

COLUMBIA RIVER REGIONAL FORUM

TECHNICAL MANAGEMENT TEAM MEETING NOTES

April 18, 2001

CORPS OF ENGINEERS NORTHWESTERN DIVISION OFFICES – CUSTOM HOUSE
PORTLAND, OREGON

TMT Internet Homepage: <http://www.nwd-wc.usace.army.mil/TMT/index.html>

FACILITATOR'S NOTES ON FUTURE ACTIONS

Facilitator: Donna Silverberg

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

Hanford Reach Update (Rudd Turner):

Looking at April 9-15, flows increased by 8 kcfs; numbers of fish jumped from 98 to 484. A **question** for Joe Lucas came up regarding the 72 mortalities shown on April 15. Joe was not available for questioning at this meeting, but the group is interested in what the cause may have been.

Federal Agencies 2001 Operations Plan Proposal:

The Operations Plan is currently out for review; the federal executives have asked for comments by April 20. The next Regional Execs. meeting will be held April 27. One area that still needs discussion is the proposed Lower Granite surge and whether to use Snake River storage.

ACTION: TMT members will send comments as requested and will discuss the LGR issue at the 4/25 meeting.

Irrigation in Washington (Phil Cranen, Dept. of Ecology):

Orders are being sent to water right holders that they need to call DOE to see if they can turn on their interruptible water rights. Many programs are currently available for voluntary conservation in Washington, while others may be mandated. One discussed is the buy-back program, involving BPA, Washington State and the Bureau of Reclamation. BPA will use the water for power while the state will buy some water from the BOR to distribute to irrigators. Phil may be asked to update the Team as the season goes forward.

Lower Granite Spring Operations:

NMFS is continuing to consider a surge at LGR, as well as augmentation to refill and keep fish moving through the reservoir. They reported that USGS researchers may begin radio-tagging juveniles next week. NMFS is looking for input from states and tribes on the issue. The salmon managers sent comment to NMFS expressing concern about the spring migration status. They think the proposed action may have a negative impact on fish due to poor run-off predictions.

The problems are related to uncertainties around travel time, possible reservoir depletion and data gains. Oregon specifically objected to the use of DWK water for a LGR surge; Tony Nigro requested that the issue be raised to the Regional Execs.

Regarding initial suggestions for LGR operations:

ID/MT may support some window for minimal augmentation. Steve Pettit suggested use of water to prolong the natural hydrograph peak instead of surging.

WA suggested reversing the load at night to affect the forebay. One problem found with the proposed test is: what is the net effect? Another problem found is that the flows are so low that fish aren't entering the traps, so they won't be counted.

CRITFC objects to pulsing but would like to see a steady increase with the natural hydrograph.

Some salmon managers are considering the possibility of augmentation from BRN. What about Idaho Power Company involvement in TMT next week? **Action:** Rudd will call IPA.

ACTION: All members will consider suggested actions at LGR for next week's TMT meeting.

System Conditions

The current operation is set to meet power system needs. The BPA emergency has been extended and will be reconsidered in early May. Paul Wagner gave a summary on fish status: an exciting abundance of adults have been counted while a depressing number of juveniles have been located. An uncertainty exists as to where the juvenile fish actually are; possibly some are in tributaries and some are in reservoirs that are unable to be counted. Where ever they are, their numbers are unusually low.

Water Temperature Modeling

COE and CRITFC are working together on this matter. CRITFC suggested the group also look at the EPA model. The three scenarios for the next model runs with MASS1 are supported by the group. If an additional scenario is allowed under the contract then a DWR model will be included after checking in with TMT.

Dam Safety Inspection:

A simulated emergency will occur at LGR sometime in the next 2-3 weeks for safety inspection purposes. A request was made to do the inspection as early in the season as possible and at mid-day to reduce effects on the juveniles.

Priest Rapids Update:

USGS re-rated the gauge and it is quite accurate.

Next Meeting:

The next meeting will be a face-to-face Wednesday, April 25 from 9-12 at COE. Topics to discuss are:

--LGR

--Federal Operations Plan

- April Mid-Month forecast
- Hanford Reach Update
- Water Temperature Trend Procedure Proposal
- Brownlee Operations Proposal

Also, the group discussed the possibility of basing it's 'every other week' meeting time on next week's meeting to be more in line with the Regional Exec meetings that seem to be occurring every two weeks.

