OFFICIAL COORDINATION REQUEST FOR
NON-ROUTINE OPERATIONS AND MAINTENANCE

COORDINATION TITLE- *14JDA03 JDA-N VWW repair- revisited*
COORDINATION DATE- 4 March 2014
PROJECT- John Day Dam
RESPONSE DATE- ASAP

Description of the problem- Bottom plate of Variable width weir (VWW) has vibrated off and a new plate needs to be installed along with checking the remaining bolts on the other plates. This work should not be delayed until next winter maintenance season due to the risk of additional plates vibrating off and the potential loss of funding to have the repairs made.

This work was not completed in January because the bolts had not arrived. JDA reported the bolts arrived on Project on 4 March 2014. In an effort to get this work completed as soon as possible, the Project would like to start on 13 March or the evening of 14 March.

There are two options for this work.

1. Do the repairs during the day. This option would allow the work to be completed during a normal work day.
2. Do the repairs at night. This option requires overtime and additional safety precautions since the work will be performed at night.

For either option JDA would reduce AWS flow to remove the VWW. They would return AWS flow to normal while they make the repairs. The AWS flow would be reduced again to allow the installation of the VWW. This option would keep the ladder operating closer to normal but with no entrance weir, the head differential is likely to be less than FPP criteria.

Type of outage required- need to remove the VWW, install and bolt plate, reinstall the VWW. JDA-N AWS pumps will be off while the VWW is removed and reinstalled. Even with the AWS pumps the entrance head will not meet FPP criteria.

Impact on facility operation- The Project will not have JDA-N in FPP criteria during this work. They will operate the AWS pumps according to **Table 1. JDA-N pump settings and entrance velocities.** This should allow the entrance to meet velocity criteria but the entrance will not meet head differential criteria.

Table 1. JDA-N pump settings and entrance velocities.

John Day North Fish Ladder: 11-Mar-13

Temporary Operation without Variable width Weir Structure

TW Tailwater (ft)	NP Number Pumps ON	RPM % Max RPM	DH Entrance head (ft)	Q Entrance Discharge (cfs)	V Max Channel Velocity (ft/s)
160	3	87%	0.40	1185	4
161	3	95%	0.40	1395	4
162	4	82%	0.40	1485	4
163	4	87%	0.40	1550	4
164	4	93%	0.40	1675	4
165	4	100%	0.35	1682	3.8

Dates of impacts/repairs- The Project would prefer to do this work on 13 March.

Length of time for repairs- four to 12 hours.

Expected impacts on fish passage-
Downstream migrants- no impact.

Upstream migrants- There will likely be minimal impacts regardless of which option is chosen. If the work is done at night, there are few fish passing during those hours. If the work is done during the day, there are few fish passing JDA right now. JDA-S would be in FPP criteria. Current JDA-N steelhead passage numbers for the first week of March are in the table below.

Table 2. JDA-N March 1-5 steelhead passage.

1 March	2 March	3 March	4 March	5 March
32	1	7	14	7

Comments from agencies
When this work was originally coordinated, the response was- **9 January 2014 FPOM meeting- 14JDA01** JDA-N outage to repair VWW. ***Approved.*** Sooner rather than later. Keep it at night.

NOAA Fisheries- -----Original Message-----
From: Gary Fredricks - NOAA Federal [mailto:gary.fredricks@noaa.gov]
Sent: Monday, March 10, 2014 10:08 AM
To: Mackey, Tammy M NWP
Cc: Trevor Conder - NOAA Federal; Lorz, Tom; Zyndol, Miroslaw A NWP
Subject: [EXTERNAL] Re: (UNCLASSIFIED)

Tammy, Some details are lacking in this MOC. While the VWW is out of the fishway, how far out of criteria will the fishway be? The project (or district) engineers should be able to calculate this with some confidence knowing the AWS flow, entrance configuration and the expected tailwater levels. Also, the MOC should state why the AWS flow couldn't be returned during the period between VWW removal and installation under the night option just like under the day option. There is still the same 4 to 12 hours of repair period, right?

Given the time of year and assuming that the ladder entrance criteria will be compromised but still reasonably useful for fish passage, my recommendation would be to remove the weir early in the morning before 0600 (looking at FPP figure JDA-3 for steelhead), fix it and replace it during the late afternoon hours (~1600 or later). The AWS should be operated during the day while the weir is out for repairs.
Thanks, Gary

JDA Fisheries- -----Original Message-----
From: Grosvenor, Eric NWP
Sent: Monday, March 10, 2014 12:08 PM
To: Mackey, Tammy M NWP; Hunter, Patrick J NWP; Lewis, Rob L NWP; Smith, Glen A NWP; Stocks, Dennis C NWP; Zyndol, Miroslaw A NWP; Green, Allen NWP
Cc: Klatte, Bernard A NWP; Richards, Natalie A NWP; Welton, Brent C NWP; Decker, Michael G NWP; Simonsen, James R (Jim) NWW
Subject: RE: [EXTERNAL] Re: (UNCLASSIFIED)
Classification: UNCLASSIFIED
Caveats: NONE

Tammy,
My recollection from running the fish pumps without the weir in December for the preliminary inspection was that we were just out of criteria. However, we can provide as much attraction water as possible with the N AWS pumps by running them in manual and gaining as much entrance head as possible to be within the entrance criteria. If the work is done at night we would most certainly run the pumps for attraction flow as this wouldn't affect work activities on the entrance deck. Please feel free to call with any other questions.

