

MEMORANDUM FOR THE RECORD

Subject: Final minutes for the 10 March 2016 FPOM meeting.

The meeting was held at the Auditorium Bonneville Lock and Dam OR. In attendance:

Last	First	Agency	Email
Bailey	John	NWW	John.C.Bailey@usace.army.mil
Baus	Doug	NWD-RCC	Douglas.M.Baus@usace.army.mil
Bettin	Scott	BPA	swbettin@bpa.gov
Benner	Dave	FPC	
Conder	Trevor	NOAA	trevor.conder@noaa.gov
Cordie	Bob	NWP-TDA	Robert.P.Cordie@usace.army.mil
Dalgliesh	Jane	NWP	
Fone	Ken	NWW-IHR	
Fredricks	Gary	NOAA	Gary.Fredricks@noaa.gov
Grosvenor	Eric	NWP-JDA	
Hausmann	Ben	NWP-BON	Ben.J.Hausmann@usace.army.mil
Hevlin	Bill	NOAA	Bill.Hevlin@noaa.gov
Holdren	Elizabeth	NWW-LWG	Elizabeth.A.Holdren@usace.army.mil
Johnson	Bobby	NWW-MCN	Bobby.johnson@usace.army.mil
Kiefer	Russ	IDFG	Russ.kiefer@idfg.idaho.gov
Mackey	Tammy	NWP	Tammy.m.mackey@usace.army.mil
Martinson	Rick	PSMFC	rickdm@gorge.net
Mensik	Rosanna	BlueLeaf	
Meyer	Ed	NOAA	Ed.Meyer@noaa.gov
Morrill	Charlie	WDFW	Charles.Morrill@dfw.wa.gov
Pinney	Chris	NWW	Chris.A.Pinney@usace.army.mil
Rerecich	Jon	NWP	Jonathan.G.Rerecich@usace.army.mil
Scott	Shane	NWPA	
Setter	Ann	NWW	Ann.l.setter@usace.army.mil
Swank	Dave	USFWS	David_Swank@usfws.gov
van Dyke	Erick	ODFW	Erick.s.vandyke@state.or.us
Wright	Lisa	NWD-RCC	
Zorich	Nathan	NWP-FFU	Nathan.a.zorich@usace.army.mil

On the phone: Bailey, Fone, Hevlin, Holdren, Johnson, Kiefer, Mensik, Meyer, Pinney, Scott, van Dyke.

March birthdays include:

HAPPY BIRTHDAY!

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 and February meeting minutes approved.

- 1.2. NWP Oil spill plans. This will be moved to a regular agenda item so FPOM will be sure to look at them. These plans address both small and large scale spills. The Projects will give short presentations at the April FPOM meeting.
- 1.3. JDA-S fish pumps. April FPOM will be at JDA so FPOM can see the system and also check out some of the JDA-S issues.
- 1.4. Coordination Requests
 - 1.4.1. 16BON08 Fish Unit floating times for Feb 2016. **No comments.**
 - 1.4.2. 16JDA01 MOC Wing gate and weir removal from JDA-S. **FPOM was ok with the weir removal before and still are as long as there are no plans to operate at the low levels anymore. ACTION: Grosvenor and Cordie will figure out the lowest TDA forebay possible that still allows JDA-S to operate in criteria.**
 - 1.4.3. 16JDA02 MOC JDA-S operation and AWS turbine repair. **Approved.**
 - 1.4.4. 16MCN01 MCN Fishway Spill Entrances Permanent Closure. **Approved.**
 - 1.4.5. 16MCN02 MCN Debris Spill Notification. **Approved.**
 - 1.4.6. 16IHR01 fish ladder diffuser guide slot inspection. **Reluctantly approved.**
 - 1.4.7. 16IHR002 ladder entrance gate calibration. **Reluctantly agreed.**
 - 1.4.8. 16LMN01 MOC Special Operation of Unit 2 for Data Collection. **Approved.**
 - 1.4.9. 16LGS02 TSW Removal and ASW Installation. **Pending.**
- 1.5. FPP Change Forms.
 - 1.5.1. 16AppB002 – LMN-LGS Condition Sampling. **Approved.**
 - 1.5.2. 16JDA001 – JDA-S fishway operations for AWS turbine outages. **Denied.**
Temporary modifications may be acceptable but we need three workable pumps to meet criteria.

