# COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

**May 30, 2012**

**Facilitator's Summary**

Facilitator: Robin Gumpert

*The following notes are a summary of issues that are intended to 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.*

## Bonneville PH2 Operations

Tom Lorz, CRITFC/CTUIR, presented SOR 2012-2 for Bonneville operations to address descaling of juvenile sockeye moving past the project. Tom reported that descaling had fluctuated between 7% and 23%, and today's preliminary data showed 5.6% descaling. Those that signed on to the SOR were concerned with these levels of descaling and recommended a special operation to try to address the concern. The specifics described in the SOR were:

'In accordance with the 2012 Fish Passage Plan, Section 5.2.1, the Salmon Managers are requesting that Bonneville Powerhouse Two be operated to the lower end (25%) of the 1% range in an effort to minimize sockeye descaling and potential future mortality associated with that descaling. Operate Bonneville Dam Powerhouse Two at the lower 1% range (25% of the 1% range) while operating Powerhouse One within the 1% Efficiency Range, and spilling the balance of water up to Bonneville Tailrace Total Dissolved Gas Cap. This operation should be implemented immediately and remain in place until the Salmon Managers have reviewed the available Smolt Monitoring Data to determine the juvenile sockeye run has passed Bonneville Dam.'

Russ Kiefer, Idaho, added that PIT-tag data was showing another wave of ESA-listed Snake River sockeye would be reaching Bonneville in the next few days. Idaho signed on to the SOR and hoped the operation would be implemented in time and through the duration of passage for these fish. Tom added that the salmon managers had looked at hourly TDG data that showed a decline in TDG levels, and hoped this would provide the action agencies more flexibility to meet the request. Doug Baus, Corps, pointed out a link to the Corps' official TDG management value; the latest for the Cascade Island gauge was 118.6% TDG and Camas/Washougal 115.9% TDG.

In response to the SOR, the Action Agencies agreed to implement the same operation that had been implemented over the past few weeks, effective today through Monday, 6/4 at 6:00 pm:

- Operate PH 2 up to the 25% of 1% of Best Efficiency Operating Range
- Operate PH 1 up to the upper limit (100%) of 1%
- As needed, operate PH 2 within the 25-50% range of 1%
- As needed to remain flow neutral, operate PH 1 up to best geometry
- As necessary, involuntary spill above the TDG spill cap.

Doug suggested that system flows could recede over this time period which would increase the likelihood of being able to meet the request to limit PH2 units to 25% of the 1% range. The salmon managers reiterated their desire to restrict Powerhouse II to the lower end of 1% to the extent possible, and, without exceeding TDG standards, spill any excess water. If TDG would be

exceeded, the salmon managers supported running PH 1 up to open geometry while keeping PH 2 at the lower end of 1%. Doug Baus responded that the Corps had concerns with adult fallback and delay from spilling more than 100 kcfs and stated a desire to find a balance between the multiple needs of the system. At this point, the Corps was not willing to explore the option of spilling beyond this level. There were disagreements over the impacts of different levels of spill on adults.

Topics relevant to the issue at Bonneville of mortality and descaling during periods of high flow were identified. To the extent possible, TMT members identified the specific forums and timing in which these discussions will occur. TMT members acknowledged that many of these issues will not likely be resolved in time to inform today's (or even this season's) deliberations, that TMT will focus primarily on operational recommendations, and that these topics are important to tee up discussion and future resolution of the problem:

- Impacts on adult delay/fallback from >100 kcfs spill at Bonneville – NOAA and Corps biologists are in discussions; there may be a need for a more robust data review around this issue (SRWG is looking at this; specific next steps TBD).
- TDG analysis and management – there is continued confusion and/or disagreement about which data is being used for management purposes and to meet state water quality standards/waivers. This issue needs to be resolved at the policy level (TBD) and, while not a topic for TMT deliberation, will inform their discussions of operations recommendations.
    - Scott English, Corps, shared that the FMS repair work was underway and expected to be complete this week. The gauge will be operational soon after.
- Impacts to juveniles from PH I open geometry – 6/5 SRWG meeting will include discussion of developing a study design to better understand these impacts.
- Long term structural improvements of PH2 gatewells – this topic will be added to the 6/7 FFDRWG agenda.

