

## MEMORANDUM FOR THE RECORD

Subject: Final minutes for the 14 December 2017 FPOM meeting.

The meeting was held in the 5<sup>th</sup> Floor Conference Room, CRITFC office, Portland, OR. In attendance:

Last	First	Agency	Email
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Chockley	Brandon	FPC	<a href="mailto:bchockley@fpc.org">bchockley@fpc.org</a>
Conder	Trevor	NOAA	<a href="mailto:trevor.conder@noaa.gov">trevor.conder@noaa.gov</a>
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Swank	David	USFWS	<a href="mailto:David_Swank@fws.gov">David_Swank@fws.gov</a>
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Trachtenbarg	David	NWW	<a href="mailto:David.a.Trachtenbarg@usace.army.mil">David.a.Trachtenbarg@usace.army.mil</a>
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Zyndol	Miro	NWP	<a href="mailto:Miro.A.Zyndol@usace.army.mil">Miro.A.Zyndol@usace.army.mil</a>

On the phone: Ebner, Kiefer, Peterson, Johnson and Swank.

Documents may be found at: <http://pweb.crohms.org/tmt/documents/FPOM/2010/>

## 1. Decisions made at this meeting.

- 1.1. November meeting minutes were approved.
- 1.2. LWG Phase 1B Outfall - FPOM concurred with the decision to remove inner corrugated flume.
- 1.3. IHR Turbine 1 and 2 (17IHR12) – FPOM concurred with the date change to August 6-17.
- 1.4. FPOM Guidelines are now finalized.
- 1.5. 17LMN13 MOC Unit 4 Blade Angle – FPOM concurred with this action.
- 1.6. 17BON74 MOC WA Shore Outage - FPOM concurred with Option 2 which is to delay the WA Shore outage until next IWW period.
- 1.7. 17BON75 MOC Spillway Rock Removal - FPOM concurred with this action through the end of February and if contracting cannot accommodate this request, then it will be brought back to FPOM.

## 2. Action Items

### 2.1. NWW

- 2.1.1.[Dec 17] **LWG Phase 1 A** - ACTION: Trachtenbarg will write an MOC for start of LWG JFF/JBS operations in 2018 if construction activities appear ultimately likely to delay FPP specified operations and/or dates.
- 2.1.2.[Oct 17] **LWG** - ACTION: Wright will look at the ability to pond water to continue spilling RSW or 2 stop deep spill. *Status: Completed.*

### 2.2. NWP

- 2.2.1.[Dec 17] **Pinniped Update** - ACTION: Zorich will follow up with Tidwell to see if the sea lions were hazed at Tower Island and what the results were.
- 2.2.2.[Dec 17] **BON Fish unit dredging** - ACTION: Hausmann will write an MOC with details.
- 2.2.3.[Dec 17] **Temperature Monitoring** - ACTION: Project bios will send project maps to Kovalchuk and Chockley.
- 2.2.4.[Dec 17] **Forebay Temperature Monitoring** - ACTION: Lundell will check on shifting the timeframe to start of June.

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

- 2.3.1.[Nov 17] **MCN winter JBS work** - ACTION: Johnson will write a list of work to be done on this project. *Status: Completed. Emailed on 11/13/17.*
- 2.3.2.[Nov 17] **Dam Angling By-catch** – ACTION: Morrill will follow up with WDFW managers. *See 3.9.*
- 2.3.3.[Sep 17] **17LWG22 NPE& NSE bulkhead closure** – ACTION: Setter will check to see if the work can start early. *See 3.1.1.4.*
- 2.3.4.[Oct 17] **TDA spill bays** - ACTION: Cordie will get a cost estimate for repairing spill bay 9. *Status: Completed.*
- 2.3.5. [Oct 17] **Wrap-up and discussion on Court ordered early start-up of by-pass facilities** - ACTION: FPP change forms are needed for JDA and LGS for the installations of the screens. *See 8.2.*

## 3. Updates

### 3.1. NWW

- 3.1.1. Upcoming maintenance/construction/research activities.
  - 3.1.1.1. FPOM outages schedule – LWG MU1 RTS date has changed from 21 December to 12 January. The project will be changing the blade angle of MU2 to make sure it is in 1%. LMN – MU4 is also OOS and is discussed under agenda item 7.2. LGS – AWS install is on schedule. There is a possible power/electrical issue that may require an extension of the IWW period. MCN - JCC rehab is scheduled to start late December early January. Johnson will update the progress in January.
  - 3.1.1.2. LWG Operation and Outages for JBS and Turbines (17LWG25) (Hockersmith) – There is a delay for MU1 and mitigation spill ended 15 December. All the orifice installations are complete.

