

FFDRWG Meeting Notes

Quarterly FFDRWG Meeting – January 30, 2020, 10:00am to 12:00pm

Meeting Access

<https://usace.webex.com/usace/j.php?MTID=m67dbb2251df370ec07e285cd3ae176c8> Meeting Access Code: 7447273

Security Code: 1234

Phone Number: 877-810-9415

Introductions – Chuck Chamberlain

Chuck Chamberlain, NWW USACE, conducted a quick Roll Call. Participants are listed at the end of these notes. Notes are taken in order of agenda topics as they were addressed.

Lower Monumental FGE – Karl Anderson

- LMO FGE study was completed and results were presented at the December AFEP meeting.
- The Draft Report was out for review from November through early January and a Final Report will go out next week.
- Results show no statistical difference in FGE between stored and raised gate positions.
- Consequently, a FPP change form was submitted at FPOM to lower all gates to the stored position. It was approved.
 - Similar changes have been implemented for MCN – 2014; LGS – 2017, and LGR – 2018.
 - ICE chose to purchase telescoping cylinders that allow 10 minute emergency closure from raised position.
- LMO currently has 6 functional cylinders so that two units can be lowered to the stored position.
- More cylinders will be purchased as funds come available.
- We discussed the current status of other District Projects and **Chuck Chamberlain** will gather information to let the FFDRWG team what the status is for each project. For now we believe MCN and ICE are done.
- A question was raised as to what two units would be lowered at LMO and **Karl Anderson** will find out if there is still time for input from the region regarding which two units these should go on.

Lower Granite Adult Trap Water Supply – Jon Renholds

- During summer months the water supply at LGR adult trap can get too warm for the fish.
- The Primary Bypass was identified as possible source for cooler water to the fish trap.
- However, the project has indicated that in an emergency this bypass system would be dewatered and that the valve to switch away from this source is not automated.
- Consequently, fish could be stranded before an operator could get to the valve (~20 min) and switch to other sources.
- The project recommends this be considered a secondary source of cooling water.
- There were questions regarding whether this source of water is still cooler than the ladder now that a cooling pump has been installed.
 - Is there existing data that can determine this or do we need to collect that data? **Ryan Laughery** will look into this and get back to the team.
- Are there options to automate or otherwise work around the delayed shutoff so that this source of water would be available? **Jon Renholds** will follow up and will coordinate with **Chris Peery and Eric Hockersmith**.
- There was a request to evaluate the performance of the current cooling pump. **Karl Anderson** is evaluating the potential at McNary and could check the existing data to determine the level of improvement in the current cooling system at LGR.

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- The group discussed whether we would need to review the current take permit for operating the trap in warmer weather. Should there be stipulations for shutdown if the water is so warm fish are severely stressed even before handling at the trap? This is a broader discussion than can be tackled at the FFDRWG meeting, but should be discussed at FPOM and other forums.

Ice Harbor Unit 3 Installation Schedule – Karl Anderson

- Unit 3 is out of service and work is beginning.
- Unit 3 installation is scheduled for completion in May of 2021.
- Biological testing will begin in Fall of 2021.

McNary Overshoot Study – Joe Norton

- Currently the McNary overshoot study is schedule to begin March of 2020.
- A preliminary report from last season is nearly ready for distribution and should go out to the group in early February.
- One of the transducers was damaged at the end of last season, but divers have replaced it and all transducers are up and running.

McNary Avian Hazing – Tim Wik

- This hazing work is specific to the bypass outfall.
- Last spring and summer a laser was installed on the guide wall, but the outfall pipe was at or just beyond its effective range.
- This coming year we are adding new laser on bypass outfall - far enough back from the end so it won't get damaged during high flows.
- It will still be much closer to the outfall than the guidewall installation.
- There is some concern that the laser is not effective in broad daylight and only works well in twilight and darkness.
- An alternate method of hazing using directed sound (LRAD) will be demonstrated on May 11, 2020.
 - If goes well we may purchase LRAD and combine with the current laser hazing.
 - There was a question about who could attend the demonstration (*Tim* will check). We need to check for hazard to the public during the test.
 - There was a question about how big an area will LRAD cover. Kaleb has that data and *Tim* will get it to *Chuck* to include in the notes.
- There was a question regarding the comments provided for the installation of bird wiring – will these comments be incorporated or was the report shelved for now?
 - On the shelf for now, but may move forward in time.
 - Other reports or sources indicate it may come forward.

