CENWP-OD 14 January 2016

MEMORANDUM FOR THE RECORD

Subject: Final minutes for the 14 January, 2016 FPOM meeting.

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

Last	First	Agency	Email
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Bailey, Burgess, Drobish, Hausmann, Holdren, Ivy, Izbicki, Johnson, Laughery, Martinson, Meyer, Moody, Morrill, Pinney, Rogers, and Sears called in.

January birthdays include: 2016
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.** December meeting minutes approved, with edits.
   - **1.2. Coordination/Notification forms (need concurrence/discussion)**
     - **1.2.1.** **16BON01** BI exit larval lamprey survey. ***No comments.***
     - **1.2.2.** **16TDA01** TDA-E fish mortality. ***No comments.***
     - **1.2.3.** **16 LWG 001** Slot A gatewell testing of John Day Fish ESBSs at Lower Granite Project. ***Testing may commence with data provided to FPOM as it comes in. Testing will occur sometime in March in the A slots of units 2 and 3, with no testing of B and C slots. A teletype will be created to ensure units are run equivalently and at the top of the generation band during testing.***
   - **1.3.** FPP change forms (see details in section 5 below)
     - **1.3.1.** Review will occur at the 28 Jan FPOM Change Form Review Meeting.

2. **Action Items**
   - **2.1.** NWW Action Items
     - **2.1.1.** [Jan 16] Wasco PUD at MCN. **ACTION:** Martinson will provide an update at the next FPOM with proposed ladder operations.
     - **2.1.2.** [Jan 16] MCN FOGS. **ACTION:** Setter and Johnson will come up with a multi-year plan for FOG rehab and distribute it for the Feb FPOM meeting. Johnson will send Fredricks the 1985 MCN report with FOG passage data.
     - **2.1.3.** [Jan 16] LWG diversion gate update. **ACTION:** Pinney and Holdren will work with the researchers and report back with trapping activity information.
     - **2.1.4.** [Jan 16] DWR degassers. **ACTION:** The DWR hatchery will redo the graph removing outlier points, Setter will distribute and it'll go on the website.
     - **2.1.5.** [Dec 15] Wasco PUD at MCN. Martinson said they've been doing more inspections and found more faulty welds, and the timeline is slipping. No additional details are available, it's looking like June or July. Fredricks asked if the issue was with the crane, Martinson said no. He wasn't sure which components exactly but it was looking extensive and like they were from the original construction and not the drop. Fredrickson said there was supposed to be more info provided to FPOM on how the ladder would be operated. Martinson said they would be provided. ***ACTION:*** *Martinson will provide an update at next FPOM with proposed ladder operations.*
     - **2.1.6.** [Dec 15] LWG flat spill. Concern was they might not be able to do outflow work with the RSW flow in the tailrace. Hevlin said they did enough work at ERDC to feel comfortable providing flat spill. The outflow work is the priority, they should spill what they can, and they would focus on in-season management. If they start on the shoreline, they'll only be spilling until Nov 15, which gives a month of work during spill. They could start on the shoreline where there's less spill effects. Laughery said that having spill provides more flexibility in operations. Setter asked if they'd be able to operate the RSW until Nov 15 and then do flat spill, Laughery said yes. Condor said the revised MOC said that the RSW would be in operation until Nov 15 and then spill would be curtailed, the MOC should be updated to reflect the use of flat spill after Nov 15. Setter clarified that as part of the JFF update, on Aug 1 screens would be pulled and the bypass collection would be closed, RSW operation until Dec 15 was part of the mitigation, but that impacted barges working in the tailrace. Flat spill was an option to still spill and still allow barges in the tailrace. Lorz stated that this operation was originally planned for fallbacks and flat spill wouldn't be a benefit. Bettin said ice at the top of the RSW could be another issue at that time of year.

Setter said the bottom line was then that there could be a lot of in-season management. Baus asked if there was any feedback from contractor. Setter said they awarded the contract based on all the PH work, there was a separate contract for the bypass outfall. They were not intended to be done at the same time but now that that is happening, the contractor is starting to talk of safety issues etc. Laughery said that at MCN having spill actually helped, it should create a better environment than a PH-only operation. Bettin said it's more likely you can't spill in order to have a barge [in the tailrace], in the majority of cases. Setter said for now things are OK and they'll continue until there's an issue. Lorz said once you move downstream they might not have as many issues so time phasing could be looked at. Laughery said they wouldn't direct the contractor on that, they will do what's the most efficient. ***STATUS:*** *The MOC will be revised and folks can provide comments. If there aren't any, the next time the topic comes up is in August.*

2.2. NWP Action Items.

2.2.1. [Jan 16] Unit priority for PH1 when the main unit breaker is OOS. **ACTION:** Hausmann will set up a visit for FPOM to observe PH1 operations in early March.

