

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

April 30, 2025

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://public.crohms.org/tmt/agendas/2025/>. 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 and facilitator's summary from the April 23 TMT meeting.

Lower Monumental (LMN) Transport – Erick Van Dyke, FPAC Chair/ODFW, provided an overview on recent operations starting April 24 at LMN for daily fish collection and barge transport. He shared FPAC's concerns regarding significant flow fluctuations during the barge operations in the LMN tailrace and emphasized that Fish Managers would like to better understand how the operation is being implemented in a way that seeks to minimize spill reductions and within-day flow fluctuations. It was noted that State and Tribal Fish Managers did not agree with the Corps' decision to implement the transport operation at LMN due to concerns of impacts of changing river conditions on out-migrating fish (see SOR 2024-1 RIOG decision on TMT website¹). Doug Baus, TMT Chair/Corps, noted that from the Corps' perspective they are implementing an operation coordinated through RIOG (Regional Implementation Oversight Group) and any requests for operational changes should be addressed within that forum.

Erick walked through the posted materials, pointing out the variations in magnitude of LMN flow reductions over the last week. Jonathan Ebel, IDFG, highlighted that there was a significant decrease in LMN outflow for the fish barge, followed by two days of lesser decreases, then significant decreases again. He questioned whether it was a matter of the operators learning how to manage the nuance of a complex operation, or if those fluctuations should be expected moving forward. A [link](#) was added into the chat to help demonstrate the operation.

Doug acknowledged the complexities and explained that from an operational standpoint, it is about managing the water within the operational constraints. The Corps does not necessarily have all the control over the magnitude or duration of spill reductions for navigation safety (one variable is the ability of individual barge captains to navigate the tailrace); the project operator manages this based on barge transit. Tony Norris, BPA, added that the current operation, as coordinated at TMT last year, increases generation to the extent needed to stay within MOP (minimum operating pool) levels; this constraint in the increase of generation could be contributing to the observed flow fluctuations. Tiffany Stoeckig-Dixon, Corps, provided additional data and context on the fluctuations, noting that the response to changes in spill and turbine operations are not instantaneous; spill decreases prior to shutting down for barge transit while generation increases, and when barges are docked, spill increases to the maximum tolerable level for the barge and generation decreases. Tiffany suggested that the larger flow fluctuations may be occurring on days that spill levels are higher.

The group discussed differences in the level of detail displayed in various data sources: the hourly average data that Fish Managers have access to does not show the same level of detail as what the AAs are using to manage operations in real-time. Tony confirmed that spill drops to 0 during barge transit for

¹ SOR 2024-1 Disposition: <https://public.crohms.org/tmt/sor/2024/dispositions.html>

up to 30 minutes every day of the operation, however, the hourly average flow values available to TMT do not show this. Fish Managers requested finer resolution data (like what Tiffany presented) be made available to them so they can better understand the operational impacts on fish passage as well as the complex operational nuances that occur in situations like this.

Fish Managers generally shared a priority of minimizing spill reductions as much as possible during these operations, and given the constraints of the AA decision, some are open to having AAs increase generation to minimize flow fluctuations. Tom Iverson, Yakama Nation, reminded the group that State and Tribal Fish Managers were unanimous in their lack of support for the transport operation, and while they are not unanimous in their positions on how to manage flow, they agree that minimizing spill reductions and flow fluctuations is in the best interest of fish.

The Corps emphasized that from their perspective, they are implementing the operation for juvenile transportation at LMN as decided and coordinated through RIOG and the Senior Hydro Technical Team. Ben Hausmann, BPA, added via chat that when considering all the variables that serve as operational constraints, the decision to "minimize" flow changes (and not store water in the reservoir) and add generation to account for spill reductions, is what is occurring. From the Corps perspective, the only option is to increase generation, as there is nowhere else for the water to go if not being spilled and projects stay withing MOP levels.

Tiffany presented data to highlight areas that demonstrate the contrast between periods of high and low variability to help clarify the flow fluctuations. She reiterated an earlier point that generation capacity, especially at minimum generation, is limited due to load balancing. Further generation increases would require additional discussions with BPA.

Moving forward, the AAs will consider potential operational changes, specifically, considering increases to generation to limit fluctuations in LMN project outflow. Fish Managers can reach out to Tony or Tiffany with requests for specific data. Updates and conversation on the LMN transport operations will be included on the next TMT agenda.

Questions or Comments from Non-TMT Members – There were no questions or comments from members of the public.

The next scheduled TMT meeting will be on May 7, 2025, at 9:00 AM.

**Columbia River Regional Forum
Technical Management Team
OFFICIAL MINUTES
Wednesday, April 30, 2025
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 Summary and Minutes

a. April 23 Summary and Minutes

- Approved

2. Lower Monumental (LMN) Operations for Smolt Transport – *Erick Van Dyke, FPAC Chair*

a. FPAC Explanation

- Van Dyke was asked by FPAC, as the FPAC Chair, to request a review and update of the operations that are occurring at LMN, as they relate to the recent decision to continue collection and transport from that facility while actually including the within day flow fluctuations that have been a concern identified by FPAC Fish Managers (FM) for well over a year and had gone through a process that ended with a decision to continue knowing that we would be disrupting or creating this within day flow issue that has been identified as a fish passage issue.
- The desire of FPAC is to be updated and informed on the operations as they relate to collection at LMN. Primarily displaying the operation details. The hope of FPAC is to have a regular update so it is in our eyes and so that they can discuss and identify the actual operations that are being implemented.
- Van Dyke said that he was asked to express and describe the operations. He said that this was different than typical as in the past, when there was a Corps managed operation, the Corps would typically give this type of presentation at TMT but there was concern about revisiting this topic. So, Van Dyke was asked to do it to start the process off.

b. Update and FPC Spill to FOP Graphs

- Collections of smolt were expected to start on April 24 at the three collector projects in the Snake River.
- Current direction for collection is to collect and barge daily. This had been occurring since April 24.

