

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

April 26, 2023

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/2023/>. 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 April 12 meeting minutes and facilitator's summary, with no additional edits.

Mid-Columbia River Weekly Average Flows – Tony Norris, BPA, reported on mid-Columbia River weekly average flows, highlighting the basin's warmer temperatures in the 10-day forecast. Tributaries between Grand Coulee and Priest Rapids are expecting significant flow increases with warmer weather and snow melt. With this rise in the tributaries in addition to increased inflows into Grand Coulee, BPA expects a weekly average flow of about 100 kcfs in the first week of May; outflows from Grand Coulee should increase across the month by about 10-15 kcfs per week as the project manages refill in June.

Tom Lorz, Confederated Tribes of the Umatilla Indian Reservation/CRITFC, noted that FPAC reviewed the STP forecast and were concerned that low flows heading into May would affect fish movement, as travel time is an important factor for survival. The STP shows lower forecasted flows, and Salmon Managers hoped that BPA's forecast was more reflective of what's to come. If it does not, they will likely request operations that improve flows early in May. The TMT will revisit conditions next week.

Spill Priority List – Dan Turner, Corps, summarized his understanding of the two suggested spill priority lists (SPL) provided by FPAC. He noted that the SPL is used to manage lack of load spill on the system, which is implemented on an hour-by-hour basis. From the Corps' perspective, Level 1 of the SPL is the State Water Quality standard and describes FOP spill operations, which includes performance standard hours. Under both options A and B, fish managers requested that Lower Granite is higher than John Day in level 1 (and it is okay to have it higher in level 2). Also, they prefer that spill is prioritized at the fish passage and flex spill projects before the storage projects. Tom noted that FPAC did not reach consensus on a preferred SPL order, specifically, some were comfortable with spilling at Lower Granite up to 125% (Option A), whereas NOAA prefers for Lower Granite spill to be 40% (Option B). Dan shared that ideally the Corps would like a consensus recommendation, and without such, would defer to NOAA's preference (Option B). There was some discussion on a need for clarity regarding high flows from forced spill/lack of load versus hydraulic capacity.

After some discussion in an effort to help clarify nuances of the SPL, Action Agencies requested a caucus. The AAs will coordinate and present what they are able to implement at the next TMT meeting.

- **ACTION:** AA's will coordinate their implementation action for the 2023 SPL, and will connect with Tom Lorz on their decision prior to the next TMT meeting.

Operations Review

Reservoirs – Chris Runyan, Reclamation, reported on Bureau of Reclamation projects:

- **Hungry Horse:** midnight elevation was 3,512.1 feet, with inflows of 3.4 kcfs, and outflows of 3.5 kcfs; the project is about 48 feet from full. Selective withdrawal maintenance should start next week, although is contingent on load testing a new crane. Chris clarified that selective withdrawal at the project pulls water at various elevations. Brian Marotz, Montana, added that the intent is to make sure water downstream of Hungry Horse mimics the natural temperature in the north and middle forks upstream, so temperatures are approximately the same at convergence. Additionally, Chris shared that Knief Creek culvert repair is finishing up in about another week; it is not a constraint on reservoir elevations.

TMT – April 26, 2023

- **Grand Coulee:** midnight elevation was 1,234.1 feet, with inflows of 73.4 kcfs, and outflows of 57.3 kcfs. The project is still operating to Vernita Bar, and looks to see inflows picking up soon. Drum gate maintenance work will likely be done in the next couple of days. The RFC water supply forecast was 84% for April – August, similar March’s forecast.

Lisa Wright, Corps, reported on Corps of Engineers projects:

- **Libby:** midnight elevation was 2,403.5 feet, with average inflows of 5.2 kcfs, and outflows of 4 kcfs;
- **Albeni Falls:** midnight elevation was 2,054.1 feet, with average inflows of 21.6 kcfs, and outflows of 14.4 kcfs;
- **Dworshak:** midnight elevation was 1,517.1 feet, with average inflows of 8.4 kcfs, and outflows of 10.3 kcfs;
- **Lower Granite:** average outflows of 61.6 kcfs;
- **McNary:** average outflows of 135.3 kcfs; and
- **Bonneville:** average outflows of 149.8 kcfs.