2. Action Items

2.1. NWW Action Items

- 2.1.1. [Feb 16] MCN ladder permanent closure. **ACTION:** Trachtenbarg will send out an MOC. **STATUS:** *complete.*
- 2.1.2. [Feb 16] LWG using JDA screens. **ACTION:** Morrill will write something up for distribution. The study will currently move forward as planned. **STATUS:** *Morrill provided two documents. Holdren explained the current testing plan. JDA screens will be in Unit 3. Targeting a sample size of 50 fish. Fish will be evaluated by SMP protocols. Results will be included in the weekly report. Morrill said WDFW defers to the current plan. Hevlin said NOAA is in agreement with the current plan as well.*

2.2. NWP Action Items.

- 2.2.1. [MAR 16] JDA-S lower three weirs. **ACTION:** Grosvenor and Cordie will figure out the lowest TDA forebay possible that still allows JDA-S to operate in criteria.
- 2.2.2. [MAR 16] JDA avian lines. 13 lines are still down. Waiting on a contract. Lines are at the navlock so re-installation may occur anytime. Cost is expected to be about \$200K. **ACTION:** Mackey and Grosvenor will check on the UFR request.
- 2.2.3. [MAR 16] BON PH2 FOGs. **ACTION:** Hausmann will write up a FPP change form recommending permanently closing the center FOGs.
- 2.2.4. [MAR 16] CI Subsidence. BON suggests running the conduit to the tower instead of the PIT tag building. **Morrill, speaking as the PTSC chairperson, said if its feasible, it makes sense to keep the detection site operational.** **ACTION:** Hausmann will get a cost estimate for moving the building to Morrill.
- 2.2.5. [MAR 16] Cascade Islands FV5-3. **ACTION:** Hausmann will send FPOM the date of the inspection as soon as he knows.
- 2.2.6. [Feb 16] Unit priority for PH1 when the main unit breaker is OOS. **ACTION:** Fredricks will pick a time and send out a notification. **STATUS:** *defer until sometime in the future. Can be removed from the agenda for now.*

- 2.2.7. [Feb 16] BON Weir 68 Bleed-off. **ACTION:** Hausmann will insert cautionary language in the BON dewatering plans with a note to conduct a test in the future. **STATUS:** *Language has been inserted. Still need to include the note to conduct the test. Hausmann said it would take time away from winter maintenance and that both ladders would normally be taken OOS. Rerecich suggested adding the info into the HELCRABS report or at least contacting Schlenker.*
- 2.2.8. [Feb 16] BON BI count station lamprey mods. **ACTION:** Hausmann will send out photos when the mods are completed. **STATUS:** *Hausmann provided a handout with the photos of the mods. The mods are visible from the count window if anyone would like to see them. WA Shore will be completed next winter.*
- 2.2.9. [Feb 16] NWP Oil spill plans. **ACTION:** FPOM will review for March meeting. **Status:** *this will be moved to a regular agenda item so FPOM will be sure to look at them. These plans address both small and large scale spills. The Projects will give short presentations at the April FPOM meeting.*
- 2.2.10. [Feb 16] BON FOG rehab. **ACTION:** Rerecich will look into previous studies investigating biological FOG use and send that to Fredricks. **STATUS:** *This has been completed.*
- 2.3. Completed Action Items or to be discussed later in the agenda.
 - 2.3.1. [Feb 16] LWG diversion gate update. **ACTION:** Pinney will resend the hydraulic evaluation of the PIT-tag antenna installation. NWW will provide an update next FPOM and try to have some alternatives for operation. **STATUS:** *discussed under NWW updates.*
 - 2.3.2. [Feb 16] 16BON03 MOC Blown AWS grating at PH2CC diffuser C4_updated. **ACTION:** Hausmann will update the MOC to address hydraulic impact, size of the chamber, and concerns of flow in the diffuser when it's closed. **STATUS:** *discussed under NWP updates.*
 - 2.3.3. [Feb 16] JDA-S AWS pump #1. **ACTION:** Zyndol will send Bettin an email stating funding need. Zyndol will update FPOM on status of JDA-S AWS turbine pump #1. **STATUS:** *discussed under NWP updates.*

