

## **COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM**

April 8, 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/>.*

### **Review Meeting Minutes**

TMT Members approved the official minutes and summaries from the February 19, March 18, March 25, and April 1 meetings.

### **Official April Water Supply Forecasts**

Joel Fenolio, BOR, reported the official water supply forecast for Hungry Horse Dam. The April to August forecast is 2,120 kaf, or 109% of average. The May through September forecast is 1,890 kaf, or 112% of average.

Doug Baus, Corps, reported official water supply forecasts for Corps projects:

- The Dalles: NWRFC April to August volume forecast is 84 maf, or 96% of average;
- Lower Granite: NWRFC April to July volume forecast is 16 maf, or 82% of average;
- Libby: Corps NWS runoff forecast April to August is 6,324 kaf, or 107% of average; and
- Dworshak: Corps NWS runoff forecast April to July is 2,333 kaf, or 96% of average.

### **Chum Operation**

Doug reported that the TMT coordinated chum operation is still being implemented (operate the Bonneville Dam tailwater no lower than a minimum elevation of 11.3 feet at all hours); the operation is posted to the TMT website. The current project tailwater elevation at 0600 hours was 11.6 feet with a total outflow of 127.2 kcfs. The 10-day RFC inflow forecast ranges between 127-150 kcfs; with a low of 130 kcfs on April 9, peaking on April 13 at 150 kcfs, and back down to 140 kcfs by the end of the 10-day period.

Dave Swank, USFWS, updated the TMT on SOR-2020; as posted on the TMT website. Salmon Managers discussed and agreed on a chum operation request for Bonneville Dam to hold a minimum tailwater elevation of 12.5 feet at all hours, from April 10-20 (a couple of extra hours have been added to ensure enough water is present when spill starts). This request is to mitigate for the impacts of spill and total dissolved gas during lower than average flows in the Lower Columbia by providing additional depth over redds at the Ives Island complex and in the mainstem.

Tony Norris, BPA, noted no issues with implementing the SOR, and the impact on Grand Coulee elevation is expected to be insignificant, as the Snake River will provide most of the flow. Joel noted BOR's desire to not draft Grand Coulee below 1,240 feet. All TMT members present supported the SOR, and Action Agencies will move forward with implementation.

### **Confederated Tribes of the Colville Reservation Flow Request**

Sheri Sears, CTCR, reported a request by the Confederated Tribes of the Colville Reservation for additional flow for upcoming mid-Columbia hatchery releases that have ESA listed species and the releases from the Chief Joseph Hatchery, as posted on the TMT website. The request is for Chief Joseph

Dam to target an increased weekly flow average of at least 80 kcfs from April 14 through April 30, and Grand Coulee to release flows so Lake Roosevelt does not draft below elevation of 1,244 feet by April 30. Tony noted that some days may be under or over the target of 80 kcfs. No concerns were expressed by TMT members and the AAs will work to implement the flow request.

### **Dworshak Dam Operations**

Jon Roberts, Corps, reported on a request from FPAC for additional flow for spring hatchery releases in the Clearwater River. The project did an analysis on Dworshak's refill probability to determine if the request of 7 kcfs of water from April 7 (0600 hours) through April 20 (1200 hours) could be implemented. Analyses showed successful implementation, and further analysis on April 15 or 16 will determine which flow the project will transition after the operation is complete on April 20 or if the project needs to return to minimum flow. The project is already implementing the request and will keep TMT informed as additional analysis is conducted.

Jay Hesse, Nez Perce, stated it would be acceptable if 7 kcfs would need to be continued after April 20 if the additional analysis on April 15 or 16 showed.

### **TDG Update**

Dan Turner, Corps, reported on a letter sent from the Corps to Washington and Oregon Water Quality Agencies. He noted that the Corps is committed to implementing the flex spill agreement, and as part of their internal risk assessment is planning for risks beyond the Corps' control. Current monitoring processes are proceeding as planned, with no indications of access restrictions at this point due to COVID 19, however, from the Corps' understanding, water quality standards state that 125% TDG criteria can only be used if there is monitoring in place. If no monitoring is in place (due to staffing/access restrictions from COVID19), the criteria revert back to 110%. The Corps has not received a response back from the states. Jay Hesse, Nez Perce, expressed appreciation for the Corp's commitment to implement the WQS requirements and the spill operations agreement, and AAs' efforts at transparency in risk planning. He requested TMT coordination around how to best manage for fish either before or soon after dropping to 110% if that is necessary; Julie Amman, Corps, affirmed; noting that unscheduled TMT meetings could be coordinated if/when needed.

