

# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

### MEETING NOTES

July 2, 2003

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

### FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Donna Silverberg

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.

#### **Current System Status:**

*Fish:* Paul Wagner, NOAA, reported that smolts are at a record high for subyearling Chinook. The goal from the Salmon Managers' perspective is to maintain conditions for survival. Lower Granite temperatures are ranging from 66-70 degrees. Flows at Lower Granite are down to 38 kcfs out.

*Reservoir operations:* Bonneville is operating at 188 kcfs out, and declining. McNary is releasing an average 17 kcfs; Lower Granite is at 39 kcfs out; Dworshak is full and releasing 3.4 kcfs; Libby is at elevation 2458' and will continue operating at 19 kcfs out until inflows reduce (the project is being operated to avoid fill and spill); Albeni Falls is at 2062.35'; Grand Coulee is at 1286.1' and filling; and Hungry Horse is at 3557.9' and will not fill. Tony Norris, BOR, reported that the intended operation at Hungry Horse is to maintain the project at 3500' until 7/7, then release 5 kcfs and hold it at 20' down until August 31. The water supply forecast shows dry conditions. The STP run shows a dip over the July 4<sup>th</sup> weekend, then improvements.

*Power system:* Scott Bettin gave the group a heads up on possible lightning and resulting fires that may impact the system.

*Water supply:* The July early bird forecast showed no change from the June final at key projects.

*Housekeeping:* The COE noted that there is a need to update the emergency call list. Rudd Turner will send a reminder to TMT members.

#### **SOR 2003-MT-1:**

Jim Litchfield presented an SOR based on NPPC recommendations for summer operations at Libby and Hungry Horse. Jim explained that the philosophy behind the request is to reduce impacts on Montana reservoirs for lower river fish and support native resident fish. Additionally, they are trying to suggest a better, faster way to achieve RPA's for resident and Lower Snake River fish. Montana's hope is to begin this year with a phased start-up to river operation changes, and measure and evaluate the impacts this year. A question was raised about when the Snake River fish are typically observed in the lower river in large numbers. They tend to be observed through August.

**ACTION:** Jim Litchfield and Paul Wagner will look at the latest information on August and September fish and the SAR response. There is a need to look at wild fish data and estimated numbers this year. Other suggestions for information that would be helpful were expressed: a model other than SIMPAS that is sensitive to flow and elevation changes; cost estimates; and any existing empirical data on biological benefits to resident fish in Montana.

**ACTION:** The COE will run a model on the SOR's effects on McNary flows. TMT plans to make a decision on Hungry Horse and Libby operations on 7/16, or a decision will be made at a 7/17 IT resolution call.

**Dworshak Summer Operations:**

TMT received last year's data on Dworshak operations and this year's calculations prepared by Laura Hamilton, COE. Paul Wagner, NOAA, explained that, while FPAC did not reach complete consensus, they did put a framework together for summer operations at Dworshak. The proposed operation starts early and leaves some water for September (see handout). The priority is to maintain some cool water for September *and*, if temperatures rise to lethal levels, use the cooler water earlier. Oregon asked if the target for this framework is better passage in September versus August. Paul responded that both need protection. The suggestion was then made to maximize July, which would mean a 2 kcfs redistribution.

Dave Statler, Nez Perce Tribe, noted that fish in the Clearwater have been measured at 62 and 54 mm on June 23/24. They will need to grow significantly before they can actively migrate (around mid to late July). If viewed as a segment of the whole population, there would be a good reason to support them later by not reducing temperatures too much, too soon.

**ACTION:** The COE expressed agreement with the framework and would like to continue to revisit the issue on a weekly basis. The operation will be as follows:

*Week 1:* Draft up to 14 kcfs to arrest temperature increases at Lower Granite. Observe the impacts on temperatures, then adaptively manage to maintain in order to minimally impact the lower Clearwater growth rates. 7/3-7/6: 5 kcfs out; 7/7: 10kcfs; 7/8: 14 kcfs up to the 110 gas cap and temperature of 48 degrees.

**There will be a TMT conference call on 7/9 to review the Dworshak operation and temperatures.** Triggers for not adhering to the framework should also be developed.

**Ice Harbor Spill Test:**

Spill tests at Ice Harbor are currently underway, as agreed to by NOAA and the COE. The two test treatments are no spill and bulk spill. There is a need to discuss how to operate Ice Harbor after the test is complete. To do so, information about whether the test programs are working is needed. Options will be forwarded to TMT and discussed at the 7/9 TMT conference call. The most recent balloon data is needed.

