

MEMORANDUM FOR THE RECORD

Subject: Final minutes for the 05 February 2015 FFDRWG meeting.

The meeting was held in NWP RDP 3rd Floor Meeting Room, Portland OR. In attendance:

Last	First	Agency	Office/Mobile	Email
Baus	Doug	RCC		Douglas.m.baus@usace.army.mil
Bettin	Scott	BPA		swbettin@bpa.gov
Bissell	Brian	NWP-BON		
Chase	Darren	PITAGIS		
Conder	Trevor	NOAA		
Cordie	Bob	NWP-TDA		
Derugin	Andrew	NWP-BON		
Doumbia	Julie	BPA		
Duyck	Pat	NWP		
Ebner	Laurie	NWP		Laurie.I.ebner@usace.army.mil
Eppard	Brad	NWP		Matthew.b.eppard@usace.army.mil
Fredricks	Gary	NOAA Fisheries	503-231-6855	Gary.fredricks@noaa.gov
Grosvenor	Eric	NWP-JDA		
Hevlin	Bill	NOAA		
Kiefer	Russ	IDFG		
Livingston	Scott	PITAGIS		
Lorz	Tom	CRITFC		lor@critfc.org
Mackey	Tammy	NWP	503-961-5733	Tammy.m.mackey@usace.army.mil
Medina	George	NWP	503-808-4753	George.J.Medina@usace.army.mil
Meyer	Ed	NOAA Fisheries		Ed.meyer@noaa.gov
Petersen	Christine	BPA		
Rerecich	Jon	NWP	503-808-4779	Jonathan.g.rerecich@usace.army.mil
Richards	Natalie	NWP		
Roshani	Mehdi	NWP		
Royer	Ida	NWP-BON		Ida.m.royer@usace.army.mil
Saldana	Gail	NWP		
Schlenker	Steve	NWP		
Skalicky	Joe	USFWS		
Stevens	Seth	NWP		
van Dyke	Erick	ODFW		Erick.s.vandyke@state.or.us
Warf	Don	PITAGIS		
Wright	Lisa	RCC		Lisa.s.wright@usace.army.mil
Zyndol	Miro	NWP-JDA		

Hevlin, Kiefer, Richards, Skalisky, and Warf called in.

All documents may be found at <http://www.nwd-wc.usace.army.mil/tmt/documents/FPOM/2010/FFDRWG/FFDRWG.html>

1. Final Actions or recommendations from the 05 February 2015 NWP FFDRWG.

- 1.1. JDA-S overflow weirs. FFDRWG was supportive of removing the weirs. Both lamprey and salmon may benefit from this change.
 - 1.2. BON FGE. If the plates and balanced VBSs work, then Unit 15 will be complete. Stevens pointed out that biological data is available only for A and C slots. B slot data will need to be inferred. FFDRWG agreed with that. Fredricks and Lorz suggested we could move forward with modifications to other units as long as the data are supportive. Full unit operation would be possible as well.
 - 1.3. B2CC. FFDRWG stressed that BON will now have to conduct a rigorous monitoring and maintenance program for the B2CC. Mackey noted that she did check with BON prior to Operations agreeing to take over the B2CC.
2. **Action Items from the 5 February 2015 FFDRWG Meeting.**
- 2.1. Lamprey LPS prioritization discussion. **ACTION:** Tackley will schedule a meeting with FFDRWG in March.
 - 2.2. JDA overflow PIT tag detection. **ACTION:** Eppard will have a hydraulic and structural engineer look at the design. Feedback will be provided back to the Region.
 - 2.3. BON performance standards meeting. **ACTION:** PM-E will schedule a meeting to discuss BON performance standards, likely late March.
3. **Outstanding Action Items from Last FFDRWG Meeting (27 Oct, 2014):**
- 3.1. BON survival. NWP will put together some meetings to focus on the path forward for BON. The meeting will likely be in the March/April timeframe. Fredricks requested this be a COP discussion. **STATUS: Fredricks asked about the schedule. Tackley and Rerecich deferred to Eppard. Eppard will return to PM-E soon. Fredricks stressed the need to have a meeting sooner rather than later. PM-E will set up a meeting in September 2014. Discussed later in the agenda.**
 - 3.2. BON FGE alternatives. FFDRWG gave concurrence to move forward with further investigations in the alternatives but they want the data and details to look at more in-depth. **STATUS: Special FFDRWG occurred on Oct. 27 to discuss the FFDRWG review of the 90% EDR supplement and path forward.**
 - 3.3. BON AFF Mods. FFDRWG agreed that the mods made over the winter appear to have helped with mortality. Right now the question is whether or not the release pipes should be reattached. Rerecich needs to have a decision by early fall. Fredricks said he wouldn't worry about putting them back on right away. He said don't throw them away but no need to rush to re-attach. FFDRWG would like to see the rest of the data before making that decision. **STATUS: Moving forward to finalize the AFF modifications for Bon project without reinstallation of bypass pipes.**
 - 3.4. Lamprey Minor Fishway Modifications. FFDRWG expressed concern with the loss of entrance weir depth. The weir caps cannot affect the ability for the entrances to meet FPP depth criteria. **STATUS: Discussed later in the agenda.**
 - 3.5. Lamprey. WS LFS AWS. Tackley will ask a hydraulic engineer to attend the next NWP FFDRWG to go through the conditions in the area. **STATUS: Discussed later in the agenda.**
 - 3.6. JSATS. Eppard will send an email with the information for accessing the website. **STATUS: Complete**
 - 3.7. TDA AWS. Rerecich will send the DDR out again. **STATUS: Complete**
4. **PNNL BON report**. Eppard reported that Weiland is about a week away from sending the report to their editor. Once NWP gets a copy, it will be sent out for Regional review.