**TMT poll/planned operation**:
TMT members present on the call today were polled on their level of support for the Corps' planned operation to meet the request:

- Oregon – Disappointed that the planned operation is not different from what was provided before. Does not support the operation as described. Will not object.
- Idaho – No objection
- Nez Perce – No objection with the understanding that the Corps will implement the request to the extent possible without exceeding TDG standards
- CTUIR – No objection, but very concerned that the Corps is not willing to implement the SOR.
- Colville – Very concerned; strongly prefers the SOR be implemented; will not object to the planned operation.
- Salish-Kootenai – Agree with the other tribes on today's call; will not object to the planned operation.
- NOAA – Supports the Corps' proposal
- BPA – Supports the Corps' proposal
- Reclamation – Supports the Corps' proposal

With that, the Corps planned to begin this special operation today, 5/30, and continue through 6:00 pm on Monday, 6/4. The salmon managers via FPAC will monitor the operation and passage; and descaling and mortality issues, and determine whether to recommend continuation of the special operation. TMT will revisit this issue at their next, 6/6, TMT meeting.

**Columbia River Regional Forum**
**TECHNICAL MANAGEMENT TEAM – OFFICIAL MINUTES**

**May 30, 2012**
Notes: Pat Vivian

***1. Introduction***

Today's TMT conference call was chaired by Doug Baus, COE, and facilitated by Robin Gumpert, DS Consulting. Representatives of Oregon, Idaho, the Nez Perce Tribe, BPA, NOAA, BOR, COE, Salish-Kootenai Tribe, Colville Tribe, CRITFC/Umatilla Tribe and others attended. This summary is an official record of the proceedings, not a verbatim transcript.

***2. Bonneville Dam Powerhouse 2 Operations (SOR 2012-2)***

Tom Lorz, CRITFC/Umatilla, introduced this SOR which requests a special operation at Bonneville to reduce descaling of juvenile sockeye. Sockeye mortality rates had a wide range of variability (0.0% to 6.9%) throughout the implementation of last week's special operation (5/17 to 5/22). Descaling rates also had a wide range of variability (5.0% to 24.1%) throughout the operation. Today's descaling rate was 5.6% which amounts to 36 descaled fish, Margaret Filardo, FPC, noted. Although the data has been highly variable Salmon Managers indicated limiting PH2 units to the 25-50% of the 1% operating range has reduced mortalities and descaling in PH2 gatewells.

Based on NOAA data that indicate sockeye fare better when the Bonneville PH2 units are operated at the lower end of 1% efficiency, the SOR asks the Action Agencies to operate the PH2 units up to 25% of the 1% efficiency range, while operating PH1 within 1% efficiency and spilling the balance up to the Bonneville tailrace gas cap. The SOR requests that this operation continue through 6 pm Monday, June 4. Signatories to the SOR (USFWS, Oregon, Washington, Idaho, Colville Tribe and CRITFC) based their request on language in section 5.2.1 of the Fish Passage Plan that states, ""Turbine units at PH2 will operate at the mid to lower 1% range (unless total dissolved gas waivers are exceeded in the tailrace) of best efficiency and within cavitation limits at various head ranges as shown in **Table BON-16**." The signatories want to test whether operating to the lower end of 1% will reduce sockeye descaling, Lorz said. Idaho signed the SOR because PIT tag data indicate the majority of the 2012 Snake River sockeye run will reach Bonneville within the next few days, Russ Kiefer noted.

Baus asked for clarification on what TDG fixed monitoring stations were used to conclude that TDG was not exceeding levels identified in the waivers that would allow for the implementation of this operation. Lorz indicated that the Warrendale gauge had been reading below 120% TDG (5/28 reading of 114.7%) therefore the AA's would be able to accommodate the additional spill associated with this operation. Baus clarified as identified in the FOP the AA's are currently managing spill at Bonneville Dam to 120%/115% TDG limits as measured at Cascade Island (CCIW) and Camas/Washougal (CWMW). TDG continues to exceed the 120%/115% TDG limits and subsequently the

AA's are unable to accommodate the request to spill more and knowingly exacerbate already problematic levels of TDG downstream of Bonneville Dam. CCIW continues to be out of service and during the interim period until CCIW returns to service the region may access TDG information used to manage Bonneville Dam spill on the 2012 Spill Information found under the hyperlink titled "Bonneville Tailwater (CCIW calculated high 12 hr. TDG)"on the following website:

http://www.nwd-wc.usace.army.mil/tmt/documents/ops/spill/

Scott English, COE, added that the Cascade Island gage station will be returned to service soon.