Meeting Minutes

1. Greeting and Introductions

The April 18 Technical Management Team meeting, held at the Customs House in Portland, Oregon, was chaired by Rudd Turner of the Corps and facilitated by Donna Silverberg. The following is a distillation, not a verbatim transcript, of items discussed at the meeting and actions taken. Anyone with questions or comments about these minutes should call Turner at 503/808-3935.

Turner welcomed everyone to the meeting, then led a round of introductions and a review of the agenda.

2. Irrigation in Washington State.

Phil Crane of the Washington Department of Ecology provided an update on the status of efforts to conserve irrigation water in Washington State in 2001. He noted first that the Columbia River Instream Flow Program sets irrigation volumes at dams from Chief Joseph down to The Dalles. Two weeks ago, Crane said, the Director and Gov. Locke decided to take advantage of the WAC that allows a 23% reduction in irrigation volume during extreme low-flow years; that Governor's order has now gone into effect.

We are sending letters out today to the 300+ people who have interruptible water rights, telling them that they will have to call an 800 number in Olympia to see whether their water is going to be interrupted, Crane said; the total acreage that could be impacted by this decision is on the order of 25,000-30,000. The state is also in the process of purchasing 33 KAF of water through Columbia Basin irrigators' buyback programs, Crane said. People can join this program voluntarily; they will then be allowed to use up to 1.5 KAF during the time that river flows are below minimum, mainly to keep their orchards alive, he explained.

This week, the projected average flow at The Dalles is 118 Kcfs, said Crane. Our adjusted minimum flow is 139 Kcfs, so we're telling people on the hotline that they cannot irrigate this week, Crane continued. So you call this a buyback program? Cathy Hlebechuk asked. BPA has been entering into contracts with growers to buy back their water rights,

essentially, Crane replied. We will then be able to use some of the Roosevelt Lake water from Reclamation's water right to partially offset the interrupted water rights. Irrigators will be able to use up to 1.5 KAF while the river is shut off, Crane said – that's if they sign up for our program. And how many acre-feet of water could be provided through that program? Nielsen asked. About 33 KAF, Crane replied. The intent of the program is to keep orchards alive, added Scott Bettin – they can't go without water for the entire summer. Crane added that, by next week, WDOE will have a better idea of exactly how many water rights and acre-feet will be affected by this program.

Why would anyone not participate in this program, given the fact that it's a freebie? Craig Sprankle asked. It's a political hot-button issue, unfortunately, Crane replied – this summer is likely to be an enforcement nightmare, as well as an accounting nightmare, given the fact that many of the interruptible water rights-holders share diversion structures with uninterruptible rights-holders. I'm sure everyone can appreciate the political sensitivity of this issue, Jim Nielsen observed.

3. Hanford Reach Update.

Joe Lukas was unable to participate in today's meeting, said Turner; however, his weekly Hanford Reach stranding report is available via the TMT homepage under "Discussion Forum," For the week April 9-15, average flows at Priest Rapids were 8 Kcfs higher than the previous week-average; the project continued to operate under the +/- 40 Kcfs flow band. The increased inflows allowed for the sampling of the first 19 random sites of the year, with 75 chinook sampled. Flows dropped to Vernita Bar minimum – about 67 Kcfs – on Saturday and Sunday. Index seining counts jumped from 98 to 484, suggesting that peak emergence is close, according to Lukas' report. Steve Pettit and Paul Wagner both took issue with this statement, saying that, in their opinion, it is too early for peak emergence to be at hand.

4. Federal River Operations Proposal.

Turner distributed copies of the most recent draft of the FCRPS operations plan proposal, dated April 13. There is little that is startlingly new here, said Wagner; it is based on the various position papers the federal parties have released so far this year. Wagner went briefly through the contents of the proposal, touching on the background for the 2001 federal river operations proposal, the current water supply forecast, emergency criteria, spring operations, summer operations, other operations and process issues.