Dan reviewed the TDG overview tables for the start of flex spill last week in the Snake River, with spill caps based on the 125% TDG criteria. The Snake River projects were operating at minimum generation spill, the rest with spill well below the 125% criteria. He noted data calculation issues and lagging reports, and will look into the issue as well as a glitch in spill bay actual volumes. Tony reported that projects are implementing flex spill operations where there is flexibility to do so, and noted that some days lack the flow for implementation.

### **Lower Monumental Dam Forebay Operation**

Aaron Marshall, Corps, reported that on April 4, the Corps made an adjustment to the Lower Monumental forebay operating range in order to maintain the minimum navigation depth requirements in the Little Goose Dam tailrace. The operation implemented a 0.5 foot raised MOP at Lower Monumental, to change the operating range to 537.5 - 539 feet for navigation safety at the tailrace entrance to the Little Goose navigation lock. This issue occurs in periods of high spill and low flow in the Lower Snake River, and the resulting operations are described in the 2020 Fish Operation plans.

A similar adjustment was made to the Little Goose forebay operating range, with a 0.5 foot raised MOP for an operating range of 633.5 - 635.0 feet, to meet Lower Granite tailrace entrance requirements. These operating changes will continue until spring runoff begins.

### **Operations Review**

*Reservoirs:* Joel reported on Bureau of Reclamation projects:

- **Hungry Horse:** midnight elevation was 3,523.8 feet, with releases of 2,100 cfs operating to the Columbia Falls minimum for the past week, and flows averaging about 1,300 cfs. The project will start increasing RFM elevation to 3,522.8 feet at the end of April.
- **Grand Coulee:** midnight elevation was 1,251.2 feet, with releases averaging 58,000 cfs, and inflows of about 2,000 cfs.

Lisa reported on Corps of Engineers projects:

- **Libby:** midnight elevation was 2,403.5 feet, with average inflows of 3.1 kcfs, and outflows of 4.0 kcfs, operating to the bull trout minimum;
- **Albeni Falls:** midnight elevation was 2,052.3 feet, with average inflows of 10.9 kcfs, and outflows of 10.0 kcfs;
- **Dworshak:** midnight elevation of 1,530.2 feet, with average inflows of 4.8 kcfs, and outflows of 5.5 kcfs;
- **Lower Granite:** average outflows of 38.3 kcfs;
- **McNary:** average outflows of 117.6; and
- **Bonneville:** average outflows of 124.1 kcfs.

Lisa updated the TMT on the Little Goose Dam floating bulkhead operation, which was finished 3 days late, with the forebay hitting MOP on April 6.

*Water Quality:* Dan had nothing further to report.

*Fish:* Claire McGrath, NOAA, reported that juvenile traps are operating and seeing increasing numbers of fish. The Salmon River trap has seen an increase in yearling Chinook. Early smolt monitoring has been instituted at Lower Granite, McNary and Bonneville dams, and has started at other projects as of April 1, with numbers still low.

Adult ladder data as of April 1 shows generally lower numbers. Bonneville has 137 Chinook YTD and low weekly numbers of steelhead. Lower Granite is also showing lower numbers, with no Chinook this week, and steelhead ranging from 16-35 fish. Water temperatures are close to the 10-year average. NOAA expects fish numbers to pick up soon.

*Power System:* Tony reported moderate temperatures resulting in moderate loads, with not much wind on the system.

**The next TMT meeting is a conference call on April 15th at 9:00 AM.**

*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](mailto:colby@dsconsult.co).*

**Columbia River Regional Forum**  
**Technical Management Team DRAFT OFFICIAL MINUTES**  
**April 8, 2020**  
**Minutes: Melissa Haskin, Bonneville (contractor, FLUX Resources)**

Today’s TMT meeting was chaired by Doug Baus, Corps, and facilitated by Emily Stranz, DS Consulting. Due to COVID-19, today’s meeting was conducted via WebEx. See the end of these minutes for a list of attendees.

**1. Meeting Minutes**

Meeting minutes for 2/19, 3/18, 3/25, and 4/1 were approved.