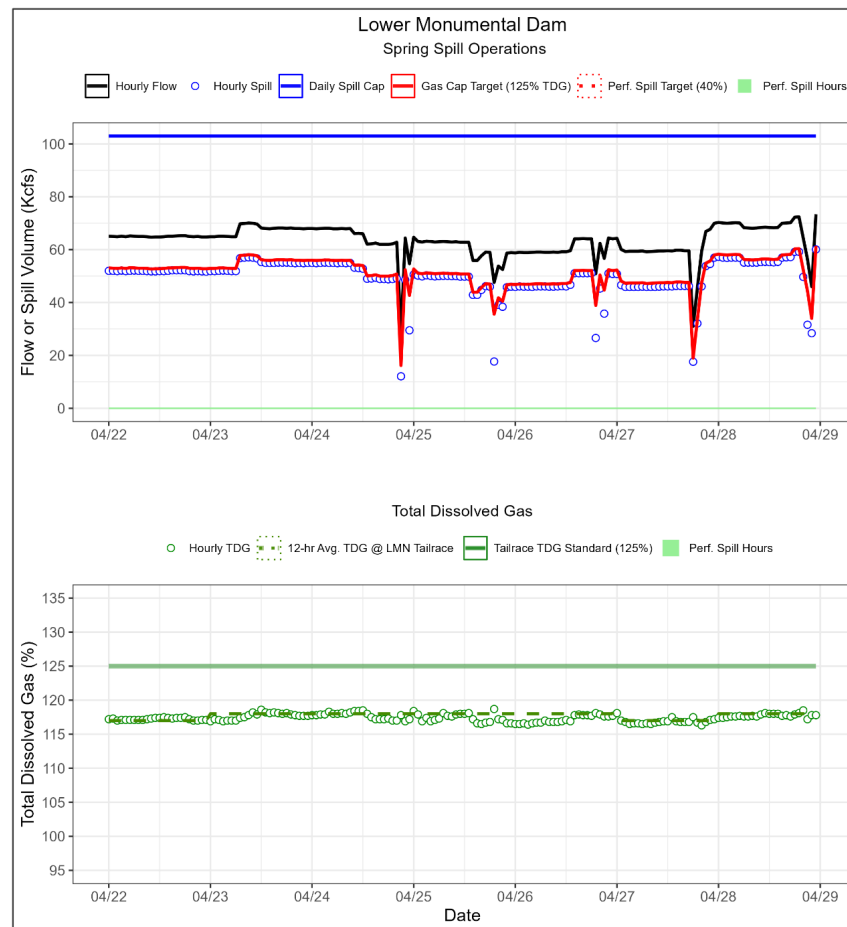


Figure 1: Hourly spill operations (top) and resulting total dissolved gas (bottom) at Lower Monumental Dam (April 22-28, 2025)

- Figure 1 shows what has been observed is within day flow variability.
 - Y-axis: Flow/spill volume
 - X-axis: Start of the 24-hr period beginning April 22 through April 28. Available from the FPC website
 - Black Line: Hourly flow
 - Blue Dots: Actual hourly spill that had occurred
 - Blue Line: 103 kcfs (Spill cap provided by the Corps)
 - Red Line: Gas cap target
 - Because we are well below 115 kcfs, the amount to both fill generation and maximize spill is not possible.
 - Really describes what a “minimum generation spill the rest” operation would be based on the total flow that is available at the time.
- The changes in flow occurring on the Black Line observed create sudden reductions in flow that are managed by water patterns being delivered in the

system. These sudden changes in flow are showing patterns that have some concern for fish passage.

- Described earlier as within day flow fluctuations, a concern that was brought up and discussed a great deal in TMT.
- Van Dyke said that it appears that this is happening, and it continues to be a concern for fish passage management.
- There are changes to spill that do not track a common pattern, variable. There is some desire by FPAC to understand what factors are influencing what patterns and what changes are being made for this operation to allow the barge to transverse the tailwater to tie up and load fish.
- One of the things that was decided by RIOG was to increase powerhouse (PH) flows to deal with water management issues related to operating the pool elevations.
 - In Figure 1, there are some places that PH is well above PH minimum. At times it might be two or more generators happening at once.
 - FM assume that this is due to maintaining the generation operations but they would like to have more detail about what factors are playing in and if in fact there is an effort to minimize some of the effects that FM provided early on in discussions.

c. TMT Discussion

Kelsey Swieca, NOAA, said that she would like to clarify a statement because Van Dyke was talking on behalf of FPAC. She said that she knew that there was a difference in opinion on this SOR. At the start of Van Dyke's discussion, he made a comment about how we moved forward with the operation as was outlined in the Corps' response to the RIOG decision, knowing that there would continue to be flow fluctuations. She said that it was their working understanding that the flow fluctuations would be minimized, so we would continue with transportation with minimal flow fluctuations. She said that was something she wanted to clarify before moving on with the discussion.

Charles Morrill, WA, said that he would like Swieca to clarify when she says minimum flow fluctuations, if NOAA considers the flow fluctuations that we are considering, minimum flow fluctuations. He asked if NOAA had a target for that.

Swieca said that what she was meaning to say was following the RIOG decision, based on the discussions that occurred at RIOG by the Senior Technical Team, it was her belief and her understanding that there was general agreement that when there needed to be reductions in flow, that there would be every attempt possible to put that additional flow through the PH so that the total Project outflow would not fluctuate the way that we saw last year.

Morrill thanked Swieca for the clarification. He asked about the Action Item from last week about NOAA looking into the request to post additional information, he asked if NOAA had an update for that today.

Swieca said that she did not know if TMT wanted to go into that right now, or if TMT wanted to comment on the current discussion and circle back.

Stranz said to do that and stay on the same train, she said that she would take note of it.

Van Dyke said before TMT moves on, he said that one thought of the input that TMT had just heard came as a component of the RIOG process, which was not an open discussion. He said to be fair to all of the participants, the way that Swieca described it may represent what NOAA was saying but there was a variability in the response to putting water through the PH and how that influenced operation changes and patterns observed on these charts. He said that there is some sensitivity there. He said that it is understood some of the RIOG members were supporting the notion of putting more water through the PH. He said that it should be made clear that there would be a reduction in the fish benefits that were expected when we made a change in the operation to spill more. In the same way that the within day flow fluctuations are distracting the expected operation that was recommended by many FM that participate in RIOG. What Swieca said is documented but it is not unanimously recommended.

Stranz said that from what she saw in the decision, it was that did make it into the decision, that there would be an increase of power generation to minimize the reductions in flow. What Van Dyke was saying was that not everybody agreed that was a good idea.

Van Dyke said that they did not recommend it, that they recommended against. He said that he wanted to keep this to FPAC. He said that they were wanting to make sure they were aware and updated on how operations were occurring. He said that he thought that was a fair statement for all of the FM including NOAA.

Jonathan Ebel, ID, said that he was hoping the Corps would chime in, so he said that he was going to ask a question. He said that the Corps made a decision and communicated that they would minimize variations in outflow and ponding. He said that what FM saw last week with the onset of transport was at first, not the case, then a couple of days when it was close, and then a large variation. He asked if the Corps could speak to why that was and what they have figured out moving forward to implement what the Corps had announced as their decision.

Doug Baus, Corps, said at this time the Corps was not understanding the request and they did not feel they have any decision space in this conversation. He said that it was their understanding that the decision to continue on with the transport operation at LMN was coordinated at the RIOG level and the Corps is implementing the operation that was decided upon at RIOG. He said that from their perspective if there are concerns with the current operation that was coordinated at RIOG those would need to be addressed to RIOG. At this time the Corps does not have decision space at TMT, they are implementing the RIOG decision.

Ebel said that they are not.

Stranz stepped in and asked if Baus or anyone else at the Corps had explanation for why Ebel saw the variations of what was seen on April 24, and April 25. She asked if they would be able to respond to the difference in magnitude.

Ebel said that he was just asking if this, for the Corps, was just a hiccup as the Corps tries to figure out how to minimize flow while implementing transport. He said that the State of Idaho does not agree with the decision to continue transport, but the Corps made their decision. He asked if there are just hiccups as they figure out how to implement and if so what is the Corps learning in how to implement this difficult operation because that is important to know and record.

