**COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM**
September 25, 2024
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: https://pweb.crohms.org/tmt/agendas/2024/ Suggested edits for the summary are welcome and can be sent to Colby at colby@dsconsult.co.*

**Review Meeting Summaries & Minutes** – TMT Members approved the official meeting minutes from August 28, and the minutes and facilitator's summary from September 11.

**2025 Water Management Plan** – Doug Baus, Corps, reported on the 2025 Water Management Plan (WMP), including the timeline for review and revisions; the website with hyperlinks is now available. The review schedule is available on the TMT website.

Doug noted that the Corps and BPA reps are available to answer any questions TMT Members might have regarding the WMP or review process. Jay Hesse, Nez Perce Tribe, asked which document will be used to guide operations between October 1 and December 31, the final 2024 WMP or the draft 2025 WMP? The Corps clarified that the current finalized 2024 WMP will be the operative document, and any in-season TMT coordinated adjustments will be documented in a seasonal update.

Erick Van Dyke, OR, asked for more clarification regarding the process for seasonal updates. The Corps explained that seasonal updates are added to the WMP at least twice per year in a cumulative fashion, so there is only 1 seasonal update document (i.e., one Seasonal Update that's updated at least twice per year). The seasonal update is supplemental to the WMP and records any revisions or coordinated changes to the actions stated in the WMP based on real-time information (adaptive management within TMT) from changing environmental conditions. Dan Turner, Corps, added that the TDG Management Plan, which is included in the WMP as Appendix 4, does not get updated until the annual FOP has been finalized.

**Dworshak Operations** – Jessika Solleder, Corps, provided the last update of the season for Dworshak Dam (DWR), details are posted to the TMT website. Local weather in Lewiston, ID, has been hotter than average for September, with some cooling in the middle of the month.

Current outflow at DWR is 2.2 kcfs, with a forebay elevation of 1,519.5 feet. Units 2 and 3 are out of service for scheduled maintenance and are expected to return to service on Thursday at 1700 hours; maximum plant capacity with the units out of service is 100 MW.

Water temperatures at Anatone are around 67.8 degrees F, around 61.5 degrees F at Orofino, and just under 50 degrees F at DWR. The Lower Granite (LWG) tailwater is around 65.7 degrees F. Temperatures in the LWG forebay are cool, with not much stratification in the top of the pool; around 66-67 degrees F at 20 meters, 63 degrees F at 35 meters.

Forecasts for the basin are warm today and will cool down over the 10-day period. Some precipitation is expected in the north and NW basin, but overall things are expected to remain pretty dry with moderate temperatures for this time of year. Lewiston today is warmer than average, reaching a maximum of 93 degrees F tonight, with some precipitation later in the evening. Maximum ambient temperatures through the rest of the 10-day are expected to be in the 60s-70s, dropping to the lower 70s further out in forecast.

Temperature modeling results show a comparison of observed DWR outflows throughout the month with temperatures observed at the LWG forebay as well as the PEKI and SPDI gauges; the project has fully transitioned into fall operations with expected minimum outflows of 1.7 kcfs at 2000 hours today. To summarize, the project focused on a steady ramp down, with water temperatures overall remaining relatively stable despite some warmer observed conditions and temperature spikes resulting in outflow changes this month.

Jay appreciated the updates, emphasizing how the Corps Walla Walla District's implementation of the DWR Board's operational plan aligned with expectations.

**Hungry Horse Operations** – Eric Rothwell, Reclamation, provided an update on operations at Hungry Horse Dam (HH). The project intended to draft the full 20 feet of HH for flow augmentation this summer but due to issues at the project this could not be achieved. The agreed upon operation shifted to getting as close to the full draft as possible. Reclamation expects HH to reach around the 18-foot mark, or 3,542 feet, on Monday next week, and will transition over a couple days to minimum flows, supporting flows in the South Fork and Columbia Falls, whichever need is greater. Eric expressed appreciation for the coordination efforts from TMT members on this operation and noted that Reclamation does not anticipate having this project constraint issue next season.

