you provide us with more information on how this operation is expected to 1) effect planned generation and transmission operations, and 2) if MW requirements increase or decrease during the process of bringing an ASW pump back on-line while removing operation of another ASW pump? I am assuming that the MW calculus is part of station service but want to be sure I am not missing something. Any additional information that you might be able to share would be greatly appreciated.

Erick

(503) 428-0773

From: Jay Hesse <jayh@nezperce.org>

Sent: Wednesday, August 7, 2024 1:34 PM

To: Stoeckig-Dixon, Tiffany M CIV (USA) <Tiffany.M.Stoeckig-Dixon@usace.army.mil>; >

Subject: [Non-DoD Source] RE: 24 LWG 04 MOC AWS Pump2 RTS

Tiffany et al – I recommend that this testing be postponed until after mid-September in order to avoid any period of elevated ladder temperatures and increased ladder entry/exit temperature differentials - especially during a critical period for fall Chinook trapping and broodstock collection (August 18 – September 6). Given that the project has been operating on two pumps for a couple years now and this is simply an effort to test the rehabbed third pump (i.e. does not expand current cooling efforts to three pumps), it seems like waiting a couple of weeks is reasonable.

Jay

From: Jay Hesse <jayh@nezperce.org>
Sent: Wednesday, August 7, 2024 2:28 PM
To: FPO<M
Subject: [Non-DoD Source] RE: 24 LWG 04 MOC AWS Pump2 RTS

Tiffany et al – It has come to my attention this MOC addresses water pumps that aid ladder entrance (bottom of ladder) flows and not the pumps supplying ladder exit (top of ladder) cooling flows. As such, my recommendation to postpone is withdrawn. Reestablishing two fully functional AWS pumps is an important issue to fix ASAP in a way that does not impact adult passage.

Apologies for the confusion.

Jay

From: Morrill, Charles (DFW) <Charles.Morrill@dfw.wa.gov>
Sent: Wednesday, August 7, 2024 2:17 PM
To: FPOM
Subject: [Non-DoD Source] RE: 24 LWG 04 MOC AWS Pump2 RTS

Thanks for the update, Tiffany.

I concur with and support Jay's recommendation !

Charlie

From: Holdren, Elizabeth A CIV USARMY CENWW (USA)
<Elizabeth.A.Holdren@usace.army.mil>
Sent: Wednesday, August 7, 2024 2:38 PM
To: FPOM
Subject: RE: 24 LWG 04 MOC AWS Pump2 RTS

Thanks Jay,

Maybe some more information will be helpful in understating the objective.

LWG fish ladder collection channel was designed to run with two AWS pumps in operation on one in standby.

One pump is overhauled annually on a three year rotation and is usually returned to operation between April-June.

This year's overhaul was delayed a couple weeks to prioritize reorientating fish ladder temperature control pumps prior to 1 June.

AWS pump 1 has two speeds, fast and slow. Pumps 2 and 3 put out the same volume of channel supply as pump 1 would in fast speed.

I have and continue to recommend operating with AWS pumps 2 and 3 in service to provide the same volume of water to the collection channel as there would be if pump 1 was operated in fast speed.

It was at my request that the mechanical team bring AWS pump 2 back online to improve adult fish passage conditions.

I hope this helps.

Let me know if you have any more questions.

Smile,
E

From: Stoeckig-Dixon, Tiffany M CIV (USA)
Sent: Thursday, August 8, 2024 8:12 AM
To: 'VANDYKE Erick S * ODFW' <erick.s.vandyke@odfw.oregon.gov>
Cc: Peery, Christopher A CIV USARMY CENWW (USA) <Christopher.A.Peery@usace.army.mil>; Kelsey Swieca <kelsey.swieca@noaa.gov>; Trevor Conder - NOAA Fisheries (Trevor.Conder@noaa.gov) <trevor.conder@noaa.gov>; Tom Lorz (CRITFC) <lorz@critfc.org>; Tom Iverson <t.k.iverson@comcast.net>; Jay Hesse <jayh@nezperce.org>; 'Charles Morrill' <Charles.Morrill@dfw.wa.gov>; David Swank <david_swank@fws.gov>
Subject: RE: 24 LWG 04 MOC AWS Pump2 RTS

Good morning, Erick,

This operation has no effect on generation and transmission operations and neither increases/decreases MW requirements.