Aaron Marshall, Corps, reported on Lower Snake Minimum Operating Pool (MOP) operations. Lower Granite, Lower Monumental, and Ice Harbor dams are currently operating within their normal MOP range. Little Goose is operating within a 0.5 foot raised MOP forebay range, in order to help maintain a Lower Granite minimum tailwater elevation. Current elevation at Little Goose forebay is 633.69 feet, within the bottom foot of the forebay range. Since implementing the raised MOP forebay range, Little Goose has been able to operate within the normal MOP range over 99% of the time. Aaron noted that with the projected increase of inflows in the Snake River, the Corps will look for opportunities to reduce Little Goose back down to the normal MOP range, maybe as early as next week.

Water Quality – Dan reported that project tailwaters are below the 125% Water Quality Standards, most projects are still at minimum generation, spill the rest.

Fish – Trevor Conder, NOAA, reported that things have been slow to start, despite predictions of above average returns. Water temperatures have reached 50 degrees F, so migration should start picking up. At Bonneville, 5,599 Chinook adults have been counted, with 1,282 yesterday. There are a significant number of pinnipeds on the Washington State side near powerhouse 2, Trevor hoped they would not lead to serious losses in fish returns. Most fish haven’t arrived at The Dalles yet (only 1/3); McNary is at 403, with 86 counted yesterday; ICE is at 105, with 22 counted yesterday (the criteria trigger for performance spill as defined in the FOP was met on the 24th); and Lower Granite is at 14.

Yearling and sub-yearling Chinook are moving through the system in good numbers; including some hatchery releases in the Lower Columbia. Good numbers of steelhead are moving through the Snake, in the 10s of thousands, although not yet at Bonneville. Dave Swank, USFWS, reported Spring Creek National Fish Hatchery released the remainder of their fall Chinook sub-yearlings on April 20, totaling about 3.1 million, which reflects the bump in counts at Bonneville around April 23. Additionally, Dave noted that lamprey counts were high a few days ago at Little Goose (over 10,000 on April 19).

Charles Morrill, WDFW, provided an update from FPC on spring Chinook migration during gas cap spill at Lower Granite Dam: <https://www.fpc.org/documents/memos/21-23.pdf>.

Power System – Tony reported that mild spring-like conditions are progressing, and there hasn’t been a significant response to load from temperatures. Most projects are still at minimum generation spill the rest.

Question and Comments from Members of the Public – Andrew Gingerich asked if BPA had additional resolution on weekday versus weekend flows out of Grand Coulee in the first week of May? Tony noted that they expect Grand Coulee’s daily variation to match what might typically be observed with regional load.

The next scheduled TMT meeting is on May 3, 2023 at 9:00 AM.

**Columbia River Regional Forum
Technical Management Team
OFFICIAL MINUTES
Wednesday, April 26, 2023
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 – April 12

- April 12 – Summaries and Minutes – Approved

2. Mid-Columbia River Weekly Average Flows – Tom Lorz, CRITFC, & Tony Norris, BPA

a. Forecast - *Norris*

- Highlighting the warming temperatures in the Basin
- Tributaries flowing between Grand Coulee and Priest Rapids are expecting sharp rises, which will help contribute to better conditions in the Mid-C for fish migrating to that system.
- That coupled with increased inflows into Grand Coulee will contribute to a flow at Priest Rapids to an average of ~100 kcfs by the first week of May (1 – 7).
 - Norris believes that it is consistent with what was requested an increase in what was seen a week ago.
- Across each successive week of May, outflow is forecasted to be increasing by ~10 – 15 kcfs/week, as they manage the refill of Grand Coulee through May and June.

