COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

April 27, 2022
Facilitator's Summary
Facilitation Team: Emily Stranz & Colby Mills, DS Consulting

The following Facilitator's Summary is intended to capture basic discussion, decisions, and actions, as well as point out future actions or issues that may need further discussion at upcoming meetings; it is not intended to be the "record" of the meeting. Official minutes can be found on the TMT website: http://pweb.crohms.org/tmt/agendas/2022/. Suggested edits for the summary are welcome and can be sent to Colby at colby@dsconsult.co.

Review Meeting Summaries & Minutes - TMT Members will finalize the official meeting minutes and facilitator's summary from April 20 at the next TMT meeting.

Spill Priority List - Dan Turner, Corps, reported on the proposed revision to the Spill Priority List (SPL). He reminded the group that the SPL is the priority used to spill projects when under lack of load conditions. Little Goose, Lower Monumental, and Lower Granite dams have been moved lower down the list in all levels (to positions 8, 7, and 6 respectively) to prioritize performance standard spill at those projects if there is lack of load on the system.

FPAC has reviewed the changes and did not voice any concerns. Trevor Conder, NOAA, noted that NOAA is okay with moving forward with the revision, and will provide comments, if necessary, after additional review. Facilitator, Emily Stranz, reminded the group that the SPL is a living document that can be revisited and revised as needed.

Lower Monumental TDG - Dan also reported on TDG impacts resulting from current spillbay closures at Lower Monumental. Various spillbays and the RSW have been open and closed since Friday, April 22, to facilitate repairs to the bushings. Also of note, spillbay 4 failed last night and is now closed. The spillbay was closed to allow for the fish barge to move through the tailrace, then would not re-open; it is being repaired today and is expected to be fixed COB. As a result, the project is currently spilling through spillbays 3, 5, and 8 (RSW spillbay).

Initial analysis using SYSTDG (TDG model) has been conducted to estimate the 125% spill caps under different scenarios of spillbay availability. Dan reminded the group that modeling data are estimates based on a series of assumptions and knowledge of the system; while this is a useful planning tool, there is some uncertainty. The Corps is evaluating spill and TDG daily and will adjust spill caps as needed. In response to a query, Dan later noted that the modeling scenarios assume 8 kcfs over the RSW; his presentation posted on the TMT website has been updated to reflect this.

Chris Peery, Corps, reported that the repairs to spillbay 4 have required that they stop work on spillbay 7 (which began on Monday); once 4 is operational, teams can proceed with work on 7. In response to queries, Chris also noted that the project team will take photos of the tailrace under the various spill patterns for future learning. Additionally, Chris reported that the Little Goose anchor bracket repair has begun and is projected to be completed in 1-3 days.

Dan referred the group to data representing different spill patterns seen through Lower Monumental (posted to the TMT website). Along with other factors, both the amount of spill and spill pattern are

impacting TDG. Overall, levels have been below 125%, and the project hasn't needed to make spill reductions or limitations based on TDG.

Of note: the switch from 3 spillbays and the RSW to 3 spillbays and no RSW, resulted in decreased TDG, while SYSTDG had predicted an increase. The current working hypotheses include: more entrainment with the RSW being closest to the powerhouse; and flow over the RSW could have a deeper plunge over the spillway and produce more TDG than other spillbays. This could easily change with different tailwater conditions.

Chris noted the project discussed in depth whether they could leave the spill bays open and dogged off at a set opening. However, project engineers and the Commander determined that it was not safe to do so at Lower Monumental. Also, there is only one set of stop logs that works for the project and so only one bay can be worked on at a time. Chris added that work started on Monday morning (once crews and cranes were available) and was going well but had to pause on Tuesday due to high winds.

Additional discussion points included:

- Work efficiencies are appreciated by Fish Managers, and concerns remain around impacts to the actions that are intended to support fish passage.
- Does the location of the gauge accurately represent TDG in the tailrace? With higher flows, there can be more spillbay reading (less mixing with the powerhouse), and with lower flows sensors are likely to represent closer to fully mixed conditions.
- Many variables can impact TDG, including elevation of tailwater, entrainment of powerhouse flow, mixing at the gauge, barometric pressure, spill rate and pattern.
- Without multiple sensors, there is concern that TDG may actually be higher in some areas than what is represented via the gauge. The 125% TDG criteria is specific to the gauge location; thus the Corps is focused on specific TDG at the gauge.
- Lots of thought and data are put into where gauges are placed, and there are advantages and disadvantages for every location.

