

## COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

May 13, 2020

DRAFT Facilitator's Summary

Facilitator: Emily Stranz; Notes: 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. 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.nwdwc.usace.army.mil/tmt/agendas/2020/>.*

### **TDG & Flex Spill Update**

Dan Turner, Corps, reported that Columbia River flows and TDG percentages are increasing. On the Lower Columbia River, McNary is projected to spill at the spill cap later this week. John Day has been raising and lowering spill caps to maintain the 120% TDG target and continues to be evaluated daily. The Dalles is at 40% spill operation, with a slight rise in TDG levels. Bonneville is spilling at the 150 kcfs, per the spill agreement. Dan notified the group that the TDDO gauge in The Dalles tailrace got up to 125% TDG on May 10, which was surprising given the 40% spill rate at The Dalles and John Day's tailwater hovering around 120% TDG. Dan will take a closer look at what may be causing the increase in TDG at The Dalles (low wind, lower river flows, etc.) and will also compare the data to last year's; he will report back to TMT with any additional findings.

Snake River flows are also increasing, with a lot of minimum generation at the projects this past week. With flows increasing, projects should be spilling at their spill caps during the 16 hours of gas cap spill.

Tony Norris, BPA, reported that Lower Granite Dam is using two separate blocks of flexible spill and may have been at full turbine capacity on May 10. Little Goose is operating on fixed 8-hour block windows, Lower Monumental is operating on a mix of two 8-hour blocks, and Ice Harbor is primarily using 8-hour blocks. Tony noted a dip in spill at Lower Monumental due to daily barge loadings for fish transport. In the Lower Columbia, McNary, John Day and Bonneville dams have all been operating on a mix of 8-hour blocks and separate blocks for the last couple of days. Depending on availability, Bonneville may be getting close to spilling above 100 kcfs during performance standard spill hours.

*[Facilitator's Note: The Corps clarified via summary edits that the "8-hour blocks" referenced are in accordance with the Flex Spill agreement and consist of an 8-hour block of 30% spill at Little Goose and 8-hour blocks of performance standard spill at Lower Monumental and Ice Harbor. Lower Columbia River projects are alternating between one or two block of performance standard spill.]*

### **SOR Libby Dam Releases for Sturgeon and Bull**

Sean Sweeney, USFWS, reported on SOR #FWS1 (posted on the TMT website). The SOR from USFWS is for Libby Dam releases for sturgeon and Bull Trout augmentation flows to provide, and maximize the duration of, peak river stages/flows during the spring run-off period. The proposed operation is based on USFWS's 2006 BiOp and May's April-August volume runoff forecast that indicate a Tier 2 operation year for Kootenai River white sturgeon. Greg Hoffman, Corps, clarified that research suggests when there are more days of 30 kcfs at Bonner's Ferry, it is more likely for white sturgeon to migrate upstream to spawning grounds and that habitat is improved.

Jonathan Moen, Corps, presented on the 2020 Libby Dam Sturgeon Operations, as posted on the TMT website. The presentation included Koocanusa Reservoir water operations for WY20, official Water Supply Forecasts for May, BiOp objectives, monthly water supply volumes, and flow augmentation.

Emily polled TMT Members on the SOR:

|                 |         |                     |         |
|-----------------|---------|---------------------|---------|
| <b>NOAA</b>     | Support | <b>COE</b>          | Support |
| <b>OR</b>       | Support | <b>USFWS</b>        | Support |
| <b>WA</b>       | Support | <b>ID</b>           | Support |
| <b>Kootenai</b> | Support | <b>MT</b>           | Support |
| <b>Colville</b> | Absent  | <b>Nez Perce</b>    | Support |
| <b>Umatilla</b> | Absent  | <b>Warm Springs</b> | Absent  |
| <b>BOR</b>      | Support | <b>BPA</b>          | Support |

With full support of the SOR, Doug Baus, reported that the Corps would implement operations as described in the SOR.

### **Bonneville and McNary Dam Forebay Temperatures**

Charles Morrill, WA, reviewed data (as of May 12) for Bonneville and McNary Dam forebay temperatures (posted on the TMT website). He noted that Bonneville temperatures have dipped above and down back to the 10-year average, and will hopefully stay close to that average moving forward. McNary, Ice Harbor, and Lower Granite temperatures are following closer to their respective 10-year average.

### **Dworshak Forecast**

Jonathan Roberts, Corps, reviewed recent variability in the Dworshak water supply forecasts. The April forecast was at 96% of average, while May was at 80% of average. He noted that differences may occur with official forecasts when stations are switched out to those at lower elevations, picking up different snow levels and melt off. Typically 4-5 sites are used throughout the year for forecasts in each basin, switching sites based on elevation. John estimated that the water supply is likely closer to 90%-95% of average, and snow covered areas are at 50%. They will get a more accurate account of the remaining snow pack during a June 1 snow-flight survey. The forecasts do not change operations or refill at the project.