**Cascades Island Water Quality Gauge (CCIW)** – Dan reported that the CCIW gauge, located downstream of Bonneville (BON), has been reporting TDG levels above 110% for many days in September. The gauge is configured right below the spillway at Cascades Island, in an area where water does not mix with powerhouse flows. At this time of year when spill is low, there isn't much mixing in that area and a backwater effect is created.

Dan noted two potential sources of TDG: the fish ladders, with a combined flow of 4.7 kcfs, or daytime attraction spill through 2 spill bays. The attraction spill is producing less TDG than the fish ladders, as it is being diluted some. For TDG management this time of year the Corps uses the Warrendale gauge (WRNO), which is representative of the mixed conditions downstream of BON. The CCIW gauge is scheduled to be seasonally decommissioned this week by USGS.

During the resulting discussion, Salmon Managers raised concerns on the timing of the gauge removal, the impact of TDG levels from the fish ladders, concerns about TDG levels in other portions of the river, and the need for further data and coordination. They requested further analysis and discussion to address these issues.

- **ACTION**: Ben Hausmann, BPA, will look into available TDG data for the BON fish ladders.
- **ACTION**: Kelsey Swieca, NOAA, will connect with Chris Peery, Corps, to coordinate an FPOM conversation on TDG from the BON fish ladders.

**McNary Powerhouse Outage** – Tony Norris, BPA, highlighted that, based on past events and studies, the August powerhouse outage at McNary Dam (MCN) demonstrates the importance of minimum generation criteria throughout the year at projects like MCN.

**Questions and Comments from Members of the Public** – There were no questions or comments from members of the public.

**The next scheduled TMT meeting is on October 9, 2024, at 9:00 AM.**

**Columbia River Regional Forum**
**Technical Management Team**
**OFFICIAL MINUTES**
**Wednesday, September 25, 2024**
**Minutes: Andrea Ausmus, BPA (contractor, CorSource Technology Group)**

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. **Review Summaries and Minutes**

   a. Minutes for August 28

      - Approved

   b. Summary and Minutes for September 11

      - Approved

2. **2025 Water Management Plan (WMP)**

   a. WMP website is accessible.

      - Water Management Plan 2025 (crohms.org)

   b. Timeline

      - Same as previous years.
      - Action Agencies (AA) post Draft 1: October 1
      - Salmon Managers (SM) request revisions: October 24
        - SM to send requested revisions to AA TMT representatives.
        - Provide revisions in *.docx file in track changes.
        - Refrain from submitting revisions in another format because it can be difficult for the AAs to make assumptions about the requested revisions if they are not clearly identified.
        - Do not hesitate to reach out to Norris or Baus about process or specific issues.
      - Draft 2 posted: November 12
      - SM submit revisions to Draft 2: November 19
      - AA to post Final 2025 WMP: December 31

      Jay Hesse, Nez Perce, asked which document will guide operations between October 1 and December 31. He asked if it is the draft plan or if it is carry over operations from the

2024 WMP that would be rolled over. He asked which would apply for the three months for the three months that the plan is in draft.

Baus asked if there were any specific anomalies. He said that we have the current final WMP document and then the AAs uses the seasonal update as a tool and a mechanism to provide any updates on any specific anomalies or things that happen. Baus asked if there were a specific concern.

Stranz asked if that means that the current 2024 WMP is in place through the end of the year.

Baus said that the idea is the current 2024 WMP is in plan and then, as noted, the AA will kick the review process on October 1 for the 2025 WMP. He said that if Hesse has any concerns or specific items that the AAs are not aware of then they could provide some updates via the seasonal update as well as during any TMT business meetings. He asked if Hesse had any specific issues that he wanted to talk about.

Hesse wanted to know which document is ruling so if there are any changes.

Baus said at this time, generally speaking, if there is a finalized operative document the AAs would tier to that because it has gone through Legal and Policy review. He said that he thinks that it would be safe to say that the 2024 WMP is the current operative document. He said that AA use the seasonal update to provide updates on real-time conditions throughout the water year. Baus said that we can make any adjustments there with that document. The 2025 Draft will be posted no later than October 1 as a draft document and TMT will work on any updates and revisions in coordination.