b. FPAC Concerns - Lorz

- FPAC looked at the STP and they had some concerns when it came to flows. Low flows at the end of May and they are beginning to see some fish movement from the tributaries. The combination does not set up the best conditions since travel time considered one of the most important factors in survival.
- Lorz pointed out that this is different from the STP.
 - Norris said that the STP had 85 – 86 kcfs week average at Priest Rapids but they are seeing ~15 kcfs more than that on a weekly basis.
 - Lorz said that this is more what they are hoping to be getting
- Lorz shared that if this somehow goes south they will be looking for ways to look to try to improve flows in early May.
 - If it comes to fruition, it is more in line what they are hoping.
- Will give and update at the May 3, 2023 meeting.

Kirk Truscott, Colville, asked if the BPA forecast differed from the STP forecast. He asked if that was why they are in a holding pattern until the first week of May to see if these projected flows come to fruition.

Stranz answered in the affirmative.

Erick Van Dyke, OR, asked why they are not looking at the Columbia mainstem flow. The information presented was about the Okanogan and he would have rather had known more about the flow in the Columbia.

Norris shared that he was highlighting the incremental inflow between Grand Coulee and Priest Rapids. Though he cannot speak to the STP data, they are continuing to see observed values that have come in above previous forecasts in the Okanogan and other tributaries (Methow, Entiat) that are contributing to flow in the mid-Columbia as we are managing inflow and refill into Grand Coulee. There will be an increase in Columbia River flow and Grand Coulee is the only knob available to turn right now, everything else is natural stream flow runoff. It is fortunate that we are finally seeing some spring runoff in the first week of May that will contribute to improve Columbia River flows.

Van Dyke said that the conversation that TMT has been having has been about the Columbia River mainstem. He feels like that is what the focus should be on when the group asks for a consideration for management change. He thanked Norris for sharing his impressions on his expectations but feels that it is something that they will want to talk about more.

Norris highlighted the Lower Granite forecast to give an idea of what is happening at a different location in the Columbia River Basin.

Van Dyke said that is taking it to a different location the water they are talking about is managing water from Grand Coulee. It is not the same place. He understands that Norris is trying to give an idea of what is expected and it is helpful but the focus is also on the Upper-Columbia flow in the main stem.

Norris said that he was trying to convey that they are expecting to see an average weekly flow of 100k in the in the mid-Columbia. He was describing the factors that contribute to achieving that.

3. Spill Priority List – Tom Lorz, CRITFC, & Dan Turner, Corps-NWD

a. 2023 – Spring

Dan Turner, Corps, provided a reminder of what the Spill Priority List entails.

- The list is for managing lack of load spill
- It is implemented on an hour-by-hour basis.
- Level 1 is the water quality standard (FOP spill) and includes the performance standard hours.
- Option A
 - Change in Lower Granite was changed in each level.

- Lower Granite 125% TDG gas cap (80 kcfs).
- This needs to happen in Level 2.
- Level 1 is limited by what is in the FOP.

Turner asked Lorz if this still reflected what was in Lorz' Option A.

Lorz asked for clarification about the 40%. The FOP mentioned 40% but only mentioned at high flows and does not define high flows; we are looking at spill priority for lack of load, which could happen at any time. Lorz does not see this as following the FOP.

Turner agreed, he finds the 40% interesting because it is not defined. He interpreted it as if there is a lack of load then it would be a high flow because your flows are beyond your need and it is a forced spill situation. Which would be considered a high flow. *[Note: this interpretation was updated at the May 3 TMT meeting]*

Lorz said that they would consider “high flows” as described in the FOP more related to hydraulic capacity. This could be considered at a different time (process meeting) to try to get more clarity and understanding of the Spill Priority List. There are many factors that should be considered; lack of load, hydro capacity, and emergent situations. Lorz would like to have a better understanding of how Turner is viewing the list.