2.2.2. [Jan 16] BON CI subsidence. **ACTION:** Hausmann will put together an MOC.

2.2.3. [Jan 16] BON Weir 68 Bleed-off. **ACTION:** Hausmann will update the BON dewatering plans to include use of the Weir 68 Bleed-off valve during WA-shore-only operation.

2.2.4. [Jan 16] BON BI count station lamprey mods. **ACTIONS:** Hausmann will put the potential mods together in a MOC.

2.2.5. [Jan 16] TDA Avian lines. **ACTION:** Cordie will provide FPOM updates.

2.2.6. [Dec 15]Unit priority for PH1 when the main unit breaker is OOS. Hausmann said the outage coordinated has been postponed, so this topic is a moot point. The contractor was having issues and so they're skipping Bank 9/10 and skipping to the next one. There will have to be another discussion to decide where to put the outage. Bettin said it'd still be a good idea to look at hydraulics [at PH1 tailrace] now, ahead of time. Hausmann said 9/10 could get pushed for over a year. Fredricks said he's only concerned with the units next to entrances, there could be eddies and the current unit priority likely wouldn't cut it. He'll like to go out to the PH1 and take a look, preferably when it's warm. March is a good time. ***ACTION:*** *Hausmann will set up a visit for FPOM to observe PH1 operations in early March.*

3. Updates

3.1. NWW Updates.

3.1.1. Upcoming maintenance/construction/research activities.

3.1.1.1. FPOM OUTAGES schedule available on the web site. Bridge crane work is still ongoing at LGR, there's no slip in schedule yet. LMO have started getting a contractor ready to mobilize and that's on-schedule. LGR nothing has shifted. Lorz asked if unit 1 had shifted to March, Setter said yes, it still could slip a couple more weeks. The unit 2 fixed-blade install still has to go to contracting, so there's uncertainty in the date currently. Hevlin asked if Unit 1 was taking longer, Setter said yes because it's not just the linkages. They have all the lead-time parts, it's a matter of doing the work that takes time.

3.1.2. MCN FOGS (Johnson, Griffith). Johnson said MCN originally had 44 FOG slots, it was reduced down to 30 and the last fish passage study showing FOG usage was with the 30, it's since been reduced to 12. The study showed that 18% of fish used the FOGs, 5% of fish used the north FOGs, 13% the south. They've rehabbed FOGs from slots 3, 4, 14, they'll put those back in. 1, 43, 44 was planned to be pulled next.

Fredricks asked about the condition issue, if there were ones in poorer condition. Setter said the ones in poorer condition were the ones pulled, the rest were in the same condition relatively. Fredricks asked if they were going to put rehabbed orifices back in the ones they were taking out and he wants them to put them into the most-used slots. Johnson said numbers 1, 3, 4, 14, 33, 44 would be done after two years. 3, 4, 14 are currently bulkheaded. Fredricks said if they're bulkheaded, if rehabbed ones should be put back into the 1 slot, and keep the end ones running. Setter added they don't have issues with guides slots at MCN that they know of, Johnson agreed and said the connecting points were the issue in slot 14. Johnson will put rehabbed ones in 1, 3, 4, keep 14 bulkheaded, and work on 41, 43, 44 this winter and so those will be bulkheaded. They have bulkheads that aren't inspected that can be used. Setter said there would be 8 FOGs operating and is confused at where they lost a FOG. Fredricks requested a multi-year plan on paper. **ACTION: Setter and Johnson will come up with a multi-year plan and distribute it for the Feb FPOM meeting. Johnson will send Fredricks the 1985 MCN report with FOG passage data.**

