

Columbia River Regional Forum
SYSTEM CONFIGURATION TEAM
February 18, 2016
Final Meeting Notes

1. Introduction

Representatives of NOAA, the COE, BPA, Nez Perce Tribe, NPCC and others attended today's SCT meeting chaired by Bill Hevlin, NOAA. Draft and final SCT notes are available on the COE's TMT website under the FPOM link. For copies of documents discussed in the meeting, contact NOAA at 503-230-5420. Comments on the January 21 draft notes are due by the next SCT meeting.

Today's discussion started off with the Lower Granite juvenile fish facility. Much of the rest of the meeting was spent reviewing the draft FY17 CRFM spreadsheet. At the request of Gary Fredricks, NOAA, SCT considered the possibility of installing PIT tag detection for turbine-passed fish.

2. Update on LGR Juvenile Fish Facility, Phase 1a and 1b Construction Work

Dave Trachtenberg, COE, and Ryan Lowery, COE, gave an update on construction of the Lower Granite juvenile fish facility (16. and 17. Lower Granite Juvenile Bypass Facility phase 1a and 1b, \$2.5 million and \$1.5 million). Total cost of the project is expected to be \$65 million.

Chong distributed copies of the site drawing. Phase 1a and 1b were initially separate, but a modification put phase 1b work back into phase 1a, Lowery explained. The modification eliminated access to connection points for the emergency bypass in the primary water supply. In order to rectify that, the COE Portland District has looked at multiple alternatives. A new alignment toward the river is recommended for the emergency bypass. It would discharge flow in a more parallel path to river flow, and it would probably mean vacating and removing one of the piers. The contractor has been asked to stop work on the emergency bypass until more design details are available.

Jim Ruff, NPCC, asked where the emergency bypass exit line is located and whether it will be submerged. It will not be submerged, Trachtenberg replied. It would only interact with flows during high river elevations. Ruff noted that will help keep predators out of the pipe.

SCT discussed the fact that existing outfall piers are in the area where the plume will be released. Lowery has been working with the contractor on specifications to address this. It was noted the emergency bypass probably won't be used more than once every 5-10 years.

Dave Statler, Nez Perce Tribe, asked whether design and scheduling challenges will impact completion of the project. The goal is to ensure completion by March 17, Trachtenberg said. There was discussion of where phase 1a ends and 1b begins in terms of project scheduling and funding. Lowery clarified that phase 1b covers the outfall pipe to the shoreline, as well as

plumbing and the NOAA research facility. Project specifications for phases 1a and 1b will be available early next week.

Further concerns about this project will be discussed at FFDRWG on **February 25**. Engineering drawings for phase 1b will be available in a week or so. There will be a FFDRWG site visit at Lower Granite on **April 7** to view progress on the juvenile bypass system and the adult ladder temperature improvements.

3. Ice Harbor Model

At the request of Trevor Conder, NOAA, Lowery gave an update on Ice Harbor model repairs underway at ERDC. The powerhouse repair is now completed, and the next step is to stop water leakage in the stilling basin. Water is flowing under the ogee structure, with gaps allowing the leakage. ERDC will provide a cost assessment and schedule to perform the remaining repairs to the model, and a path forward is expected by the third week of March.

4. Review of FY 2017 CRFM Program Work and Study List

Since the January SCT meeting, the President's budget was finalized with CRFM program levels of \$57.6 million for the FCRPS, \$23.9 million for the Willamette River and \$2.5 million for lamprey mitigation in FY17, Chong reported. However, there is \$6 million worth in lamprey projects waiting for the COE to begin next year.

Sean Tackley, COE, added that \$2.5 million is a bare-bones budget for monitoring only of newly constructed projects; \$6 million would fund a much broader scope of work including post-construction evaluation of lamprey mitigation measures. If FY17 spending is limited to \$2.5 million, that leaves about \$7.1 million needed to finish work under the lamprey accords in FY18. It would also probably mean having to finish lamprey work in FY19 in order to reach the \$50 million spending commitment under the accords. The accord period ends in FY18 but Chong said a 1-year delay shouldn't preclude access to the remaining funds for lamprey.

