

**COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM**

June 28, 2017

Facilitator's Summary

Facilitator: Emily Stranz; Notes: Charles Wiggins, 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. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members. Official minutes can be found on the TMT website: <http://www.nwd-wc.usace.army.mil/tmt/agendas/2017/>*

**Dworshak Summer Operations**

Steve Hall, Corps, reported on Dworshak. He noted that the current elevation is 1,599.5ft; they are passing inflow, with around 6 kcfs of generation and 1.5 kcfs of spill. TDG levels are ranging from 104-106%. He noted that the project touched full last week in preparation for what was forecast to be a dropping inflow. At the time the forecast called for a 7kcfs drop, thus the project decided to fill the reservoir. In reality, the drop did not occur and inflows stayed around 10 kcfs, causing the project to increase discharge to 11 kcfs temporarily. The current plan is to hold 6 kcfs out to keep the reservoir within the top foot through the July 4<sup>th</sup> holiday.

Current water temperatures in the tailwater at Lower Granite are 63 degrees Fahrenheit; 64 degrees at Anatone; and 66 degrees at Orofino.

Paul Wagner, NOAA, shared that FPAC was interested in operating Dworshak to keep the Lower Granite tailwater around 65 degrees, so that later in the season it is easier to keep temperatures below 68 degrees. Steve clarified that the project can target 65 degrees at Lower Granite as long as possible, without exceeding 115% TDG. Once it is no longer possible to target 65 within 115% TDG, the project will shift to target 67 degrees, trying not to exceed 68 degrees. He noted that this may require utilizing the 120% TDG waiver that was granted to the Corps by the State of Idaho and Nez Perce Tribe; the waiver allows the project to go beyond the 110% State TDG limit, up to 121% if needed to manage for temperature and flow augmentation. However, due to biological implications of high TDG on fish, interest was expressed to back off of the 120% whenever possible.

Steve noted that modelling suggests that they should be able to hold 65 degrees through the first week of July with 6 kcfs. After the 4<sup>th</sup> of July, the project will likely increase to 7 kcfs (110% TDG), or as needed 8.5-9 kcfs (115%) in order to maintain 65 degrees.

Doug Baus, Corps, explained that as a result of the turbine outages, there is a strong possibility that the project will not be able to meet all of the BiOp specifications this summer. It is unlikely that the project will be at 1,535ft at the end of August, as it would require discharges of around 11 kcfs and thus 120% TDG. Instead the water will have to be moved out in September or October. The project will move the water, it will just be later. Additionally, due to the current limitation of 121% TDG Dworshak may not have the ability to operate at or below 68 degrees F. as described in the BiOp. He asked that all TMT members acknowledge these limitations, noting that they will continue to model weekly and the TMT will work to coordinate in real-time throughout the season. All TMT members present (BOR, BPA, Colville Tribes, Corps, ID, Nez Perce, NOAA, Umatilla, USFWS, and WA) acknowledged these limitations and agreed for the current operation (targeting 65 degrees at Lower Granite) to move forward. Jay Hesse, Nez Perce, noted that the TMT will have to work to balance the realities of temperature, TDG, adult fish passage, and gas bubble trauma, and meet the needs of the fish as best possible. He also asked the TMT to look for other temperature augmenting options.

- **ACTION:** The Corps will operate DWR to target 65 degrees tailwater at Lower Granite, while not exceeding 115% TDG. Once it is no longer possible to target 65 within 115% TDG, the project will shift to target 67 degrees, trying not to exceed 68 degrees. The Corps will conduct weekly modelling and the TMT will revisit the operation and conditions at their next meeting.

**John Day Spill Treatments**

Doug reported that the Corps and BPA rearranged the spill treatments at John Day Dam. As noted in the FOP, the AAs are able to rearrange spill treatments throughout the season. The change made is detailed in a link on the TMT website. Briefly, the change shifted spill from 40% to 30% on June 28<sup>th</sup>, and from 30% to 40% on June 30<sup>th</sup>. Doug reminded the group of the summer spill operations, noting that they will continue to spill in accordance with the John Day Dam spill operation as described in the 2017 FOP (additional details online).

Jay Hesse asked for the reason behind the change. Tony Norris, BPA, noted that spill is currently limited at Grand Coulee and the loads are low. This swap in spill will help BPA manage the power system in a cost effective manner as they pass water through Grand Coulee.

Doug thanked FPAC for discussing the operation at their meeting, and the TMT call was adjourned.

*The next TMT meeting will be a face-to-face call on July 5<sup>th</sup> at 9:00.*

**Columbia River Regional Forum  
TECHNICAL MANAGEMENT TEAM MEETING**

**June 28, 2017**  
Minutes: Pat Vivian

**1. Introduction**

Representatives of BPA, Washington, the Colville and Nez Perce tribes, CRITFC, USFWS, NOAA, the COE, BOR and others participated in today's TMT conference call chaired by Doug Baus, COE, and facilitated by Emily Stranz, DS Consulting.

**2. Dworshak Operations**

Steve Hall, COE Walla Walla, reported on the current operation of Dworshak Dam, TDG levels in the tailrace, and temperatures in the Snake and Clearwater rivers (see links 3a-3c on today's agenda).