**Next Meeting, CONFERENCE CALL, July 9, 9 am:**

- All Remaining Updates from 7/2 Agenda
- Dworshak Operations
- Ice Harbor (options)

## Meeting Minutes

### *1. Greeting and Introductions*

The July 2 Technical Management Team meeting 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. TMT members agreed to revise the agenda and cover current system conditions first, followed by discussions of Libby, Hungry Horse, and Dworshak summer operations, then Ice Harbor post-test spill operations, and close by hearing updates as time allows.

### *2. Current System Conditions.*

With respect to the status of the fish migration, Wagner said the species of concern, currently, is the fall chinook. The subyearling index is where the action is, he said; at Lower Granite, we're seeing 15,000-20,000 fish per day, with just over 1 million subyearlings past Lower Granite to date, significantly larger than any previous year's run (the previous high for this date was just over 700,000). Those high numbers are a reflection, in part, of the large number of hatchery fish released this year. Our main concern right now is passage conditions at Lower Granite, particularly temperature, he said. There are also large subyearling index numbers being seen at McNary, he said, although those numbers aren't larger than what we've seen in the past – good numbers, but not exceptional. The numbers are also good at John Day and Bonneville, although again, they are within the range of expectations.

With respect to water temperatures in the Lower Granite forebay, they're currently averaging about 65 degrees, down from about 67 degrees on Monday because air temperatures remain relatively cool, Wagner said. Temperatures from here on out will be on the rise at Lower Granite, he said; it's just that time of year. Kyle Martin said that, in looking at the weather forecast data, he doesn't foresee any sharp warming trends over the next 10 days in the Lower Granite vicinity; the weather is expected to be intermittently sunny and cloudy. Lower Granite tailrace temperatures are running about 63 degrees F, and can also be expected to increase from here on out, Wagner said. With respect to flows, he added, yesterday's day-average flow at Lower Granite was 39 Kcfs; flows are expected to continue to decline as temperatures rise further. In other words, said Wagner, we're now at that annual decision point when we need to decide how to manage flow and temperature at Lower Granite to produce the best possible passage conditions for fish.

Moving on to reservoir operations, Turner reported that Bonneville saw a day-average flow of 188 Kcfs yesterday, down from a peak of 282 Kcfs over the past two weeks. Yesterday's day-average at McNary was 172 Kcfs; at Lower Granite, 39 Kcfs, down from a high of 83 Kcfs over the past two weeks. Turner added that the spring seasonal average flow at McNary was 231.4 Kcfs, above the spring flow objective of 220 Kcfs. At Priest Rapids, the seasonal average flow was 141.4 Kcfs, compared to a seasonal average flow target of 135 Kcfs. The spring seasonal average flow at Lower Granite was 90 Kcfs, just over the 89 Kcfs spring seasonal target.

Turner said the summer flow objectives at Lower Granite and McNary, based on the June final runoff forecast, are 50.9 Kcfs and 200 Kcfs, respectively; he said it is unlikely that either summer objective will be met. Dworshak touched full on June 30 and is now releasing 5 Kcfs, with inflows of 4.6 Kcfs. Libby is now at elevation 2458 feet, one foot from full; the project has filled 7 feet over the past two weeks. Libby is currently passing inflow of 19 Kcfs, and will continue that operation at least through tomorrow. Albeni Falls is at elevation 2062.3 feet and releasing 25.5 Kcfs outflow, with 30 Kcfs inflow.

At Grand Coulee, said Norris, the current elevation is 1286.1 feet; the plan is to get the project full as soon as possible. The current Hungry Horse elevation is 3557.9 feet; the project is releasing 3.5 Kcfs, and will hold that through July 7, when project discharge will increase to 5 Kcfs. Reclamation plans to hold 5 Kcfs outflow through August 31, Norris said, targeting elevation 3540 feet, 20 feet from full; Hungry Horse will probably not completely fill in 2003. He noted that recent forecasts for Hungry Horse have dropped dramatically due to falling precipitation. We're now looking at a water supply forecast in the low-70% of normal at Hungry Horse, down from a forecast in the 90% of average range in the late spring, Norris said.

You went to 3.5 Kcfs outflow from Hungry Horse sooner than planned due to a substation outage? Boyce asked. That's correct, Norris replied – in effect, you're getting some of your salmon water sooner.

