Subject: DRAFT minutes for the 28 December 2023 McNary Spillway Task Group Meeting
In Attendance:

Last	First	Agency	Phone	Email
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Lorz	Tom	CRITFC		lort@critfc.org
Peery	Chris	NWW		Christopher.A.Peery@usace.army.mil
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Peery. Topics to discuss: Updates on the procurement budgeting for making repairs and replacements of spillway cranes, hoists, gates. Spill operations. Brief update on the spill operation evaluations.
Lorz. Requested a site be created to store documents from this group. Peery will work with Tammy to set.

Peery shared screen with slides.

1. Repairs Update. Peery went through the following information slide. There has not been any major changes from last update on this.

28 December 2023

- **McNary Spillway Working Schedule**
  - MCN Replace Spillway Cranes 6 & 7
    - Phase 1a approved. FY23-24 Funding in place.
    - Design FY24-25? (pending appropriated $$s)
    - Award 1 crane (pending appropriated $$s):
    - Start fabrication crane 1 in FY26
    - Award 2nd crane (pending appropriated $$s):
  - MCN Spillway Major Rehab Evaluation Report (MRER)
    - Creating new project for FY24-25 budget request
  - MCN Spillway Hoist Replacements

- First hoist in final design
- Award prototype early FY24. Install FY24-Early FY25
- Award follow-on contract for remaining hoists FY26: three per year?
- Safety handrails – Pending Phase 1&2 Approval: Construction FY24
- SLABS – Pending 1&2 Approval. Construction FY24-FY25

o MCN Spillway Gate Replacements
- Phase 1a pending Deb 2024 Capital Work Group Meeting
- Phase 1 design in FY24-25
- Award:
- New spillway gates delivered FY26?: Three per year?

o MCN Spillway Gate Dogging Mechanism Repair underway with FY23 NREX funds.
- Funded. Repairs to occur in FY25 and complete in FY26

o MCN Spillway Gate Repair PIT Upgrade
- Phase 1a has been approved, but no appropriated match
- Lower priority since gates are to be replaced
- Repair pit will likely be used for storage when new spillway gates start to be delivered.

o Modeling – Latest estimate, $1.5M to create new model
- Initial funding from CRFM allotment has been sent to ERDC to initiate construction

Peery. This is the working schedule right now. Progress depends on having appropriated funds approved. The major rehab evaluation report will be developed but should not delay moving forward with procurement process. We are procuring materials to make handrails in house. SLABs are still being designed and no likely to have them in place for the spring 2024 spill season. Realistic time frame is some time later in 2024 or early 2025. Most recent update on physical modeling effort was provided by Steve Juhnke during the 14 December FPOM meeting. I have no new information since then. We anticipate model constructed and ready for model runs fall 2024.
Lorz. When did we think regional fisheries manager would be able look at the model?
Peery. August is the earliest we think the model will be completed and then start the testing/calibration. So it is possible managers could be there for that part if they wanted to see testing/calibration. ***Question to Juhnke if visits would be possible for model calibration at ERDC?***
Lorz. How long will calibration take?
Peery. I do not have that information. New model construction method, so I do not have a good feel for time needed to calibrate the mode. ***Question for Juhnke, how long to calibrate new physical model at ERDC?***
Conder. Expressed concern that SLABs would not be ready for spring spill. If spill evaluation results do not look good, we should have a backup plan. SLABs could be used to lift [full] gates and dog them off. Even a stripped down version, could it be something the project or local metal shop build?
Peery. All scenarios are being considered. We are still developing the design for the SLABSs. Adding construction tasks on-sight with all other tasks required, moving gates, hoists, building handrails, etc.), it would be difficult for them to also take on this work. We are fast tracking the procurement as much as possible, with small-cap funding. [***We heard later that the SLABs were moved to large cap program because cost of two SLABs was not severable and so exceeded amounts allowed for small cap***].
Lorz asked to see the Phase 1a for the "prototype" hoist and gate to be procured first before the remaining 21 hoists and gates. ***Peery will ask for the phase 1a report.***
Lorz. With the spare 2 hoists, will these be used to move gates instead of the cranes, to free up the cranes for other uses?
Peery. I am not sure. I believe we will still use the two cranes to operate gates. ***Peery will ask how the project plans to use the two spare hoists.***

2. Spill Operations Update.

Retain two TSW's in normal location
Move 13 hoists to upstream slot and use in split leaf configuration
- Construct new control cables
- Procure materials for handrails with Small Cap
- Assemble handrails in-house

Retain 7 gates in downstream slot closed in full gate configuration
- Needed to maintain Standard Project Flood (SPF) capacity
- Adaptively manage operations once risk for spring floods are better understood
- Incorporate use of SLAB's when available