Adult Passage - TMT Members briefly discussed adult conversion between Ice Harbor, Lower Monumental, and Little Goose dams. Chris reported that conversion between Ice Harbor and Lower Monumental is currently around 30-40%, while last year at this time with all spillbays open it was about 60% (average for this time of year is 80%). One option to improve conversion is more turbine flow to improve tailrace conditions. Chris noted the intent to get the bays fixed as quickly as possible, with an estimated timeframe of 5 days to repair each spillbay (mid-May complete, if not sooner).

Charles Morrill, WA, reminded the group that the WDFW spring Chinook sport fishery opens between Ice Harbor and Little Goose on May 4th. Jonathan Ebel, ID, suggested that FPAC Members discuss the issue further before continuing conversation at TMT, and requested that FPAC members contact him if there is a need to schedule a FPAC meeting ahead of the May 3 meeting. The item will be added to the next TMT agenda.

Questions or comments from members of the public - There were no questions or comments from members of the public

The next scheduled TMT meeting is a conference call on May 4, 2022, at 9:00 AM.

Columbia River Regional Forum

Technical Management Team
OFFICIAL MINUTES
April 27, 2022
Minutes: Melissa Haskin, BPA (contractor, FLUX Resources)

Today's TMT meeting was held via conference call and webinar, chaired by Doug Baus, Corps, and facilitated by Emily Stranz, DS Consulting. A list of today's attendees is available at the end of these minutes.

1. Spill Priority List - Dan Turner, Corps

Dan Turner, Corps, reported on a proposed change to the spill priority list. The new list moves Lower Monumental, Little Goose, and Lower Granite further down in priority to prioritize performance standard spill hours during lack of load on the system. As a reminder, the spill priority list provides a project priority order for spill during lack of load conditions for management of TDG system-wide. The Corps has already solicited input from regional salmon managers and there is no need for formal polling today since this is a living document that can be revisited throughout the season. Trevor Conder, NOAA, noted that he has not looked at the list yet. He has no feedback to share today but may reach out in the future with comments.

2. Lower Monumental TDG - Dan Turner, Corps

Turner reported on operations at Lower Monumental and how the spillbay outages have impacted TDG. This year, there have been numerous spillbay outages for repairs. Bays 1, 2, 6, and 7 were closed on the evening of Friday, April 22. Repairs on bay 7 began Monday, April 25, which required the adjacent RSW closed during work hours. In addition, bay 4 was closed last night due to a gear box failure. The project spilled through bays 3 and 5 as well as the RSW. Chris Peery, Corps NWW, shared that the failure happened after the bay was closed to allow a fish barge to transit across the tailrace. When the project tried to re-open the gate, it would not open. A coupler between the motor and the gear box failed. A team is working on it now and it should be repaired today. The last time this happened, it took just one day to fix.

Turner ran the SYS-TDG model to estimate the spill caps for 125% TDG under different scenarios of spillbay availability. The results are available in a PowerPoint attached to today's agenda. They are based on a series of assumptions and there is uncertainty. Turner used 8 kcfs as the RSW spill rate in his calculations.

Erick Van Dyke, OR, requested that the RSW spill rate assumption be added to the table in today's presentation.

Turner shared a graph that showed that both the amount of spill and the spill pattern is impacting TDG. Overall, the project has been below 125% TDG so the Corps has not had to make any spill reductions. It was a surprise to Turner that on April 25, TDG went down when the project went from three spillbays + RSW to just three spillbays. The model predicted TDG would go up. He has a few working hypotheses for this, for instance that the RSW is the closest spill bay to the

powerhouse, which may result in entrainment of powerhouse flow, or that the RSW produces more TDG due to the deeper plunge of the flow.

Lastly, Turner shared that the Corps will be watching the operation as flows change and adjusting as needed.

Following Turner's presentation, TMT members asked a few questions.

