

MEMORANDUM FOR THE RECORD

Subject: Final minutes for the 09 February 2017 FPOM meeting.

The meeting was held at the CRITFC offices in Portland, OR. In attendance:

Last	First	Agency	Email
Bailey	John	NWW	John.C.Bailey@usace.army.mil
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On the phone: Bailey, Cordie, Doumbia, Grosvenor, Hausmann, Johnson, Juhnke, Kiefer, Kovalchuk, Lundell, Martinson, Morrill, Swank, Trachtenbarg and VanDyke.

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

1. Decisions made at this meeting.

1.1 January meeting minutes were approved

1.2 MOC

1.2.1 MCN Lamprey Sidewalk Removal – FPOM concurred with this action.

1.2.2 17LWG01 Lower Granite Unit 2 blade position – WDFW, NOAA, IDFG and FWS concurred with the MOC; ODFW would prefer the angle set at a 12Kcks flow.

1.3 FPP Change Forms

1.3.1 17OVE001 – Approved

2. The following items were provided or discussed. Documents may be found at: <http://www.nwd-wc.usace.army.mil/tmt/documents/FPOM/2010/>.

- 2.1. *Agenda, Fish Passage O&M Coordination Team.*
- 2.2. *Cooling Water Strainers Lamprey Counts.xls.*
- 2.3. *Coordination/Notification Forms (NWW/NWP)*
- 2.4. *FPP change forms. (NWW/NWP)*
- 2.5. *BPA transmission outages*
- 2.6. *Lower Columbia River Forebay Templines SOW Options 1 and 2*

3. Action Items

3.1. NWW

3.1.1 [Feb17] LMN Picketed Leads Removal ACTION: Morrill will summarize the need for the PIT TAG data and send to Setter.

3.1.2 [Feb 17] MCN FOG maintenance ACTION: Johnson will write an MOC to coordinate swapping the FOGs in March.

3.2. NWP

3.2.1. [Feb 17] Forebay Temperature Profiles ACTION: Lundell will revise the proposal based on the discussion.

3.2.2.[Feb 17] 17BON01 MFR CI ROV ACTION: Hausmann will put together a list of options with cost and impacts on February 13.

3.2.3.[Jan 17] BON Staff Gauges Action: Hausmann works with Kovalchuk about price, design and coordinate a dive crew to clean in the winter to standardize staff gauges. *Status: Hausmann sent photos and PR details to Peery. The cost is per pound of metal not by number of staff gauges. Peery needs dimensions. Hausmann will forward all details to Kovalchuk and Peery.*

3.3. Completed Action Items or to be discussed later in the agenda

3.3.1.[Dec 16] MCN- Johnson will send out a memo on the condition of the grating of the Washington Shore fish ladder to FPOM members. *Status: See 17MCN02 MFR below.*

3.3.2.[Dec 16] 16 MCN 018 MFR Side dewatering brush - Johnson will send out more pictures of the side brush. *Status: Completed.*

3.3.3.[Jan 17] Action: TDA will write an MOC on the crowder mods also. *Status: Completed.*

3.3.4.[Nov16] BON split flows Action: Fredricks will send out his draft FPP change form. Pending from last month. *Status: This has been withdrawn.*

4. Updates

4.1. NWW

4.1.1. Upcoming maintenance/construction/research activities.

4.1.1.1. FPOM outages schedule [Handout] – **LWG:** The completion date for unit 1 is June 5. Unit 2 is out of service and the MFR will be discussed below. The fixed blade can be completed by March. **DWR:** Unit 3 should be completed by the middle of July. **IHR:** Unit 5 repair is complete. Setter brought photos which are also posted to the website. NOAA had anticipated more coping on the ends from the design. Conder would like to add a coping plate for cavitation issues. This will be added to the NWW FFDRWG. **LMN:** Unit 5 had an oil leak. The unit was spun and stop logs were dropped. Unit 2 cavitation repair might be pushed off. **LGS:** The powerhouse roof repair work has changed from a month long full spill operation to night work throughout the year. The ladder cooling system is moving ahead. A long term solution was found by adding direct feed to station service which will occur in late

August. If a temporary solution is necessary, a generator would be set up. **MCN:** The JCC upgrade will remove the old orifice traps this winter. Next winter, the project will upgrade the screen cleaning and do other routine maintenance. The screen cleaner components will be replaced; it is not a redesign of the system. There is an addition of an airburst.