Peery. There is new information on spill operations for 2024. Instead of 20 gates in upstream slot being used with split-leaf spill, 7 gates will remain in downstream slot as full gates and closed, to be used as needed to pass high spill during a flood event. If needed, one gate will be opened all the way (20 ft, passing 32kcfs each), followed by second gate, then third gate, etc., as needed to handle the high flows. Once risk of high flows is past, gates will be closed. These lifts will use the two operational lifts allowed by hoists in those seven spillbays. The remaining 13 gates will be operated in upstream slots as split-leaf gates. These 13 gates, and two TSW's in their normal location, will be able to pass about 271 kcfs, sufficient to meet gas cap spill at McNary Dam. The change was made because, with all 20 gates in split-leaf configuration, the project capacity would not be able to meet Standard Project Flow (SPF), which is 839 kcfs. The seven gates [#1, 2, 3, 5, 8, 15, 18] were those that did not exceed their lifting capacity by more than 125% and so would be allowed to perform two full lifts each year; one to open and one to close the gates.
Lorz expressed concern that only 13 gates [and the two TSW's] will be used for standard spill operations. This is a drastic change to the spill pattern and it will suck. And he was surprised that this has not been discussed before now.
Peery. I did not know this discussion was happening. I heard about it a little before Christmas. A memo to this effect is being finalized and what we believe to be the final draft was provided late last week. Operations asked for ability to adaptively manage spill once we had better understanding of what the spring flows will look like. Once we believe the risk for SPF has passed, we could potentially move some gates from downstream to upstream slots and begin using as spilt-leaf gates. How fast that could happen and when will depend on discussions with project staff and what their capabilities are. Also, by the time we could make that determination, we would likely be past the peak flow period.
Conder asked about the operational lifts.
Peery. Also referred as engineered lifts, this is lifting the full gate. Basically, any lift where we know we are exceeding the capacity of the hoist.
Conder asked lifting the gates to a smaller opening so not such a drastic amount of spill though a spill bay, then lift again later if needed to meet higher flows? This would help with better egress conditions and TDG levels. He also reiterated the even greater need now for having SLABs available this spring.
Peery: This would exceed the two-lift maximum allowed for those seven gates. It might be possible to make a change to the how much these 7 gates can be opened if there is a good idea what the spring runoff will be. But, again, this determination likely will not be possible until after the peak of the spring flows and the bulk of the spring juvenile migration has passed.
Lorz asked about Project Standard Flood and Project Maximum Flood and expressed concerns about spill patterns. The north shore especially will be bad and have a huge back eddy.
Laughery explained that the guiding principle is the dam and human safety issue which requires the project to maintain the PSF capability. Then within that capability, what can be done to provide spill

operations for the year? We are lucky to have the 7 gates to use because without that we would be even more constrained by how the gates could be operated.
Lorz asked about any amount of flexibility in these operations, because the most flow seen has been 500 kcfs, so SPF is almost 50% above that. And we are [snow pack] 87% of average right now.
Laughery. We can ask water management what level of risk they are willing to accept and see if the operations can be changed mid-season. But this [intentionally operate a dam below the PSF] has never been done before. Our models are really only accurate out about three days, so beyond that it will be difficult to know risks to the project. Laughery then shared his first draft ideas for spill pattern tables to be used with 13 gates and two TSW's [see spreadsheet and slides provided in email to FPOM afternoon of 28 December 2023]. The pattern starts opening the split-leaf gates incrementally until they are all at 15 stops. At openings more than 15 stops we believe there will be increased turbulence so instead of making more incremental (i.e. 1 stop larger) openings, we would then jump to open the top leaf at one gate all the way open, and adjust the remaining gates accordingly. Each split-leaf gate would be opened all the way until all 13 were at maximum capacity, after which we would need to start opening the 7 downstream full gates. We hope to test what actually happens with split-leaf gates with >15 stop openings before spill season.
Conder expressed concern to passing 32 kcfs though a spillbay, for fish passage impacts, TDG, and erosion in the stilling basin and again expressed the desire to have SLABs available.
Lorz and Conder strongly expressed that this is an emergency situation and there should be a way to expedite the process.
Lorz. At some point, these changes [to spill pattern] trigger so we no longer have a no-jeopardy BiOp, because of the risk being put to a large portion of the run. There should be a trade-off for accepting some risk for flood management to balance risks to fish.
Conder disagreed with the idea that the BiOp would invalidated. We need to see results from the evaluations before we know what potential impacts are to fish.
Ebel. When would it be able to know if the water year would allow changes to spill operations?
Peery. February or March? We really do not have an answer to that question yet.
Lorz asked who is making this decision.
Laughery was not sure, who at Division Water Management would be the POC for this. Ultimately, our [NWW] head of Dam Safety makes the call when a change can be made, and that is the Chief of Engineering and Construction.
Swank asked for clarification on why the spill pattern spreadsheet showed jumps from 15 to 19 stops for the split-leaf gate opening. Laughery explained this (see above).
Conder asked about which of the 7 downstream gates would be opened first. Laughery said he just picked one for the initial pattern, but this can be discussed more. Please provide comments and suggestions how can best operate the spillway given the restrictions we are under now.

3. Spill Evaluations

Research Summary was distributed 18 December. Comments due 31 December

FY24 DIRECT INJURY STUDY OBJECTIVES:

1. Estimate direct injury and survival of yearling Chinook salmon passing through a McNary Spillbay after being set in the upstream slot in split-leaf operation by direct releases of fish equipped with balloon tags at two different elevations. (Sample sizes sufficient to estimate with a precision of ±5% @ 95% Confidence Interval [CI]).
2. Estimate direct injury and survival of yearling Chinook salmon passing through McNary Dam TSW by direct releases of fish equipped with balloon tags at two different elevations. (Sample sizes sufficient to estimate with a precision of ±5% @ 95% CI).

FY24 ACTIVE TAG STUDY OBJECTIVES:

1. Estimate spillway survival of out-migrating juvenile salmonids passing through McNary Dam with split-leaf spillway operations from dam face detections to outside of project influence downstream.
2. Estimate survival of out-migrating juvenile salmonids passing through all passage routes at McNary Dam with split-leaf spillway operations.
    a. Estimate tailrace egress time for juvenile salmonids downstream of McNary Dam.
    b. Estimate spillway passage efficiency (SPE) for split-leaf spillway operations at McNary Dam.
    c. Estimate forebay survival and forebay residence time for split-leaf spillway operations at McNary Dam.

Evaluations are intended to be early spring. Before April spill season if possible

Study objectives were pasted from the research summary sent out for review. Please provide comments to McDonald and Barnes by 31 December.