- Option B
 - Turner's understanding was to not change the order but to clarify that there is a 40% spill in Level 1
 - NOAA option
 - Lower Granite above John Day
 - No 40% instead 125% for 24 hours a day
 - Level 2 do not spill to 125% before John Day (First go to John Day and then Lower Granite)

Turner brought up the Level 1 being reflected in the FOP, if it was a performance standard hour the order is not going to matter because the lower eight projects are operating to the FOP. When you are going to 125% 24/7 you are looking at the order in level 2. This would bring Lower Granite up to 40% spill prior to bringing John Day up to 125% spill cap 24 hours a day.

Trevor Conder, NOAA, said that as long as that is the intent they are okay. He does find it confusing.

Lorz still is not sure that Turner has what people want but will continue forward and will modify if needed.

- FPAC
 - There are two different camps in FPAC as there was no consensus in picking an option and this is why they brought two forward.
 - They will leave it to the action agencies to decide what to do with the option because Lorz does not believe that they will be able to come to a consensus.

- Turner prefers the action agencies to provide a consensus recommendation (without consensus Corps will defer to NOAA's Option B).

Lorz said that with Option B being the default option there would need to be consensus. He said that he thought that it was agreed at FPAC that Lower Granite could be moved above John Day or 40% during the performance spill operation.

Conder said that Turner had said that is how it would be done because that is how the FOP is written.

Lorz said that the FOP says that it is 125% for 16 hours and 8 hours of 32 % spill. By doing this, you are doing 125% at 24 hours a day before to go to Lower Granite and John Day will take the additional spill that people are trying to shift to Lower Granite.

Stranz asked the FPAC members if they were in agreement or had consensus that Lower Granite could be ahead of or on top of John Day.

Charles Morrill, WA, nodded on screen.

Jay Hesse, Nez Perce, said that he is struggling with the description of the Level 1 as it is described in the FOP. He asked for clarification on what that means. What he understood from Turner was that Level 1 is standard operations.

Julie Ammann, Corps, shared that Level 1 is getting the projects up to the State Water Quality Standards. So they have some room to increase Chief Joseph, Grand Coulee, and Dworshak in order to get up to the state water quality standard before they are going above. The Spill Priority List is a TDG management tool. They need to have the FOP levels for 1 through 8 so they can begin spreading spill across other projects and then move into Level 2. They have always had Level 1 as being the state water quality standards (which is the FOP operation) and they maximize the eight projects before they move on to Chief Joseph, Grand Coulee, and Dworshak. When those are all at max and they need more space or need megawatts then they move into Level 2, and that is when the performance hours would start getting dropped.

Hesse said that if that is the case then he thinks lines one through eight should be deleted because that is just standard operations to already be at 125%. If not, then he has questions why and how the group is implementing spill priority. He believes that he followed Ammann's explanation and from that believes that leaving the list only to 9, 10, and 11 would make it easier to understand.

Lorz thinks that they may want to rethink their timeline as well because they would not want to put spill at Grand Coulee because that would be excess spill, it would be useless from a fish management standpoint.

Ammann reminded Lorz that at Level 1 it is to reach the water quality standard everywhere, which is 110% at Grand Coulee, Chief Joseph and Dworshak.

Lorz said that if there is a need to spill why not spill were it is useful. There are performance windows where there are opportunities that could enhance spill passage at the dams. That is what the fish managers are striving to do with the changes that they are proposing.

Lorz explained the difference between the Option B shown and the Option B that Turner presented.

FOP:

John Day

- 125% Gas Cap for 16 hours and 32% spill for 8 hours

Lower Granite

- 125% Gas Cap for 16 hours and 20 k for 8 hours with a provision of 40% under high flows (undefined term)

Lorz explained that people were thinking that it made more sense for Lower Granite to be above John Day. As they have to have to increase spill they would go to the performance operations at Lower Granite and John Day before Chief Joseph, Grand Coulee, and Dworshak because there are benefits by putting more fish over to spill by those projects.