3.1.3. LGS ladder Temperature emergency cooling (Ivy). Setter said they've been trying to secure funds to scope feasibility at LGS. Ivy said they received funding for the scope to add cooling water to ladder. They have no recommendation at this time, and no money at this time for a contract. Setter said the endpoint for scoping is late Feb/early March for a feasible alternative. Until they get a little further in they won't have more updates. Condor asked what the plan is to fund a feasible alternative. Setter said they'd need to look at data as to how much improvement there would be, can take input from others as to interest, but can't commit to an action. Condor and Lorz said there was interest from FPOM, Condor said there's been data from 2000-2002, in two of those three years the water got to 80 degrees F at the ladder exit, there were a lot of instances of water above 75 degrees, and that there were often 12 degree differentials between the ladder entrance and exit. Setter said there's a history in spring of having adult passage issues with the TSW. She said they don't have much adult passage in the afternoon when temps are high. There's fragments of data here and there and that there needs to be data looking at passage too. Condor said he could send a 2004 USACE-funded report that recommends a corrective measure. Setter said that was never carried forward in the 2011 temperature study. Hevlin said he's heard that a reason the reservoir was cooler after 2004 was due to water release at DWR, if there's a failure in the chain and they don't release enough at DWR it can take weeks to cool the LGS forebay back down. Setter said the change in spill program changes it as well. Hevlin said it seems prudent to continue to work on a backup. There's one ladder there, you need to be able to cool it down. Setter said that Ivy is investigating a temporary measure. There is a separate project investigating long term alternatives and it will produce a report later this FY. **STATUS: A report will be out in September by end of FY.**

3.1.4. LWG diversion gate update. (Holdren) Setter said she believes this is related to noise monitoring. Condor said that the evaluation of noise monitoring was hampered due to the number of sample fish going through the trap, so they weren't sure if any effect they were seeing was due to noise or due to the trap, it raised alarm because 90% of fish are going through a trap instead of up the ladder. They heard it was due to the archaic system of the diversion gate and want to know if there's a possibility to fix that. Holden said there's three different gates, the diversion gate in the return pool changes the operation from migrating to moving up the ladder. When in trapping mode it allows all the fish to go to the attraction pool. They then go into a flume system and into a trap. They then are handled or to into a return trap that takes them back to the ladder. The issue is once they are in the attraction pool, the only way out

is via the return channel and once they're in there they can't come back down the ladder into the return pool. So when the gate's in trapping mode the fish can't return back down the ladder, so a fallback fish can't go back down. Condor said it's not volitional passage basically. Holden said yes, but that trapping doesn't mean they're handling all the fish. She looked at the ladder, moving the gate in the turn pool is simple, but if you change the operation there's still attraction flow so the fish will still want to head that way instead of up the ladder. A possible solution is to reduce flow in turn pool, then switch position of gate, and leave archaic return gate open so the fish trapped in there can go back and forth. There are options, but if they didn't leave that gate open would have to essentially dewater the ladder every day which requires operating the archaic gate. Setter asked they could move the gate out of the water. Holdren said it's on a pivot and stays in the water (return pool diversion gate). Setter asked if there was an alternative for this year. Holdren said there's concerns by folks operating trap they'll have to dewater the whole thing. It looks like there's two different supplies and there is a possibility but she needs to talk with folks that operate the trap. Pinney said they talked with them yesterday and got their schedules. Until August 18 they trap 5 days a week. They're willing to pull the return pool gate from Fri – Sun afternoon. Come 18 Aug they go to 7-days trapping. That's the point where a plan needs to be figured out. There are instances where they open the return gate. **ACTION: Pinney and Holdren will work with researchers and report back with trapping activity information.**

3.1.5. DWR de-gassers. (Izbicki) Setter passed out a 2014 graph from DWR hatchery. Steve Rogers said prior to 2013 water was degassed by packed columns. In 2013 half were degassed with new degassing columns. In 2015 USACE replaced the other half of packed columns. So the new columns didn't double the degassing capability, just changed the column system. Setter asked for comment on a comfortable point at which you start to impact all juveniles. Rogers said they see GBT frequently at DWR under current operations. Combined with other factors that can have a significant impact. Any saturation over 100% can impact fish, over 110% it must be remediated in a hatchery. They recommend saturation at or below 100%. They're going to start doing legwork to see if there are systems they can employ to offset unit 3 coming out. Bettin asked when they're on river water, Rogers said there's some fish on river water year-round. Lorz asked what time of year the graph TDG data were collected, Drobish said it was 9-10 September to 15 October. Condor asked about 102% being a TDG cutoff, that's a big difference on the graph in terms of river TDG. Izbicki said the data was collected at the source where water entered the facility and it picks up another percent as the water enters raceways. Fredricks asked if that was due to temp, Izbicki said it's the plumbing, putting water into a pipe. Bettin asked what the highest TDG was they could handle in the spring. Rogers said it's 100% as a fish culturist, fish may live above that, but it's hard to capture confounding factors like algal growth, etc. So he's not comfortable giving a figure. Setter asked if there's any forecast on how the 2014 fish year-class did. Izbicki said last year they didn't meet the return target, and won't again this year. Baus asked for a recap of what was learned in 2014. Drobish said in with the waiver the highest in-river TDG was 116%, packed columns got to 105%, the vacuum degassing side was at 103%; at 110% in-river the vacuum degassers do well in handling that. They routinely see GBT in what's considered relatively good-quality water at just over saturation. Hall said on the graph there looks to be two bodies of data, and why. Izbicki said the higher saturation points on graph are periods of time where there were malfunctions in vacuum pumps. After correcting for that most data clusters around the line. Condor said then they should exclude the high data points and run a new trendline which will