- 4.1.1.1.1. LGR JFF construction update – Phase 1A is proceeding on schedule. Phase 1B will be completed by Feb 28th. The project is on schedule overall. No impacts are expected at this point but there is a chance the 1b (new outfall) contractor's schedule for in-water work activities may slip. If this occurs, NWW will send out a MOC to coordinate any necessary time extension.
- 4.1.1.1.2. MCN FOG maintenance – The gates are still at BON for heavy metal removal. The gates are expected to return Feb 9th but they will not be repainted and installed by the end of the IWW period. There are two options – skip installation and wait till next year or do the work in March when the ladder is running. Fredricks said the worst ones were done first and would prefer the swapping in March. **ACTION: Johnson will write an MOC to coordinate swapping the FOGs in March.**
- 4.1.1.1.3. MCN water cannon update – The cannon was leaking oil. The project would like to replace the cannon but in the meantime a new pump was purchased and the project is designing a new intake that won't be as difficult to keep clean. A new longer term system will be designed.

4.2. NWP

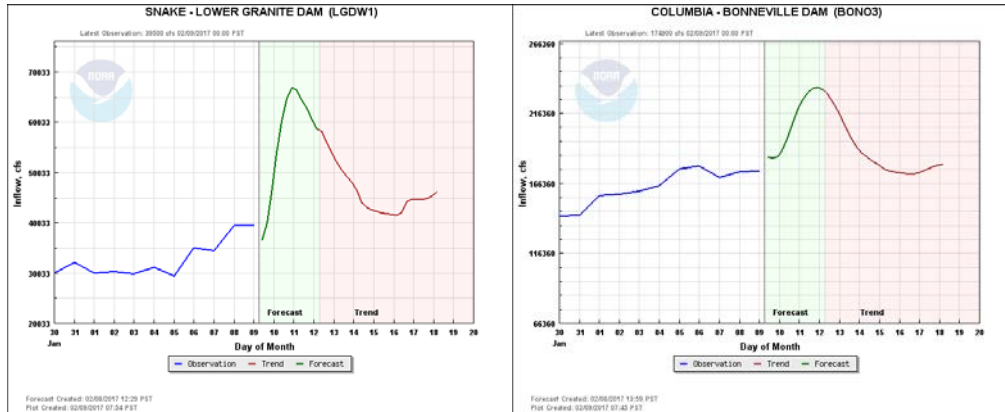
4.2.1. Upcoming maintenance/construction/research activities.

- 4.2.1.1. BON FGE Mods. – The schedule has slipped a couple of days. Unit 13 will be done in February and unit 14 in mid-March. Installation of the research equipment will occur in March. The barge will be done first so that the corner collector will be available for kelt passage. The project will finish with unit 16 and March 29 should be the last day. An ROV inspection of unit 15 is being scheduled for the end of the month at the same time as a VBS seal inspection. Trash rack installation is one day each except unit 15 which would be a three day outage. All units will be outfitted. Wright is working on changing the language of the FPP already.
- 4.2.1.2. BON B-Branch erosion (16BON107) – On schedule.
- 4.2.1.3. BON B2 Orifices (Rerecich) – The EDR recommendations includes maintaining the existing 12 5/8" orifice ring size and re-core the orifice tube to increase the diameter size. Hausmann said the project is swapping out lights to LED and changing several air lines. CRFM funding is available for the air bursts reprogramming of the PLC. Mackey forwarded the project recommendations to Hausmann. Bissell will update the project status at the next FFDRWG.
- 4.2.1.4. BON LPS construction activities – The platform has been installed downstream of the count station on the Washington Shore ladder. The remaining parts of the LPS have arrived and are being installed. The overall idea is to get lamprey out of the ladder before the serpentine weirs. Three lamprey orifices were cut into the weirs directly above the count station and refuge boxes were positioned. Ladder water up is on Feb 20th. There is a potential of three days of March work that Walker will need to coordinate. A site visit is scheduled for February 16th but it needs to be in the morning.
- 4.2.1.5. TDA AWS Construction (16TDA10) – The schedule is very tight. The pipe is not yet installed over the junction pool but Kiewit is supposed to start demobilizing the scaffolding next week. The contractor needs to either work during March or the ladder stays down longer. Cordie will find out the status on February 13. Depending on the schedule, an emergency FPOM might be scheduled for February 15th.