5. **Bonneville Spillway - Stilling Basin Erosion and Bon Major Rehab (Cutts/ Lee/ Ebner).**
 - 5.1. Ebner reported that the repairs made have held. She clarified that rock movement is flow driven. NWP will survey when a flow trigger is met. We have not yet met that trigger. Ebner said we continue to monitor rock movement and she would like a survey in 2015, after spill ends.
 - 5.2. Cutts reported on BON Major Rehab. The Probable Mode of Failure Analysis (PMFA) will start on 9 February. A Major Rehab report will follow. The analysis considers the flow the spillway needs to pass, dam safety, fish survival, etc. Fredricks asked if outside agencies will have a chance to review the report. Cutts said this is the first major rehab project he has worked on so he isn't sure what level of outside review is normal. He will report back to FFDRWG as the process progresses. Ebner said outside input would be a benefit when it comes to authorized purposes and meeting those obligations. Eppard clarified that major maintenance would occur before major rehab. Cutts confirmed that. Maintenance would be prioritized based on need and included in budget submissions. As those items are developed, they will be brought back to FFDRWG for review. Ebner suggested summer would be a good time to look at authorized purposes and how maintenance can help us meet those purposes.

6. **Lamprey Passage Projects. PDT updates are available on the website.**
 - 6.1. Lamprey Minor Fishway Modifications (Saldaña/Wilcox/Tackley). Tackley reported that the goal is to make small scale mods which will lead to incremental improvements in lamprey passage.
 - 6.2. Lamprey Passage Structure (LPS) Development (Saldaña/Stevens/Tackley). Stevens discussed the plan for future LPSs at Bon and JDA. Designs are at 30%. Stevens said we now need to prioritize tasks.
 - 6.3. **Bonneville WA Shore Lamprey Flume System – Entrained Air**
 - 6.3.1. Bettin asked if the LFS fix will be completed anytime soon. Stevens said plans are still being developed. He suggested work may need to be completed in October from a barge but there likely won't be any construction in FY15. Tackley said a range of alternatives will be looked at and a decision matrix will be developed. Bettin said there will be transformer work going on in upcoming years so depending on which units need to be out of service, it may be worthwhile to try to sync up the LFS schedule with the transformer schedule.
 - 6.3.2. Schlenker described the problem of backwater in the flume. There is a section of the flume with super critical flow. There may need to be a divider between flume flow and AWS flow. Venting may be improved as well. There may be an opportunity to do the work without divers depending on the time of year. Bettin suggested turning the system off after August. This could make the fix a little easier if the tailrace range is a narrower band. Alternatives are still being developed.
 - 6.3.3. Tackley noted that FFU will be operating the system to enumerate the number of fish in the trap. Fredricks asked about analysis of the bubble curtain created by the entrained air. Fredricks said he would like to see an ad hoc discussion about AWS valve operational limits.
 - 6.3.4. Tackley would like to schedule a special FFDRWG in March to discuss potential alternatives and priorities. **ACTION: Tackley will schedule a meeting with FFDRWG in March.** 26 March was recommended as a good day.