**3.1.1.3.** LWG Phase 1B Outfall –The parts are being constructed to the original plans and specs and is on track to be finished by the end of January. NOAA and CRITFC have concerns about the corrugated section of outfall pipe. To meet NOAA criteria in the pipe, which is 12 fps, the final ~150' of outfall pipe has a corrugated liner being inserted to achieve the necessary channel roughness to meet the required velocities. NOAA (Conder) described several concerns with this section. Debris is the main concern because the pipe is enclosed and the project can't inspect it very well. Water (via humidity) can go up and over the edge of the inner liner or under the leading edge allowing water to pool on the bottom of the outer pipe causing corrosion issues in the future. The initial lip on the inner pipe is pre-painted and can't be welded so the connection may have corrosion or smoothness issues, particularly in the future after extended operations. Conder suggests removing the corrugated liner portion of the pipe. Removing the corrugated liner, at 40 cfs (upper operating range), the velocities would increase from 10-12 to ~16.8 fps at the end of the pipe 15fps, the depth would go from ~19" deep to ~13.45" to 10." and impact velocities would be up to 27-28 fps at low tailwater. NOAA feels that the changes in depth and velocities are better than the potential problems from the inner corrugated pipe and that from an O&M perspective, removing the inner pipe is better. Trachtenbarg will make sure all flanges are smooth and all connections for the outer pipe are grinded out. **FPOM concurred with the decision to remove inner corrugated flume.**

**3.1.1.4.** LWG Phase 1A – There are some schedule issues developing as discussed at NWW FFDRWG. The project is currently confident that they will be able to go into emergency by-pass by 25 March and normal FPP operation by 15 April even if some controls are still in manual rather than auto. In order to buy a little more wiggle room for time, the project would like to move the velocity testing of the primary and secondary dewatering screens to the summer or winter. FPOM was generally okay with waiting as long as some checks are done to make sure nothing is way off.

**ACTION: Trachtenbarg will write an MOC with details if construction delays appear ultimately likely to impact FPP specified JFF/JBS operations and/or dates for 2018. .**

**3.1.1.5.** LWG Spillway Baseline (17LWG24) – Completed. The results will be discussed at TMT or FFDRWG especially north shore erosion.

**3.1.1.6.** LWG NPE& NSE bulkhead closure early start (17LWG22) (Peery) – The contract has been awarded and cannot start early as hoped for. It will take place from January through February.

**3.1.1.7.** LWG Spillway gate seal (17LWG23) (Hockersmith) - The gate seal repair was added to the PIT installation contract which will be advertised in next couple of days. Conder asked about starting the seal repair in August and use deep spill instead to ensure that the work will be finished by April. It will depend on if the contractor can do the work with the spillway running. Spill could be shifted to other bays. This discussion will wait until the contractor has a proposal. The main concern is for the PIT installation not completed by April.

**3.1.1.8.** IHR Turbine 1 and 2 (17IHR12) – The original coordinated dates were August 20-29<sup>th</sup>. Comments received on the MOC requested to change to dates to the 6 - 17<sup>th</sup> August. **FPOM concurred.**

## **3.2. NWP**

**3.2.1.** Upcoming maintenance/construction/research activities.

**3.2.1.1.** BON Cascade Island Bridge (17BON69) – Working on temp bridge placement to allow Cascades Island subsidence repairs to proceed starting approx. 1-Oct-18, hoping to leave temp bridge in place for approx. 3 months after subsidence repairs complete

to provide crane access for fish ladder maintenance. Longer term bridge repair would occur well after the winter 18-19 IWW. SLEDS are in and will remain in.