Wagner noted that, under the sliding scale laid out in this document, no spill will occur unless the total January-July volume forecast at The Dalles reaches 60 MAF. In other words, said Scott Bettin, it is unlikely any fish spill will occur before 2002. He added that, this being the case, transport receives a very high priority in this proposal. If spill does occur in 2001, said Wagner, the federal operators are recommending the following spill priority: The Dalles, followed by (in order) Bonneville, John Day, McNary and Ice Harbor. Silverberg added that a concise executive summary can be found on Page 3 of the document.

Turner noted that the current (April final) runoff volume forecast is 56.1 MAF, January-July, at The Dalles. He noted that precipitation so far in April has been above-normal over most of the basin; if this continues to be true, this will be the first month in 2001 that the forecast has improved rather than worsened. The problem is that the Columbia is primarily a snow-driven system, and once you get past March, precipitation does not serve to substantially build snowpack, Turner said – in other words, it's unlikely that the runoff volume forecast is going to improve dramatically in 2001, even if precipitation is above-average between now and June.

The group discussed the results of last Friday's Regional Executives meeting; one issue that was not resolved is the Lower Granite "pulsing" operation, and whether or not storage will be used to support that operation, Wagner said. Do you have the sense that they are waiting for the TMT to work through that issue? Turner asked. The TMT is certainly one body they would like to weigh in on this issue, Wagner replied; they also want to hear feedback from the states and tribes.

The federal parties have asked that any comments on their 2001 FCRPS operations proposal be submitted by April 20, Turner said; the next meeting of the Regional Executives is set for April 27.

5. Lower Granite Spring Operation Proposal.

We've been working on this for a couple of weeks, Turner said; last meeting, I asked that today's meeting participants come prepared to make a TMT recommendation on this issue. That may no longer be necessary, said Turner; however, we do need to talk about a river operation for the next two-week period.

Chris Ross began by saying that, at the low flows projected for 2001, travel time through Lower Granite pool alone is likely to be up to two weeks – hence the NMFS proposal. Since last week's discussion, he said, I have looked at the volume of water needed for an operation that would provide the surges at Lower Granite Dam and use augmentation to refill the pool quickly, adding water at the upper end of the pool to increase velocity through the upper portion of the reservoir.

I assumed a volume of 110 KAF from Brownlee, said Ross, then attempted to calculate the volume needed from Dworshak if we assume a two-pulse, four-week operation. If we do a four-week operation, said Ross, we would need 233 KAF from Dworshak, in addition to the volume from Brownlee. If we assume that Dworshak will refill to elevation 1580 this year, there are 872 KAF between elevation 1520 and 1580. 233 KAF would be 27% of that water, Ross said. We also discussed a three-week operation, he said; that would require about 147 KAF from Dworshak, 17% of the volume available between elevation 1580 and elevation 1520. The four-week operation would draft Dworshak from elevation 1580 to 1565; the three-week operation would drop Dworshak elevation from 1580 to 1571.

The researchers are gearing up, Ross continued; they think that, by the middle of next week, they can start radio-tagging fish and have test fish in the reservoir. Do we need

concurrence on this operation today? Silverberg asked. I'd like to get some TMT input, Ross replied; the Lower Granite pulse is in the Federal River Operations Proposal, which will go to the Regional Executives for decision on April 27.

Steve Pettit reiterated that the salmon managers have been working to develop written comments to be submitted to NMFS on this proposal; that letter was sent to Paul and Chris yesterday. Not all of the salmon managers signed that letter, Pettit said; Oregon and NMFS declined to sign it. The salmon managers who did sign the letter are gravely concerned about the status of this year's spring migration, he said; we are concerned that this proposal will negatively, rather than positively, impact the spring run, because of the in-river conditions we're looking at.

The main concern, said Pettit, is that while we may see an increase in juvenile passage at Lower Granite if we can increase flow and velocity near the powerhouse over 7 or 8 hours, at the back end of the pool, the refill period will have a potentially devastating impact on travel time to Lower Granite dam. If you can't get refill from one or both of the storage reservoirs, he said, in my opinion, this operation will have a negative impact, and will produce a net increase in travel time through the first reservoir on the Snake. The memo was signed by CRITFC, WDWF, the Nez Perce Tribe, the Fish and Wildlife Service and IDFG, added Margaret Filardo.