Tiffany Stoeckig-Dixon

From: VANDYKE Erick S * ODFW <erick.s.vandyke@odfw.oregon.gov>
Sent: Thursday, August 8, 2024 11:57 AM
To: Stoeckig-Dixon, Tiffany M CIV (USA) <Tiffany.M.Stoeckig-Dixon@usace.army.mil>
Cc: Peery, Christopher A CIV USARMY CENWW (USA) <Christopher.A.Peery@usace.army.mil>; Kelsey Swieca <kelsey.swieca@noaa.gov>; Trevor Conder - NOAA Fisheries (Trevor.Conder@noaa.gov) <trevor.conder@noaa.gov>; Tom Lorz (CRITFC) <lorz@critfc.org>; Tom Iverson <t.k.iverson@comcast.net>; Jay Hesse <jayh@nezperce.org>; 'Charles Morrill' <Charles.Morrill@dfw.wa.gov>; David Swank <david_swank@fws.gov>
Subject: [Non-DoD Source] RE: 24 LWG 04 MOC AWS Pump2 RTS

Tiffany,

Thanks for following up regarding my questions. Although we did touch on this today during FPOM, I hope the added clarity for requesting more details was better understood. In particular, the no effect on generation and transmission does not add up when station service is supplied from powerhouse operations and transmission, which is linked to serving changing operations. In addition, as I mentioned during FPOM today, some AWS provide generation (MW). Getting a better understanding of which dams have this capability may be an important factor in future recommendations. I simply was looking to get a list of which AWS pumps are drawing from station service (assuming they all require MW to run and are not just gravity flow driven) and how many are also equipped to generate MW. I heard during today's FPOM that only McNary has generation capabilities, but my question was about AWS specifically connected to Adult Fish Ladder operation/criteria management. Maybe I still need some reminding, but I thought the North shore generation facility operated by WASCO PUD was a standalone facility focusing on MW production and not linked to north shore fish ladder criteria. Does the AWS on the south shore both function to keep the south shore adult ladder in criteria while also providing MW generation? It is this level of detail I was hoping to learn more about for McNary and all the other dams with AWS. For emphasis, in 2014 a contractor provides details regarding the South Shore AWS (<https://www.northbankcm.com/projects/mc-nary-fish-pump-2-repair>) but these details have a different objective than overcoming operational constraints that impact fish passage. I think we might gain from a clearer understanding of the AWS setup at each dam. If this is possible it would be appreciated.

Erick

From: Stoeckig-Dixon, Tiffany M CIV (USA)
Sent: Thursday, August 8, 2024 1:05 PM
To: VANDYKE Erick S * ODFW <erick.s.vandyke@odfw.oregon.gov>
Subject: RE: 24 LWG 04 MOC AWS Pump2 RTS

Erick,

Regarding the AWS's in the Walla Walla district: IHR and LWG have electric pumps supplied by power from the powerhouse; LGS & LMN have gravity-fed pumps that do not require electricity; and MCN has one WASCO County PUD hydropower unit (not operated by the CORE) on the north shore with electric pumps on the south shore.

Final coordination results:

AWS pump 2 is the preferred operating pump because it supplies the collection channel with the same flow as pump 1 in fast.

After Action update:

AWS pump 2 was returned to service and AWS Pump 1 was placed into standby at 1208 hours August 19.

Please email or call with questions or concerns.

Thank you,
Elizabeth Holdren

Lead Supervisory Fisheries Biologist
Walla Walla District
Lower Granite Project
Ph. (509)843-2263