Baus said if there are any specific things Ebel would like to know he could email them to him or talk to him offline and he could respond later. He said that as already noted, this is a complex operation, and the Corps' is implementing the RIOG decision. If there are specific issues, he could take them down now or follow up after the meeting, but he did not feel prepared to comment.

Stranz said that TMT should give FM the opportunity to get their questions out on the table and then TMT can talk about any follow-up steps. Stranz said that she did hear from Ebel that there was question about the different points and why there was a range in the magnitude of the reductions. She asked if there were other specific questions that TMT members had regarding the implementation of the operation.

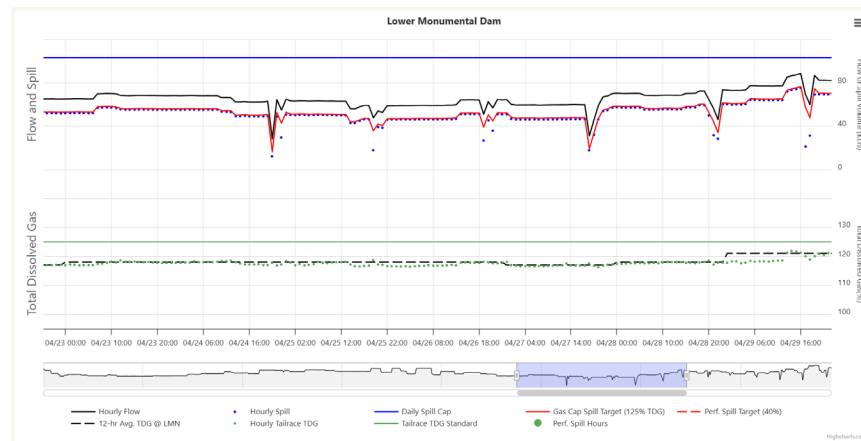


Figure 2: FPC LMN Spill to the Fish Operations Plan

Morrill said that Ebel's question was a fair question whether it was handled offline or not. On April 24, the Corps went from a flow of something near the upper-60s down to nearly 30 kcfs. He said on the following day for transport it was much less and then it was deep again on April 27. He said that he thought that understanding the why about the differentials is a fair question. He said that he would echo Ebel's question.

Tony Norris, BPA, said that he would have to check back with Real-Time, but he thought that they were only picking up generation enough to remain within MOP, so the higher the flow rate the higher they would need to pick up during the spill reductions.

Van Dyke said that was helpful, it was one of the pieces that TMT needed to understand better as we move through this. He said that in the past a lot of the input FMs get related to Power is about reliability and system reliability. He said over the years FMs have come to find that BPA is pretty good at managing the reliability issue in all of the scenarios but getting a clear understanding of how that piece was built into the decision to continue to

use the within day flow fluctuation operation to actually serve the single purpose of MOU to continue to transport fish. It is important to understand better.

Norris said from an operational standpoint this is all about managing the water within the constraints, so BPA is operating to meet those constraints.

Van Dyke said that there is a certain point that the RIOG letter adds. The idea that there would be an attempt to minimize spill reductions during transport operations at LMN in particular.

Norris asked if Van Dyke meant flow reductions or spill reductions.

Van Dyke said that Norris was talking about was to maintain the flow using two routes. He said that he was describing the change in our fish passage action to ameliorate for fish passage that restores some of the actions that are commonly described as a problem or issue for fish passage. He said that they are linked. He said that we were now talking about how those relationships influence what we see in the operating pools patterns. He said that understanding how this change is ameliorated that is going to be a question for FMs and it would be important to inform the FMs about. He said that his look at it is even though we shifted where the water went through there was still some kind of harmonic pattern in the line for operating pool elevations. He said understanding that would be important for us. He said that he appreciated Norris was offering to look at that and think about how that was actually playing out after we changed those operations the way they are being changed.

Tiffany Stoeckig-Dixon, Corps, said that she wanted to add her two cents after looking at the data. She said that it appears that the days there were higher fluctuations, like April 29 as compared to April 25, LMN was spilling more before shutting down the spill for the barge to go across. She said that they are increasing generation as the barges go across or leave, and then when barges are docked, they are increasing spill and decreasing generation, sometimes there is still an increase in generation depending on that outflow. She said that from her understanding it is important to know that when they make the changes, they are not instantaneous. When you drop 60 kcfs from the spill and increasing generation it is not instantaneous and that could be why there are fluctuations. She said it is possible that they are still trying to make it so that you cannot see it but that is not something that she could answer to. But her response was based on how she saw the data and based on what she knew.

Jay Hesse, Nez Perce, said that he wanted to build off of what he had heard from Baus and Norris. He said that what he had heard from Baus was the feeling that the Corps is following the Corps decision memo from RIOG and implementing that. He heard from Norris that the efforts to minimize flow reductions or to capture/use generation increases is within the construct of staying within MOP boundaries. He said building off of that the Corps' decision memo contains statements that say that they will attempt to minimize spill reductions, minimize flow reductions, and stay within pool elevation. Given those sideboards that the Action Agencies are attempting to work in, he asked if there was the ability for the Corps to further minimize the flow variations by increasing generation to a greater extent, so not having the sideboards to stay within MOP but rather being more aggressive on keeping the flows flat with that time frame. He said given Baus' comment he may need to take it back to discuss internally. He also had some curiosity questions.

He asked if changes to the spill were being minimized to the greatest extent. He said that what he had heard from Dixon is maybe yes, but maybe a further report on how that is varied on a within hour basis because FM only see the within hour basis. He said that a second follow up would be to NOAA and Swieca to come back at a later date, if the Corps response comes back with this is the greatest extent possible that they can minimize the flow fluctuations, ask if that is meeting NOAA's expectations for sufficiency and expectations out of the RIOG discussion.

Stranz said she appreciated that Hesse recognized that these were questions that some may not be able to answer in the moment but would rather be able to answer later on.

Norris said that he wanted to be clear about what Hesse was asking. He asked if Hesse was suggesting the AA to pick up generation to further minimize the flow fluctuation.

Hesse said that was what he was asking for, it is not what he desired. He said that this is couched with the he does not agree with the RIOG decision to begin with but working within that construct. He said one of the base motivating factors for the FM request to abandon transport was to get rid of the within flow fluctuations, this has not happened under this construct. He said if we are going to try to get to that... He said that he felt that they were getting the worst of both worlds, they are getting spill reductions and flow fluctuations within a day.

Van Dyke said that the within flow fluctuations shown in the hourly flow line made him wonder how, what Hesse asked Norris to do would result in something that stands out as an eureka moment because water flow is being managed to have this fluctuation in it if you look at Figure 2. That is patterning of water that is occurring, understanding that detail was something that was concerning when this information came out. He said that he understood that the AA would not be able to respond to this right away because they need to think about it. He said getting to the answers may also require understanding how water is being managed with the drastic change in flow that we are seeing.

Tom Lorz, Umatilla/CRITFC, said in reference to Norris' question, it is their first preference to reduce spill as little as possible and once this is done go to maximum generation to try to flatten the flow fluctuations as much as possible. He told Dixon that he had noticed in the data some of the earlier ones there seemed to be a greater reduction than the later ones. He asked if this was due to people being more comfortable with the operation. He asked if this was because they were only reducing down to 25 kcfs or 15 kcfs, or whatever it is.