**2. Water Supply Forecasts – Doug Baus, Corps, and Joel Fenolio, Reclamation**

The official April water supply forecasts as released on Friday, April 3 are as follows:

- Hungry Horse Dam: April–August runoff 2,120 kaf (109% of average); May–September 1,890 kaf (112% of average).
- The Dalles Dam: April–August runoff 84 maf (96% of average)
- Lower Granite Dam: April–July runoff 16.4 maf (82%)
- Libby Dam: April–August runoff: 6,324 kaf (107%)
- Dworshak Dam: April–July runoff 2,333 kaf (96% of average)

**3. Chum Incubation Operation – Doug Baus, Corps; Dave Swank, USFWS; Tony Norris, Bonneville Power**

Doug Baus, Corps, reported on the chum operation. In December, TMT coordinated an 11.3 ft. minimum tailwater at Bonneville Dam at all hours for chum incubation. Today, at 0600 total outflow was 127.2 kcfs and tailwater 11.6 ft. The RFC 10-day inflow forecast calls for inflows of 127 kcfs to 150 kcfs. Flows are expected to rise from ~130 kcfs on April 9 to ~150 kcfs on April 13 before receding down to ~140 kcfs at the end of the 10-day period.

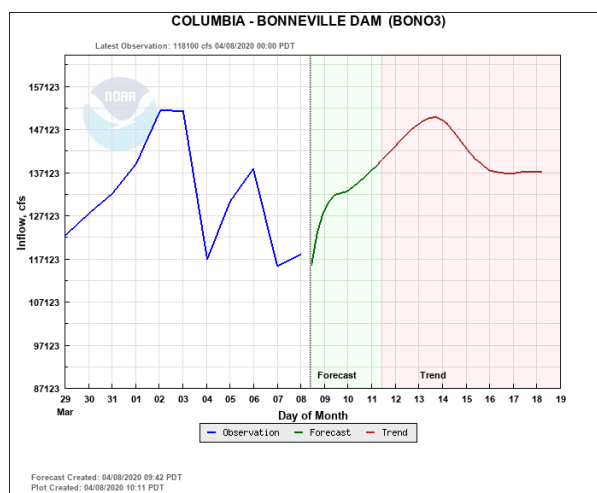


Figure 1: Inflow forecast for Bonneville Dam April 8-18.

Dave Swank, USFWS, presented SOR-2020-1, available on the TMT website. The SOR calls for a minimum tailwater elevation of 12.5 feet at Bonneville Dam at all hours from April 10-20 to support chum incubation and emergence.

With lower than average flow conditions in the Lower Columbia, Swank said that salmon managers wish to provide additional depth in the Ives Island area to protect redds from TDG levels, which will rise once spring spill starts on April 10.

The SOR is a unanimous recommendation from FPAC. Jim Litchfield, MT, was the only representative not on the SOR. Emily Stranz noted that Litchfield voiced an “okay” in response to the SOR over the meeting’s chat function.

Tony Norris, BPA, said the impact on Grand Coulee Dam’s forebay elevation should be minimal.

Joel Fenolio, Reclamation, voiced that they see no issue with the SOR this year. Fenolio said they may not support this every year and added the caveat that Reclamation would not support dropping Grand Coulee Dam’s elevation below 1,240 ft. since that would affect getting the PGs up and running at Banks Lake.

The Corps supports SOR-2020-1 and the Action Agencies will plan to implement the request. Specifically, effective, Thursday, April 9, at 2200 hours, through Monday, April 20 at 2359 hours, the Bonneville Dam tailwater elevation will be kept at a minimum of 12.5 feet during all hours. The Corps and BPA will target achieving the tailwater minimum a couple hours before the start of spring spill on April 10. This should provide enough time to make sure enough water is in place by the requested start date.

#### **4. Colville Tribe Flow Request – Sheri Sears, Colville Tribe; Tony Norris, Bonneville Power; Joel Fenolio, Reclamation**

Sheri Sears, Colville Tribe, presented The Confederated Tribes of the Colville Reservation’s (CTCR) request for additional flow; the full text of the request is available on the TMT website. The request is for additional flow to support mid-Columbia hatchery releases (which have ESA listed species) and Chief Joseph Hatchery releases. The requested dates are April 10-15 on the Methow River, April 15-18 on the Chewuch River, April 15-19 for the Colville Hatchery, and the 3rd week of April to 1st week of May on the Wenatchee River. Sears said the tribes feel they need extra flow to ensure migration of the endangered and threatened species through the Columbia River system. Overall, the request is for flows to increase out of Grand Coulee starting April 14. The Lake Roosevelt draft should not be below 1,244 by April 30, she said. The target flow requested is 80 kcfs (on a weekly average) below Chief Joseph Dam.

Swank asked how a week average would be calculated over 15 days, adding that he wondered if the average would dip below 80 kcfs.