Turner also distributed the Corps' most recent STP run, showing summer flows at Lower Granite, Priest Rapids, Bonneville and McNary. The STP run shows gradually-declining flows at these projects through the end of August. Again, said Turner, it does not appear that the summer flow objectives will be met at either Lower Granite or McNary.

The power system is doing as well as can be expected – the lights are on, Bettin said. It is the fire and lightning season, however, so it's hard to say what will happen.

Water supply? Silverberg asked. The final published water supply forecast of the year – the July early-bird – is now available, said Turner; there is little or no change in the forecasts except at Libby and Dworshak, where the forecasts have increased by a couple of percentage points.

### ***3. Libby Sturgeon Update.***

On June 6, the Fish and Wildlife Service submitted SOR 2003-10, covering the 2003 sturgeon “pulse” operation at Libby Dam. This SOR requests the following specific operations:

- From June 5 through June 26, attempt to maintain a minimum discharge target from Libby Dam of 20 Kcfs
- Sturgeon augmentation flows should be followed by a rampdown to the tiered bull trout flow minimum flows/salmon flows per the 2000 BiOp, except as noted below
- Avoid forced spill at Libby
- Refill the project to hear 2459 feet by July 1 or later if needed to avoid forced spill

- If on June 26 additional water is available, we recommend splitting that volume equally to extend the then-current target sturgeon incubation flow beyond June 26, and to achieve a higher tiered bull trout flow through July, if possible up to the optimum tiered flow of 9 Kcfs
- Should the actual volume available to split, as described above, be exceeded, we recommend that the remainder be used to further extend the duration of the sturgeon incubation flow.
- At some point early in this sturgeon flow request, while low-elevation runoff remains relatively high, we recommend up to two days of maximum powerhouse releases to facilitate ongoing U.S. Geological Survey sediment transport studies, designed to aid conservation of the sturgeon. As much advance coordination as possible would be appreciated.

This SOR was implemented as requested and is now complete.

#### ***4. Libby and Hungry Horse Summer Operations.***

On July 1, the State of Montana submitted SOR 2003 MT-1, covering Montana's proposed summer operations at Libby and Hungry Horse Dams. This SOR, supported by Montana Fish, Wildlife and Parks, requests the following specific operations:

- During July, adjust Libby outflows until refill has been achieved while avoiding significant risk of filling and spilling or in failing to fill to less than five feet from full
- Adjust Libby's target outflow as necessary to maintain a stable weekly average outflow that results in drafting Libby to elevation 2449 by the end of September. It is preferred that outflows are held flat or are reduced gradually from July through September
- Establish a weekly average target of 3.7 Kcfs at Hungry Horse Dam
- Adjust the target outflow as necessary to maintain a stable weekly average outflow and draft Hungry Horse to elevation 3550 by the end of September. It is preferred that outflows are held flat or are reduced gradually from July through September.
- Maintain flows out of Libby and Hungry Horse that are at least the minimum flows for bull trout. Minimum bull trout flows are a higher priority than the ending elevations targeted for the storage reservoirs by the end of September.
- Continue to implement bull trout research to measure changes in fish survival and productivity.
- Reduce summer bypass spills at Bonneville Dam to a daily average of 50 Kcfs, ending on August 15 (rather than the planned date of August 31)
- Reduce summer bypass spills at The Dalles Dam to 30 percent of river flow, ending August 15 (rather than the planned date of August 31)
- Conduct the current spill test at John Day Dam and eliminate bypass spill once the test is concluded. This is planned to occur at the end of July.

Litchfield spent a few minutes going through the specifics of this SOR, the full text of which is hot-linked to the TMT homepage. Please refer to this document for details of the SOR's justification.

The group devoted a few minutes of debate to the justification for Montana's SOR; Boyce noted that, in his opinion, focusing on cumulative passage indices at Bonneville is misleading – it would be much more informative to look at the indices for specific wild and hatchery stocks, he said. Paul Wagner observed that, according to information developed by the NMFS Science Center, the smolt-to-adult return rates for the juveniles migrating late in the season – in late August and September – are significantly higher than the SARs for juveniles migrating earlier in the season. Litchfield replied that, according to the ISAB, incremental differences in flow and spill may not be that significant in terms of their impact on fish survival.

A lengthy discussion of the biological merits of the traditional BiOp operation at Libby and Hungry Horse vs. those of Montana's proposed operation ensued. Dave Statler observed that changes to the flow and spill regimes in the lower river obviously have region-wide impacts; any such changes need to be approached very deliberately, he said. Litchfield agreed – it's obvious that it is one, big, interconnected system, he said, and if you tweak one part of it, it will have an effect elsewhere in the system.