Norris said that he thought that was due to operating within all of the constraints. He said priority right now is to not exceed the top of the MOP range.

Lorz said that was not what he was asking. He said that his question was about the reductions in spill. He said that if you look at them, the first went to a minimum of 17 kcfs, the next ones did not go down as much. He said that the next two were kind of low and then the last two have the minimum spill that we have gotten to on an hourly basis is not as low. He asked if this is because the barge people are getting more comfortable or if it is because the AA are getting more used to it. He said that is what he was trying to figure out.

Norris said this is an artifact of the hourly data that Lorz is able to see. Norris said that it did go to zero, but it was a portion of the hour, so it did not look like it went as far down as it did. He asked which day Lorz was thinking that it did not go all the way to zero.

Lorz said that there have only been four, the first two the hourly went down to 17.

Norris asked for the date on that.

Ebel said that Norris could look at the link that he put in the chat.¹



Figure 3: DataQuery Screenshot of link provided by Ebel

Norris said that he was looking at a different tool.

Ebel said that Norris has higher resolution data.

Lorz gave the dates or 4/27 and 4/28 around 2100.

Norris said that he thought that they were all an artifact of intra-hour changes not being captured in the hourly data. Norris said that he saw it going to zero in every instance.

Van Dyke said that there is a duration issue on the data set.

Lorz said that he was looking at the link provided by Ebel and he was not seeing zeroes in that. He said that it appeared to be a higher resolution and maybe that is not even a high enough resolution.

Stranz said that they had pulled up on the screen the link that Ebel had provided. She asked if when Norris looked at it he was still seeing discrepancies between what he could see behind the scenes and what TMT was looking at.

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<https://public.crohms.org/dd/common/dataquery/www/?s=eyJ0aW1lem9uZSI6IIBTVCIslmJhY2t3YXJkIjoIjoiN2QlLCJ0aW1lc2VyaWVzTGZdCi6WYjMTU4uRmxvdy1PdXQuQXZlJiFib3VyLjFib3VyLkNCVC1SRVYiLCJMTU4uRmxvdy1TcGlscC5BdmUuMUhvdXluMUhvdXluQ0JULVJFViIsIkxNTi5GbG93LUdlbi5BdmUuMUhvdXluMUhvdXluQ0JULVJFViIsIkxNTi5FbG92LUZvcnVlYXkuSW5zdC4xSG91ci4wLkNCVC1SRVYiXX0=>

Norris said that he can see 6 second data. He said that it goes to zero in every case.

Ebel asked what the flow looked like, because it sounded like it was worse than the DataQuery data he had was depicting, that what he was looking depicts.

Norris said on the 29th, during the barge transits, spill goes to zero in every case.

Ebel asked what flow out does. He said that the concern is about the changes _.

Norris said that the magnitude of the flow fluctuations had everything to do with the magnitude of the total flow, and how much space there was to store in the forebay. That would change, the higher the flow rate the higher you will have to pick up generation to stay within MOP because you have to plan for the second drop to zero.

Ebel said last year the Corps sent the FM the 5-minute data. He asked if they could, he would just have to talk to IDs RIOG representative to update him on how the Corps decision is being implemented because it does align with some of his expressed concerns that it is very complex and achieving what was expressed in terms of minimizing the fluctuations would be very difficult. Ebel said that this is probably the case. Ebel asked the Corps to send some 5-minute data so that they can inform those that they need to that would be great.

Baus responded to Ebel. He said that he wanted to highlight that through the evolution of the conversation we have distilled it down. He told Norris thank you for informing TMT about some of the constraints. He said that he thought he heard TMT coalesced around one topic. He thought he heard that if the AAs can increase generation more and increase project outflow during spill reductions to minimize the flow fluctuations. He had noted down the other issues. He asked Ebel if the Corps and BPA could go back and look into that question and come back next week. He said that he thought that the Corps and BPA could do that and get back to TMT.

Norris asked if the FM would like to implement a change on that sooner then later and then we would be able to see the impact.

Ebel said that he would like the Corps to implement what they said to RIOG they would implement. The analysis that IDFG put together showed mathematically some of the impacts and it depended on the fish that are in the river and the fish that are being transported. He said that the AAs are twisting themselves into pretzels for a very small proportion of the fish. He said that as we move forward it will become more and more apparent that it is the case. Ebel said at the minimum the State of Idaho expects the Corps to implement what they told RIOG what they would implement. He said that minimizing the changes and providing the information because at a higher resolution they appear even more dramatic and that this is not capturing them. He said that either the AA could look into it, or Ebel said because he makes figures as well that show things in different ways. He said that he did not know if it would be difficult to pull the data out like they had last year but that would be his request.

Baus said that he thought that the Corps and BPA could look into the request. He told Norris that it was a fair request of how they might be able to manage generation during the spill reduction. He said that they could look into that.

Stranz said to hold on before talking about the potential action items and first hear from everyone.

Tom Iverson, Yakama Nation, said that he wanted to point out that his understanding of the RIOG decision was that total flow would remain the same and there would not be any storing in the pool or anything. He said an indicator of successful implementation of what the Corps said that they would do is there would be no carryover effects at IHR. He said that he expected the actions at LMN would be invisible at IHR. Looking at IHR we see big dips as what Iverson thought were a carryover effect. He said that he could be wrong. He said looking at that as a performance metric on implementing the LMN operation. He said that it was his understanding that we would reduce spill but increase generation because we did not want to change flow patterns throughout the reservoirs. He said that we wanted to keep them as consistent as we could throughout the four-hour operation. He said that was something that he wanted to point out.

Van Dyke said that there was a lot being said here. He said that he knew that folks were exploring and as they moved across the conversation and saying things that may disconnect where we coalesce. He said that he wanted to be clear that Oregon's position (not speaking as FPAC chair) is to maintain the operation with the least distortion of the trend lines that we were looking at through the system. Oregon was not in favor of putting more water through the PH, although he had heard that from his colleagues, that was one that OR was not supportive and they continued to not support. More PH passage of fish passage is not something that fits the rationale for the change made in the operations. He said that distinction OR gave a solution for this was to not alter the operation for fish barge to move across the tailwater and load. This solution was one that many were in support of and still see as the least disruptive. He said that Baus' characterization of a coalescing moment is not Oregon's recommendation.

Hesse said as TMT considers how to balance and minimize all of the aspects, in following up on Norris' intention to flatten the flows by increasing generation, Hesse wanted to stress the importance of Lorz' comments that that is only after minimizing the magnitude of spill reductions. That has to be the first effort in this. Understanding that spill is going to zero during this time frame is inconsistent with Hesse's previous understanding of what was needed to have safe barge transit. Regardless of what that is, the increase of generation is a secondary response only after minimizing the spill reductions.

Stranz summarized what she had heard so far in the meeting. She said that she had heard that all of FPAC are behind the first priority of reducing spill as little as possible during these operations. She said that some of FPAC are open and willing to see the AAs increase generation in order to minimize the fluctuations in flows.