7. **The Dalles East Adult Fish Ladder AWS Backup System (Duyck/Rerecich).** Duyck provided a presentation (available on the website). He explained that the schedule is still being shuffled. He would like to hear concerns about specific activities so they may be

scheduled at the best possible time. Work will extend beyond the in-water work window. Duyck walked through the diagrams for the proposed back up AWS. Surveys have shown no large rock or woody debris in the location of the upstream boring area. The substrate appears to be sandy and about three feet thick. The tremmie slab will be poured in the first in-water work window. Pre-fabbed concrete slabs will be constructed off-site and placed during the in-water work window. The bulkhead would be removed and stored for future use and a bar screen trashrack would be installed, using the same slots. Butterfly valves will be used to operate the system and help control flow during water up. Duyck pointed out that the fishladder will be about 25' above the AWS pipe. Duyck suggested early November might need to be the start date for boring. He noted that Dorena Dam had boring within three feet of galleries with no cracking; he is pretty confident, with ten feet between the pipe and any gallery, there should be minimal issues at TDA.

- 7.1. Currently at 90% Plans and Specs review. 100% P&S review is expected by the end of March. During the first winter would include the tremmie slab and the lower pipe work under the parking lot. The second winter would include the coffer dam and the final boring connecting with the lower pipe.
- 7.2. Bettin asked about the pipe material. Duyck said it would be steel penstock pipe; probably coated in vinyl paint.
- 7.3. Bettin asked about flow restrictions when the slab is poured. Duyck thought maybe January and there may need to be a reduction in flow, but those would be short term.
- 7.4. It was determined that Fredricks could not retire until the AWS is completed.

8. **TDA/ WASCO PUD north ladder engineering evaluation.** Rerecich explained this came from FPOM. Fredricks said he heard Wasco PUD was going to do the geotechnical evaluation of the rock channel. He said efforts to stabilize that channel occurred in the 1990's. Wasco PUD would like to use that channel if they conduct testing. Fredricks wanted to make sure TDA was on top of the issues and review the reports from Wasco PUD. Cordie confirmed TDA will review the reports and make sure their results seem reasonable. Fredricks said Wasco PUD wants to use the channel for several months. He told Wasco PUD that NOAA approval for that study would be contingent on there being no effect on the channel stability. Cordie said the Project Engineers will be looking at the study.

- 8.1. Eppard asked if Fredricks has seen the study. Fredricks has seen it. Bettin said the Action Agencies are going to review the study before it goes to SRWG. Fredricks said increasing counts would be a benefit. Duyck said he didn't want to forward a study without thorough review. Fredricks stressed that the Wasco PUD study should be evaluated on their study design, not on USACE study design. Eppard said NWP wants to make sure the study will result in useful information.

9. **John Day North Ladder AWS pumps (Richards).** Richards reported that pump #4 is still in re-design. There are four pumps running. Vibration issues are still being addressed. Lorz asked when testing will be completed. Richards said there isn't so much in the way of testing as it is a re-design. The 50%-60% will be available in April. The re-design may affect the other five pumps as well. Richards said it depends on the re-design for pump #4. Fredricks asked if the failures across the pumps are related. Richards said those details are not yet known. Lorz asked if misalignment is the problem, should we expect pumps to misalign over time? Richards said no because the pumps are supposed to be bolted in place so they won't misalign. Fredricks asked if this is a CRFM burden for years. Richards said no. She believes this will be a legal issue as it is the belief of NWP that the contractor did not meet the terms of the contract. FFDRWG wanted to make sure NWP has not accepted ownership of the pumps. Richards said NWP does not want to take ownership until the pumps are functional. Late 2016 is expected to be the earliest the contract might be complete. Richards

said the monitoring by JDA has been really good. Zyndol said he only cares that there are enough pumps available. This is a project that leaves no one feeling overly comfortable but NWP is working to get everything sorted out.