The group also discussed the potential financial cost (in terms of lost power revenues) of Montana's proposed operation, as well as its potential impacts on fish survival in the lower river. The bottom line is that, in Montana's view, this operation will produce a more balanced operation for both anadromous fish and for listed resident bull trout and sturgeon in Montana, as the ISAB has recommended, Litchfield said. At Boyce's request, Litchfield said he will provide the TMT with the available biological data on the expected benefits of Montana's proposed operation on resident fish in Montana.

Turner then directed the group's attention to the model runs developed by the Corps in response to a request from Montana, all of which were initialized using yesterday's STP run. This modeling exercise included Scenario 1, a 10-foot draft of Libby by September 30 (as requested in SOR 2003 MT-1) which would result in a Libby outflow of approximately 10 Kcfs through most of July, August and September; Scenario 2, a 10-foot draft of Libby by August 31, which would yield an average Libby outflow of 13.4 Kcfs through most of July and August, followed by 7 Kcfs outflow through September 30; Scenario 3 (the BiOp operation), which would draft Libby to elevation 2440 (20 feet from full) by August 31, with an average outflow of about 18 Kcfs through July and August followed by a drop to 7 Kcfs outflow in September, and Scenario 4, the modeled STP operation, which would hold Libby outflow at 19 Kcfs through July 3, then drop it to 16.6 for the period July 4-9, then to 14.3 Kcfs for July 10-18. Under Scenario 4, Libby outflow would then increase to 18 Kcfs for the period July 19-August 31, drafting the project to elevation 2439 feet by that date. Again, under Scenario 4, September outflow would be held at 7 Kcfs.

In response to a question from Wagner, Turner said it would be possible to smooth out the operation in Scenario 4 to avoid the drop in Libby outflow followed by an increase to 18 Kcfs. In response to another request, Turner said the Corps is also modeling the impact of Montana's requested Libby operation on summer flows at McNary; this information is not yet available, however. Turner noted that, absent another recommendation from TMT, Scenario 4 is the Corps' planned Libby operation for July, August and September.

Ultimately, it was agreed that the TMT will not attempt to reach resolution on this very complex topic at today's meeting. The IT will take up the policy and BiOp implications of Montana's proposed operation at its meeting tomorrow; the TMT will then re-engage on this SOR at its next meeting.

What about the recommended Libby operation for the next two weeks? Silverberg asked. After a brief discussion, it was agreed that, at least for the next two weeks, Libby will be operated as needed to avoid filling and spilling, and will continue to pass inflow (currently about 19 Kcfs), running four units most of the time. It was further agreed that Libby outflow will not fall below three units (about 14 Kcfs-15 Kcfs) no matter what the inflows to the project, for the next two weeks. Reclamation plans to increase Hungry Horse outflow to 5 Kcfs outflow on July 7, said Tony Norris; bear in mind that every day we're above minimum outflow at that project subtracts from the volume available to implement the Hungry Horse operation Montana is requesting.

### ***5. Dworshak Summer Operations.***

Turner drew the group's attention to the three Dworshak-related handouts distributed at today's meeting; the first a summary of the 2002 Dworshak temperature operations. As you will recall, Turner said, we had 140% of normal runoff volume to work with at Dworshak last year, as opposed to 90% of normal this year. The 2002 Dworshak summer operation was basically full powerhouse discharge plus spill up to the 110% gas cap for two months, beginning in mid-July, with discharge temperatures ranging from 45 degrees to 49.5 degrees F, Turner said. Bear in mind that discharge temperature is as important as flow to this equation, he said.

Turner also provided information on the summer temperature regime in the Lower Granite forebay and tailwater in response to the cold-water releases from Dworshak in 2002. Laura Hamilton noted that the release of 45-degree water from Dworshak had the desired effect in 2002, lowering the forebay temperature at Lower Granite from almost 77 degrees F on July 24 to below 68 degrees F within a few days. Turner also provided charts showing the temperature profiles within Dworshak Reservoir for 2002-2003. The group spent a few minutes reviewing this information, offering a few clarifying questions and comments.

Next, Turner drew the group's attention to the Corps' estimate of the volume of 45-degree F water (in Ksfd) available from Dworshak in 2003 – approximately 7 weeks of 13.8 Kcfs outflow.

