COLUMBIA RIVER REGIONAL FORUM

TECHNICAL MANAGEMENT TEAM
CONFERENCE CALL
June 30, 2006 Meeting

FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS
Facilitator: Donna Silverberg
Notes: Robin Harkless

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.

Dworshak Operations

TMT held a conference call today to continue discussions (from Wednesday's TMT call and a follow-up IT call yesterday) on Dworshak operations. Cathy Hlebechuk emailed information prior to the call indicating that temperatures at the Lower Granite tailrace had reached a 24-hour rolling average of 67º F, triggering a response to increase flows to full powerhouse at Dworshak around 10:30 pm last night. Jim Adams, COE, posted additional temperature information and results of CEQUAL modeling of three operating scenarios. Given recent natural cooling in the system, the 7-day weather forecast and the increase in flows/reduction in temperature operation from Dworshak, the models predicted that temperatures would drop and maintain below the trigger through the weekend, providing some operating flexibility.

The COE recommended dropping flows to 4.2 kcfs over the weekend and using an additional trigger at Anatone to determine if/when to increase flows. The proposed trigger was ramping up to 7.2 kcfs if temperatures reached a 24-hour rolling average of 21º C at Anatone, and increase to full powerhouse if temperatures reach a 24-hour rolling average of 22º C, based on the information from the CEQUAL models.

TMT members offered responses to the COE's proposal:

- NOAA – Lower to pass inflows over the weekend. Use the Anatone trigger until July 2 to allow time for the operation implemented on Wednesday (7.2 kcfs at 43º F from Dworshak) to reach and impact Lower Granite, then begin using both the Anatone and Dworshak temperature triggers.
- Idaho – Support the COE's proposed operation, and will check in with the COE on Monday to look at Lower Granite tailrace temperatures and determine whether model proved close to correct.
- Montana – Supports the operation, given the new information and current conditions.
- Washington – No objection to the COE's proposed operation.
- Oregon – No objection to the weekend operation, and requests a TMT check-in next Wednesday to look at temperatures and flows.
- Nez Perce – No objection to the COE's proposed operation.

- USFWS – Support the operation, and requests continuing TMT discussions next Wednesday.
- BPA – Supports the operation.
- BOR was not present.

Next Steps –Idaho, Nez Perce and anyone else interested in checking in on Monday should contact Jim Adams at the COE at 9:00 am on Monday, at (503) 808-3938. There will be a TMT conference call on Wednesday at 9:00 AM, (503) 808-5190.

Technical Management Team Meeting Notes

June 30, 2006

DRAFT

1. Greetings and Introductions.

Today's Technical Management Team conference call was chaired by Cathy Hlebechuk and facilitated by Donna Silverberg. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made during this call. Anyone with questions or comments about these notes should contact Hlebechuk at 503-808-3942.

2. Dworshak Operations.

Jim Adams said Dworshak is currently releasing full powerhouse discharge at Dworshak, at about 43 degrees. Last night at about 8 pm we hit the 67 degrees F on a rolling 24-hour basis in the Lower Granite tailrace, he said; the project started releasing full powerhouse capacity at about 10:30 last night. The temperature at the Lower Granite tailwater is 67.6 degrees F, currently, so we're getting pretty close to the 68-degree standard. The cool water from Dworshak takes about 3 days to reach Lower Granite, so it will be some time before we see much relief in terms of water temperatures, Adams said. The cool water from Dworshak has made its way down the Clearwater and is now entering the Lower Granite forebay. We expect the change we made Wednesday afternoon, increasing Dworshak outflow to 7.2 Kcfs, to hit Lower Granite tailwater as early as Saturday afternoon, he said.

Water temperatures are still on an upward trend in the Lower Granite tailwater, Adams said; however, there is some good news, in terms of inflow temperatures to the forebay. The inflow temperature started dropping about 24 hours ago, from about 70 degrees to 66 degrees. In other words, we have seen some natural cooling from the tributaries, Adams said. In response to a question,

Hlebechuk said Hells Canyon discharge has dropped from 32 Kcfs to 15 Kcfs. That helps, said Ron Boyce. True, Adams said – that means that whatever we do at Dworshak will have a greater effect at Lower Granite. Dave Statler said it isn't quite as hot in the Lower Granite area today as it has been in recent days; there is a little bit of cloud cover, currently.