- 4.2.1.6. TDA Transformer Installation (15TDA08) – No further comments.
- 4.2.1.7. TDA Railroad removal –Due to weather issues and delays, this might be moved to next year.
- 4.2.1.8. JDA-S PIT tag detection – The contractor has finished installation. Pre-final inspection will be next week. Phase 2 is slightly delayed. Electricians are looking into a temporary power supply for Phase 2.
- 4.2.2. BON FOG Bulkheads – BON Floating orifice gate (FOG) bulkheads and sea lion barriers – Chane is starting a charter to determine timelines and cost for 8 FOG bulkheads and a permanent version of the sea lion barriers that sit on top of the floating orifice gates. This year, plywood will again be used as the barrier that prevents sea lions from jumping over the FOGs but aluminum ones will be designed for next year. The plywood ones are pulled out with a boat. The aluminum ones will be designed with same picking mechanism. Hausmann will have engineers review the drawings and then forward to Chane. Eight FOG bulkheads and FOG barriers are funded by CRFM.
- 4.2.3. BON PIT tag room – There is a work order for better cost estimate. Access needs are being addressed by the project for other needs. Morrill will discuss this at the next PIT TAG steering committee meeting and then report back to FPOM with the feedback. It will be removed from the agenda after next month with only periodic updates.
- 4.2.4. JDA STSs and STS Crane failure – All STSs were pulled out by Jan 27. Crews are working overtime to get the winter maintenance completed by April 1.
- 4.2.5. JDA-N elevator – The elevator is still out of service. The issue is still in contracting.
- 4.2.6. JDA-N SKF alarms on pumps – The problem is with the grease system. Mechanics think they can fix it but it might be a warranty issue. Natalie Richards is looking into this issue.
- 4.2.7. JDA-S fish pumps – Mechanics are addressing pump #1 and think it will be running by April 1. Pump #2 will be inspected this week. Grosvenor will give updates in the weekly status report.
- 4.2.8. Winter dewatering activities
 - 4.2.8.1. BON WA SH maintenance – The rounded tops at the entrance gate did not get done but all other maintenance did. The ladder will return to service on Feb 20th.
 - 4.2.8.2. TDA-N dewatering – The ladder was returned to service. An ROV inspection of the grating is scheduled for Feb 15th. Routine maintenance continues on the east ladder. The gear boxes on weirs 154 & 159 are completed. The west entrance weir will be fixed before the ladder has returned to service.
 - 4.2.8.3. JDA-N dewatering – A high density plastic piece had come loose on the fixed weir and that has been replaced. The south ladder dewatering went well.
- 4.3. **Research/FFDRWG updates.** www.nwd-wc.usace.army.mil/tmt/documents/FPOM/2010/NWP%20Research/Research.html
- 4.3.1. **NWP FFDRWG**
 - 4.3.1.1 **JDA Turbine rehab project** – The project is to install fish friendly units similar to MCN and IHR and is currently between a 30-60% Phase 1A report. The skeleton bay issue is undecided.
 - 4.3.2. **NWW FFDRWG** – The next meeting will be Feb 23rd.
- 4.4. **RCC update**

Project	Previous day average (kcfs)	5 day forecast average (kcfs)	10 day forecast average (kcfs)	Projected Low/Peak (kcfs) and date.
LWG	39	52	46	42 (2/15) / 66 (2/11)
MCN	163	183	161	157 (2/16) / 204 (2/11)
BON	186	212	180	173 (2/16) / 235 (2/11)

Table 1. RCC flow forecast



4.5. BPA update – [Handout] No significant fish impacts.

4.6. Pinniped update – Comments are being reviewed and the report should go out at the end of next week. There are no California sea lions - and less than ten Steller sea lions - present below BON right now right now. The hiring freeze impacts the number of observers but FFU will still complete the season. The FFU indicated that during some times of the year pinniped numbers are recorded but predation rates are not. Hevlin suggests developing a model based on numbers of fish present, fish consumed and life history of the predators. Pinniped monitoring could be more cost effective and with better data using a model approach. NOAA uses the data for the BiOp. The COE is considering using only the CRITFC hazers for pinnipeds which would free up more funds for monitoring or other purposes.