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

**The next TMT meeting is a conference call on May 20th at 9:00 AM.  
A DS Consulting process meeting will follow for TMT Members.**

*This summary is respectfully submitted by the DS Consulting Facilitation Team. Suggested edits are welcome and can be sent to Colby at colby@dsconsult.co.*

**Columbia River Regional Forum**  
**Technical Management Team DRAFT OFFICIAL MINUTES**  
**May 13, 2020**  
**Minutes: Melissa Haskin, BPA (contractor, FLUX Resources)**

Today's TMT meeting was chaired by Doug Baus, Corps, and facilitated by Emily Stranz, DS Consulting and was conducted via conference call and webinar. See the end of these minutes for a list of attendees.

**1. TDG and Flex Spill Update - Dan Turner, Corps, and Tony Norris, BPA**

Dan Turner, Corps, reported on spill operations. Flows and TDG have increased over the past week. Later this week, flows should increase enough to be able to spill to the 125% TDG spill cap at McNary.

At John Day, the Corps has adjusted the spill caps to try to meet the 120% TDG target, both raising and lowering the spill cap. Bonneville is spilling at 150 kcfs during gas cap hours and The Dalles is at 40% spill. On May 10, the TDG gauge in The Dalles tailrace (TDDO) reported 125% TDG, which Turner remarked was somewhat surprising given that the project was only spilling at 40%, however, similar conditions occurred last year. Jay Hesse, Nez Perce, noted that last year the operation at The Dalles was the same as this year, and TDG rarely hit 120% and never hit 125%, from what he remembers. Given this, he wondered why the spike this year. Turner noted that The Dalles forebay is relatively small compared to other forebays and also has a short travel time from John Day, which does not allow for a lot of degassing. Coupled with environmental conditions over the past few days – increasing water temperatures, low wind, and dropping barometric pressure – it makes sense why there was minimal degassing. This is similar to what happened in 2018 when low-pressure systems moved in. Turner said he could look into comparisons to last year's conditions more.

On the Snake River, flows have also increased. Projects on the Snake have been operating at minimum generation a significant portion of the time. However, with flows increasing, projects should be on track to hit spill caps for 125% TDG 16 hours a day, per the spill agreement.

Tony Norris, BPA, reported on flex spill hours. Over the past week, flex spill at Lower Granite has mostly occurred in two blocks each day. At Little Goose, flex spill occurs for one 8-hour block each day. At Lower Monumental, BPA is using two blocks of flex spill each day. There have also been some hours of reduced spill during fish barge loadings. Flex spill at Ice Harbor is primarily occurring in one block each day. At McNary, John Day, and Bonneville, BPA has been using a mix of one or two blocks each day. Bonneville spill may increase above 100 kcfs during flex hours with the increasing flows.

**2. SOR Libby Dam Releases for Sturgeon and Bull Trout – Sean Sweeney, USFWS, and Jonathan Moen, Corps NWS**

Sean Sweeney, USFWS, presented an SOR for this year's sturgeon pulse operation at Libby Dam. The SOR is available in full on the TMT website. The operation would include:

1. Starting sturgeon augmentation flow operations on May 21, 2020.
2. 12-14 days of flows of 20,000 cfs discharge (pre-peak), followed by an increase in discharge from Libby Dam to 22,500 cfs (peak, up to ~25,000). Maintaining that peak discharge for a period of ~7 days.
3. Decreasing discharge (post-peak) at Libby Dam to a summer flat flow following 2006 BiOp ramping rates.

Since this year is classified as a “Tier 2” year due to the forecasted runoff volume, the operation calls for 3 peak flows of 20 cfs for 2 weeks. The operation would allow for flows of 30,000 cfs at Bonners Ferry for ~ 1 month.

Jim Litchfield, MT, noted that in the past, it seems like the SOR was coordinated with Libby releases, temperatures, and lower elevation runoff. He asked why that is not the case this year. Greg Hoffman, Corps, noted that research has shown that what is most important is providing as many days as possible of Bonners Ferry flows at 30,000 cfs for the Kootenai River white sturgeon to migrate to the improved habitat upstream. Temperatures are tough to manage at Libby, he noted, especially when there is a high pool throughout winter. The pulse is coordinated to allow for the maximum amount of days at 30,000 cfs and it generally starts immediately following peak spring flows and then provides additional flow to backfill flows as they recede.

Jon Moen, Corps NWS, gave a presentation on how Libby will be operated to implement the SOR. Currently, the forebay is at 2,406 ft. The minimum elevation was 2,403.1 ft on April 17. The May water supply forecast for April-August runoff is 5.76 maf (98% of average). Libby Dam inflow volumes were below average in March and April. Current ESP forecasts indicate average inflow volume for May and above average conditions in June and July. The sturgeon volume is 0.92 maf and the bull trout minimum flows following the Sturgeon Pulse through August 31 is 7 kcfs, based on the May water supply forecast. The current VarQ flow is 17,500 cfs. The official May water supply forecast for The Dalles is for 87.3 maf (100% of normal).