- 3.2.1.2. BON Cascade Island Subsidence – Arranging for Savannah District sonic drill rig to drill 28 holes in late Jan 18/early Feb 18 to check for voids/contamination under the three crane pads and other locations within the path where we plan to install geogrid/geotextile. Goal: start interim subsidence repairs approx. 1-Oct-18; complete before winter 18-19 IWW begins. The project has no concerns about spill. For the actual repair work, excavation is expected but the project will know more after the core sampling. The work may affect fish passage at Cascades Island.
- 3.2.1.3. BON Fish unit dredging – Bradford Island will be dredged in February and the project is trying to modify the contract to have the fish units dredged the last week of January. This action requires a fish unit outage for two days. On the trash rack, it is mostly milfoil but from the survey, sediment is in front of the fish units. **ACTION: Hausmann will write an MOC with details.**
- 3.2.1.4. TDA AWS (17TDA20) – The pier nose blocks were installed in forebay. A 50' pipe was installed and buried next to the junction pool. The contractor is installing scaffold over the junction pool and chipping away at the cement beams.
- 3.2.1.5. PIT Tag room
  - 3.2.1.5.1. BON – This room is tied to the subsidence repair. Nothing can be done until after the subsidence repair. This item will be removed from the agenda until after the subsidence repair.
  - 3.2.1.5.2. JDA – Everything but the WIFI connection is completed.
- 3.2.2. Dewatering activities
  - 3.2.2.1. BON Bradford Island – The actual dewatering went fine but there was spalling found in the floor of the fish ladder in one area. Pictures were sent out to FPOM members. There was lots of sediment everywhere, especially in the diffusers.
  - 3.2.2.2. TDA East Fishway – The ladder was dewatered on 1 December and 2 December, personnel tried to dewater the channels but it was redone on 4 December. The lamprey weir caps are fabricated and will be installed this winter. \*The east fishway exit fishing regulations was brought up and Lorz still needs to follow up on this.
  - 3.2.2.3. JDA North Fishway – The ladder was dewatered on 4 December and will return by the end of next week. Low fish numbers for handling.
  - 3.2.2.4. JDA SMF – The PDS was dewatered on 30 November and went well.

### 3.3. Research/FFDRWG updates.

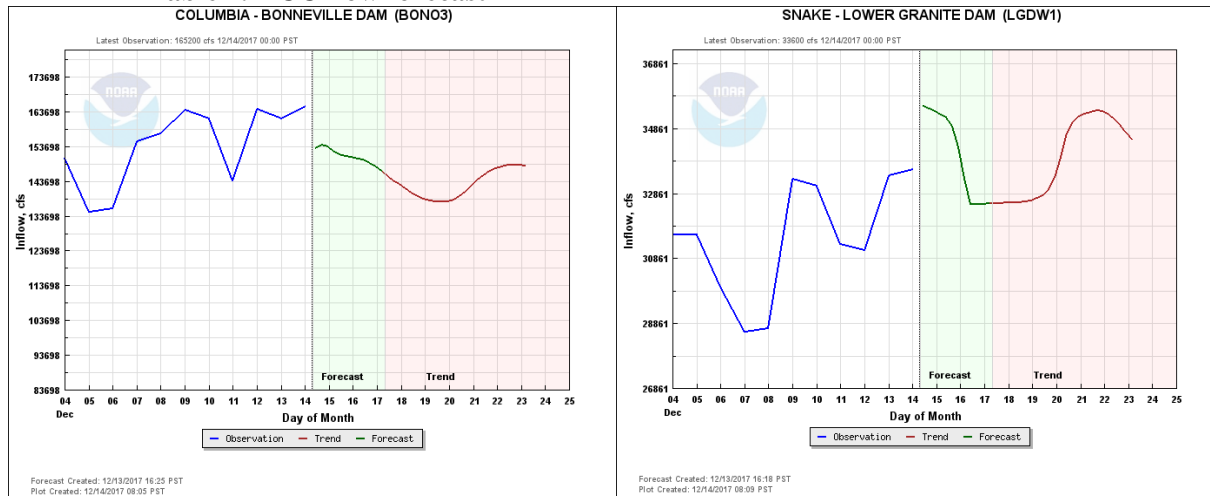
<http://pweb.crohms.org/tmt/documents/FPOM/2010/FFDRWG/FFDRWG.html>

- 3.3.1.1. NWP FFDRWG – Next meeting is 4 January, Block 300, Fireside Room.
- 3.3.1.2. NWW FFDRWG – Next meeting is 22 February.
  - 3.3.1.2.1. LMN – WDFW release of spring chinook – [Memo posted to FPOM website] This study is looking at survival at the Tuccanon and the project will need to release fish from LMN. WDFW will look at the website for the researcher guide for project access and talk to Chuck Barnes.

### 3.4. RCC update

Project	Previous day average (kcfs)	5 day forecast average (kcfs)	10 day forecast average (kcfs)	Projected Low/Peak (kcfs) and date.
LWG	37	33	35	33 (12/16) /36 (12/14)
MCN	147	130	138	128 (12/18) / 146 (12/14)
BON	160	142	148	138 (12/19) / 158 (12/14)

**Table 1. RCC flow forecast**



**3.5. BPA update – No updates**

**3.6. Fish Count Program**

**3.6.1. Next 5-year adult fish counting contract** – The team is working on the Performance Work Statement and taking to various committees for funding. The contract will be awarded as a Lowest Price Technically Acceptable Contract instead of Best Value Tradeoff contract. The cost of the contract is very large. About 15 businesses have applied. All candidates will be reviewed to make sure that they are technically acceptable. The QA/QC section will be different and there may be some automation in the future.