Consistent with previous PH2 limitation operations the AA will implement this SOR by continuing to spill in accordance with the Fish Operations Plan, Baus said. The FOP calls for 100 kcfs spill at Bonneville 24 hours a day, but not to exceed 120%/115% TDG limits. TDG levels in the Bonneville tailrace have and continue to exceed these limits. Spilling flow associated with capping PH2 to the 25% of the 1 % range would equate to approximately 35kcfs of additional spill that would knowingly exacerbate already problematic levels of TDG downstream of the Bonneville Dam. Since this would not be consistent with current water quality requirements identified in the FOP the AAs will continue to support a flow neutral operation that redistributes flow from PH2 to PH1 as this operation would improve PH2 passage conditions while not exacerbating current 120%/115% TDG water quality exceedances. The AAs will attempt to operate PH2 to 25% of best efficiency as specified in the SOR by using best geometry at PH1 until 6 pm Monday, June 4. As needed to pass inflow the project would be managed in the following manner:

1. Operate all PH2 units up to 25% of 1% best efficiency.
2. To pass additional flows, operate all PH1 units up to 100% of the 1% operating range.
3. To pass additional flows, operate all PH2 units at 25-50% of the 1% operating range.
4. To pass additional flows, operate PH1 units to best geometry, one at a time in the order of priority.

Russ Kiefer, Idaho, highlighted the two changes this SOR requests from the previous operation for sockeye: limit PH2 unit operations to 25% of best efficiency, and limit PH1 unit operations to the upper end of 1% to the best extent possible. Baus explained why the Action Agencies would not commit to achieving these nuances. First, TDG exceedances at Bonneville allow no opportunity for spill at present. Furthermore, adult delay and fallback have been associated with spill in the 100-120 kcfs range. The Action Agencies will therefore operate PH2 in the 25% range of best efficiency to the best extent possible under these circumstances.

Lorz pointed out the Bradford Island area is responsible for around 80% of adult delays. Calibration problems during data gathering for the fallback studies mean the spill estimates are suspect, especially at lower rates of spill.

Filardo asked what the difference would be in flow volume between 25% and 50% of best efficiency. That equates to an additional 11 kcfs of flows that would need to be released through PH1 or via the spillway in addition to 100 kcfs of spill, Lisa Wright, COE, replied. The passage index for today is 1183 juvenile sockeye. Scott Bettin, BPA, clarified that 7 of the 10 units at PH1 are now operating to open geometry.

Baus indicated the NWRFC forecast indicates lower Bonneville Dam inflows (approximately 275-300kcfs) over the next 5 days. Lower inflows will improve the likelihood of implementing this operation.

Four issues emerged from this discussion as needing long-term resolution:

- Disparities in measuring TDG levels at Bonneville.
- Impacts of adult delay and fallback on survival.
- Impacts of operating PH1 at open geometry.
- A solution to gatewell problems at Bonneville.

Baus said regional discussions regarding PH2 gatewell conditions and Bonneville PH operations are continuing in various forums including SRWG, FFDRWG and FPOM. The SRWG is planning a large study next year that should include adult fallback, Tony Norris, BPA, added.

TMT members stated their level of support for the operation proposed by the COE in response to SOR 2012-2:

- **Oregon** – Did not object, but is disappointed by the lack of change from the previous special operation.
- **Idaho** – No objection.
- **Nez Perce** – No objection, as long as every effort is made to meet the criteria defined in the SOR.
- **CRITFC** – No objection, but not happy with the outcome.
- **Colville** – No objection, as long as every effort is made to meet the criteria defined in the SOR.
- **Salish-Kootenai** – No objection, as long as every effort is made to meet the criteria defined in the SOR.
- **NOAA** – Supports the COE proposal.
- **BPA** – Supports the COE proposal.
- **BOR** – Supports the COE proposal.

Hearing these views, the COE will extend the current operation at Bonneville until 6 pm Monday, June 4. If there is regional interest in continuing the operation

beyond June 4, the Salmon Managers and the COE will coordinate via email. TMT will revisit Bonneville operations at its next regular meeting.

### *4. Next TMT Meeting*

The next TMT meeting will be at the COE's offices on June 6.

| ***Name*** | ***Affiliation*** |
|---|---|
| Rick Kruger | Oregon |
| Tony Norris | BPA |
| Scott Bettin | BPA |
| Russ Kiefer | Idaho |
| Dave Statler | Nez Perce |
| Paul Wagner | NOAA |
| Doug Baus | COE |
| Stu Leavitt | Salish Kootenai |
| Shane Scott | PPC |
| John Roache | BOR |
| Margaret Filardo | FPC |
| Bill Rudolph | NW Fish Letter |
| Richelle Beck | Grant PUD |
| John Richter | Energy GPS |
| Gabriel XX | XX |
| Dave Benner | FPC |
| Christine Cargill | JP Morgan |
| Lisa Wright | COE |
| Laura Hamilton | COE |
| Karl Kanbergs | COE |
| Jason Ward | COE |
| Chuck Rushwood | Colville Tribe (for Sheri Sears) |
| Tom Lorz | CRITFC/Umatilla |