Erik Van Dyke, OR, said that he appreciates the notice and update on process. He asked about what the seasonal update review process works and what is the process for that.

Baus said that the AAs post the seasonal updates, a minimum of two times a year. They put those up on the WMP webpage. He said that the AA work throughout the year and make the updates throughout the year. If it is updated throughout the year, it helps minimize a big lift during an annual seasonal update. He offered to be more proactive during Ops Review to provide any seasonal update changes. He said that TMT adaptively manages in-season. Jonathan Ebel from ID this year requested a change about adding some information to the WMP. The AA made best efforts to do that in-season, when possible, but it does not have the strict scheduling cadence that the WMP has.

Van Dyke asked a follow-up question. He said that he does not think that Baus answered his question about the Process, but he did provide information on how he is using it. Van Dyke asked if it becomes the operative document and replace the WMP. He asked how it functioned.

Baus said the seasonal update complements the WMP because it includes real-time data that occurred throughout the water year.

Charles Morrill, WA, asked for the 2024 WMP to be opened to show TMT, because it shows the Seasonal Update. He said that it shows a few of these changes like the TDG management plan on April 24, the protection agreement was updated. He said that it is a

history of what happened last year. He asked if Baus could clarify this. He said that from his understanding of updated and changes these where posted to the 2024 WMP.

- Microsoft Word - 20240521_2024_WMP_SU_4.docx (crohms.org) (January 16, 2024)
- 2003 Total Dissolved Gas Management Plan (crohms.org) (April 5, 2024)
- Appendix_5_HR_Agreement.pdf (crohms.org) (April 5, 2024)

Baus said that Morrill was kind of correct. He said that there would be a reason that these were posted on April 5. For example, concurrently to this process there is a cacophony of other processes going on so it the AA make best efforts to update things. He said that in the case of the TDG update, it is on a production schedule different to the WMP. When it comes out the AA do update it to reflect that TDG management plan cycle.

Dan Turner, Corps, reminded Baus that they do not update the TDG management plan until the Fish Operation Plan (FOP) is approved.

Hesse asked about the seasonal updates. He said that Baus said that they are updated at least twice a year. He said that he saw that the Seasonal Update was last updated on May 21, 2024. He said looking back a couple of years he only saw an October update posted. He asked if in those years was there a Spring (May) Seasonal Update. He asked if it gets deleted or if not how did the within year plans track. He said that he is not seeing two per year. He asked if we should expect another in October for this year and will the May one go away. He asked for some help understanding the sequencing.

Baus said that the process that they use is a cumulative process. He said for example, on the 2024 what we will see for the Seasonal Update in 2024 the AA will update that at the end of the Water Year of 2024. Then they will take the May 21 Seasonal Update, update it and add more information to it. The date will change to reflect the most recent version of the update. He said that they do not house those update chronologically because it can be confusing to have a seasonal update that may reflect a third-, half-, or quarter-water year. Baus said that he was open to talking about that if Hesse would like. He said that he had not heard that concern in the past.

Stranz said that she thought that Hesse's concern was more for clarification. Hesse agreed and it was answered for him.

3. **Dworshak (DWR) Temperature Augmentation Update –** *Jessika Solleder, Corps-NWW*

   a. NOAA NWS Climate Data Fall (Sept – Nov) – Lewiston, ID

      - September ambient temperatures were a little hotter than average overall with a break in the heat towards the middle of the month.

   b. DWR Current Hourly Data

      - Current Outflow: 2.2 kcfs
      - Forebay Elevation: 1519.5 feet

- Current Operations: Units 2 & 3 have been taken out of service for scheduled maintenance. Units are expected to RTS on October 24, 2024 @ 1700 hours.
  - Current Max Plant Capacity: 100 mW

c. Snake (Anatone) and Clearwater (Orofino) Rivers Temperature Data

- Anatone: ~67.8°F
- Orofino: ~61.5°F
- DWR: ~50°F
- LWG tailwater: ~67.5°F

d. LWG Forebay Temperature String

- 0 - 20m mark: 66 – 67°F
- 35m mark: 63°F
- Cool but not a lot of stratification at the top of the pool.