**3.7. Pinniped update** – There are 15-20 Steller sea lions currently in the tailrace and occasionally a couple of California sea lions. Monitoring is ongoing for abundance and take. Stellers are hauling out at the night on Tower Island and WDFW thinks that several of them are working the chum redds. Take numbers are down and it tends to be sturgeon and occasionally a steelhead. Although some chum predation by Stellers occurred before, it has increased this year.

**3.7.1. Fall/winter hazing** – Pinniped hazing starts 1 March. Adding increased hazing requires more funding but shifting the hazing dates could be accommodated. Last year, Conder requested that the sea lions on Tower Island be hazed to see if they could move them from the island but the results or even if it was done are still not known. **ACTION: Zorich will follow up with Tidwell.** Stellar sea lions have been delisted, branded and collecting data on but not added to the permit.

**3.8. Lamprey update** – The LPSs are shut down for the season. Zorich is working on PAO press release about the large run size this year.

**3.9. Avian update**

**3.9.1. BON (Hausmann)** – No update. The avian line installation is on hold till after the rock removal.

**3.9.2.TDA (Cordie)** – The project would like to increase boat hazing in May depending on budget. Lorz suggested a connection point on the wall to make a grid or double layer of lines but the bigger issue is past the bridge. The COE is still working the ownership of the island. Lorz will discuss with Division staff about the results of the task group meeting.

**Add the Task Group back to the agenda.** The task group will meet again to see what the projects are currently doing and how to improve. The next meeting will be in January.

**3.9.3.JDA (Zyndol)** – The contract is going on schedule. All original lines will be replaced.

**3.9.4.MCN (Johnson)** - MCN is moving forward on the new sprinkler and is considering avian lines. Bird numbers are dropping as typical for fall.

**3.10. Dam angling by-catch (Morrill) – No update.**

4. **Temperature Monitoring (FPC) – Power Point Presentation** [posted on website] – In 2016, FPC first started receiving data from the COE at all 8 FCRPS projects. FPC offered services for publishing to web with queries. In order to accommodate changes to the temperature program, changes are needed for 2018. The queries display the differentials between entrance and exit and also other locations. In 2017, NOAA recommended guidelines for the probe locations which resulted in several changes. FPC had to maintain two queries for the different years/locations. In the future, the locations will be labeled differently to facilitate any changes while using one database. The ladder is broken down into three regions: entrance (TW), exit (FB) and middle (MD). Each region is broken up into segments which will be divided strategically where water temperature may change like from a diffuser. For a user at the project, a name change is required only. For NWW, FPC has maps and will break up the ladders into segments for the January meeting. For NWP, FPC will meet with each project. Conder suggested not using TW and FB so it doesn't get confused with a monitor in the forebay and tail water. All data can be downloaded from the website. Setter suggested multi year comparison. Bettin recommended documenting when a probe has moved within a section with the reason. Suggestion to name the probes after the weir elevation. All names have to have the same number of characters. The hobo locations are based on the FPP language. **ACTION: Project bios will send project maps to Kovalchuk and Chockley.**

**4.1. BON temperature probe locations** – BI will install hobo probes this year and the old monitors will still be in use at WA Shore. The locations were decided through FPP change form.

5. **Forebay Temperature profiles (Lundell)** – The strings will be installed 18 June and removed at the end of October for all three projects. Bettin suggested installing the equipment in before spill and the B2CC start. The locations are near shore and should be sheltered from the spill. The team has concerns about the hobo strings surviving the high flows. The study design has two locations at BON and one each at TDA-E and JDA-S with three different strings per location and a min of 100' away from the fish ladder. A fourth string will be attached to the dam. Conder would prefer by June 1<sup>st</sup> or before. **ACTION: Lundell will check on shifting the timeframe to start of June.** JDA is most critical then TDA and BON.
6. **FPOM Guidelines** – No further comments. Setter explained the comment on removing NWD was based on the TMT guidelines. The guidelines have now passed through the legal hurdles and accepted by the FPOM members. These guidelines are finalized.