Adams said he had spoken to Mike Schneider, who did some model runs with CQUAL W2. There is a hot-link to those modeling results on today's agenda on the TMT homepage, Adams said. He modeled a 7.4 Kcfs outflow from Dworshak at 43 degrees; what we see is that, even at 4.2 Kcfs outflow, by July 6, we will keep tailwater temperatures below the 68-degree threshold. Basically what I think we're saying is that, given the divine intervention we're seeing, currently, even if we reduce Dworshak outflow to 4.2 Kcfs, we will keep water temperatures below 68 degrees once the cool water we started to release on Wednesday hits the Lower Granite tailrace, Adams said.

Water temperature isn't the only criteria we're managing for in the Snake, Boyce observed – don't we also want to maintain adequate flows? Yes – it's a balancing act, Statler replied. There is biological value to both flow augmentation and temperature reduction. It sounds, then, as though we have some options, operationally, Silverberg said. Correct, Adams replied – from the Corps' perspective, it looks as though 7.2 Kcfs from Dworshak may be overkill, from a water temperature perspective. We could reduce Dworshak outflow to 4.2 Kcfs, then set up some triggers which, if we hit them, would tell us to increase Dworshak discharge to 7.2 Kcfs. Adams suggested that, if water temperatures hit 21 degrees C on a 24-hour rolling average basis at the Anatone gauge, it would be appropriate to increase Dworshak outflow to 7.2 Kcfs; if it hits 22 degrees C on a rolling 24-hour basis, Dworshak outflow would be increased to full powerhouse capacity.

Boyce reiterated his statement that there is a need to maintain both temperature control and adequate flows in the Lower Snake. Silverberg replied that other TMT members are concerned that it is early in the season to be augmenting flows from Dworshak; they would prefer to save as much water as possible for use later in the summer. Statler said the Nez Perce Tribe and the State of Idaho would prefer to fill Dworshak completely and pass inflow until after the Fourth of July weekend. Hlebechuk said flows at Lower Granite are forecast to recede to 49 Kcfs tomorrow and to 45 Kcfs by July 4. In response to a question, Adams said the advantage to using Anatone as the control point for water temperatures in the Lower Granite tailrace is that it is farther upstream and provides some lead time, in terms of predicting upcoming problems.

After a few minutes of further discussion, it was agreed that the Corps will ramp Dworshak outflow down to 4.2 Kcfs, maintaining the 43-degree release temperature, beginning today. If water temperatures reach 21 degrees C at Anatone on a 24-hour rolling average, Dworshak outflow will be increased to 7.2

Kcfs; if it reaches 22 degrees C at Anatone on a 24-hour rolling average, Dworshak outflow will be increased to full powerhouse capacity. Some TMT participants wondered whether it is appropriate to rely solely on temperatures at the Anatone gauge as the trigger to increase Dworshak outflow; there was general agreement that it also makes sense to watch temperatures in the Lower Granite tailrace.

What if Lower Granite tailrace temperatures exceed 68 degrees F? Rich Domingue asked. What action will the Corps take in such a case? I think the model shows we will exceed to 68-degree standard some time in the next few days, Adams replied – that's water that is already in the pipeline, and we can't do anything about it. Once that water passes Lower Granite, however, and the water we started to release from Dworshak on Wednesday reaches Lower Granite, we will see some relief in tailrace temperatures. Domingue said he would prefer to wait until temperatures in the Lower Granite tailrace fall below 68 degrees F before reducing Dworshak discharge. Kiefer said Idaho would prefer to implement the Corps' suggested operation, with the stipulation that we check in on Monday, July 3 to see where we're at, temperature-wise. The Fish and Wildlife Service, the Nez Perce Tribe, Washington, BPA, Montana and Oregon had no objections to this operation, with the understanding that there will be a TMT conference call to discuss the Dworshak operation on Wednesday, July 5.

Ultimately, it was agreed that the Corps will reduce Dworshak outflow to 4.2 Kcfs at 43 degrees, with the triggers at Anatone. Kiefer said he will check in with Adams on Monday to be sure there are no alarming developments with respect to the temperatures at the Lower Granite tailrace.

With that, today's conference call was adjourned.

Technical Management Team Meeting Participants
June 30, 2006

Name	**Affiliation**
Donna Silverberg	Facilitation Team
Russ Kiefer	IDFG
Cathy Hlebechuk	COE
Jim Litchfield	Montana
David Wills	USFWS
Scott Bettin	BPA
Rudd Turner	COE
Bern Klatt	COE

Rock Peters	COE
Jim Adams	COE
Tom Lorz	CRITFC
Cindy LeFleur	WDFW
Dave Statler	NPT
Ron Boyce	ODFW
Greg Haller	NPT
Richie Graves	NMFS
Rich Domingue	NMFS