Norris noted that usually when flow requests are coordinated, they are calculated using a Sunday to Saturday average. The week average objective is necessary because there needs to be flexibility to operate the system. Not only is there uncertainty in flow, the agencies do not own the 5 dams downstream of Grand Coulee. Some days, the requested flow may be slightly over 80

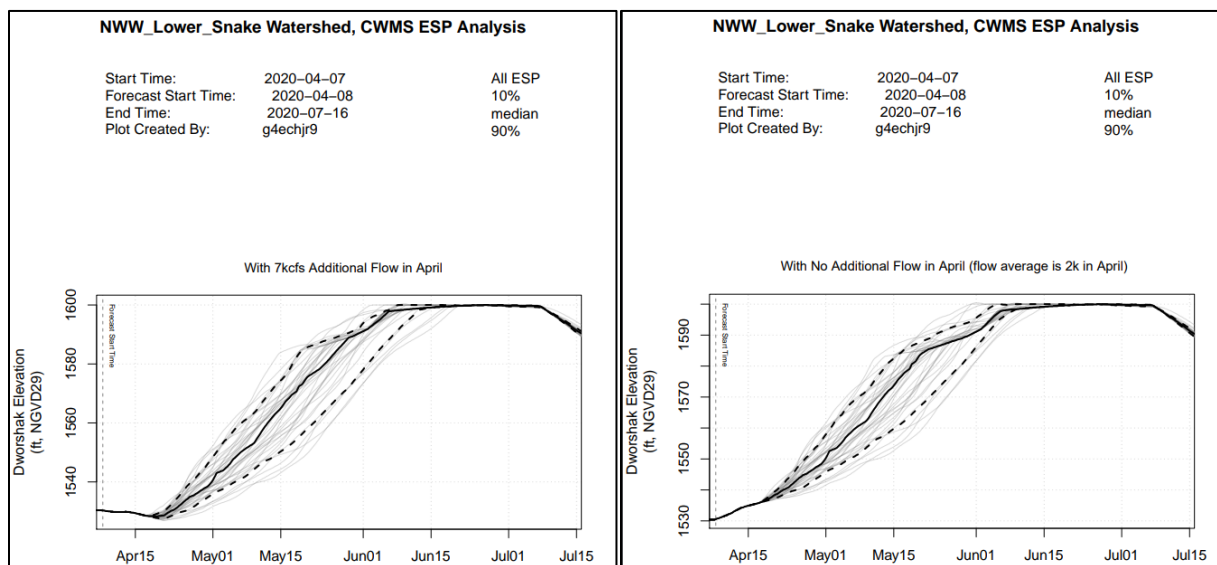
kcfs and some days it may be slightly under 80 kcfs. Norris stressed that this is a rough objective to support the Colville’s request. Sears added that as temperatures rise and flows rise from the Snake River that they will likely be sufficient for the 12.5 ft. operation discussed in section 3 of these notes. Norris agreed, saying the CTCR operation would add additional water to the system and may help support and even exceed the 12.5 ft. minimum tailwater at Bonneville Dam.

Swank asked if Reclamation is concerned about the impact to Grand Coulee. Fenolio noted that Reclamation has no concerns as long as Lake Roosevelt stays above 1,240 ft.

Since this is an in-season coordination action, a poll is not needed. The Action Agencies will operate to target a week average (Sunday to Saturday) flow of 80 kcfs at Chief Joseph Dam and will limit the impact to Lake Roosevelt to keep the elevation at 1,244 ft. at the end of the month.

### 5. Dworshak Dam Operations – Jon Roberts, Corps

Last Friday, FPAC requested additional flow out of Dworshak Dam for spring hatchery releases in the Clearwater Basin. In response, the Corps ran an analysis on Dworshak Dam’s refill probability to see if it could support the 7 kcfs request from Tuesday, April 7 through Monday, April 20. The information showed that the Corps could support the operation. On Tuesday, April 7 at 0600, the Corps began stepping up flows. The project is currently at 7 kcfs and the Corps will continue that until 1200 on April 20. After that, the Corps may need to drop flows. It will run an analysis mid-next week to inform operations after April 20. The Corps is forecasting outflows of 2 kcfs flow average for the remainder of April after the 20th. Jon Roberts, Corps, showed an ESP analysis.



Figures 2 and 3: ESP traces for the Lower Snake watershed with and without 7 kcfs of flow

Jay Hesse, Nez Perce, noted that should flows over 7 kcfs be necessary for reservoir management between now and April 20, the Nez Perce would support it, as it is consistent with their previous request.