Van Dyke said that Stranz was asking FPAC to correct something for anyone. It was more of a statement to combine everyone's thoughts. He said that he understood what she was after. He said that not everyone is on the same page but that understanding what is happening here is most important and they are bound to the decision that was made by the Corps. He said that FPAC understands that.

Norris said the conundrum for BPA is that they do not have control over the duration of the spill reduction. He said that the operator manages that as barge transits the spillway.

He said he thought that the Corps and BPA could work things out, but BPA does not have control over spill reduction duration or timing. To minimize flow fluctuations, they would have to respond instantly based on what was going on at the project.

Ebel said that the AAs sure found a way to make it complicated for themselves.

Morrill said he appreciated the discussion; he said that it was complex without a doubt. He said that he wanted to echo that Washington's position on putting more flows through the PH is contrary to the whole objective of maintaining stable flow and spill to keep fish out of the PH.

Swieca said that she would like to acknowledge that this is a highly nuanced issue and that she thought that everyone had touched on that, and it was apparent to everyone listening in. She said that it was a highly nuanced issue that TMT had been working on for almost a year. She said that she wanted to accept and acknowledge the fact that some of the writeup that was provided through the RIOG process, that has been codified on the SOR website. She said when she reads that she could see how it potentially lack some of the nuance of the conversation that occurred verbally during the RIOG and in the Senior Hydro Technical Team. She said that she would be supportive of the conversation that Baus suggested between the Corps and BPA about how to minimize some of the flow fluctuations in light of some of the additional nuance that were discussed today as well as some of the nuance that was discussed at the RIOG meeting and with the Senior Hydro Technical Team in the write up that the Corps provided.

Baus said that he wanted to say that TMT was coming down to the two issues that were laid out by Stranz. The first topic is the minimization of spill while loading. Baus wanted to highlight that the Corps is understanding that they are implementing the spill operation for juvenile transportation at LMN that occurred last year as well as what is identified in the RIOG document. He said that he wanted to highlight that he was not seeing a do-out or an Action Item there. He said that it was his knowledge at this time that the Corps is doing last year's operation so he was not seeing any update for next meeting. He said on the second issue regarding increasing generation during the operation. He noted based on the lack of consensus at this time Baus redacted the Corps' commitment to explore operations with BPA on increasing power generation during this time because if there is lack of consensus the Corps at TMT does not have the latitude to make that change without this being discussed at RIOG. He said that if FM would like to revisit the conversation it would need to go to RIOG. He said that there is nothing they could do here today. The Corps cannot go out and explore something outside of the current RIOG document. He said that he wanted to make clear what they could speak to today on behalf of the Corps at TMT, if FM want that level of refinement take it back to RIOG to talk some more.

Ebel said that he did not understand what Baus had said. He said that the decision from the Corps, after the last RIOG meeting, explicitly said in the last sentence, "attempt to maintain the forebay within their range by increasing generation". He asked what Baus was talking about.

Stranz said for a little more perspective that choice to make the operational changes is already in the Corps' power based off of the decision that was made.

Ebel said yes.

Stranz asked if it would be helpful to pull up the decision _.

Hesse said that he believed that the Corps' decision memo states that it would work to minimize flow fluctuations and stay within MOP and minimize the reductions in spill. He said that what the FMs are requesting fits all three of those. He said that it is just highlighting the emphasis on needing to do a better job at minimizing the flow fluctuations. He said that he sees this as highly consistent with the Corps' decision memo and ripe for discussion and action at TMT.

Stranz asked Lisa Wright, Corps, to pull up the language from the decision memo.

[SOR_2024-1_Disposition_Corps-Summary-of-Decision-2025-LMN-spring-transport.pdf](#)

Swieca pointed out that some of the confusion in this conversation might be from the fact that some are commenting on the conversation that occurred in the Senior Technical Team and the support or lack of support for transportation in general. Others are commenting on "a decision has been made by the Corps" how can we operate within that. She wanted to clarify that there are two different types of comments coming in and it is causing a bit of confusion.

Stranz said yes that she thought that we heard from Van Dyke and Morrill, a reiteration of their position of not increasing PH flows but it appeared that it was in the Corps' decision space to increase PH flows.

Van Dyke said that he thought that Swieca's statement was one that he wanted to emphasize as well. He said that he tried in the beginning to introduce this as an adaptive management conversation that updates what is occurring. HE said that the conversation had turned into something else in his view. He said that TMT talks about chum every other week with updates for TMT. He said that his conception of what he thought FPAC was interested in doing was to mirror that so that TMT understood what was occurring and had opportunity to discuss and ask questions about it. He said that the points that are coming out are that there is a decision memo that has a lot of statements in it. He said that a lot of it is describing how there will be minimization of some of the concern by trying to address some ideas like; "only reduce spill operation to levels that are necessary", "only use the PH with MOP concerns". He said that they resonate, no one is saying that the Corps is not trying to do that. He said what they are saying is that the concerns that they are still present in the data as it appears in a chart. He said understanding what can and is being done to be able to reduce to levels that are necessary at the finite periods of time to try to minimize what is happening that folks are calling concerning it what TMT is here to talk about and why we spend the time at this meeting. He said that it is a little disconcerting that there is stress about having this topic discussed openly from his position. He said that FM would remain to have confusion about why they cannot openly and regularly describe what they are seeing for operations that have been important in the discussion overall. He said that FPAC believes that this adaptive management group is supposed to be doing stuff like that. If FMs are told we are not doing that the reason for not doing it is confusing. He said that he hoped that what he said made sense.

Stranz said that she thought it made sense, she asked based on Van Dyke's summary of the conversation and where we are and what the ask is for this conversation. She asked if there were any questions or follow up.

Baus asked for clarification about the ask, he said that as he heard it __. He said that it was his understanding for next steps for the AAs. He said that he wanted to refine what he stated. He said that this conversation continues to evolve over the course of meeting. He said that he wanted to state what the Corps understands as of right now. He said that he would like to get back to the FMs next Wednesday. He said that it was his understanding that per the RIOG memo, they are implementing the RIOG decision document which was to implement last year's operation. At this time the Corps believes that they are doing that. He said that they recognize that the last portion of this meeting has been dedicated to the term "minimization" and he recognizes that is a qualitative word and it sounded like the spirit of this conversation is wanting to have more quantitative conversations about that qualitative term and getting down to what that is. He said that the Corps recognizes that there is a lack of consensus from FM around this topic so that adds a layer of complexity to this conversation. Baus said that the Corps would like to, after this meeting, is to get back to TMT next Wednesday and provide any updates on next steps. He said that he wanted to clarify on the behalf of the Corps what they would like to do after this meeting. He asked if that meet the needs of TMT or if there was additional things that TMT needed to talk about.

Stranz said that one thing she did not hear Baus recap is the request from Ebel to provide the finer resolution data. She said that was something that Ebel specifically asked the Corps to consider providing again.

Baus said (in reference to Ebel's request) at this time no, again that is a resource request, a lot of requests should they involve time, energy, and resources, generally, that is something the Corps would have to think about. He said at this time he would like to say no, and if there are specific questions regarding any project data on the hourly timestep he would be happy to talk to folks. Or Norris (not wanting to speak for Norris) had been very generous with a very refined timestep data. He asked if Norris, in the event of specific requests, or a suite of hours, would be willing to answer any questions on operations at a more refined time series.