McNary Turbine Design – Jon Renholds

- Modeling is progressing.
 - CFD modeling has been completed for iterations 1 and 2 (5-blade and 6-blade - there are 4 iterations in the contract).
 - Witness testing has been completed for iteration 1.
 - Iteration 1 is now at ERDC for testing in May 2020.
- Adjustable runner design is scheduled for completion in February 2023 and would be installed beginning in 2025.

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- Fixed blade runner design would begin as installation of the adjustable runners are installed (2025 or later) and would be installed in 2027 or later.
- Currently we are targeted for 6 adjustable and 8 fixed blade runner, but this could change depending on fish and power needs.

McNary Ladder Exit Temp Strings – Karl Anderson/Darren Pecora

- Trevor asked about the location and use of the McNary temperature strings.
- Karl showed a map of McNary Dam with the current locations of temperature strings (*Chuck* will send out with the notes).
- In addition, a bathometric map of the McNary forebay shows the deeper trough near the Oregon ladder exit where the newer temperature string was placed (*Chuck* will include with notes).
 - There were questions regarding whether the 15 meter deep trench would provide cold enough water for cooling.
- Karl showed graphs of differentials between depth and surface indicating that, at times, in 2019 there were 6-8 degree differences between top and bottom temperatures.
 - However, summer temperatures at depth were still above 70C.
- *Karl* is currently looking at ladder differentials will get them out to the group next week.
- The loss of fish in 2015 has elevated this discussion and Trevor asked whether we could use a pump or other cooling to reduce temps.
- While it is hard to overcome critical temperatures in the reservoirs, there is still cooler water on most days in the deeper water – more to come as Karl finishes his assessment.
- The final discussion point in this topic was about whether shutting off the RSW would help maintain stratification and keep from mixing the water layers. Scott suggested we look at the June 2015 data *Karl*.
- We decided that this discussion is ongoing in other forums and should be a discussion at FPOM or TMT *Ann* will discuss offline with Doug Baus which forum to further conversation.

Lower Granite Spillway PIT Tag Installation – Jack Sands

- Jack Sands led the discussion with a presentation.
- The concrete placement is done and initial testing took place this past week.
- Pacific States and NOAA have completed testing and mapping of the array.
- The first spill test took place on January 26th – 2 adult steelhead were detected during the testing.
- The second spill test took place on January 28th – 5 additional adult steelhead were detected.
- Several videos were imbedded in the presentation that showed the flows (~9.3kcfs).
 - Flows were turbulent on the edges, but smoother in the center.
- Results of testing at current flows speed was good (73 feet per/s).
 - 300 sticks with tags were used to generate a rough estimate of detection efficiencies.
 - The first 150 were too lite and did not penetrate the water column so detection was poor.
 - The second 150 were weighted to get down in the water column – detection was ~ 40 percent.
- A biological test with live fish will be conducted in the spring using 3,000 tagged fish.
 - 1,000 with 12mm tags
 - 1,000 with 9mm tags and
 - 1,000 with Half duplex tags
- Should be able to get a good feel for detection efficiency for all these tags as well as speed of fish.
- Overall, the installation was excellent and the product appears to be working well.

Next Meeting

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April 23, 2020

Attendees:

Chuck Chamberlain
Karl Anderson
Eric Hockersmith
Lisa Wright
Trevor Conder
Ann Setter
Charlie Morrill
Doug Baus
Erin Cooper
Gordon Axel
Jeff Brown
Gabriel
Joe Norton
Josie Thompson
Scott Bettin
Dave Swank
Tom Lorz
Eric VanDyke
Darren Pecora
Blaine Bellerud
Marvin Shutters
Jon Renholds
Jack Sands
Ryan Laughery