- 10. B2 Fish Unit Trash Rake (Stricklin/Filan/Royer/Rerecich).** Rerecich reported that the 1 March date hasn't slipped yet. Stricklin is working with BON to try to stay on schedule. Rerecich said an ROV inspection will need to occur after the trashrake is returned to service.
- 11. JDA PIT feasibility (Fredricks/Axel/ Warf).** Chase and Livingston walked through the presentation (available on the website) describing the feasibility study conducted last year. Livingston went through the background of the project. They propose bolt on systems for the overflow and the orifices in the weir. Two weirs would be outfitted to ensure redundancy. The antenna would raise the weir notch by two inches – would that be a concern? Another option would be to shave the weir down two inches so there is no change in height. The detectors are built off-site, bolted in, and have about 100% efficiencies. The antennas are made from aluminum, ferrite tiles, and have a smooth plastic outer shell. Lamprey ramps are included with installation. Fredricks would like to know what the hydraulic footprint might be in the ladder. Chase noted that the ever increasing thinness of the detector means cutting into the weir is not always required and if it is, it's shallow. Lorz suggested sinking the overflow by two inches so the head remains constant. Fredricks asked if modeling would be needed. Eppard asked if two weirs would be needed or could two antennas be used on one weir. Chase said there isn't enough room to put two antennas on one weir. He said two weirs give directional movement and redundancy. Lorz asked if the weirs need to be consecutive or if we could skip a weir. Conder asked about the pass through design. Chase said there are concerns about debris and supporting structures for the pass through design. Fredricks would like some feedback from NWP regarding hydraulic impacts from these designs. **ACTION: Eppard will have a hydraulic and structural engineer look at the design. Feedback will be provided back to the Region.** Cost estimates have been updated to reflect potential BPA cost-sharing. Total cost for one ladder would be \$136K, this does not include any costs for NWP engineering evaluations though. Concrete removal (two inches for two weirs in each ladder) has been estimated at \$20K.

11.1. Conder asked if lamprey could also be detected. Chase and Livingston said the capability is there if it's turned on but there may be an impact on the salmon detection.
- 12. Overflow weir removal at JD south fishway (Zyndol).** Zyndol provided a handout. He said HELCRABS recommended removing the JDA-S lower weirs. Removal had been on the CRFM list but scheduling and work load didn't allow for it to occur during previous construction periods. Zyndol stressed that removal would not have a negative impact on fish passage. He likened the weirs to impacted wisdom teeth – they never come up so why not remove them. Zyndol is asking for NWP FFDRWG support for removal and potentially funding through CRFM. Cordie asked if the RT results for JDA-N were looked at after the lower weirs were removed. Zyndol and Rerecich suggested studies showed improved passage times after weir removal. Lorz was supportive but asked if it could be funded under CRFM. Tackley said JDA has traditionally had the longest passage times so this could help. Zyndol said the cost would be about \$100K. **FFDRWG was supportive of removing the weirs. Lamprey and salmon would likely both benefit from this change.** Tackley noted that he has the weir removal included in the lamprey minor mods program.
- 13. B2-FGE (Medina/Stevens/Rerecich)** Medina reported that this is a follow up to the October 2014 FFDRWG meeting. Rerecich said biological testing data sets will be collected throughout the season with a draft report in November and a final by January 2016. Medina