Norris agreed.

Stranz said that Ebel could reach out to Norris.

Morrill said that in listening to what he had heard, the request here is dialogue and transparency as TMT does with the chum operation, bringing it to TMT's attention each week in an understanding and part of a discussion going forward. He said that it is another step in the transparency of how it is being implemented and all of the little things that go into making it a complex challenge.

Hesse responded to Baus that he hoped that the Corps would reconsider the ability to supply the data on a smaller time step, he said that he did not see that as onerous given data queries that are available to the AA. He said that he thought that was inherently important in the operations that TMT was talking about. He said that he hoped that one could be reconsidered. Second, he said that he believed that the lack of consensus that

Baus was expressing is being overplayed in terms of being responsive between now and next Wednesday to changing operations. He said that he would default to Van Dyke on that because that was where he had heard the strongest statement in terms of objections of a higher level of generation, but Hesse believed that there is unanimous desire to minimize the within day flow fluctuations. With a little clarification from Van Dyke about ideal changes versus the reality of balancing all of this stuff he would like to see of there is the ability for the Corps to implement some refined balancing before next Wednesday.

Van Dyke said that this conversation had gone all over the board in terms of that. He said that it may appear that there is disagreement between FMs where Van Dyke did not believe that the way that Hesse had characterized that was correct. He said that it is potentially being overplayed, he said that it was more about the coalescence comment that brought that detail in. He said that it is his responsibility as the member of Oregon to share those details when he hears them.

Stranz said if she was going to rephrase that (she said that this also goes to Morrill, because Morrill was the other person that reiterated positions on the PH in increases of generation). She said that if the Corps and BPA were to shift operations to help minimize the fluctuation in flow by shifting to an increase in generation would Oregon and/or Washington want to elevate that decision to RIOG. Recognizing that they are working within the constraints of the Corps decision.

Van Dyke said that for over two years now TMT has been talking about within day flow fluctuation. He said that was the target and that is the FM concern, that there are these distortions in the flow that are impacting fish passage in ways that are not beneficial that do not meet objectives of the changes in operation that have changed over the many years. He said understanding how this process can be minimized is what was decided by the US Army Corps of Engineers. He said that the FMs do not see any information being shared that helps the FMs understand how that detail is being achieved. He said that we are actually seeing the same patterns that we saw before we even changed it. He said that he did not know, he was not going to say that Oregon's position will shift to the desire to put more fish through the PH because it will not. He said that it is not a Policy level comment that he could offer.

Morrill said that the settlement agreement went into providing consistent spill or consistent flow operations for the benefits of juvenile fish passage. He said that the spill agreement had been developed to provide for the passage of the adults. He said that this operation does not fit within the scope of that in Washington's opinion. He said though he could not speak for the others, he thought that all the FMs are supportive of providing the best passage conditions possible for both juveniles and adults. He said that Washington was not considering an SOR but would engage in discussion with FPAC members and see what steps WA thinks are appropriate to take to inform TMT of their concerns and the impacts on passage. He said that was what he wanted to share with the group at this point in time.

Baus said that he still did not understand where TMT was. He asked Van Dyke if he was supportive of increasing generation during the spill reduction operation for juvenile

transport at LMN. He asked Van Dyke for a yes or no response. He said that he was not understanding the last response.

Stranz said that she thought what she had heard from Van Dyke was that it was a policy level statement he was not able to make.

Van Dyke confirmed. He said that he could rephrase it for Baus a bit. He asked if Baus was going to follow the RIOG decision in operations as it is written.

Baus said that was what they were trying to communicate. He said that the Corps is currently implementing last year's operation, which the RIOG decision document is predicated on. He said that they are making best efforts to do that right now. He said moving forward, if TMT is making refinements or adjustments or nuances, that is one thing, but if TMT is making wholesale changes that are significant that is something that the Corps was not able to do the day of the TMT meeting. So what the Corps was trying to do was disseminate between what are subtle refinements or tweaks that the AAs are able to better adjust to understand expectations that are minor and within the scope. Or if they were significant and outside the scope it would have to go back to RIOG. He said that the Corps was trying to ferret were TMT was in that conversation. He said based on the information that Van Dyke and Morrill had provided he was still trying to nuance that out. He said that when he is hearing everyone else say increase generation while doing the spill adjusted operations for the barge transportation. He said that when he is hearing everybody else say go ahead and use increased generation during that period to minimize flow fluctuations. But when he heard OR and WA not being supportive of that created a challenge for the Corps because it creates a lack of consensus. He said that he was trying to better understand OR and WA's position on the topic because he could not move forward without that. He asked Van Dyke again if OR was supportive of increasing generation during the spill adjusted operation during the barge loading operation. He said that he had heard that Van Dyke could not answer that from a policy standpoint so he has to play the he would get back to Van Dyke on that because that would be an unresolved issue for the Corps. He said getting back to Morrill. He asked if Morrill could clarify WA's position.

Van Dyke asked Baus if he had asked him a question or if he was just being shoved back into a corner.

Stranz said that it felt to her like TMT was doing some swirling.

Van Dyke agreed. He said that what he was hearing from the full group was "only reduce spill operations to levels that are necessary". He said that was the first point. He said that Baus was emphasizing putting water through the PH. He said that Baus' decision to coalesce there was creating noise. Van Dyke said that the FMs were asking the Corps to pay attention to_. Van Dyke said that the FMs understood the decision to operate a certain way was made by the Corps in the RIOG process. The FM have asked that TMT would track it and understand that it was functioning. The FMs also want to make sure that TMT understands how the Corps was going about to understand how to minimize the reductions in spill. He said that Baus was really focused on how they increase the amount of water going through the PH. He said that although that is a topic that matters and some FMs had described it differently, that is not the primary, it is the secondary.

Stranz said there is like a two-step process that FPAC was asking for:

- Are there any ways for the Corps and BPA to limit the decrease in spill? Is there anything else they can do to reduce the change in spill/the decrease in spill?
 - One option on the table was to be able to do this is to increase generation.
 - Not sure if it is the only option.
 - This is an option that not everyone around the table supports and not an option that everyone is able to say they support from a policy perspective.
 - The ask for the Corps and the AAs is to take this back internally and consider if there are any other opportunities to decrease the fluctuations in spill and also the fluctuations in flow.
 - If the AAs come back and say the only option is for an increase in generation there can be another discussion about that. This would also give Van Dyke and Morrill an opportunity to go back internally to have the same conversations.

Baus said these are questions that he felt that the Corps had answered last year. He said that there are only three places for the water to go: in the reservoir in the forebay, through a generator through a turbine, or via the spillway. He said that TMT had gone through this exercise last year. He said that if MOP is a priority, then it has to go through the powerhouse during spill reductions for the fish barge.

Stranz said that one of the things that was called up was that spill is going to zero during the barge movement across the tailrace. She asked if it needed to go to zero. She asked if that was a requirement for safety.

Baus said it was. He said that TMT talked about this last year and yes is the answer.

Stranz asked if from the Corps perspective the only option to not see as great of fluctuations in flow is to increase generation.