7. **Coordination/Notification forms (need concurrence/discussion)**

**7.1. 17LGS19 MOC T1 Maintenance** – Completed. Peery will send after action update.

**7.2. 17LMN13 MOC Unit 4 Blade Angle** – MU4 was taken out of service due to an oil leak in the blade seals. LMN is down to two units but intends to be back to 4 units by spring. On 18 December, the project will set the blade angle to the top end of the 1% range. However, in order to access the area to drain the water, the blade angle may have to be flatter. This means that the angle may be more in the mid-range of 1%. Units 2 and 5 should be returning in January. If

possible, the project will start on the blade seals in early February. With the repaired blade seals, the unit can return as a Kaplan. If the project cannot get the blade seals for unit 4 in through the emergency order, then the project would start on MU3. MU3 startup has extreme vibration problems and the project may have to change the blade angle to flatter on that one as well. The start-up/shut off sends an alarm back to BPA. Flattening the blade angle takes about a day. The 1% testing will be the last week of January. The project has the funding to fix three units this fiscal year – units 5, 4 and 3. MU2 will stay in service until MU1 returns. From October to December, there is a dewatering pump contract so no turbines can be dewatered during this time. Lorz recommends a drop dead date on the blade seal fix to keep turbine capacity for TDG. The project strongly intends to have four units no matter if they fix unit 3 or 4. In the after action update, information about unit 3 start-up vibration will be added. **FPOM concurred with this action.**

**7.3. 17TDA28 MFR East Fishway Lamprey Mortalities**

**7.4. 17BON73 MFR Spillway Attraction Flow**

**7.5. 17BON74 MOC WA Shore outage** – One of the north entrances is not functioning through the range of depths and now one of the south entrances is also affected but only the north side would be dewatered per the MOC. Conder recommends waiting on the dewatering due to the Rock Removal project and the high probability of having flows high enough to use PH2 creating potentially more predation by sea lions. There are two other entrances plus floating orifices that would be in criteria. Mackey suggested leaving the gate in the down position so when TW rises it won't get stuck in a higher position. Lorz feels that there is so much sediment that it is taking a huge chance of losing a diffuser. CRITFC is apprehensive about waiting on the repair. Hausmann will check to see if the previous ROV inspection was recorded and if not another one can be scheduled. In 2011, a diffuser was blown but the clips had rusted. An ROV inspection would pick this up. **FPOM concurred with Option 2 which is to delay the WA Shore outage until next IWW period.**

**7.6. 17BON75 MOC Spillway Rock Removal** – Conder has concerns about the range of dates listed in the MOC and thinks that the work should be completed in the IWW period. The range of dates is due to the fact that the contract has not yet been awarded. The goal is to be done by the end of February. For this work, when the material in Bay 2 is being removed, attraction spill in bay 1 will most likely off but the attraction spill on the other side is fine. The project requested to leave on the attraction water as long as it is safe. No divers are anticipated for the apron work; they will use Blue View to find the rocks. When the barge is setting, the flow at bay 18 may be shut off. **FPOM concurred with this action through the end of February and if contracting cannot accommodate this request, then it will be brought back to FPOM.** Ebner stressed that the project can't spill the juvenile pattern with the rocks in the way. There could be forced spill in March and this needs to be done in February. Every effort will be made to get this work completed during the IWW and will come back in February if there are any issues.

8. **Fish Passage Plan:** Change Forms are available online at:  
<http://pweb.crohms.org/tmt/documents/fpp/2017/changes/> (2017) and  
<http://pweb.crohms.org/tmt/documents/fpp/2018/changes/> (2018).

**8.1 Pending FPP Change Forms**

**8.1.1.** 18DWR001 – New Project Section (Setter). [*Pending revision/decision from subcommittee mtg on Dec 18*]

**8.2. New FPP Change Forms**

**8.2.1.** 18OVE001 – TDG Management (Wright)

**8.2.2.** 18BON002 – Temperature Monitor Dates (Bissell)

**8.2.3.** 18JDA001 – March 1 Bypass Start (Zyndol, Wright)

**8.2.4.** 18JDA002 – Minimum Spill Clarification (Bettin)

**8.2.5.** 18MCN001 – Work Near Fishway (Setter). *Also for all NWW projects.*

**8.2.6.18LGS001** – March 1 Bypass Start (Setter, St. John)

**8.2.7.18AppB001** – LGS March 1 Bypass Start (Setter, St. John)

9. **Task Group Updates.**

**9.1.** BON minimum spill to maintain good B2CC egress. (Fredricks and Lorz). Team: Bettin, Ebner, Hausmann, Kovalchuk, Rerecich, Wright. Pending until Ebner can coordinate the test.

**9.2.** Dworshak Operations – Next meeting 18 December from 2:30 – 4:00.