Wagner noted that there was a lengthy discussion on the topic of Dworshak summer operations at yesterday's FPAC meeting. It wouldn't be fair to say that we reached consensus on that operation, he said, but we were close enough that we developed what might be called a framework for the 2003 operation. Essentially, what this plan does is attempt to leave some water in the bank for use in September, Wagner said. It does start Dworshak flow augmentation early, however:

- July 7-20: 14 Kcfs outflow
- July 21-August 10: 12 Kcfs outflow

- August 11-24: 10 Kcfs outflow
- August 25-September 7: 8 Kcfs outflow
- September 8-14: 7 Kcfs outflow

Wagner explained the biological justification underlying this proposed operation, noting that it utilizes the majority of the available cool water from Dworshak early in the summer season, when subyearling chinook passage is highest, but does retain some cool water for use in September to maintain a reasonable temperature regime in the Lower Snake for both migrating juveniles and adults. Again, he said, this is just a framework; if the weather turns unbelievably hot, we may deviate from it.

After September 14, Dworshak would go to minimum outflow? Litchfield asked. That's correct, Wagner replied – 1.3 Kcfs outflow. In response to another question from Turner, Wagner said the August 31 elevation target at Dworshak would be 1535 feet. That would leave about 200 KAF for use in September, Turner observed; that translates in a reduction of 1.4 Kcfs in flow at Lower Granite for the July-August period. He added that the Corps' most recent forecast shows a seasonal average flow of 37 Kcfs at Lower Granite for the summer period, well below the target of 50.9 Kcfs.

Boyce noted that the vast majority of the Snake River subyearling chinook migrate in July and August, rather than September. The question is, do we want to encourage higher passage in early September, or concentrate as much flow as possible in July and August? he said. Our hope is to provide some cooler water to allow the fish to continue to migrate between August 31 and the time natural cooling occurs, Statler replied. Still, I don't understand why you would want to reduce flows and biological benefit in July, when peak numbers are migrating through the Lower Snake, Boyce said. The reason is that the naturally-produced fall chinook in the Lower Clearwater outmigrate later in the summer, Statler replied – those fish need to grow considerably more than some of the other stocks before they will outmigrate, and the bulk of that segment of the run does not begin to pass Lower Granite until the latter part of July. Still, if the growth of the Clearwater fish is a concern, why would you go to 14 Kcfs outflow from Dworshak next week, then reduce Dworshak outflow once those fish are ready to outmigrate? Boyce asked. Actually, we would prefer to see 11 Kcfs outflow from Dworshak for the week of July 7-13, unless Lower granite temperatures spike severely, Statler replied.

Wagner noted that what the temperature modeling data shows is that, if Dworshak releases only 11 or 12 Kcfs at the beginning of the temperature control operation, Lower Snake water temperatures rise too quickly, and it is difficult to bring them down once they spike. It is better, from a temperature management standpoint, to release 14 Kcfs initially, then reduce the Dworshak outflow gradually from there in order to stay on top of the Lower Granite water temperature, he said. Bettin observed that air temperatures in the Lewiston area are not expected to be excessively warm in the next two weeks; this might provide an opportunity to conserve some of Dworshak's cold-water volume over the next two weeks. Again, what history shows us is that, if you want to stay in control of the temperature situation at Lower Granite, you need to release a high volume of cold water from Dworshak beginning early in July, Wagner replied. Cathy Hlebechuk noted that it will not be possible to move the selector gates at Dworshak during the July 14-21 period, so it will not be possible to change whatever temperature regime is chosen

for that period until after July 21.

Turner said the Corps has modeled the proposed “framework” operation, looking at 13.5 Kcfs rather than 14 Kcfs for the period of July 7-20. That model run shows that Dworshak would be elevation 1532, rather than elevation 1535, on August 31. Turner recommended that the TMT continue to discuss the Dworshak operation at its bi-weekly meeting, but in the interim, to implement the framework operation as recommended by NOAA Fisheries. Statler said he is sensitive to Wagner’s argument that it is important to get ahead of the temperature curve; he said the Nez Perce Tribe would not be opposed to starting to release 14 Kcfs from Dworshak on July 7, with the understanding that this operation could be adjusted based on continued TMT discussion.

After a few minutes of further discussion, the TMT recommended that the action agencies implement the framework operation for Dworshak essentially as outlined: continue to release 5 kcfs through July 6, then begin releasing 10 Kcfs from Dworshak (full powerhouse discharge) on the morning of July 7, then go to 14 Kcfs (full powerhouse discharge plus spill to the 110% TDG cap) from Dworshak on the morning of July 8. It was further agreed that the TMT will revisit the Dworshak operation, the weather and water temperature situation at Lower Granite and the growth status of the Lower Clearwater fall chinook smolts at a conference call on July 9.