## **6. TDG Update – Dan Turner, Corps; Tony Norris, Bonneville Power**

Dan Turner, Corps, reported on TDG noting that the Corps is committed to implementing the flexible spill agreement. As part of its responsibility in implementing the agreement, it is always looking at any events that are out of its control. This year, the COVID-19 pandemic may impact operations. Many states have declared emergencies and have issued “shelter in place” or “stay at home” orders, effectively halting any non-essential business and personnel. Currently, TDG and GBT monitoring are scheduled to continue as planned and there is no indication there will be restrictions. The Corps wanted to document what would happen if there is no monitoring in place, should monitoring become interrupted. The criteria will revert to 110% TDG should monitoring be interrupted. The Corps sent a letter documenting this to the states and the EPA in case they would like to make any changes before the situation occurs, should it occur. That letter is available on the TMT website. As of now, Turner has not heard anything from any of the recipients.

Jay Hesse reported that the Nez Perce’s position and request would be that if monitoring is interrupted by the pandemic that TMT would be fully utilized to coordinate any options to mitigate impacts to fish. He said extra conversations and exploration of options would be warranted given the unusual circumstances of the pandemic.

Julie Ammann, Corps, thinks that an emergency or unscheduled meeting would be fair, should the situation arise.

Erick Van Dyke, OR, asked if the Corps expected a response from the water quality agencies. Ammann said she did not know if the agencies would respond but the intent was to communicate to those agencies the Corps’ interpretation of the standards as written.

Turner also took TMT through the Total Dissolved Gas Overview Tables. Spring spill has not begun on the Columbia River. On the Snake River, spill started last week. Over the weekend and through today, there were some data issues. Reports are lagging but the Corps does have data. On the Snake River, there has been a lot of minimum generation at all 4 of the projects and TDG has been well below the 125% TDG state water quality criteria.

Tom Lorz, Umatilla Tribe/CRITFC, asked about the spillbay data for the Lower Granite RSW, which was reporting much higher flow for some hours. Turner said he would look into it.

Norris said Bonneville is implementing flexible spill operations where there is flexibility to do so. Some days there has not been enough flow to implement at some of the projects.

## **7. Lower Monumental Dam Forebay Operation – Aaron Marshall, Corps**

Aaron Marshall, Corps, reported that on Saturday, April 4, the Corps raised the Lower Monumental Dam Minimum Operating Pool (MOP) range by a half-foot to maintain the minimum depth requirements at the navigation lock entrance in the Little Goose tailrace. The raised MOP range is 537.5-539 ft. This is a situation commonly encountered at lower flows in the Snake River. While this is more typical of summer operations, low flows have forced it this spring. Additionally, yesterday afternoon the Little Goose forebay MOP had to be raised by 0.5 feet as well. The current operating raised MOP range is 633.5 ft. to 635 ft. The raised MOP will help maintain a minimum depth for the navigation lock entrance at the Lower Granite tailrace.

Both of these operations are documented in the 2020 FOP, section 4.6. Once spring runoff starts, the Corps will be able to lower MOP back down.

## **8. Operations Review**

### ***8a. Reservoirs – Joel Fenolio, Reclamation, and Lisa Wright, Corps***

**Hungry Horse** – Midnight elevation was 3,523.8 ft. The project is operating at Columbia Falls minimums and has been for the last week with releases of 2,100 cfs and inflows of 1,300 cfs. Reclamation will start increasing outflows to get the reservoir down to 3,522.8 ft. by the end of April for FRM.

**Grand Coulee** – Midnight elevation 1,251.2 ft., releases have been averaging 58,000 cfs. Inflows have been ~ 52,000 cfs.

**Libby Dam** – Midnight elevation 2,403.5 ft., yesterday's average inflows 3.1 kcfs and outflows were 4 kcfs (bull trout minimum).

**Albeni Falls** – Midnight elevation 2,052.3 ft., inflows 10.9 kcfs and outflows 10 kcfs.

**Dworshak Dam** – Midnight elevation 1,530.2 ft., yesterday's average inflows 4.8 kcfs and outflows were 5.5 kcfs.

**Lower Granite** – Yesterday's average outflows were 38.3 kcfs.

**McNary Dam** – Yesterday's average outflows were 117.6 kcfs.

**Bonneville Dam** – Yesterday's average outflows were 124.1 kcfs.

Wright also reported on the Little Goose floating bulkhead operation that was coordinated at last week's TMT meeting. The operation was completed three days early and the Little Goose forebay was drafted to the MOP range shortly before midnight on Monday, April 6.