Wagner agreed to send out copies of the salmon managers' comment letter to the other TMT participants once it has been received. Turner added that Tony Nigro sent him a memo formally opposing the use of Dworshak water to augment Lower Snake flows during the refill period of the Lower Granite pulsing operation. ODFW asks that this issue be formally raised to the Regional Executives on April 27, Turner added.

It sounds, then, as though many of the salmon managers feel the Lower Granite pulsing operation might be more acceptable if Dworshak is not used to augment flows during the refill portion of the pulsing operation, Turner said – however, IDFG and the other salmon managers have additional concerns beyond the use of Dworshak water. That's correct, Pettit replied, adding that IDFG also has some concern about the validity of NMFS' planned data-gathering operations during this test. I guess where I'm headed is, can we talk about what might be an acceptable operation for the salmon managers? Turner asked – I'd like to keep talking and attempt to reach agreement on a Lower Granite operation that might work for everyone.

We talked about that, but did not develop a second memo describing our suggested operation, Pettit said. In the past, Idaho and Montana have made it clear that, if conditions are as dire as they appear to be this year, it might make sense to use any available spring flow augmentation volumes to prolong the peak flow in the Lower Snake – make it five days, rather than a pulse, and get as many juveniles as possible through Lower Granite reservoir so that they can be collected and transported. Pettit emphasized that this is an IDFG proposal only, and has not been endorsed by the other salmon managers.

Nielsen added that Washington has suggested that nighttime reverse load factoring is another option to consider, in terms of increasing flow through the powerhouse at Lower Granite

without detrimentally impacting travel times at the back end of the reservoir. Nielsen added that Washington, too, has concerns about NMFS' ability to monitor and document the net impact on fish passage of the pulsing operation – at times of low to moderate flow, we've actually seen juvenile fish moving back upstream at the top of Lower Granite pool, he said. Pettit added that, because of low flows, fish cannot enter the trap at Lewiston; given that fact, he is concerned that some juveniles might be captured and radio-tagged at Lower Granite, then transported 40 miles back up the reservoir and released at Lewiston.

The USGS researchers have the same problem, Ross said; they have decided that, since they can't get fish at the Snake River trap at Lewiston, they will capture steelhead at Lower Granite, insert an 18-day radio tag and compare their migration rate with PIT-tagged fish captured at the trap, comparing the travel time of the test fish with the run-of-the-river fish. Pettit said IDFG does have purse-seining gear at Lewiston, which would help capture fish there even if the trap is not operational.

CRITFC's position hasn't changed, said Kyle Martin, we object to the Lower Granite pulsing operation, and instead support steadily-increasing flows that would more closely mimic a natural hydrograph.

At least some of the salmon managers are considering an SOR involving Brownlee; that will be forthcoming later this week, Nielsen said. That does raise a process question, he said, because Brownlee is not part of the FCRPS. So the salmon managers might support flow augmentation from Brownlee, but not from Dworshak, this spring? Turner asked. I'm not sure I can speak to that, but it is fair to say that Dworshak is crucial to summer flow augmentation and temperature control, Nielsen replied. You'll get the Brownlee SOR out by the end of this week? Turner asked. That's the plan, Nielsen replied; it might not be a bad idea to schedule a TMT conference call for some time next week. It would also not be a bad idea to invite Idaho Power to participate in that meeting, Bettin suggested. I will do so, said Turner.

6. Current System Conditions.

Turner reported that the system is being operated to store water in the headwater storage projects and Grand Coulee, with Grand Coulee operated to meet the 65 Kcfs minimum flow at Vernita Bar and power system needs. The power system emergency has been extended, according to notification received Monday, April 16; the emergency declaration will be revisited once the May final forecast is available, Bettin said. Over the past week Bonneville day-average flows have varied between 99 Kcfs and 134 Kcfs. The Bonneville forebay is being operated within a 1.5-foot range, pursuant to our agreement with CRITFC, Turner said. The federal executives decided there will be no spill at Bonneville, in reply to the SOR submitted by CRITFC last week.

At Lower Granite, flows have averaged under 30 Kcfs over the past week, Turner said – in other words, Lower Snake flows have yet to pick up. In the past, flows have been on the order of 60 Kcfs-65 Kcfs at Lower Granite during this period? Silverberg asked. Or higher, Wagner replied.