Lorz said that the debate is on whether it is better to have the performance block increased to 40% or whether it would be worth going to 125% spill 24 hours a day before you go down to John Day. NOAA is more comfortable with the 40% performance spill block.

Turner said that is how he reads the list in front of him. He said that the only change would be the Lower Granite 40%.

Hesse said that the changes that Lorz described would be to the projects that have flex operations. Those that have the flex operations should be in Level 1. The first reaction would be at fish passage projects that have flex operations in those 8-hours.

Turner said they intended Level 1 to represent the FOP operations, including the performance standard hours for 8 hours a day. You would not go to 125% gas cap spill 24 hours a day 7 days week until you get to Level 2 at those projects with performance data.

Jonathan Ebel, ID, said that the confusion might be from the way it was done in the past. They would request changes and the number of requests have been increasing in frequency. The last few years they have been moving projects around in Level 1 and Level 2 and in previous years Ebel does not remember mention of adhering to the thought of the FOP being a part of Level 1. He believes the confusion is coming from a change in communication, but he would like to stress that regardless to the fish managers spilling at the non-storage projects should be prioritized over going up to state water quality limits at the storage projects. That is where Ebel thinks this is an easy solution unless the Corps thinks that it is violating a regulation. Ebel does not believe that is true because as soon as the Corps declares a lack of load situation or implement some type of lack of load lack of market hydraulic capacity action the State Water Quality Standards go to the side. He thinks that the immediate movement to Level 2 has not been portrayed in the way that it is being done today.

Norris said that the 8-hour performance standard blocks for adult passage on the Lower Snake are a priority. He believes that is where the Lower Granite 40% is confusing. If there was a lack of load condition, they would not flex John Day because that would

exacerbate a lack of load condition. John Day flex hours would be delayed to later in the day. The tool to go up to 40% at Lower Granite would be used to preserve as many of the 8-hour performance standard spill blocks at Little Goose and Lower Monumental as possible. Norris explained that this is where the Spill Priority List becomes complicated as they implement the performance standard blocks based on the flow of the river and the lack of load conditions.

Van Dyke asked what order the Corps follows when they do not meet the standards.

Turner said that the spill priority list is the order for spill for lack of load.

Van Dyke asked when they are not meeting any of the standards at any of the projects what order does the Corps follow.

Turner said that it is the spill priority list.

Van Dyke said that FPAC is trying to get the Corps to change this level so that it accommodates that factor as well. Van Dyke showed confusion as to how the FOP is contained in the Spill Priority List in both Level 1 and 2. He finds that the consistency between the newer content and the changes through the seasons based on some criteria. He finds the list the overly complicated. Van Dyke also said that he is concerned about what the Corps is doing when they are not meeting standards.

Ammann asked what Van Dyke meant by when they are not meeting standards.

Van Dyke explained that meet but not exceed is “the gas cap explanation”. He said that when they are at min gen and spilling the rest what is being done with the lack of load situation. He finds that the list tries to redefine the examples and it has made it more confusing on how to interpret what is being done in the different situations.

Ammann, Norris, and Turner tried to provide information for Van Dyke but he was not happy with the provided information. The list was not nuanced enough for him and he would have liked to understand more about the hourly information. He would have like to know more about how to move Lower Granite higher on the list.

Turner shared that footnote 2 on the Spill Priority List reflects that Level 1 represents FOP operations. He also wanted to acknowledge that the document is complex. He finds the complexity in the water quality standards, what is means to meet, but not exceed a water quality standard is not as easy as it was a couple years ago. That is what Turner is trying to represent in Level 1, part of that is implementing the FOP. The Washington’s water quality standard refers back to the Endangered Species Act; it is a condition of their standard. It adds complexity and is what Turner is trying to represent.