3. Updates

3.1. NWW Updates.

- 3.1.1. Upcoming maintenance/construction/research activities. FPOM OUTAGES schedule available on the web site. **There is some slippage with LWG U1; still last on/first off.** LMN is underway and there are no issues. No contract for IHR fixed blade install; the schedule may slip. Added permanent bulkhead closure for MCN.
- 3.1.2. Wasco PUD at MCN. No update at this time. May be late summer before there is any movement.
- 3.1.3. LWG diversion gate update. Pinney reported that 5 day/week trapping will occur through 17 August. 7 day/week will be from 18 August until the end of the season. Concerns about debris were addressed by LWG maintenance agreeing to help ensure the area is cleared of debris. **No change in trapping proposed from 18 August on in the MOC.** Working with Marsh to use fish in the SbyC for the noise/vibration study. **Site visit scheduled for 7 April.** May have some false attraction when the SbyC loop is closed off. Monitoring will include visual observations and some minor adjustments. Sampling begins 1 April. Conder asked if Anchor would provide an estimate for how long it takes a fish to get from the lower antenna to the upper antenna for fish that go through the SbyC and for fish that don't. Pinney said that information would be collected. Conder asked if there would be construction on Saturdays. Pinney said there will be. Conder said the question he has is how the diversion will affect fish without construction. Conder also asked if the diversion gate

will be moved during high water temp periods. Pinney said if we get high temps, we will be operating the temp control devices. A temperature string will be installed inside the trap as well. Setter said the shield in front of Diffuser 14 intake will automatically be pulling water for the ladder and feeding the trap. Setter said NWW isn't expecting a temperature issue this year. As the season progresses, there may be in-season adjustments to the new pumps and shower device in the forebay. This will be a future topic. Conder said right now we don't know how effective the system will be. A more detailed discussion will occur after the site visit. Kiefer suggested looking at past data for an idea as to when we may have a temperature issue and to guide us in determining when to turn the pumps on. Kiefer said IDFG had some concerns about the splashing initially but concluded that fish evolved with large waterfalls so the splashing may not be as much of a concern. Morrill asked how deep the pumps pull from. **Setter said the shields go down to 60' or 70' below the surface.**

3.1.4. MCN Log Bronc. Waiting on a part. Once it arrives, it will take about two weeks to get it operational. A boat will be borrowed for the upcoming debris removal.

3.2. NWP Updates

3.2.1. Upcoming maintenance/construction/research activities. Includes coordinated MOCs.

3.2.1.1. 15TDA07 MOC 35 ton gantry crane rehab_updated. Cordie provided an update. Contractor is expected to be complete by the end of April. Fredricks didn't have a lot of concerns and recommended making loud noises outside the times fish would be entering the ladder.

3.2.1.2. 16BON03 MOC Blown AWS grating at PH2CC diffuser C5_updated. Hausmann clarified that the diffuser is C5 not C4, there was a miscout during the ROV inspection. Hausmann reported that the work couldn't be completed this week due to Nav lock overhaul. The collection channel would be out of criteria for about a day and a half. This would include shutting down the fish units. Hausmann said the transverse bulkheads will allow the north end to remain in criteria but there may be false attraction to the south entrances, though fish can easily exit through the FOGs. NOAA said they are fine with waiting on the repairs but it was CRITFC expressing concerns about delaying repairs at the February meeting. Hazers will be on-site to help move sea lions out of the channel, if needed. **FPOM members at the meeting agreed with getting the work completed.**

3.2.2. Winter maintenance recap

3.2.2.1. BON. FV1-1 rehab complete. Broken diffusers fixed if they could reach them. FG3-3 doesn't have the limits set yet. This valve is open and will remain so until the limits can be installed. Blackberries have been removed. WG1 is fixed. FV3-7 geyser has not been fixed yet. Bettin asked if working on the fish valves in October was beneficial. Hausmann said he felt it was helpful and gave the crews enough time to get the work completed without being rushed. Hausmann said BON also did a pre-season meeting to coordinate activities and people.

3.2.2.2. TDA. Cordie said most of the work was completed on TDA-E due to the sturgeon in TDA-N. New wheels have been installed on the weirs and they appear to work well. Conder asked how long the wheels last. Cordie said about two years, but the wheels are cheap and easy to change out. The guides were not in as bad a condition as anticipated. West and south entrances will be the focus next winter. 158 weir was moved back a slot and a slot filler was installed in the open slot. The weir was

originally a three leaf weir but was later converted to a two leaf weir. FSQ-7 still needs to be installed and will be used during the Back-up AWS construction. Fish Units were unstacked and bearings redone. TDA-N had a motor at the count station valve replaced due to the extremely short (1 hour) outage.

3.2.2.3. JDA. Grosvenor reported that JDA-N had a shorter, two week, outage. Everything looks good. Pump 4 will be installed the week of 13 March. Six pumps should be available by 1 June. Some mods may extend into next July. JDA-S subsidence is being looked at but may be wrapped up into the sinking parking lot.