How does BPA feel about the reverse load factoring proposal? Pettit asked. Give us a proposal and we'll study it, Bettin replied – what hours are you talking about? From 7 p.m. to midnight, approximately, Ross replied. That would likely be doable, although not instantly, Bettin replied. The basic idea would be to structure normal project operations to provide a little pulse during peak fish passage hours, Wagner added. Filardo noted that it would be difficult, if not impossible, to do meaningful monitoring of the impact of this operation on fish passage. Bettin said he will talk to others at Bonneville about the possibility of reverse load-factoring -- given how low the flows are, it should be doable, he said.

Turner said Dworshak is currently at elevation 1518.8, and is continuing to release minimum discharge. Last week's inflows ranged between 2.9 Kcfs and 4.1 Kcfs; the project is filling at a rate of 3/10 of a foot per day. Libby, as of midnight last night, was at elevation 2386 feet and, at minimum outflow, drafting about a tenth of a foot per day. At Albeni Falls, the project continues to hold elevation 2053, said Turner; the Corps has agreed to delay Albeni Falls refill until May 5, after the Vernita Bar minimum operation is over. The plan is still to refill Albeni Falls by June 30, Turner added; the TMT needs to be aware that this tradeoff is coming up. He added that current Priest Rapids discharge is about 67 Kcfs.

Bonneville spill bays 1 and 18 are now being closed at night as a water conservation measure, from an hour after darkness to an hour before sunrise, Turner said. That operation started April 12 and will continue through the migration season. MOP and MOP+1 are now in effect at the Lower Snake projects, he said. Also, Portland District is announcing that the number of recreational lockages will be decreased from five per day to three per day, the same as Walla Walla District, in an effort to conserve water, Turner said.

Pat McGrane reported that Hungry Horse is currently at elevation 3488, 72 feet from full. The project is releasing Columbia Falls minimum. There are indications that the freshet is beginning on the Flathead River, he added. Grand Coulee is now at elevation 1218, also 72 feet from full, with inflows of 60 Kcfs and outflows of 65 Kcfs. The ferry is no longer in operation, due to low reservoir elevation, McGrane added.

Turner said the April mid-month forecast is expected to be released tomorrow; again, the forecast actually might improve a little, which would make for a refreshing change. He added that the "family of curves" and volume histograms available on the TMT website have been updated. Turner said the histograms show that, if the TMT wants a 70% confidence that Dworshak will fill to elevation 1580 feet on June 30, there is no flow augmentation volume available from that project this spring. If you feel lucky, and are willing to settle for a 50-50 possibility, there would be 119 KAF, or 60 Ksfd, available for flow augmentation this spring, Turner said.

With respect to the status of the fish migrations, Wagner said that, on the good news side, for adult spring chinook, the daily count peaked at 19,192 at Bonneville on April 15; total passage to date is 198,574 adult spring chinook, an order of magnitude higher than the 10-year average for this date of 19,030. Wagner added that fish counters have reported a 2-1 ratio of un-

adipose-fin-clipped fish to clipped fish so far this spring.

On the bad news side, said Wagner, at Lower Granite Dam, for yearling chinook, we're seeing about 4,000 fish per day, about the same at Lower Monumental. Numbers are much lower at Little Goose and Rock Island Dams. Many of the fish being detected at Lower Granite and Lower Monumental are Lyon's Ferry hatchery fish and Imnaha fish, Pettit added. We should be seeing close to 10,000 juveniles per day at Lower Granite at this time of year, with the daily averages dramatically on the increase, added Pettit. So where are the fish right now? Turner asked. No one knows, Wagner replied – at least a portion are in the reservoir, but others are still working their way down to the reservoir and dam. Pettit reiterated that, until Snake River flows at Anatone reach 40 Kcfs, the Snake River trap is inoperable. Ross added that some fish, at least, are being seen at the White Bird trap, so at least some fish are moving out of the tributaries.