1. Jay Hesse, Nez Perce, asked when the spill bays are deemed to be out of criteria for friction coefficients if there is an alternative to taking them out of service. For instance could they be dogged off at a set opening. The spill pattern would maybe provide less impact to fish, he noted. Chris Peery said this was discussed in depth earlier this year when spill bay 3 went out of service. An issue at Lower Monumental is that you cannot just leave the gates open like at McNary because it puts strain on the gears. More importantly, the engineering department deemed it unsafe to leave the gates open in place, and they have determined there are no alternatives except to close the gates. The only person who could override this would be the Commander and he was on board with the decision to close the bays.
2. Van Dyke asked when work started on the bays. Work started on Monday morning when the crews and cranes were in place. The RSW was closed at 0800 when work started. On Monday, work went well.
3. Tom Lorz, Umatilla, wondered if the Corps can do 2 bays at a time. Peery replied they can't because there is only one set of stop logs and they are not interchangeable between projects.
4. Jonathan Ebel, ID, noted that under these spill patterns, TDG can be all over the place. He asked if under these conditions the current TDG monitoring locations are accurately representing TDG in the tailrace. Turner said that the sensors sometimes represent mixed conditions and other times represent spillway TDG. The higher the flows, the more spillway flow will be picked up by the gauge. It is in the realm of possibility that the gauge is not representative of the river itself. However, the water quality criteria are specific to the gauge.
5. Van Dyke asked if Turner included barometric pressure in his modeling. Turner said yes.
6. Van Dyke noted that gauges were put in locations where mixing is expected. Turner was not around for those discussions. He knows there was a lot of data collected and used when deciding locations for the gauges.

3. Other

Dave Swank, USFWS, asked about the Little Goose bracket repair situation. Peery reported that work started today and will take 1-3 days.

Scott Bettin, BPA, brought up adult passage at Lower Monumental. Ebel brought up data from Little Goose, as well. This will be discussed more next week. Conversion between Ice Harbor and Lower Monumental is low. Typically, rates are around 80% this time of year. Currently, they are at 30-40%. Passage is likely being affected by turbine and spillbay outages. If conversion continues to be low, more turbine flow could improve tailrace conditions. Chris is hopeful that the bays will be fixed as quickly as possible. It is estimated that each spill bay will take 5 days to

repair. Crews will work through the weekends. Right now, the estimate is mid-May for completion.

At Little Goose, there were 8 hours of performance spill in the morning yesterday.

Charles Morrill, WA, noted that the WDFW spring Chinook fishery will open May 4. Coupled with the spill bay issues, it will not surprise Morrill if the adult delay becomes compounded due to the fishery. It is typically a 3-day journey from Lower Monumental to Little Goose. If anything needs to be done to support those fish, it should be done now, noted Bettin. Van Dyke said he would be watching it. Bettin said an option would be to reduce spill with just the RSW or by shutting off spill for a few hours. Van Dyke said it will be discussed. Ebel said that FPAC will discuss this and report back to the TMT. If an FPAC meeting needs to be called, a member will reach out to Jonathan to request it.

Today's Attendees:

Agency	TMT Representative
Army Corps of Engineers	Doug Baus (Chair), Lisa Wright, Julie Ammann
Bonneville Power Administration	Tony Norris, Scott Bettin
Bureau of Reclamation	Chris Runyan
NOAA Fisheries	Trevor Conder, Kelsey Swieca
US Fish & Wildlife Service	Dave Swank
Washington	Charles Morrill
Oregon	Erick Van Dyke
Idaho	Jonathan Ebel
Montana	Brian Marotz
Nez Perce Tribe	Jay Hesse
Umatilla Tribe/CRITFC	Tom Lorz
Colville Tribe	Kirk Truscott
Warm Springs Tribe	
Kootenai Tribe	
Spokane Tribe	

Other Attendees (non-TMT members):

Corps –Scott St. John, Dan Turner, John Roberts, Chris Peery
Oregon DEQ – Marilyn Fonseca, David Gruen
DS Consulting – Emily Stranz (Facilitator), Colby Mills
BPA – Melissa Haskin (CONTR, FLUX Resources, Notetaker)
Chelan PUD – Jay Finch, Kate von Reis Baron, Melissa Lesser
Douglas PUD – Andrew Garrett
Clearing Up – K.C. Mehaffey