CRITFC- -----Original Message-----
From: Tom Lorz [mailto:lort@critfc.org]
Sent: Monday, March 10, 2014 2:04 PM
To: Mackey, Tammy M NWP
Subject: [EXTERNAL] Re: (UNCLASSIFIED)

Well since we are on version number 4 of this MOC.....Looking at this one it appears that the entrance weir can be removed and worked on and keep the ladder going. This is a new wrinkle. IF this is possible, take the weir out first thing in the morning and put back late in the day would be my preferred option.
tom lorz

NWP hydraulic engineering (Schlenker)- -----Original Message-----
From: Schlenker, Stephen J NWP
Sent: Tuesday, March 11, 2014 1:41 PM
To: Welton, Brent C NWP; Grosvenor, Eric NWP; Mackey, Tammy M NWP
Cc: Klatte, Bernard A NWP; Richards, Natalie A NWP; Decker, Michael G NWP; Simonsen, James R (Jim) NWW; Mackintosh, David C NWP; Hunter, Patrick J NWP; Lewis, Rob L NWP; Smith, Glen A NWP; Stocks, Dennis C NWP; Zyndol, Miroslaw A NWP; Green, Allen NWP
Subject: RE: [EXTERNAL] Re: (UNCLASSIFIED)
Classification: UNCLASSIFIED
Caveats: NONE

I have done a quick, rough analysis using our Ladder model to simulate our temporary operation.

If current conditions hold (Project TW = 163') I estimate a tailwater of 162 feet at the North entrance (it usually tracks about a foot lower than the Project TW during spill).
To my knowledge we have 4 working pumps.

With the variable width entrance structure removed, we cannot meet entrance head criteria even if we had 6 pumps running. However if we were to meet entrance head without a an entrance constriction (caused by our entrance structure or a modulating weir), the channel velocities would be in well excess of the maximum channel velocity 4 ft/s per NMFS criteria. So Brent & I suggest we attempt to pump enough to produce 4 ft/s approaching the entrance area. Based on rough estimates, this will create an entrance differential (between approach channel and tailrace) of about 0.4 feet. Looking at the model results, the velocities look good moving up to the upstream end of the channel (> 1 ft/s)

The attached table **[Table 1. Above]** shows estimated number of pumps & RPM required to produce 4 ft/s at the entrance for tailwater elevation between 160 - 165. We hit our limit (4 pumps @ 100% RPM) at TW 165.

The PLC for the pump should be put in manual mode. Adjust the number of pumps and speed per table. A project Biologist (i.e. Miro) should be on hand to see if the conditions look OK for fish passage. Adjustments (raise/lower speed) may be made per his recommendation.

The PLC for the Diffuser 2 gates should be left in auto mode.

Let me know if you have questions.
Thanks Steve S. (503)-808-4881

NOAA Fisheries- -----Original Message-----
From: Gary Fredricks - NOAA Federal [mailto:gary.fredricks@noaa.gov]
Sent: Tuesday, March 11, 2014 2:57 PM
To: Mackey, Tammy M NWP
Subject: [EXTERNAL] Re: FPOM: Official coordination 14JDA03 VWW repair revisisted (UNCLASSIFIED)

Tammy, Thanks to Steve Schlenker for the hydraulic review. The recommendation in the second paragraph of my March 10 response still holds. Thanks, Gary

CRITFC- -----Original Message-----
From: Tom Lorz [mailto:lort@critfc.org]
Sent: Tuesday, March 11, 2014 2:59 PM
To: Mackey, Tammy M NWP
Subject: [EXTERNAL] Re: FPOM: Official coordination 14JDA03 VWW repair revisisted (UNCLASSIFIED)

Hoping that this is the last variation, but this should be ok

tom

13 March 2014 FPOM- 14JDA03. VWW repair. Grosvenor reported JDA planned for a day outage but had a pump failure on pump 4. JDA would now like to go forward with a night outage on 14 March. Fredricks asked what flow could be expected from three pumps. **FPOM still felt the repairs could be completed during the day with three pumps. The weir should be pulled in the early morning and re-installed later in the afternoon. No bull trout issue.**

Final results- The repair could not occur on 14 March due to wind. The repairs were successfully completed and JDA-N returned to normal service at 1600 on 26 March.

Please email or call with questions or concerns.
Thank you,
Tammy
NWP Operations Division Fishery Section
Columbia River Coordination Biologist
Tammy.m.mackey@usace.army.mil