Baus said that was correct, there is no other place for the water to go. If it is not spilled and LMN needs to stay within MOP, the water needs to go somewhere and the only other place for the water to go is through the generator. If we want to normalize project outflows, we need to increase generation.

Van Dyke said that the statement that was made, or you could not transport from LMN and remove the need for the distortion, but TMT was not talking to that at this point.

Stranz said that conversation has concluded at this point.

Iverson said that he wanted to reiterate two points. One is that the FMs were unanimous to not transport, and the Corps made the decision to do this transport operation. The second was that the FMs were not unanimous in how to manage flow but they were unanimous in as minimal of a disruption as possible. He said that the Corps made the decision in the RIOG memo that said that they would increase generation to increase spill reductions to maintain appropriate MOP in the two reservoirs. He said that he was confused that the Corps was pretending now because Oregon and Washington do not

agree with generation that this somehow ties their hands. Iverson said that the Corps had already made the decision to be contrary to what the FMs have asked for. So, the FM are just asking to implement the MOP as the Corps wrote it. He said that he felt like TMT was spinning around the drain of a decision that had already been made. What we are seeing in the data is that we are not implementing the memo and that is what the FMs were asking for, to see a smoother operation that minimizes reductions in spill and minimizes reductions in flow. He said that is why it is making him crazy to listen to this.

Norris said that he had heard Iverson emphasize MOP and that was exactly what the AAs direction had been doing. He said that they have been minimizing the increases in generation while maintaining the forebay within MOP. They are moving as little water through the PH as needed so that they can stay within MOP during the spill reductions. But right now, Norris believed that the requested change to the operation would be to focus on prioritizing the flow fluctuation and moving the water during the spill reduction. He said that he understood that the FMs would like to minimize the spill reduction as well but that is out of their hands from an operational safety issue. Absent any adjustment to the amount of spill, an increase in generation would be needed to minimize the flow fluctuations. He asked if he heard Iverson correctly.

Iverson said that he was just citing the language in the RIOG decision but yes, the FMs want to see the least impact on flow because of the impacts out in the reservoirs of starting and stopping spill to level that we are doing for this transport operation.

Norris said earlier Iverson had mentioned that the priority was to maintain MOP so that was where he was confused.

Iverson said in the RIOG decision it is the last sentence in the paragraph that describes what the Corps was going to do. He said that was all he was emphasizing. He said that the decision has been made. What the FM wanted was not accepted.

Baus said he appreciated Iverson's interpretation of the sentence but what Norris was trying to lay out and the Corps also supports is that they are interpreting the sentence differently. He said that the Corps understood the priority to be MOP so in order to stay within MOP they do increase generation. But that was just as needed to stay within MOP. He said that was last year's operation. He said that he wanted to clarify the nuance.

Hesse asked to direct TMT to the first sentence in that paragraph that acknowledges the desire to minimize the flow fluctuations. Hesse said that is in that decision memo and he hoped that people were remembering the whole dialogue of the SOR was centered on reducing flow fluctuations. He said that the intent, and we got wrapped up on the words. People had highlighted that MOP is important, true. AND going back to the first sentence about the intent of the SOR was to minimize flow fluctuations. He said to look at the entirety of that and not just cite pieces and parts. He said that he thought that TMT was getting somewhere in terms of a greater understanding here and he hoped that a little more focus on the flow fluctuation and balancing that can be done.

Morrill said he wanted to reiterate that the decision had been made and RIOG provided the guidelines for the operation and the Corps is following that. He said yes, if you are going to do as stipulated in the RIOG decision you are going to increase flow in the PH, but that does not mean that WA has to support it. WA accepts it as a part of the RIOG

decision but from a fish standpoint, no it is not what the FM initially wanted. He said that he was puzzled that the AAs are concerned that WA is expressing that putting more water through the PH is not desirable from a fish perspective.

Stranz said that what she was understanding from this conversation right now is that people are doing their best to understand how everybody is understanding the AAs decision space. She said that it sounded like people are also wanting to reiterate their original position on increases in PH. However, she also heard recognition from the FPAC members that we are working within boundaries of the Corps decision memo.

Dixon shared a spreadsheet that showed the differences in where there is a high fluctuation and where there is low fluctuation. She pointed out the columns for total outflow, spill level, and generation. She said that the Corps was increasing generation and decreasing spill (all the way down when they are transversing across the tailwater) and increasing generation (to the extent possible to maintain flows). She said it was not perfect. She said that she would like to put people's eyes to Ben Hausmann's, BPA, comment on the chat that generation is also limited at min-gen because we have to balance the load.

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| *Ben Hausmann*

| 09:56

| I think folks need to look at all the variables serving as our sideboards for these operations. RIOG decision was to "minimize" flow changes, not pool water, and add gen to account for spill reductions. I think that is what is occurring. At min gen, there are limitations in finding load to increase gen at LMN. During these ops, tailwater and forebay elevations have been held very steady as ops switch from spill to gen. Just trying to acknowledge that they're doing a pretty good job at trying to meet RIOG commitments.

Dixon said that they are decreasing the change in spill as much as possible because when the barges get back to the dock, they decrease generation and increase the spill up to 50 kcfs. This is what is in the teletype. She said that this is kind of unsafe. She said that last year they were going down to 30 kcfs but the towboats are being pushed around at the docks, but they are still trying to go down to 50 kcfs. If they could increase generation more that would be a BPA question, but the Corps is doing what it says to the extent possible. She said that she did not know if there were any additional questions that she did

not addressed but USACE is doing what they can and what they said they were going to do.

Van Dyke thanked Dixon for sharing the details that she shared. It is not information that the FMs can access and that is where Ebel and others had a request for data so that we all were looking at the same information so that the FM could understand how everything played out. He said that one day there was quite a few minutes, almost a half an hour, of zero while another day had 15 minutes or so. He said that it is this level that gets to only reducing the operation to the level that is necessary, and it is the kind of thing that Van Dyke thought would be helpful for all of us to be aware of so that we can center the conversation better on how to provide input for operation recommendations and such.

Dixon said that the differences in duration are going to be dependent on the tow boat captain, on how long it takes him to transverse across the tailrace as well as how long it takes them to depart from the dock. Different people and different capabilities will be the differences in time.

Van Dyke said that understanding why that is, is an important piece of the information needed to recognize why things are occurring why they are. He said that this is the kind of thing that makes sharing information important.

Ebel said thank you so much for pulling up this data. He said that this conversation requires looking at this and being able to see this so that they understand. He said that he would reiterate his request, he would appreciate having this data as well as one more column with the forebay elevation in it. He said that it goes back to the State of Idaho's concern was that this would be difficult and that is what is coming out, is it is a difficult operation to put into play. He said given the lack of full understanding, but one could reasonably assume that the rate of change in these operations will have a negative impact on fish in the reservoir. As well as the proportions of fish being transported relative to those that are in the reservoirs the evidence continues to mount that we may be doing something that is a net negative on adult returns in the future. He said that he would like to double down on his request for this data because it is imperative for him, and it is his duty to update and inform Idaho's RIOG representative as to the outcome of the Corps' decision and its implementation.