The only good news to report, with respect to juvenile passage, is that the fish that are being transported are not crowded in the barges, Wagner said. Nielsen added that yesterday's index seining at Ives Island found more than 400 chum fry, ranging in size from newly-emerged to 39 mm, chinook numbers are also increasing. At Hamilton Springs, researchers found 9,000 chum fry this week; the researchers think we may be just past the peak in that system. At Hardy Creek, researchers captured about 2,100 chum fry yesterday; that run is still on the increase.

7. New System Operational Requests.

No new SORs were submitted prior to today's meeting.

8. Develop Recommended Operations.

In keeping with the two-week operational time-frame, the next two week period is April 23 through May 6, Turner said. The Action Agencies propose to continue the current operation, storing as much water as possible while meeting the 65 Kcfs Vernita Bar minimum and power system needs, with no flow augmentation or spill during this two-week period unless decided otherwise by the Regional Executives. No objections were raised to Turner's proposal. With respect to the Lower Granite pulsing operation, Turner said, it sounds as though there is still some additional work to be done. Essentially, we wanted to get a better idea of where people stand on that proposal, said Wagner, and we did get that today. It was agreed that the Regional Executives will discuss the Lower Granite "pulse" proposal at their meeting on Friday, and that TMT will take the topic up again next Wednesday.

9. Water Temperature Modeling – Develop MASS1 Scenario 3.

We sent out Battelle's report on the first two MASS1 water temperature scenarios last week, Turner said. Since then, Nancy Yun has had some further discussions with Kyle Martin about the availability of additional meteorological data for Lewiston, but Kyle was not able to find the additional information he was looking for, Dick Cassidy said. That's correct, Martin said – as far as I can tell, there is no available nighttime temperature information for the Lewiston area.

Where that leaves us is with the fact that we probably have greater confidence in the model's outputs for the Lower Columbia projects, Cassidy said; there is more variability associated with the Snake River projects. Pettit said FPAC did discuss this topic at yesterday's meeting; he noted that, back in the 1970s, Dworshak's selector gates were actually used to release warm water for small-mouth bass spawning; the historic record for that period is therefore somewhat distorted, which may have an impact on the MASS1 model outputs for Lower Granite.

Martin suggested that it may make sense for the TMT to compare the MASS1 model outputs with the outputs from EPA's Yearsley temperature model. In terms of future modeling operations, said Turner, what would the group like to see? It would be helpful if the Corps could model the three Dworshak operational proposals now on the table – Dworshak outflows of 14 Kcfs, 10 Kcfs and 7 Kcfs (the CRITFC proposal) beginning July 1, Wagner replied.

Any interest in modeling the potential impacts of the release of some Dworshak water in support of the Lower Granite "pulsing" operation on Lower Snake water temperatures later in the season? Turner asked. In that case, Dworshak would be at either elevation 1565 or 1571, rather than elevation 1580, on July 1. Yes, that would be interesting, Wagner replied. Wagner proposed doing the first three runs, and the fourth depending on results from the three runs. Turner indicated that the fourth run could be done as funding permits.

10. Other.

A. Dam Safety Inspection at Lower Granite. Turner said that each of the spill gates at Lower Granite Dam will be cracked open for several minutes some time before May 8, as part of the Corps' regular dam safety inspection program. This is a simulated emergency operation, he said, to ensure they can open the spill gates, if necessary, in the event of loss of station service during a high-flow emergency. Maximum spill discharge will be 2 Kcfs, he said. Pettit asked that, for biological reasons, this test be conducted as soon as possible; Turner replied that he will see what he can do.

B. Priest Rapids Gauge Calibration. Pat McGrane reported that, subsequent to the TMT meeting two weeks ago, he had discovered that the Priest Rapids gauge had not been re-rated for at least a year; however, when a crew went out to calibrate the gauge, they found that it was within tolerance, so its readings so far this season have in fact been accurate. Essentially, there is a 3 Kcfs difference between the gauge reading and Priest Rapids discharge; the gauge reading is considered more accurate than dam discharge.

11. Next TMT Meeting Date.

The next face-to-face TMT meeting was set for Wednesday, April 25 from 9 a.m. to noon. Another face-to-face meeting was set for Wednesday, May 1. Meeting notes prepared by Jeff Kuechle, BPA contractor.

TMT PARTICIPANT LIST

April 18, 2001

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