Dave Swank, USFWS, mentioned that there were some questions about the special operation on Unit 1 at Little Goose. The operation was regionally coordinated in 2007 based on modeling of the Little Goose tailrace when the spillway weir is open. There is an operation in place currently to operate Unit 1 in the upper 1% (~ 16 kcfs). The intent is to reduce an eddy that forms in front of the powerhouse when the spillway weir is in service. The eddy affects both adults and juveniles. Prioritizing flow through the southern powerhouse units helps to smooth out those tailrace hydraulics. That operation will continue unless otherwise regionally coordinated. Wright mentioned that FPOM will be the best place for discussions regarding that.

### ***8b. Water Quality – Dan Turner, Corps***

Nothing further to report.

### ***8c. Fish – Claire McGrath, NOAA Fisheries***

Claire McGrath, NOAA, reported that juvenile traps are operating and observing increasing numbers of fish. A week ago, there was an increase in Chinook at the Salmon River trap. There are some gaps in data transmission. McGrath said to allow a few days for the data to come in since it is being uploaded in batches. Early monitoring had been implemented at Lower Granite,



McNary and Bonneville Dams this year. Smolt monitoring began April 1 at Little Goose, Rock Island, Lower Monumental, and John Day. Not a lot is happening yet. Last year there was an early freshet and higher numbers of juveniles migrating early in April. This should be kept in mind when comparing numbers.

On April 1, visual adult counts began at all of the projects. Numbers are low so far. At Bonneville, the YTD of Chinook is 137 and the daily range has been 5 to 29. Steelhead have been about 3 to 40 per day. At Lower Granite, numbers are even lower. There were no Chinook this week and steelhead have been 16 to 25 per day. Water temperatures at Bonneville are close to the 10-year average. They are about 1 degree cooler than average at Lower Granite. McGrath expects that things will pick up shortly.

**8d. Power – Tony Norris, Bonneville Power**

Tony Norris, BPA, reported on the power system. There have been moderate temperatures, which means moderate loads on the system. There is not a lot of wind right now.

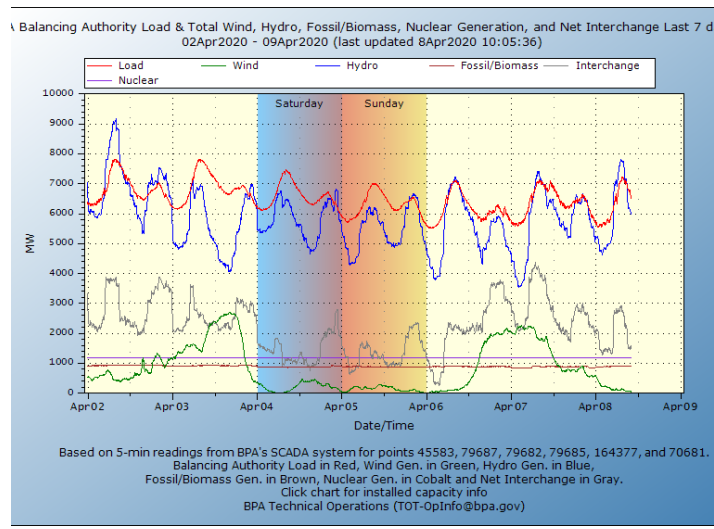


Figure 4: BPA Balancing Authority Load and Generation for the last 7 days, April 2-8.

**9. Next TMT**

The next TMT meeting is a conference call on April 15 at 9 a.m. *Note: at the time of these notes, an additional, unscheduled meeting was scheduled for April 10 at 2 p.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, Eve James
Bureau of Reclamation	Joel Fenolio
NOAA Fisheries	Paul Wagner, 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	Tom Lorz
Colville Tribe	Sheri Sears
Warm Springs Tribe	N/A
Kootenai Tribe	N/A
Spokane Tribe	N/A

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

Army Corps of Engineers – Dan Turner, Laura Hamilton, Aaron Marshall, Jon Roberts, Alfredo Rodriguez, Alexis Mills, Ron Malmgren

Clearing Up – K.C. Mehaffey

DS Consulting – Emily Stranz (Facilitator), Colby Mills

FLUX Resources – Melissa Haskin (Note taker)

Yakama Nation Fisheries – Tom Iverson

Columbia Basin Bulletin – Bill Crampton