Chong went through changes to the spreadsheet since the January SCT meeting. More accurate cost estimates will be available by end March.

- 3. Bonneville 2nd Powerhouse Fish Guidance Efficiency, \$50,000 – This has gone down from previous estimates. The contract will be awarded in FY16. FY17 costs are for closeout and post-construction oversight.
- 4. Bonneville Sluiceway PIT Tag Detection Feasibility, \$100,000 – This line item was a topic of extensive concern at the January SCT meeting. It's now being discussed by COE and NOAA.
- 5. Estuary Avian Predation, \$3 million – This line item primarily covers work on cormorant predation in the estuary, as well as plans and specifications for terrain modifications in 2018. The goal is to reduce habitat size for nesting colonies on East Sand Island. It includes monitoring of terns and reducing habitat space.

- 7. Ice Harbor Performance Verification Monitoring, \$5.55 million – Although there is some skepticism whether there will be agreement by next year on the operation to test, the funds have been allocated.
- 8. Ice Harbor Turbine Runner Replacement, \$5 million – The COE decided to do balloon tag testing of the lamprey-friendly fixed-blade design. Several SCT members said the cost estimate seems high. Discussions of ICR turbine cooling water screens have focused on eliminating lamprey entrainment and impingement, Dave Statler, Nez Perce, said. There are two engineering concerns with testing the unit: (1) A proposed structure for excluding fish from the water cooling system might not be safe; and (2) The fish screen turned out to be much larger than anticipated. The COE will probably alter the design. SCT members agreed the number of lamprey collected is probably only a fraction of those passing through turbines. While turbine passage itself might not be lethal, the resulting disorientation makes lamprey vulnerable to predators. , Tackley said that JSATS tests with juvenile lamprey are being planned for 2017 and 2018.
- 10. AMIP – Adult PIT at John Day, \$100,000 – This will probably be finished in FY17.
- 11. Adjustable Spillway Weir at Little Goose (SAEDC), \$1.5 million – The estimate might be increased to fund a follow-on summer test at LGS.
- 12. Little Goose Performance Standard Evaluation of Data for Meeting Summer Operations Goals, \$2.7 million – SCT discussed this effort to fund a study of low flow operations at Little Goose to meet performance standards. FPOM has not had success finding agreement on an FPP change that would remove the spillway weir from service to improve survival at lower flows, Conder recalled. Russ Kiefer asked whether there is flexibility to try different low flow operations before they are used for performance standards testing. Further discussion will occur at FPOM.
- 13. Little Goose Spillway Boat Barrier, \$1.6 million – The boat barrier will be constructed in coordination with repair of the broken trash debris boom at LGS.
- 13.5 Little Goose Adult Ladder Temperature Study, \$100,000 – The estimate is a placeholder while the COE works on study design.
- 14. Lower Granite Spillway PIT Tag Detection, \$4.5 million – This is part of COE preparations to do a performance standards evaluation at LGR.
- 16. and 17. Lower Granite Juvenile Bypass Facility phase 1a and 1b, \$2.5 million and \$1.5 million – The COE is finishing construction on both phases of the LGR juvenile bypass. Estimated completion is March 2017. The true cost will probably exceed the estimates for both line items.
- 18. Lower Granite Surface Passage Modification, \$250,000 – The COE is working on getting the RSW to stow safely.