cause the line to drop and allow more TDG in the river. Lorz said you don't need a trendline if you have data at specific points. Hall said so based on the data points, ideally they'll operate no more than 108-109 [in-river] then they should be okay in the raceway. Van Dyke asked if they'll be retesting [TDG at the hatchery] with the new setup. Setter said there are no future plans, they tested both columns separately. Hall said as they go through the outage, it may be useful to retest at the hatchery. They may want a USACE person measuring. **ACTION: DWR hatchery will redo the graph removing the outlier points, Setter will distribute and it'll go on the website.**

3.1.5.1. Operation discussion. Hall said in 2014 when they lost unit 3, before they got a waiver they were able to pass 1.6-1.8 kcfs, 0.4 through units and 1.2 – 1.3 through spill. So it really constrains what they can release. It's 40-45% of normal capacity. They're refilling the reservoir starting in fall, in low-water years they'll try to fill through June. The ideal TDG year means spilling minimally. Large water years they'll try for 110% but they have a waiver for flood control. Looking forward, it'd be prudent to be a little lower [reservoir] than normal in the draft period, then they can stretch the draft out and minimize time they have to operate above 110%. In the summer time when they lost unit 3 that was worst-case. July-August they're running at full PH plus for temps and augmentation. Hopefully unit 3 won't impact summer months, they're taking every measure possible. Lorz said they'll have to hope for a decent fill year, or they'll have no flow at DWR for spill. Hall said for flood control, they could operate normally and take a risk for TDG. In spring the average flow in April is a range. Lorz said a risk-reward analysis needs to determine action. They need to plan now for a waiver. Setter said they couldn't have a waiver for hatchery fish. Lorz said it's not just about hatchery fish, but for fish in the river. It's a balancing act. Setter said it's important for the B-run steelhead program and Spring Chinook program so she thought this topic was important to bring up. Bettin asked about moving hatchery fish, Setter said this might not be the forum, and she thought that would be a sensitive topic. Hall said this discussion is for 2017. It'll come down to in-season management decisions, folks will have to look at trade-offs when they get there to decide what makes sense. Lorz said they may want to look at submitting paperwork now to allow more options. Bettin said once they run beyond hydraulic capacity there's no need for a waiver.

3.2. NWP Updates

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

3.2.1.1. 15BON87 PH1 main unit breaker replacement. Cancelled. This will go out when they have an updated schedule.

3.2.2. BON CI subsidence. Hausmann said they're putting together a PDT. They want to do an ROV of outside of riprap next month, which would require closing spillbay 1. Fredricks said bay 18 is out due to Bradford OOS, he'll need to consider that there would be no spillway attraction for adults. **ACTION: Hausmann will put together a MOC.**

3.2.3. BON Weir 68 Bleed-off. Hausmann said it appears to be exactly for what they used it for. It's mentioned in HELCRABS but not its usage. It seems to compensate for the 75 cfs that goes down the UMT. Fredricks requested it be documented in the FPP for

the next time they have a similar operation. Mackey said dewatering plans would be better place for the information. **ACTION: Hausmann will update the BON dewatering plans.**

3.2.4. BON BI count station lamprey mods. Hausmann said they want to put perf plating down in front of the crowder at Bradford Island, he wanted to know if anyone had any issues. Fredricks asked for a picture or plans. Lorz asked what the purpose of the perf was. Hausmann said it's just on the floor to prevent fish from attaching to ground right there and prevent the crowder from moving over them pinching/crushing them. **ACTIONS: Hausmann will put the potential mods together in a MOC.**

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

3.3.1. On 12 January they had a special call for B2FGE. NWP received no opposition for continued planning and installation across powerhouse 2.