e. 10-Day Regional Weather Forecast (September 26 – October 5)

- Relatively warm today (September 25)
- Expected to cool over the ten-day
- Some precipitation expected in the North and Northwest of the Basin.
- Overall, it is expected to be dry with expected temperatures for September.

f. Weather Forecast for Lewiston, ID

- Max temperatures for 9/25: 93°F
  - Expecting a little precipitation.
- Rest of ten-day: 60 – 70s°F

g. DWR Outflow vs. Temperatures – September 25 at 8:40am

- Comparison of observed temperatures of DWR outflows as well as the LWG forebay, PEK gauge, and Spalding gage.
  - Spalding (SPDI) gage is based on daily averages, where all others are hourly averages.
- DWR has fully transitioned into Fall
- Expected DWR Outflow: 1.7 kcfs
  - Last trend down at 2400 hours today.
- DWR focused on a steady ramp down and water temperatures have remained relatively stable.

- PEK and SPDI gauges responded a little to the outflow changes around September 15. Both stabilized back out.
- LWG water temperatures remained solid.
- Spike in the early part of September but as the temperatures trend down DWR continued the ramp down as discussed in TMT for the mid-September Chinook B runs and Tribal brood stock operations.

- LWG stayed stable throughout the month of September.

Hesse said that he wanted to give a mention of appreciation for the updates and the implementation of the Dworshak Board's Operational Plan in a way that was consistent with expectations.

4. **Hungry Horse Operations –** *Eric Rothwell, BOR*

a. HGH 20-foot Draft Update

- As coordinated and discussed at TMT; the intention was to draft the full 20-foot draft at HGH for flow augmentation this Summer.
  - Due to issues at the Project, HGH was not able to get there.
  - HGH Draft 2024: ~18-foot mark
  - Monday HGH Elevation: 3542 feet.
  - Upcoming Operations: Next couple of days HGH will transition to minimum flows in S. Fork and/or Columbia Falls, whichever need is greater.

Kelsey Swieca, NOAA, said that this was as expected and coordinated in the past couple TMT meetings. She said that she wanted to confirm that the issue of putting all the water out was connected to a Project constraint and that is expected to be alleviated by next year.

Rothwell said that is correct and BOR does not anticipate that they will have this issue next year.

5. **Cascades Island Water Quality Gauge (CCIW) –** *Dan Turner, Corps*

a. TDG – September 2024

- Cascades Island (CCIW) has been above the 110 % TDG criteria for many days in September.
  - The CCIW gauge is located downstream of Bonneville (BON) and the configuration of that gauge is right below the spillway at Cascades Island. It is in the area that there are no mixing with Powerhouse flows.
    - A backwater effect.
- Two sources of TDG:
  - Fish Ladders
    - Data collection shows up to 125% TDG.

        - Combined flow: 4.7 kcfs
    - Attraction spill
        - Part of the day.
        - Hourly TDG data shows and inverse relationship. The attraction spill is producing less TDG than the fish ladders.
        - Spill has some dilution when looking at the hourly TDG data.
    - TDG is coming from the Fish Ladders.
    - FOR TDG management, the Corps uses the Warrendale (WRNO) gauge as it is representative of mixed conditions downstream of BON.
    - The CCIW gauge is scheduled to be decommissioned for the season this week as the USGS gets around to decommissioning seasonal gauges.
        - Could occur as early as today (September 25)

Swieca said that she appreciated the update. She said that there were a couple of questions at FPAC that came up that prompted this conversation. She said that out of primarily curiosity, the CCIW gauge gets pulled during the late Summer/early Fall each year. She asked if there is a reason that it seems to have been delayed a little bit longer this year than in previous.

Turner said he had not coordinated this year with USGS to take out the gauge earlier. He said that he has had some conversations with them, that if they are in the area and they can take it out early it would be great, but the Corps has not put it in their contract to remove it on a certain date. USGS is decommissioning the seasonal gauges right now and CCIW is in line.