3.2.3. NWP Project oil spill plans – presentations planned for April.

3.2.4. BON FV5-3. Hausmann explained that FV5-3 was repaired in the fall. It had significant structural damage. Not long after the valve was returned to service, the valve started making unusual noise when opened above 3’ or so. NWP engineers will come out the week of 13 March to inspect. The ROV will be dropped down to see what is going on. It would require the valve to be closed during this inspection. **ACTION:** Hausmann will send FPOM the date of the inspection as soon as he knows.

3.2.5. BON CI subsidence. Hausmann reported that this is supposed to be in a PDT downtown. He did speak with D. Warf about the value of the PIT tag detections. BON looked at possibly propping the building up. BON suggests running the conduit to the tower instead of the PIT tag building. Morrill, speaking for the PTSC, said if its feasible, we, PTSC, would like to keep the detection site functional. **ACTION:** Hausmann will get a cost estimate for moving the building to Morrill.

3.2.6. JDA-S AWS turbine update. Turbine 2 is still out of service but should be back in service as soon as parts arrive. Turbine 1 is out for the foreseeable future and needs major rehab. Turbine 3 spare parts were used for Turbine 2. Fredricks expressed concerns about not having spare parts and not having units running. He asked where the funding is for rehabbing these units. He stressed that all three pumps are needed to meet FPP criteria. He is not in favor of the FPP change form. **April FPOM will be at JDA so FPOM can see the system and also check out some of the JDA-S issues.**

3.3. Research/FFDRWG updates. www.nwd-wc.usace.army.mil/tmt/documents/FPOM/2010/NWP%20Research/Research.html

3.3.1. NWP FFDRWG scheduled for 14 March. Bettin asked if the agenda could be provided more than a day before. Rerecich said Tackley will be sending it out. He anticipated discussion on lamprey and B2 orifices.

3.3.2. Rerecich has a draft FGE report that he will send to SRWG. Conder asked if Rerecich would talk to that since he heard Absolon suggested the fish losses were due to the gap.

3.4. RCC update.

Table 1. RCC flow forecast

Project	Previous day average (kcfs)	5 day forecast average (kcfs)	10 day forecast average (kcfs)	Projected Peak
LWG	57	104	74	104 3/14
MCN	212	239	199	241 3/14
BON	237	270	256	275 3/14

3.5. Pinniped updates. Zorich reported low numbers of Stellar sea lions until this week, when numbers increased. Hazing is occurring on Tower Island. Conder asked if observers could see where the sea lions went once hazed off the island. Zorich said CRITFC is monitoring and hazing downstream and may see what happens to those hazed. There are two animals in

the forebay. Conder asked how 2016 compares to 2015. Zorich hasn't looked at that yet. Cordie said they are seeing one of the sea lions in the TDA tailrace regularly.

3.5.1. BON FOG barriers. Hausmann said the plywood barriers on the 8 open FOGs seem to be working ok. They don't look pretty but they are effective. Fredricks suggested allowing high school students to paint them with giant eyeballs. Fredricks talked about a potential permanent fix. He would like to see a proposal submitted. Bettin asked if this should be submitted to SCT. **Fredricks said, after looking through the data, he is willing to close off some of the center orifices.** He would like to see something on paper. **ACTION: Hausmann will write up a FPP change form recommending permanently closing the center FOGs.** Hausmann said the report that Rerecich sent didn't have enough information for him to know what to recommend. Fredricks said he wants to see what the Project would like. There are not enough bulkheads to permanently close those FOGs right now so a proposal for building more bulkheads (or permanently closing the FOGs) should be submitted.

3.6. Lamprey updates. Zorich said the team is gearing up for next season. The NDE flume will not be operated this season. The blown hatch will be repaired during winter maintenance. FFU will be working the trap and haul at JDA this year. Zorich said an error was found in the 2012 AFPR for lamprey night counts. Zorich said the numbers are correct on the website but not in the printed report.

3.7. Avian.

3.7.1. TDA avian lines. Cordie said the pole is fabricated and TDA is waiting on parts. Lines will be installed next week, after navlock overhaul.