Lorz went through a trial walkthrough with Turner, Ammann, and Norris. After some discussion, there was some concern about the change. Ammann shared that BPA has the flexibility within the FOP to put their generation where they want it within the bounds of the box. She said that she is worried that this request is now forcing the John Day performance standard hours to occur concurrently with the Lower Snake blocks. She felt that they might need to caucus on the federal side to gain clarity..

Scott Bettin, BPA, said that the Spill Priority List will not be used this week.

Conder asked what the Corps reasoning would be for not moving Lower Granite above John Day. He will wait until after the caucus

Ebel said that Turner had mention that Lower Granite would be different in Level 1 from Level 2; Ebel said that it could move up in Level 2 as well. He did not want that to be a hindrance to implementing the request. He also wanted to reiterate that most of the discussion was over capping a lack of market spill at 40%, NOAA's position, or just the gas cap, State/Tribal Representatives.

Conder said that he had received information from that Corps that made him concerned that they may not have time to wait the week.

Bettin said there should be sufficient time, they are still at mid gen and spill all the rest. They have not got up to where they turned another turbine one yet.

➤ **Action: Action Agencies Caucus on this and return next week.**

4. Operations Review

b. Reservoirs

Reclamation – Chris Runyan

- Hungry Horse Dam (Hour ending 8)
 - Midnight elevation: 3512.15 ft. (48 feet from full)
 - Releasing Average Outflows: 3.5 cfs
 - Inflows 3.4 kcfs

 - Selective Withdrawal
 - Possibly starting next week.
 - Contingent on load testing new crane – early next week.
 - Joel Fenolio report on next week
 - Knieff Creek Culver
 - Picture received yesterday (April 25, 2023)
 - Finishing road alignment not a constraint on reservoir elevations)

- Grand Coulee Dam
 - Midnight elevation: 1243.1 ft. (operating to Vernita Bar minimums)
 - Inflows: 73.4 kcfs
 - Outflows: 57.3 kcfs

 - Hoping to see inflows pickup soon
 - Drum Gate
 - Finishing up repair of side seal on drum gate
 - Drum Gate maintenance work completed this year.
 - Hoping to be done in next few days.
 - RFC water supply (April – August)
 - 84%

- Stayed flat on forecast.

Dave Swank, USFWS, asked what selective withdrawal at Hungry Horse means.

Runyan explained Hungry Horse has a structure that pulls water at various elevations within the reservoir specifically to pull warmer water near the surface to get the temperature that they need. It has panels that allow water to go through and they need to be maintained.

Marotz shared that they are attempting to make sure that the water downstream mimics the water upstream. They have a seasonal chart with a minimum and maximum water temperature for the day. If it is possible, they grab the water to match the water downstream.

Corps – Lisa Wright

- Libby Dam
 - Midnight elevation: 2402.5 ft.
 - Inflows: 5.2 kcfs
 - Outflows: 4 kcfs
- Albeni Falls
 - Midnight elevation: 2054.1 ft.
 - Inflows: 21.6 kcfs
 - Outflows: 14.4 kcfs
- Dworshak Dam
 - Midnight elevation: 1517.1 ft.
 - Inflows: 8.4 kcfs
 - Outflows: 10.3 kcfs
- Lower Granite average outflows: 61.6 kcfs
- McNary average outflows: 135.3 kcfs
- Bonneville average outflows: 149.8 kcfs

c. MOP Operations – Lower Snake Projects

Corps – Aaron Marshall

- Lower Granite, Lower Monumental, Ice Harbor
 - Currently operating within normal MOP range
- Little Goose
 - Half-foot raised MOP range to maintain Lower Granite minimum tailwater.

- Current forebay elevation is 633.96 ft, which is within the bottom foot of the normal MOP range.
- Since the half-foot raised MOP range began, the project has operated in the normal MOP range (633.0-634.5 ft) over 99% of the time.