4.7. Lamprey update – Camera rails have been installed in the BON WA shore ladder for the orifice interaction study. All LPS systems will be in standard operation this year. A new counting mechanism has been installed on the Washington Shore ladder with a bar screen that lamprey can't re-climb.

4.7.1.JDA-N lamprey mods – No updates.

4.7.2.BON AFF trap – Fredricks is concerned for the salmon smolts that get caught and killed in the lamprey trap. After reviewing the MFRs, he found that dozens have been trapped and killed. Operations were changed to nighttime only which reduced mortalities but did not solve the problem. Members are wondering how necessary the trap is or if a wall can be made for them to climb into the trap which would exclude salmon. The trap can be modified to make the opening smaller and less attractive to salmon. Hausmann said BON maintenance could modify in-house if they knew what to do.

4.7.3.LMN – The project removed the picketed leads after the counting season. The PIT TAG antenna is in the count slot so no data was collected. NOAA prefers the picketed leads open. **ACTION: Morrill will summarize the need for the PIT TAG data and send to Setter.** The focus should be on steelhead fall back, how many detections and how significant this data is. Setter will draft a change form for uniformity throughout the projects.

4.8. Avian update

4.8.1.TDA (Cordie) – Still waiting on the MIPR approval.

4.8.2.JDA (Zyndol) – The line replacement contract was awarded last week. The bid came in so much lower than the PDT expected. They are going to request an additional 9 lines be added to the contract.

4.8.3.MCN – No update.

5. Coordination/Notification forms (need concurrence/discussion)

5.1. 17DWR01 MFR Steelhead mortality at Dworshak Dam – This mortality occurred when returning the unit to service. Conder wants to focus the guidance on speed no load since it is the most likely culprit. A site visit is necessary to understand the commissioning process and the hatchery. The next return to service is in July. A barrier is an option to keep fish out of the intake area. Speed no load is done much longer during testing and could be done in April. The testing date needs to be coordinated.

5.2. 17DWR02 MFR Commissioning Testing Loss of One Steelhead -When the monitoring biologist observed the dead fish, NOAA was consulted. The problem could have been due to speed no load.

5.3. 17LWG01 Lower Granite Unit 2 blade position – The discussion consisted of the tradeoffs of fixing the blade angle for Unit 2 at 29°. If unit 1 was to go out of service during a low flow situation then the 29° blade setting in Unit 2 could constrict the projects use of spill. Keifer said the he did not fully understand the ramifications of the fixed angle of the blade during the roof repairs. The same thing could happen again and have to reduce spill volume in order to continue operation of unit 2, the priority unit for adult passage when unit one is down, at 17.5 kcfs. The 29° angle was chosen because it is in the 1% of peak operating range and would be the best for downstream juvenile passage. The project is open to other angles as long as they are within the 1% of peak operating range. During the low flow time in question, there is only enough water to usually operate one unit. Bettin said that the 29° angle is at the upper end of the 1% range; it is good for TDG and good for fish passage. The fixed blade is temporary but the project doesn't know for how long it will be necessary. Unit 1 is returning to service and should be reliable after the rehab maintenance. The unit 2 fixed angle can be changed, however, once the packing is in, it takes six weeks to change from one degree to another. The packing is for an oil leak issue. Unit 2 angle could be fixed at the low end of 1 percent in order to pass 12 Kcfs, but Bettin pointed out that this will both reduce revenue and juvenile passage survival through the turbine. When it returns to service in June, Unit 1 will become the priority unit and is adjustable. Fredricks said that the 29° was chosen as the best for fish passage and that other angles could have higher fish strike potential and worse hydraulics. Hevlin said that if a problem develops with unit one then priority operation for adult passage shifts to unit 2. **ODFW would like the angle to keep the 12Kcfs. WDFW, NOAA, FWS and IDFW concur with the MOC.**

5.4. 17LMN01 Ladder outage

5.5. 17LMN02 MOC Ladder Outage – This is an extension of the outage. Due to weather, the project was not able to complete all the work. The extension is still within the IWW period. The MOC is just because there is a change to the schedule.