Dworshak reservoir is at 1599.5 ft elevation, passing inflows and releasing 6 kcfs consisting of generation and 1.5 kcfs spill. Current TDG levels in the tailwater are 105.5% saturation and have been ranging between 104-106% saturation in the past few days. About a week ago, the reservoir filled completely, and inflows of 10 kcfs persisted for 3 days instead of dropping to 7 kcfs as predicted. So Dworshak discharges were increased to 11 kcfs for a few days to pass inflows, and the reservoir surcharged by about 0.10 ft. The COE's operational plan going forward is to maintain 6 kcfs discharges, which is projected to keep the reservoir within the top 1 ft of full through July 4. On July 5, TMT will reconvene to discuss next steps.

A plan for summer temperature management was discussed. The following are observed temperatures at various locations: 1) Lower Granite tailwater, 63 degrees F; 2) Anatone, 64 degrees F, and; 3) Orofino, 66 degrees F. Yesterday, FPAC discussed following up on the COE's suggestion a year ago to keep summer temperatures at Lower Granite under control by targeting 65 degrees F early in the season, Paul Wagner, NOAA, reported. Members generally supported the strategy of managing to 65 degrees F now to help keep temperatures under the 68 degrees F BiOp summer threshold later this summer.

Also yesterday, Hall discussed temperature management with Idaho and the Nez Perce Tribe. Based on that conversation and FPAC's recommendation, the COE plans to manage Dworshak outflows to maintain 65 degrees F in the Lower Granite tailwater for as long as it can be done without exceeding 115% TDG saturation in the Dworshak tailrace. When that is no longer possible, the operation will transition to a 67 degrees F target and finally a 68 degrees F target, not to exceed the 121% TDG saturation limit granted by water quality waivers from Idaho and the Nez Perce Tribe.

Current modeling suggests that 65 degrees F at Lower Granite tailwater can be easily maintained with releases of 6 kcfs from Dworshak through the 4<sup>th</sup> of July, Hall said. The plan is to increase Dworshak discharges to 7 kcfs after that for flow augmentation, which can be expected to produce TDG levels under 110%. Discharges will rise to 8.5 or 9 kcfs as needed, producing about 115% TDG downstream. The temperature target at Lower Granite will be increased to 67 degrees F as needed.

While the waivers allow releases that produce up to 121% TDG if necessary, Hall said he understood there was a desire on the part of the Salmon Managers to minimize effects of high TDG levels on resident fish and hatchery operations. He asked for TMT's acknowledgement that this operation will probably not allow Dworshak to draft to its BiOp flow augmentation target of 1535 ft by the end of August. That would require 11 kcfs discharges which is infeasible, so the flow augmentation water will be released in September or October.

All TMT members present on the call – **NOAA, the Colville Tribe, CRITFC, BOR, USFWS, WA, Idaho, BPA** and the **Nez Perce Tribe** –supported this operation.

Baus also wanted TMT members to acknowledge that with the current requirement not to exceed 121% TDG below Dworshak there could be a situation later in the summer when Dworshak outflows would not be sufficient to achieve the NOAA Fisheries BiOp RPA temperature requirement in the Lower Granite tailwater at or below the water quality standard of 68 degree F. Jay Hesse, Nez Perce Tribe, and the TMT, acknowledged this risk as a reality. TMT's in-season management work on a weekly basis will be to balance the effects of water temperatures, adult fish passage, TDG saturation levels, and GBT symptoms, as well as other temperature mitigation options.

### **3. John Day Spill Operation**

Yesterday FPAC also considered modifications to the John Day Dam spill operation, as it has in past years, Baus reported. Under a specification in the 2017 Fish Operations Plan, John Day spill treatments may be rearranged throughout the season. This was done for June 28, when FPAC members did not object to change the 40% spill operation to 30% spill, and then change from 30% to 40% spill on June 30. The John Day spill operation will continue alternating between 2-day treatments of 30% and 40% spill 24 hours a day through July 20. Spill levels will alternate in a four-day block with two-day treatments (30% or 40% spill) as described in attachment 3a to today's agenda.

Jay Hesse, Nez Perce Tribe, asked about the rationale behind the request. Swapping these two spill treatments will help BPA manage the power system through the 4<sup>th</sup> of July weekend more cost effectively, Tony Norris replied.

#### **4. Next TMT Meeting**

TMT will meet next in person on July 5

<b><i>Name</i></b>	<b><i>Affiliation</i></b>
Tony Norris	BPA
Charles Morrill	Washington
Sheri Sears	Colville Tribe
Jay Hesse	Nez Perce
Russ Kiefer	Idaho
Tom Lorz	CRITFC
Dave Swank	USFWS
Paul Wagner	NOAA
Julie Ammann	COE
Doug Baus	COE
Lisa Wright	COE
Dan Turner	COE
Mary Mellema	BOR
Steve Hall	COE Walla Walla
John Heitstuman	COE Walla Walla
Wayne Jousma	COE Walla Walla
Daniel Rodrigues	COE Walla Walla
Katherine Spicer	COE Walla Walla
Scott Richards	Snohomish PUD
Charles Wiggins	DSC
Laura Berg	Clearing Up
Lynn Palensky	NPCC
Margaret Filardo	FPC