- 19. Lower Granite Adult Ladder Temperature Measures, \$0 – Because temperature problems will only increase with climate change, Statler wondered whether each fish facility will be addressed in sequence, or will there be a system-wide effort to address temperature management? SRWG and FPOM will investigate this further.
- 21. Lower Monumental Boat Barrier, \$0 – Construction was completed last week.
- 22. McNary TSW Closure Leaf Seal, Hoist Stilts and Deck Modifications, \$200,000 – The stilts are in place, but more work needs to be done on the closure leaf seal.
- 23. McNary Performance Verification Monitoring, \$2 million – Follow-up summer testing at John Day and McNary is still being discussed.
- 24. McNary Adult Fallback Synthesis, \$0 – This work will probably be completed in FY16.
- 26. McNary Log Bronc, \$0 – The COE is purchasing a Z drive for the log bronc which will probably cost about \$100,000.
- 27. Lower River BiOp Testing, \$7.3 million – What needs to be done is still being assessed. It will include more work on JSATs downsizing and the PIT trawl.
- 30. Avian Island PIT Detection, \$400,000 – This includes PIT tag recovery work on the estuary islands below BON.
- 31. Turbine Survival Passage Program, \$100,000 – CRFM funding for this effort is slowly being reduced.
- 32. Snake River Intake Gate Closure, \$1 million – This line item is a placeholder.
- 35. Snake River Fall Chinook System Survival Study, \$100,000 – This will fund the final phase of the Snake River fall chinook study.
- 36. Inland Avian Predation Management Plan, \$570,000 – FY17 should be the last year of avian management required at Don Edwards Island.
- 37. McNary and Snake River Adult Migration Studies, \$1.8 million – This line item is a placeholder until a decision is made regarding further adult studies at MCN.
- 38. FCRPS Adult Passage Synthesis, \$550,000 – This pilot study will combine results of all radio-telemetry studies of adult passage the University of Idaho has done to date. It will cover approach, passage times and fallback rates for all species, but it will not address straying. A separate study will focus exclusively on straying of adult steelhead. The FCRPS adult passage synthesis report will, among other things, serve as a single source for ladder passage and fallback data at individual dams.

- 39. The Dalles Adult Fishways and AWS Study (SAEDC) \$1.4 million – The COE plans to complete this work during the next in-water work window if possible.
- 40. The Dalles Sluiceway PIT Tag Detection Feasibility, \$100,000 – This is essentially the same work as the BON sluiceway PIT detection project discussed at length in the January SCT meeting, with several SCT members voicing strong support. SCT gave BON a higher ranking than TDA as a prospective PIT detection site, Chong recalled.

5. PIT Tag Study of Estuary Survival

When discussion of existing FY17 line items concluded, Jim Ruff, NPCC, suggested adding a new line item to the spreadsheet as a placeholder for PIT tag studies of survival to the mouth of the Columbia. This study would use JSATS-tagged fish that will already be in the river for BiOp performance testing (28. and 29. Lower River BiOp Performance Testing – JSATS and Pit Trawl, \$740,000 and \$1.35 million). The goal of the new line item would be to take advantage of an opportunity to investigate whether avian predation measures in the estuary are improving fish survival.

6. Turbine PIT Tag Detection Feasibility

Turbine PIT detection is important for lamprey passage evaluation, Gary Fredricks, NOAA, said. There was general agreement that large numbers of lamprey pass through turbines. Turbine PIT detection would also allow direct comparison of adult return rates for bypassed vs. turbine-passed fish. This will be an important factor in deciding whether to remove the fish screens from turbine units. Multiple years of data could aid in the decision. However, antenna placement in turbines could prove difficult, Scott Bettin, BPA, cautioned. It will take years to develop this technology and with so few fish going through the turbines it will be difficult to outfit enough turbines to get meaningful data.

Fredricks pointed out that fish survival is almost always better through bypass systems than turbines, hence, it's not going to be easy to support the removal of intake screens. Delayed mortality rates associated with both turbine and bypass passage will influence the argument. Jim Ruff, NPCC, suggested the PIT detectors be installed on the trash rack. There was no opposition to adding turbine PIT tag feasibility to the FY17 spreadsheet.

7. Upcoming FFDRWG and SRWG Meetings

- **February 25** – Walla Walla FFDRWG.
- **March 14** – Portland FFDRWG (tentative). Draft 1 pagers will be sent out for review prior to the meeting.
- **March 31** – SRWG research summary priority meeting.
- **April 7** – Lower Granite site visit.

8. Next SCT Meeting

SCT decided to cancel its March meeting because COE project managers probably won't update their budgets for the FY17 line items until the end of March. The next SCT meeting will be on April 21. These notes prepared by technical writer Pat Vivian.

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