3.4. RCC update.

3.4.1. Website update. The change to the website didn't happen, it should be coming. Baus anticipates the TMT website links may not work, so save links that you use. Lorz asked about the FPOM website. Mackey said right now it's staying where it is, when it moves to BPA things will be updated. Fredricks said many links are broken, Mackey said let her know when that happens so it can be fixed. Don't wait for the move to BPA. Lorz asked when the BPA move would be, Mackey said she's waiting for Wright to take the lead for TMT.

Table 1. RCC flow forecast

Project	Previous day average (kcfs)	5 day forecast average (kcfs)	10 day forecast average (kcfs)	Projected Peak
LWG	20	25	23	28 (1/14)
MCN	135	126	118	138 (1/14)
BON	150	142	131	154 (1/14)

Morrill asked if those numbers reflect the Canadian release. Baus said no.

3.5. Pinniped Update. A CA sea lion (SL) #U625 is still using the forebay trap. Observers are working now, there's an average of 12 Steller SL per day (no CA SL), predation is minimal, reports will start next month. Baus asked if they anticipate less animals at BON due to reports of emaciated, starving, and dying sea lions. Zorich said there's probably not a big correlation between SL population at large and the population at BON due to learning behavior. Fredricks said there was a record number at BON last year. Bettin asked if Astoria numbers have increased a lot over the past years, Fredricks said yes. Bettin asked if the FPP was modified to leave SLEDs in all year. Fredricks said no. Mackey said they could not be in September for fall Chinook run. She said they would check the FPP.

3.6. Lamprey updates. Lorz asked when they'd get a final count for lamprey. Zorich said they have an average estimate for ladders, they're waiting for a missing piece (WA LPS). Four of five LPS counts are in and they're looking at video. It'll likely be another month or two.

3.7. Avian.

3.7.1. Cordie said they've lost some lines at TDA. The pole for the west avian lines broke and are laying in the water. There's 26 lines on that array. They were just able to pull 6 out and save them. One broke. They're working on trying to save more. It covers the west half of the powerhouse. Depending on how many they can salvage will determine if USDA will need to come out and restring whole array. They don't get that many birds in that area. They were put up before spill, so he wasn't sure if they needed to put it back. Lorz said that based on bird numbers they'd need to put them

back. Cordie said that area is very haze-able. Lorz said if they had lethal take that would be one thing, but they don't so they need to go back in. Cordie said everything is laying pretty nicely right now so there's no tangling. They did find some good anchors along the shoreline that will work for salvaged lines. Cordie said if they can salvage enough they may make it through the season, Fredricks said it depends which ones. Cordie said funding will be an issue to replace those lines. Setter asked if they'll still be able to do it next year, USDA was going to close their field station. Mackey mentioned BON had installed their own due to limitations in the USDA schedule. Fredricks said don't slap something together, do it right. Cordie said originally the lines were a PR move. Fredricks said do an every-other-line in the array if possible, minimize gaps. With hazing that should work. Bettin asked about drone hazing. Cordie said for the USACE to operate a drone requires an incredible amount of red tape. Zorich said previous use of a drone wasn't at all effective.
ACTION: Cordie will keep FPOM updated on TDA avian line status.