David Wills observed that, in his mind, the triggers under which the 200 KAF September flow augmentation volume would be moved into July and August to alleviate an emergency temperature situation at Lower Granite are somewhat ambiguous. It was agreed to attempt to firm up these criteria at the next TMT meeting.

#### ***6. Ice Harbor Spill Test and Post-Test Operations.***

Turner said the summer spill test is now underway at Ice Harbor: alternating between no spill and BiOp spill in two-day blocks, with a modified (bulk) spill pattern concentrating the spill into Bays 2-4 at 6-9 stops each. The intent is to reduce injury to fish, Turner said. The test runs through July 16, he said; NOAA Fisheries researchers are PIT-tagging fish – a minimum of 36,000 – for recovery and evaluation at Lower Monumental. About 20,000 fish have been PIT-tagged to date.

Another factor is that the District is working on the design for a balloon-tag test at Ice Harbor, Turner said. Marvin Shutters said the SRWG had discussed the possibility of using rainbow trout for the balloon-tag test through the bulk spill condition, but there was no SRWG agreement that this study would yield relevant or useable data. Rather than rainbow trout, we are now considering using subyearlings collected at Ice Harbor, Shutters said. We expect to get the cost proposal from the contractor today, he said; if the cost estimates are within expectations, we plan to go forward with two treatments for the balloon-tag test – BiOp spill (a flat spill pattern) and bulk spill. In this test, the bulk spill would go through Bays 4-6, rather than Bays 2-4, Shutters added. Would that be a daytime test only? Bettin asked. Yes, Shutters replied. In response to a question from Chris Ross, Shutters said the Corps is contemplating a four-day duration for the balloon-tag test; the starting date has not yet been finalized.

Boyce said FPAC recommends that the details of the balloon-tag study be run through the SRWG; it really isn't a TMT call. Shutters agreed, but asked that any TMT concerns about the proposed balloon-tag test be communicated to him as soon as possible.

The question to TMT is, what kind of post-test operation do you want to see at Ice Harbor, given the fact that the BiOp planning date for the end of spill at that project is August 31? Turner said. Shutters said information from the PIT-tag test could be available by mid-August; data from the balloon-tag test would be available almost immediately following the conclusion of the test.

It was agreed to revisit the issue of the Ice Harbor spill test at the July 9 TMT conference call. It sounds, then, as though we have four options for the post-test period, said Wagner: no spill, bulk spill, spill through narrow gate openings (the current BiOp spill operation) or a mix of the two (two days of no spill, two days of bulk spill or narrow spill openings). Wagner said he will discuss these options with others in his office. Boyce observed that, in the absence of information from the 2003 spill test, it will be very difficult for the TMT to make an informed decision on this issue.

#### ***7. New System Operational Requests.***

SOR 2003 MT-1 was covered earlier in today's agenda.

#### ***8. Recommended Operations.***

Recommended operations were summarized earlier in today's agenda.

#### ***9. McNary Fish Transportation.***

Turner said smolt collection began at McNary on June 27 at 7 am, and the first barge went downriver on June 28; collection and transport began when McNary flows fell below 220 Kcfs and temperatures reached and exceeded the 62 degree threshold in the BiOp.

#### ***10. Lower Granite Bypass Pipe Update.***

There will be a 12-hour line outage on July 14 which will shut down the powerhouse at Lower Granite, said Bettin; that will require us to go outside of MOP. During the outage, one unit will operate at speed-no-load (4 Kcfs-5 Kcfs); we will need to pond the remainder of that water, he said. No TMT objections were raised to this operation. Managing flows for this operation will be discussed further at the July 9 conference call.

#### ***11. Fish Spill Status and Tracking.***

This item was deferred until the next face to face meeting, on July 16.

#### ***12. Next TMT Meeting Date.***

It was agreed that there will be a TMT conference call to discuss the Dworshak operation on July 9. The next face-to-face meeting of the Technical Management Team was set for Wednesday, July 16. Meeting summary prepared by Jeff Kuechle, BPA contractor.

**TMT PARTICIPANT LIST  
July 2, 2003**

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Dave Statler	NPT
Kyle Martin	CRITFC
Tom Haymaker	PNGC Power
Tim Heizenrater	PPM
Shane Scott	WDFW
Rudd Turner	COE
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David Wills	USFWS
Laura Hamilton	COE
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