3.7.2. JDA avian lines. 13 lines are still down. Waiting on a contract. Lines are at the navlock so re-installation may occur anytime. Cost is expected to be about \$200K. **ACTION: Mackey and Grosvenor will check on the UFR request.**

3.8. BPA updates. Nothing at this meeting, but Bettin knows there are a few outages coming up in the May timeframe.

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

4.1. 16BON08 Fish Unit floating times for Feb 2016. **No comments.**

4.2. 16JDA01 MOC Wing gate and weir removal from JDA-S. Grosvenor said JDA feels O&M could fund the wing gate removal but the weir removal would be outside the O&M budget. Mackey said the weir removal has gone through FPOM before. **FPOM was ok with the weir removal before and still are as long as there are no plans to operate at the low levels anymore.** Wing gate removal is a new issue. Fredricks didn't see a problem but Meyer hadn't looked at the MOC yet. Baus asked why the weirs were installed to begin with. **ACTION: Grosvenor and Cordie will figure out the lowest TDA forebay possible that still allows JDA-S to operate in criteria.**

4.3. 16JDA02 MOC JDA-S operation and AWS turbine repair. **Approved.**

4.4. 16MCN01 MCN Fishway Spill Entrances Permanent Closure. **Approved.**

4.5. 16MCN02 MCN Debris Spill Notification. **Approved.**

4.6. 16IHR01 fish ladder diffuser guide slot inspection. Conder said this sort of work should also be scheduled during winter maintenance. This one is also **reluctantly approved.**

4.7. 16IHR002 ladder entrance gate calibration. Conder had questions. Fone wasn't sure if the ladder would be out of criteria or not. Conder requested the MOC include language about whether or not criteria will be met. He also said we are too far into the fish passage season to be intentionally going out of criteria; this would have been better scheduled in November. He **reluctantly agreed** with the MOC but would like to see these actions occur during winter maintenance rather than spring.

4.8. 16LMN01 MOC Special Operation of Unit 2 for Data Collection. **Approved.**

4.9.16LGS03 SW Close Criteria to 50 kcfs. [SALN1]**Pending.** Setter explained some of her conversation with Kiefer about the numbers of fish passing during a normal flow year when flows get down to 50kcfs. Conder agreed with Setter during a normal year but during a low flow year things could be different. Setter said the form isn't specific to a low flow year. Bettin asked if this issue is covered in the AAR. Conder said it isn't. FPOM discussed this further. Kiefer would like to explore finding agreement based on dates, flows, etc. for language to include in the FPP. Setter said FPOM is deadlocked right now so this issue can be elevated if needed. Conder suggested Kiefer come up with some language to take to FPAC. Kiefer agreed to see if a trigger can be developed that is agreeable to all. Kiefer was also concerned about waiting to see if it becomes an issue in-season, because if we do not agree and it gets elevated, these issues take time and the longer we take more fish can die. Kiefer said he hopes we can find a trigger that is agreeable. Setter said this issue was sent to SRWG to look at a test. Bettin said we can't test because the fish won't be there by the time flows get that low. Kiefer and Bettin will talk later.

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

5.1. Pending FPP Change Forms.

5.1.1. 16AppB002 – LMN-LGS Condition Sampling. **Approved.**

5.1.2. 16JDA001 – JDA-S fishway operations for AWS turbine outages. **Denied.**
Temporary modifications may be acceptable but we need three workable pumps to meet criteria.

5.2. Potential FPP change forms.

5.2.1. Digital governor testing.

5.2.2. BON B2CC kelt trigger re-write. 2/2/20 needs to be explained so everyone has the same understanding. Wright is going to attempt a re-write.

5.2.3. NWW 1% operation. Setter will attempt to clean up some of the language.

5.2.4. Appendix C re-write. FPOM agrees this Appendix needs to be revisited but BPA is not yet ready to start that work.

6. Task Group Updates.

6.1. New Task Groups.

6.1.1. BON minimum spill to maintain good B2CC egress. (Fredricks and Lorz). Team members include: Bettin, Ebner, Hausmann, Mackey, Rerecich, Wright. Report from Laurie, waiting for ERDC information.

6.2. Active Task Groups. Currently no active task groups meeting at this time.

7. Other items.

7.1. Dworshak TDG. Fredricks asked about the degassers. Setter said DWR is spilling now and new gauges will be installed in the Chinook ponds this week. The DWR degasser graph may be found under the January 2016 FPOM link. Setter explained to Swank about the TDG and degassing system at DWR. Morrill mentioned that Nez Perce do not want to go above 110%. Setter said that gets us to a trade-off again. Sometimes flow augmentation is needed and that may increase TDG. Baus also explained that this issue will cross over several coordination forums so everyone should be aware of the different conversations. This will be a topic on a spring agenda.