5.6. 17IHR01 MFR Juvenile Steelhead Mortality during unwatering south upper ladder – This MOC should have included all the fish that were impacted. The water level has to be optimal for pushing down the fish while allowing personnel to go through the orifice. The SOP has now been updated.

5.7. 17MCN02 MFR WA Ladder Grating Inspection – Johnson is waiting for the ladder to thaw to send a camera down.

5.8. 17MCN03 MFR OR exit screen- Due to ice, the pump had to be shut down.

5.9. 17TDA02 MOC AWS March Day Work – The timing of the break period will be based on diel passage.

5.10. 17TDA04 MOC East Ladder Crowder Lamprey Mod – Not completed yet but will be soon.

5.11. 17TDA05 MFR Sewage Spill- No further comments.

5.12. 17BON01 MFR CI ROV – Several blown panel issues were found during an ROV inspection. The project turned off the diffuser near the fish lock to stop flow from attracting fish into the holes. The blown hatch needs to be covered. Fish elevator has no flow coming from there. There are operational changes to stop flow through the blown panels but the project could also take down ladder and fix the issues with divers. There are bulkhead slots and a screen could be inserted to block off the fish lock area. **ACTION: Hausmann will put together a list of options with cost and impacts on Monday.** The project is very busy with maintenance. The avian lines are installed in the beginning of March but this could be pushed out. If the project waits till the end of the season, fish could get trapped in those areas.

5.13. MCN Lamprey Sidewalk Removal OR Shore – There is no evidence that lamprey were using the walkways. The area was very turbulent so the video quality was not very good but the video monitoring that was done showed that lamprey were free swimming over the grating to the orifice. Leaving the lamprey sidewalks in place was thought to do no harm but turns out they increase maintenance cost dramatically. The diffuser gratings are vibrating loose. The project will leave the orifice plates but remove the diffuser grating sidewalks. FPOM concurred with this action.

6. **Fish Passage Plan:** The Current 2016 FPP and Draft 2017 FPP Change Forms are online at: <http://www.nwd-wc.usace.army.mil/tmt/documents/fpp/>.

6.1 Pending FPP Change Forms.

6.1.1.17OVE001 - MOC Fish Impacts. PENDING. Peery will revise and resubmit for FPOM. NOAA approved Peery's revisions. Approved.

6.1.2.17IHR003 - Operational Testing. PENDING. Fone revised and resubmitted 1/26. Still pending.

6.1.3.17BON004 - Ladder Temperature Monitoring. PENDING. Hausmann will revise the figures and resubmit for FPOM. Pending. Hobos have been ordered.

6.2. New FPP Change Forms

5.2.1 17DWR001 – NOAA had concerns with the vague language and wanted something more specific. Setter said that there is no internal agreement on language yet and engineers will provide input. NOAA will be taking a hard line on this issue. Conder will write comments for what he would like to see in the change form.

7. **Forebay Temperature Profiles (Shane) [Handout]** – Lundell gave an overview of the project. There were three options that Lundell used to come up with the plan. The first option is to use the existing USGS monitoring locations. For John Day, this looks like the best option. The cost at JDA is about \$35,000 plus \$25,000 for maintenance. The strings need to be 80 feet deep. The data will be real time and satellite transmitted but there will be back up data that could be manually downloaded. The purpose of the string is to see if there is stratification in the forebay. Hevlin questioned the location at JDA because if cooler water is found there it can't be pumped it to the ladder because it is so far away. The location on the south side of the dam is near the cul de sac which has slower flows and is influenced by John Day River just upstream. FPOM recommends putting the string on the south side near the ladder exit. The purpose of the string data needs to be looked at. CRFM has funding for three years from May through September. Lundell will check on the additional cost for a different location. The contour maps will be used to determine the best location. **ACTION: Lundell will revise the proposal based on the discussion.**

8. **Task Group Updates.**

8.1. Pinniped. (Tidwell and van der Leeuw). Team: Fredricks, Kovalchuk, Lorz, Mackey, Hausmann. Discuss hazing activities and requirements for getting on the removal list.

8.2. BON minimum spill to maintain good B2CC egress. (Fredricks and Lorz). Team: Bettin, Ebner, Hausmann, Mackey, Rerecich, Wright. Date for test selected?

Next meeting will be March 9th at the Pacific States Marine Fisheries Office in The Dalles.