Stranz said that if Dixon was able to share the information with the TMT members, she would be happy to send it out to the TMT representatives if that was a possibility.

Iverson said that he wanted to thank Dixon and Hausmann. He said that in the last three minutes he had all of the questions that he came to TMT at the start of the day with answered. He said both the data that Dixon shared and the narrative along with it, in addition to Hausmann's comments in the chat about "it is difficult to find generation spontaneously within these projects". He said that he could understand that and appreciate it. He said that he wanted to thank them for answering the question that he felt that TMT had entered the day with.

Stranz said that there was a lot of information, and it is nice to look at it on the screen together. She said that she knew the FPAC members like that level of detail. She said that she was wondering if TMT was at a point where they felt that they could conclude conversation for the day. She also wanted to recognize that this was an in-season

management issue that some TMT members would like to keep an eye on moving forward. She said that she thought that there needed to be some internal conversations that needed to happen within the AAs around how they are understanding the decision space that they have and what operations will look like moving forward. She asked if TMT should add this as an agenda topic for next week's meeting and circle back again about what this next week looks like for operations.

Van Dyke said that he would ask that TMT continues to have this on the agenda.

Norris shared that picking up generation dramatically is not as easy as it sounds. He said that this is generation that we do not have load for, so we have to have the ability to reduce generation at another project where possible. To be able to keep that up and make the big changes is difficult when it is within the hour in particular as well. He said that it is not just turning the knob, you have to have a place to put the generation, and it is not easy for BPA's folks. He said that they should be able to do a better job, but it is possible that generation may have to stay above min-gen while the barge is loading. He said that they are still working with the real-time operators about what this may entail. When TMT gets back next week BPA will have more information.

Lorz asked Norris if it would help if BPA had the schedule for the barges for when they will show up at the projects. He said that he thought Dixon would have an idea of that. He asked if it would help BPA's schedulers if they knew when the barges would get there.

Norris said it would help. They will usually get word when it leaves one project and heads to the next.

Lorz asked if they needed more of a heads up like a day in advance.

Norris said any information would be helpful.

Baus said that it was his understanding that the upstream project will call the downstream project. He was trying to say that it was his understanding that the Corps does have sufficient level of coordination. He said looking at the data you can see that it is fairly scripted as far as situational awareness for what was going on he thought people knew what was going on. He said that he heard Lorz and if there are other opportunities to improve coordination the Corps will look into it. He said that he wanted to highlight what they already do.

Lorz said that he understood that, but it sounded like Norris was saying that they could use even more time so if there is a way to give them a bigger heads up. Anything to give Norris as much time as he needs for his operators and schedulers if that is a problem. If they can do that it would be helpful.

Swieca said that she had a follow up question for Norris. She said that she was curious if this became less of an issue when projects start to move off of minimum generation.

Norris said no, because BPA would still have to pick up. He said if we are off min-gen that would mean that there was more water and that means that you have less space and less time in the reservoir to fill. You still need to find a place for that generation, the problem remains the same.

d. List of questions/requests that came up during the discussion.

- Ebel asked about the different points in Figure 1 and why there was a range in the magnitude of the reductions.
 - Morrill said that he would echo Ebel's question of why there were differentials between the flows on each day.
- Van Dyke said that it is useful to understand how the reliability piece from BPA was built into the RIOG decision to serve the single purpose of MOU continuing to transport fish.
- Van Dyke also said understanding how the balanced flows using the PH and how the change is ameliorated for fish passage influences what is seen in the operating pool patterns.
- Hesse asked if there could be a way to increase generation to a greater extent, not having the sideboards of staying within MOP, but rather being more aggressive on keeping the flows flat within the time frame.
- Hesse asked if changes to the spill were being minimized to the greatest extent, and there may need a report on how that is varied because FM only see the hourly averages.
- Hesse asked if NOAA, depending on the Corps' response about their ability to reduce flow fluctuations, would come back and decide whether the Corps was meeting what was discussed in RIOG when it comes to NOAA's expectations of sufficiency.
- Ebel requested 6-minute data from the Corps to be able to inform.
- Hesse said that he would like to see if there is the ability for the Corps to implement some more refined balancing before next Wednesday.
- Lorz asked if there was a need for more information about the barge scheduling for BPA operators and schedulers.

e. Chat Discussion

| *Charles Morrill*

| *10:32*

| *Can these tables be included with the notes please*

| *Tom Iverson*

| *10:32*

| *Thanks Ben.*

| *Charles Morrill*

| *10:32*

| *thank you Ben and Tiffany*

- | *Ben Hausmann*
- | *10:39*
- | *Happy to talk more offline with anybody on this topic.*
- | *Charles Morrill*
- | *10:41*
- | *I would hope Tiffany can share the detailed tables again at next week's TMT*
- | *Charles Morrill*
- | *10:42*
- | *I presume different barges , pilots may need / request different project operations*

3. Set agenda for next meeting – **April 30, 2025**

a. LMN Transport Update

Today's Attendees:

Agency	TMT Representative(s)
NOAA Fisheries	Kelsey Swieca
Oregon	Erick Van Dyke
Washington	Charles Morrill
Kootenai Tribe	
Confederated Tribes of Colville Reservation	Dennis Moore
Umatilla Tribe (CRITFC)	Tom Lorz, Pete McHugh
Yakama Nation	Tom Iverson
Bureau of Reclamation	Chris Runyan
Army Corps of Engineers	Doug Baus (Chair), Aaron Marshall, Lisa Wright
US Fish & Wildlife Service	Dave Swank
Idaho	Jonathan Ebel
Montana	Brian Marotz
Spokane Tribe	
Nez Perce Tribe	Jay Hesse
Warm Springs Tribe	
Confederated Salish and Kootenai Tribes	
Bonneville Power Administration	Tony Norris, Ben Hausmann

Other Attendees (non-TMT members):

COE – Alexis Mills, Daniel Turner, Tiffany Stoeckig-Dixon, Michelle Yuen, Jessika Solleder, Nick Betrand, Catherine Dudgeon, Leah Hamilton, Oscar Espinoza

NMFS – Emi Melton

Washington Ecology – Thomas Starkey

TMT – April 30, 2025

Oregon DEQ – David Gruen

DS Consulting – Emily Stranz (Facilitator), Colby Mills

CorSource – Andrea Ausmus (BPA note taker, Contractor)

EKI – Eve James

NPCC – Kate Self

Clearing Up - K.C. Mehaffey

Columbia Basin Bulletin – Mike O’Bryant

Chelan PUD – Jay Fintz, Lance Beyer, Carl Bertilson

Vitol – Ryan Russell

Portland General Electric – Phil DeVol

Energy EPS – Joshua Rasmussen

Avista – Mike Dillon, Steve Lentini

FPC – Erin Cooper, Noah Campbell

Snohomish PUD – Mike Shapley

Douglas Co PUD - Estela Navarro

Puget Sound Energy – Chris Evidente

Manisha Kannan

Mike Buchko

Mark Kruzel

Shea Frantz

Kenneth Curtis

Jessica Lam

Bruce Wayne

Paul Nichols

Bobby Ahmadi

George Gardner