Erick Van Dyke, OR, said that it is not contracted but in the past it has happened earlier. He asked if it is just a coincidental timing. He asked what factors go into the coordination with USGS to remove that gauge.

Turner said that it is part of one of the seasonal gauges, like John Day forebay (JDY) and the Dalles forebay are still in and were just removed yesterday. The cadence to remove the seasonal gauges is as staff time allows as they are going through the end of the season. Turner said that he did not think that there are any set date. He said in the past he has had conversations with the USGS leads, because this is a known issue and if the USGS is out there and it is convenient to go ahead any pull the gauge, but we do not have funding for them to make a special trip and do a decommission on a specific date.

Stranz asked Swieca and Van Dyke if it would be helpful to add the way behind their concern/question.

Swieca said that it would be best to come from Van Dyke because that is where most of the questions were coming from at FPAC.

Van Dyke said that we are all here to understand how the process works and recognize it as we move from year to year. He said the *why* is of interest. He thought that the interpretation by many of TMT is that it has been described by Turner already and that gauge has other influences other than spill that are potentially influencing the data point

that is recorded every year. He asked if Turner could confirm to make sure that TMT's thought and paraphrasing of why these things are happening.

Turner said that he had mentioned a couple of reasons; one reason is the Fish Ladder is a TDG generator and that it is separated from dilution with the Powerhouse. He said that he thinks the they are inline with those reasons.

Van Dyke said that his other point is that he would like to emphasize is an understanding of what gauge the Corps is using as the official TDG reporting site for Water Quality Standard (WQS).

Turner said for any sort of management decision, e.g., spill reduction, the Corps would use the Warrendale site at this time of year.

Van Dyke asked if that information is recorded in a concise plan like the Fish Passage Plan or any other documentation.

Turner said he was pretty sure that it is in the Appendix 4 of the WMP, which is the TDG management plan. He said that he thought that talks about that, but he does not have it memorized.

Van Dyke said fair enough so he will look at that Appendix 4 to find guiding principle. He asked if he heard correctly that Turner said that the fish ladder produces up to a 135% TDG. He said that is confused why the TMT group had not recognized how to deal with that relationship. He said that he was confused why we would leave an important fish passage route with a TDG level that is over 130%.

Trevor Conder, NOAA, said that he is doubtful that it is like that when the baseline conditions coming into the Project are low. He said that it may get up to 130% when there is uncontrolled spill going on throughout the System and then the Fish Ladder elevates it more, maybe taking a 125% to a 130% TDG. He said that he would like to look at the data more, he said that he is skeptical that we are seeing numerous circumstances of 130% TDG in the Fish Ladder. He asked to see more data.

- *from Charles Morrill to everyone: 9:41 AM*
- *the 135 % tdg in the fish ladder .... I was not aware of that happening*

Turner said that he does not have data in front of him, he had a summary of years past. He said that it could have easily been a spike in ethe data, or as Conder mentioned, as high TDG in the System and it was coming through the Fish Ladder. He said that was kind of an example and he did not mean to raise alarms. He said that the SM probably have a much better sense of what Fish Ladders normally produce for TDG that he does.

Stranz asked to confirm that Turner's point was for the CCIW gauge at this point Turner is thinking that the high TDGs are in part from the Fish Ladder TDG.

Turner said correct and he would like to make an assumption that the levels we are seeing at the CCIW gauge, they are daily maximum TDGs, or up to 119% TDG. That is probably reflective of what is coming out of the Fish Ladder without better information.

Ben Hausmann, BPA, said that he would like to orient TMT. At BON, for both the CCIW and B-branch ladder on either side of the spillway it is kind of a unique design. The original design is a long plunge from the forebay to tailwater within the auxiliary water system that feeds the ladder. It has been an issue for a long time and Hausmann said that TMT has talked about it in years past. He said that he did not remember 135% TDG per se, but Conder is probably right with it depending on what it is getting in the forebay. He reminded TMT that it is not a simple thing to solve, and it is sort of the design of that particular fishway that has been problematic for a while.

Stranz asked if TMT is wanting to look at the fish ladder TDG data and have conversations on that it would be most appropriate in FPOM.