3.7.2. JDA avian lines have moved to CRFM.

3.8. BPA updates. Nothing to report.

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

4.1. 16BON01 BI exit larval lamprey survey. **No comments.**

4.2. 16TDA01 TDA-E fish mortality. **No comments.**

4.3. 16 LWG 001 Slot A gatewell testing of John Day Fish ESBSs at Lower Granite Project. Setter said since the last time they've only been operating the retro-fitted JDA ESBSs in the B and C slot. They want to investigate useage in A slot for flexibility. If they lose A slot, she doesn't want to have to move 3 screens to replace that slot. Holden said she's trying to keeping the testing similar to what was done in 2013. Regarding changing unit priority, the minimal time to dip the slot of unit 2 is 1 hour and unit 3 is ~2 hrs. Earlier in the season they could test gatewell slots in units 4-6 which aren't priority units, which shouldn't impact adult passage. If they moved the gatewell sampling earlier in the season (Mar-Apr) they should be able to look at outmigrating spring Chinook and possibly Steelhead and not impact sub-yearlings. She clarified they have no intent to start the season with a JDA screen as a spare or in an A slot. Fredricks asked if they've done a complete hydraulic evaluation of the two screens in A slot. Setter said yes and there isn't much of a difference. Hevlin had had some issue with past data collection which is how we got to this point. Setter said during previous testing they were able to test the B and C slots but by the time they got to A the sample sizes were extremely low, and since A pulls in the most flow and potentially fish Hevlin had wanted more info. Holden said the project is flexible on the date of testing, they just want to be able to do it. Condor asked if they'd get enough fish in March. Holden said that collection around late March was ~5000 fish a day, with a peak in mid-April. Hopefully they'd get enough fish in the net but not too much. Setter asked how many dips per gatewell slot if they only get 10 fish and how deep. Holden said if she needed to dip further for more fish, it'd be incrementally in 5-ft depths. Condor asked if descaling would be seen at the SMF. Morrill said no, descaling was minimal during the last testing. Condor's concern is that holdover fish are a little stronger, Fredricks said colder water causes descaling. Setter said if there's a problem in the system, often larger fish are worse. Condor said it sounds like it's not really an issue. Morrill said you don't really see many larger fish and most are holdover fall Chinook early in the season at the JFF. Hevlin said he doesn't have an issue doing sampling in March. He asked if they'd leave it in slot A of unit 2, Holden said she was going to leave it in slot A of unit 3, she'd like to leave it in there and look at it later in the season if that's ok. Hevlin said that would be good. Setter said in the past there was a control and experimental unit, was that still the plan. Holden said yes, the plan was to compare A slots between units 2 and 3, and look at the screens between 2 and 3. Fredricks is concerned with sampling too many fish,

Hevlin said there wouldn't be that many. Setter suggested presenting data as they get it and folks could weigh in if they wanted it to continue. The plan was to dip A slots of units 2 and 3 and also dip B and C slots of unit 3. FPOM said don't dip the B and C slots. Condor asked how many fish total. Holden said it'd be 450 fish. Setter said that sounds like more fish than they were targeting last time, they were looking at no more than 100. Holden said the number was over a 3-week period. 35-50 fish per gatewell, so ~75 fish per week. Setter asked if they're doing it on the same day of the week, Holden said would do it on the day when SMF folks have extra staff. Rerecich asked if they'd control units to have comparable flow during testing. Lorz said they'd want them running at the top of the band to assess worst-case scenario. Setter said that may constrain the time of year. Bettin asked how long they needed units running at same time. Holden said dipping would take 3 hours total for the clearance and everything. This will likely end up as a teletype. **STATUS: Holden will move forward with testing A slots of units 2 and 3 sometime in March, not test B and C slots of unit 3, and will target running the units at the upper portion of the band during testing, which will be a future teletype. She will provide FPOM testing results as the data comes in.**

5. **Fish Passage Plan:** The Draft 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.** 16BON002 – PH2 Mid-Range Operation. **Pending further FPOM review**.
     - **5.1.2.** 16BON003 – PH2 Lower 1% Operations. **Pending further FPOM review.**
     - **5.1.3.** 16TDA001 – Ladder Crowding. **Pending final draft preparation**. Once approved this will come off the list. Fredricks wants to make sure people review it. He sent out a revised change form in Nov which has background info with an outdated change form attached to it, that one should be ignored and folks should look at the new one.
     - **5.1.4.** 16TDA006 – PUD-Trashraking. **Updated to include the timing for raking**.
     - **5.1.5.** 16 Appendix B 01 Miscellaneous Changes
   - **5.2.** New FPP Change Forms. **See the website for all New Change Forms to be reviewed at the FPP Meeting on January 28.**
   - **5.3.** Potential FPP change forms.
     - **5.3.1.** Digital governor testing.

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.
     - **6.2.1.** Adult counting. (Wertheimer/Zorich and Moody) http://www.nwd-wc.usace.army.mil/tmt/documents/FPOM/2010/Task%20Groups/Task%20Group%20Fish%20Counting/
     - **6.2.2.** Condition monitoring. (Lorz, Conder). Team members include: Benner, Bettin, Chockley, Fredricks, Mackey, Morrill, Setter. http://www.nwd-wc.usace.army.mil/tmt/documents/FPOM/2010/Task%20Groups/Task%20Group%20Condition%20Monitoring/
       - **6.2.2.1.** Met after December FPOM meeting. Minutes available on the website.
       - **6.2.2.2.** Meeting after Feb FPOM. Fredricks will send out a revised memo once he gets everyone's comments.

6.2.3. TDA adult flows. (Cordie) Team members include: Bettin, Cordie, Fredricks, Lorz, Mackey, Rerecich, Skalicky, Wertheimer. http://www.nwd-wc.usace.army.mil/tmt/documents/FPOM/2010/Task%20Groups/Task%20Group%20TDA%20split%20flows/

6.2.3.1. FPP change form submitted for FPOM concurrence.