Emily Stranz, DS Consulting, polled TMT members on the SOR. The results are as follows:

| Agency                          | TMT Representative | Poll    |
|---------------------------------|--------------------|---------|
| Army Corps of Engineers         | Doug Baus          | Support |
| Bonneville Power Administration | Tony Norris        | Support |
| Bureau of Reclamation           | Joel Fenolio       | Support |
| NOAA Fisheries                  | Claire McGrath     | Support |
| US Fish & Wildlife Service      | Jason Flory        | Support |
| Washington                      | Charles Morrill    | Support |
| Oregon                          | Erick Van Dyke     | Support |
| Idaho                           | Jonathan Ebel      | Support |
| Montana                         | Jim Litchfield     | Support |
| Nez Perce Tribe                 | Jay Hesse          | Support |
| Umatilla Tribe/CRITFC           | Absent             | Absent  |
| Colville Tribe                  | Absent             | Absent  |
| Warm Springs Tribe              | Absent             | Absent  |
| Kootenai Tribe                  | Sue Ireland        | Support |
| Spokane Tribe                   | Absent             | Absent  |

The Corps will implement the SOR as presented by Sweeney and posted on the TMT website.

### 3. Forebay Temperatures - Charles Morrill, WA

Charles Morrill, WDFW, shared a compilation of graphs attached to the agenda showing forebay water temperatures at Bonneville, McNary, Ice Harbor, and Lower Granite, comparing this year (through May 12) to previous years and the 10-year average. The Bonneville forebay has dipped down to average recently. The hope is that this trend will continue and we won't see warming temperatures as were observed in 2015. McNary, Ice Harbor, and Lower Granite forebay temperatures are also tracking closer to average at this point in time, so that's good news.

### 4. Dworshak Forecast - Jonathan Roberts, Corps

Jonathan Roberts, Corps NWW, provided information to help explain variability in the official Dworshak Dam water supply forecast, which has changed significantly since last month. The official April forecast for Dworshak Dam was 2,333 kaf (96%). The May forecast calls for 1,960 kaf (80%). Typically the forecast gets more accurate as the season progresses, but that is a pretty significant reduction. Roberts explained the reason for that difference. Specifically, with the official forecast, the model switches which snow stations it uses depending on the month. The stations that are used and their values for each month are listed at the bottom of the official forecast. Between the April and May forecasts, the lower elevation stations were swapped out. One of the stations that was swapped in for the May forecast, Shanghi Summit, reported 49% snowpack but was melting out rapidly on May 1 because it is only at 4,500 ft. As of today, the snow level is at about 5,000 feet and the Shanghi station is already melted out. Higher elevation snow is continuing to melt and overall the snowpack seems healthy and tracking close to average, Roberts reported.

In response to the variability in the forecasts, the Corps has been aggressively refilling the reservoir as safely as possible, filling about 20 ft since the start of May. Currently, the remaining snow covered area is estimated at about 50%, which holds the refill curve to no higher than 1,582 ft. The reservoir is currently at 1,563.16 ft., discharging 6.2 kcfs to manage the inflow from the melting snowpack. Discharge will continue to be adjusted as necessary to manage inflows for refill. The 10-day forecast shows some precipitation. The Corps has moved up its snow verification flight from June 8 to June 1 to get more certainty on remaining snowpack and help resolve forecast variability. Roberts noted that despite the variability, Dworshak will be refilled and able to provide flows for temperature augmentation later in the season.

### 5. Next TMT

The next TMT meeting is call on May 20 at 9 a.m.

#### Today's Attendees:

| Agency                          | TMT Representative                           |
|---------------------------------|--|
| Army Corps of Engineers         | Doug Baus (Chair), Lisa Wright, Julie Ammann |
| Bonneville Power Administration | Tony Norris, Scott Bettin                    |
| Bureau of Reclamation           | Joel Fenolio                                 |
| NOAA Fisheries                  | Claire McGrath                               |
| US Fish & Wildlife Service      | Dave Swank                                   |
| Washington                      | Charles Morrill                              |
| Oregon                          | Erick Van Dyke                               |

| <b>Agency</b>         | <b>TMT Representative</b> |
|-----------------------|---------------------------|
| Idaho                 | Jonathan Ebel             |
| Montana               | Jim Litchfield            |
| Nez Perce Tribe       | Jay Hesse                 |
| Umatilla Tribe/CRITFC | N/A                       |
| Colville Tribe        | N/A                       |
| Warm Springs Tribe    | N/A                       |
| Kootenai Tribe        | Sue Ireland               |
| Spokane Tribe         | N/A                       |

**Other Attendees (non-TMT members):**

Corps – Dan Turner, Aaron Marshall, Laura Hamilton, Alexis Mills, Jonathan Roberts, Alfredo Rodriguez, Jonathan Moen, Greg Hoffman, Chris Peery

BPA – Melissa Haskin (CONTR, FLUX Resources, Note taker)

DS Consulting – Emily Stranz (Facilitator), Colby Mills

USFWS – Sean Sweeney

Yakama Nation Fisheries – Tom Iverson

Oregon DEQ – Paula Calvert

USFWS – Jason Flory