Conder agreed that he felt the issue brought by Turner would be an FPOM issue.

Van Dyke said given the last several years TMT has been talking a great deal about gas after September, before April Spring spills have started. He said that site-specific issues may differ on this topic but understanding the principles and the process that are being represented with the data. It may be good to have a relook whether that is with TMT so that we can manage adaptively or with FPOM. He said that he is not promoting one over the other at this. He would like to have another visit so that we get the principles, and the details aligned so when TMT is make decisions, we all have the same playbook. He said that he appreciated Turner sharing that and he appreciated that other have suggested that to look at.

Stranz asked Van Dyke if the ladder TDG data is available to look at.

Van Dyke said that he does not have that information, if he did, he would have looked at it already.

Turner also did not know where TMT can access that data. He said that he could dig for it.

Hausmann also did not know where to find TDG specific ladder data. He said that he could dig into it a little. He said that there were some folks out looking at Cascades Island data for this specific reason, but it has been years.

Van Dyke wanted to make sure that TMT understood that there have been other sites that TDG values rose higher than anticipated or expected, even when spill was not occurring. He said that it is good that we are talking about BON directly because that is the current topic, but he wanted to make sure that everyone also hear that there are other places we should be spending time revisiting with this issue.

- Swieca will shift this conversation to FPOM so that it can be holistically addressed. She will contact Chris Peery to add that to the FPOM agenda.
- Hausmann will look for regional TDG fish ladder data available to share.

Turner reminded TMT that the AAs put out an annual TDG report that looks at compliance with WQS. It talks about WQS not only during the spill season. If SM look back, this issue has been looked at and some of those reports are at least acknowledged. As noted, the gauge has been pulled earlier in the last couple years so it has not been an

issue recently, but Turner wanted to share as that would be another source of TDG analysis.

Van Dyke wanted to make sure that the question is what other factors are associated with these ranges.

Turner said that the reason he was pointing to the report is that it is not a bad place to start. He said that he was sure that it would not answer every question, but it does look into some of those issues.

6. **August McNary (MCN) Powerhouse (PH) Outage** – *Tony Norris, BPA*

   - The outage illustrates the importance of the Min-Gen criteria at the Projects throughout the year.
   - Min-Gen values were put in place after the August 10, 1996, West-wide Power Outage, when we lost MCN and there were several other line outages associated with the cascading event that occurred.
   - Since 1996. studies have been performed, noting that the minimum generation at those Projects was something that was necessary.
     - Lack of generation in that area with reactive response and inertia led/contributed to that PH outage.
   - In August 2024, when that occurred at MCN from a Transmission stability standpoint BPA was able to maintain the System as result to having the Min-Gen criteria in place.

7. **Set agenda for next meeting – October 9, 2024**

**Today's Attendees:**

| Agency | TMT Representative(s) |
|---|---|
| NOAA Fisheries | Kelsey Swieca, Trevor Conder |
| Oregon | Erick Van Dyke |
| Washington | Charles Morrill |
| Kootenai Tribe | |
| Colville Tribe (CTCR) | Dennis Moore |
| Umatilla Tribe | Tom Lorz, |
| Yakama Nation | Keely Murdoch, Tom Iverson |
| Bureau of Reclamation | Eric Rothwell |
| Army Corps of Engineers | Doug Baus (Chair), Lisa Wright, Aaron Marshall |
| US Fish & Wildlife Service | Dave Swank |
| Idaho | |
| Montana | Brian Marotz |
| Spokane Tribe | |
| Nez Perce Tribe | Jay Hesse |
| Warm Springs Tribe | |
| Confederated Salish and Kootenai Tribes | |
| BPA | Tony Norris, Ben Hausmann |

Other Attendees (non-TMT members):

CRITFC - Pete McCune

COE – Dan Turner, Jessika Solleder

DS Consulting – Emily Stranz (Facilitator), Colby Mills

CorSource – Andrea Ausmus (BPA note taker, Contractor)

Chelan PUD – Jay Fintz

EKI – Eve James

Clearing Up – K.C. Mehaffey

NPCC – Kate Self