said he feels confident we are headed in a good direction with viable solutions. Fredricks asked about the final implementation schedule. Medina said the plates are easy to install but the schedule has not been worked out yet. Stevens explained there is a pre-construction meeting with the contractor on 9 February. BON will work on the VBS mods. Biological testing starts in April. Bettin asked if the installation is a “final” installation. Stevens said technically it’s a prototype but the plate is stainless steel and could remain in place. Medina said the PDT believes the two plates and a balanced VBS will work. **If this works, then Unit 15 will be complete. Stevens pointed out that biological data is available only for A and C slots. B slot data will need to be inferred. FFDRWG agreed with that.** Medina asked if FFDRWG would be willing to commit to going forward with full implementation if the data shows these mods are the answer. He would like to have FFDRWG commitment upfront so coordination with BON could start early. This would be part of the effort to get all units modified by 2018. Bettin asked how soon until we know this works. Stevens said we could see data by July. Bettin said BPA is interested in running the unit at the upper end of 1% if possible. Medina said the intent of the mods is to return units to full range operation. Eppard suggested the conservative approach would be to not make changes until FY17. There is a performance test coming up. Fredricks suggested BON may need these modifications to meet performance standards. FFDRWG believes data will be back very quickly so decisions about unit operation could be made as early as June/July. Fredricks suggested that once units start coming down, plates could go in (as soon as funding and contracting were in order). Medina said there are elements to the planning process that still need to be looked at. Questions such as do we order all of the plates and the Project installs them as units come down, or do we hire a contractor, etc still need to be answered. Hydraulic testing will occur right after the biological testing. Stevens stressed that the critical data is the biological data but the hydraulic data should be available about a month later. **FFDRWG believed we could move forward as long as the data are supportive. Full unit operation would be possible as well.**

14. **B2 Orifices (Medina/Kuhn/Rerecich) No handout.** Medina said there is an EDR that still needs to be finalized. The PDT will be meeting later in February. An ad hoc meeting can be scheduled between FFDRWG meetings.
15. **B2CC (Medina).** Medina reported that the B2CC has been turned over to Operations. Spalling is considered wear and tear. Lorz asked about the problems with the joints. Medina said there is movement and the only real fix is to redo the entire channel. **FFDRWG stressed that BON will now have to conduct a rigorous monitoring and maintenance program for the B2CC. Mackey noted that she did check with BON prior to Operations agreeing to take over the B2CC.**
16. **Turbine Survival Program (Medina/Rerecich).** Medina said the TSP group will pick up the pace for the bead analysis. Fredricks said he heard final reports won’t be available until September. There is a TSP meeting on 10 February. Medina invited Lorz to call in. Fredricks explained that the call is to discuss the bead analysis for both powerhouses but primarily PH2. Medina went the blunt route and said the models were set up with erroneous curves. The curves have been corrected so this call is to discuss this.
17. **The Dalles Spillwall erosion update (Ament).** The rock seems stable now however there are erosion holes (best described as slivers) up near the spillway. Contract issued last summer to repair those holes. When the contractor filled the holes, the concrete between the slivers fell away and the two slivers became one. The bad concrete was removed and new grout pumped in. The PDT is closing the contract and finishing this project. Ament said

there is no erosion on the south side of the wall but there is an erosion hole near the apron. That erosion appears to be a result of an eddy caused by not spilling out of bays 9-11. This area is routinely monitored by Dam Safety.

- 18. Bonneville Adult Fish Facility Mods (Ament/Sipe/Royer).** Ament gave a brief history. There are still some mods the PDT would like to do. The wood baffle was going to be replaced with steel but instead the PDT went with purple heart (life expectancy of about 50 years) and painted the steel brackets. The level sensor will be repaired. Rerecich showed a picture of the purple heart. If these mods work, the extensions won't necessarily be needed. Lorz and Fredricks discussed the extensions. Rerecich commented that he agreed with Ed Meyer in that if it isn't needed don't mess with it. The extensions will be saved in the event they are needed in the future but at this time the plan is to leave them off.



- 19. BON FY16 Performance Standard Evaluation planning (Eppard)** Eppard said there is a need to resurrect discussion of the summer ops. Fredricks would like to know where NWP believes standards have been met.
- 19.1.** Route specific information is needed for both years for JDA. NOAA believes there does need to be a change at JDA, possibly an operation change. FFDRWG discussed whether or not the problem is spill. Van Dyke asked why route specific data hasn't been included in the initial contracting since it's been consistently asked for by SRWG members.
- 19.2.** A meeting will be set up to discuss BON. Fredricks said a meeting won't help until NWP lays out what they believe to be valid results. Fredricks suggested Weiland could provide his report and we could discuss what more, if anything, is needed prior to final performance testing. **ACTION: PM-E will schedule a meeting to discuss BON performance standards, likely late March.**

- 20. Next NWP FFDRWG Meeting: 2 April 2015**