Hesse asked with the projected increase of flow then would there be a need for adjustment.

Marshall said yes, they would look for opportunities to return the project to the normal MOP range. Based on the latest forecast it looks like early next week.

d. Water Quality – Alexis Mills, Corps

- TDG Tracking
 - Below the 125% at the projects

e. Fish – Trevor Conder, *NOAA Fisheries*

- Adults
 - Bonneville
 - Prediction of above average return.
 - It has been slow return due to the cooler temperatures
 - Just got to 10° C and this is the point that fish pick up and begin to return.
 - Spring Chinook: 5599 (1282 yesterday)
 - Pinnipeds on the Washington shore Powerhouse Two side
 - Few above Bonneville.
 - The Dalles
 - Most have not made it
 - Only about a third have made it
 - McNary
 - 403 (86 yesterday)
 - Ice Harbor
 - 105 (22 yesterday)
 - Triggers the performance spill defined in the FOP
 - Spill Operations on April 24, 2023 (data and numbers)
 - Granite
 - 14 Spring Chinook
 - He hopes there is not significant losses with pinniped situation but it is likely the run comes lower than expected.

- Juveniles
 - Yearlings and Subyearlings are moving through system in good numbers
 - Likely due to hatchery releases in Lower Columbia River
 - Subyearlings at Bonneville
 - >10k Steelhead at Lower Granite
 - Release Spring Creek Nation
 - ~3.1 Million
 - April 23, 2023

- f. Lamprey – Dave Swank, *US Fish and Wildlife*
 - Very High count
 - Little Goose: >10k on April 19, 2023.
 - Lamprey are regular and can get spikes
 - This is high (not sure why)

Morrill shared an FPC link on travel times and spill. He said that FPC recently had a discussion about the impact of spill at Lower Granite and travel time on a recent memo. He posted this on the chat section for those that were interested. It provides a summary of travel times and impacts of spill. Morrill thought with that being part of the discussion on whether a 40% cap on Lower Granite as NOAA is proposing he felt that it would be useful. <https://www.fpc.org/documents/memos/21-23.pdf>

- g. Power System – Tony Norris, *BPA*
 - Mild Spring Conditions
 - We do not see significant response to load with temperature change during mild conditions
 - Minimum generation on most projects.

Van Dyke asked about the negative megawatts.

Tony said that energy moves in an out of the system may have indicated imports.

5. Public Comments:

Andrew Gingerich, Douglas County PUD, asked about weekend or weekday flows out of Grand Coulee.

Norris said that the Coulee daily variation to match how the region uses load day to day, load on how the region uses load day to day.

Ebel said that encompasses the 80% minimum at McNary

6. Set agenda for next meeting – **May 3, 2023 at 2:00 pm PST**

- a. Update on Mid C Flows
- b. Spill Priority Lists

Today's Attendees:

Agency	TMT Representative(s)
Army Corps of Engineers	Doug Baus (chair), Julie Ammann, Lisa Wright
Bonneville Power Administration	Tony Norris, Scott Bettin, Ben Hausmann
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	Tom Lorz (CRITFC)
Colville Tribe	Kirk Truscott
Warm Springs Tribe	
Kootenai Tribe	
Spokane Tribe	

Other Attendees (non-TMT members):

Corps – Daniel Turner, Aaron Marshall, Alexis Mills

DS Consulting – Emily Stranz (Facilitator), Colby Mills

BPA – Andrea Ausmus (note taker, Contractor with CorSource Technology Group)

Talen Energy – Patrick McGonigal

Clearing Up – K.C. Mehaffey

Energy Keepers – Eve James

Columbia Basin Bulletin – Mike O'Bryant

ODEQ – David Gruen, Marilyn Fonseca

Chelan PUD – Jay Fintz

Portland General Electric – Ruth Burris

Snohomish PUD – Ryan Ziegler

Avista – Ryan Ericksen

Douglas County PUD – Andrew Gingerich