MEETING MINUTES
Fish Passage Technical Working Group

Mission Statement: To develop an efficient fish passage design for the Baker River Project.

Project: Baker River Project
FERC No. 2150

Written By: Dawn Schink

Meeting Date: November 1, 2001

Location: WestCoast SeaTac Hotel, Seattle

Attendees:

Arnie Aspelund, PSE	Wayne Porter, PSE
Ken Bates, WDFW	Dawn Schink, PSE
Doug Bruland, PSE	Don Schluter, TU (by phone)
Cary Feldmann, PSE	Fred Seavey, USFWS
David Hericks, PIE	Gary Sprague, WDFW
Phil Hilgert, R2	Jim Stow, USFWS
Kim Lane, PSE	Dan Turner, MWH
Mort McMillen, MWH	Nick Verretto, PSE
Ed Meyer, NMFS	Stan Walsh, SSC
	Lynn Wiltse, PDSA

Purpose: The purpose of the meeting was to develop conceptual design alternatives for replacement of upstream fish passage facilities at the Baker River Hydroelectric Project, and to brainstorm study needs required for evaluation of downstream fish passage options and to develop a course of action.

Future meeting dates:
Tuesday, November 13, 2001 (passage studies), 9:00 to 2:00, location undetermined;
Tuesday, December 11, 2001 (downstream passage), 9:00 to 3:00, WestCoast SeaTac Hotel;
Wednesday, December 12, 2001 (upstream passage), 9:00 to 3:00, WestCoast SeaTac Hotel;
January 7, 2002 (upstream passage), 9:00 to 3:00, at the WestCoast SeaTac Hotel;
January 8, 2002 (downstream passage), 9:00 to 3:00, at the WestCoast SeaTac Hotel;
February 5, 2002 (upstream passage), 9:00 to 3:00, at the WestCoast SeaTac Hotel;
February 6, 2002 (downstream passage), 9:00 to 3:00, at the WestCoast SeaTac Hotel.

November 1st Agenda:
Objective: Brainstorm study needs required for evaluation of downstream fish passage options and develop course of action; and continue development of upstream passage options.

Introductions, team status (Wiltse)
Review minutes & agenda (Wiltse)
Review action items list (Wiltse)

Baffle modification status (Verretto)
Review 2001 surface flow attraction study (Hilgert)
Baffle flow-net discussion (Verretto, Hericks)
Break
Review M-W Upstream Facilities Conceptual Alternatives, Brainstorm Upstream Needs & Conceptual Designs (Turner)
Lunch – provided; discuss White R. tailrace barrier (Feldmann)
Discuss 2002 downstream study needs & develop concept filter (McMillen)
Summarize concepts for fish passage (McMillen)
Select studies which support design selection (Wiltse)
Develop schedule implications (Wiltse)
Review assignments (Wiltse)
Evaluation, Set Agenda & Dates for Next Meetings (Wiltse)

Introductions:
Kim Lane of PSE was introduced as the new project manager for fish passage design efforts of the Baker Project relicensing.

Review Minutes:
The minutes were accepted as written.

New Action Items:
- Nick – coordinate with Bob Barnes for presentation of reservoir operations model (i.e., Charles Howard model) at next downstream design meeting (Tuesday, December 11).
- Nick – coordinate fish passage studies consultant identification and studies development subgroup meeting (Tuesday, November 13).
- Mort – review downstream passage options and history of decisions to direct options reduction and continuing development, complete by December 11th.
- Dan – develop upstream passage footprint conceptuals and costs, as well as biological cost-benefit template for discussion purposes at next meeting, complete by December 12th.
- Phil – complete draft report of baffle study results by December 11.
- Cary – review communication protocol and present to the group December 11.

Report on Completed Action Items:
- Group requested better content descriptions in the titles of e-mails, e.g., "Baker" and "fish passage meeting". **Result**: e-mail descriptions were adequate.
- Paul DeVries / Nick Verretto report on 2001 baffle. **Result**: Phil Hilgert described study results, and will submit completed draft report to the group.
- Nick – Discuss passage studies with Stan and coordinate development meeting with consultant and tagging contractors. **Result**: separate meeting with subgroup to be coordinated at this meeting.
- Nick – Coordinate reservoir migration studies discussions with Stan Walsh and consultants, then follow up with tagging/marking contractor discussions. **Result**: same as above.
- Nick – Coordinate hydroacoustics and temperature profile studies discussions with Stan Walsh and consultants and/or contractors. **Result**: same as above (to be discussed as part of studies development subgroup).

- Nick – Coordinate forebay velocity profiles data collection with Ed Meyer and David Hericks of Pacific International Engineering. **Result**: David Hericks in attendance at this meeting to complete discussion.

Baffle Modification Status:
Only task remaining is mechanical, which entails a 3-day outage. Actuators and assemblies installation not completes, and need to remove gates to accomplish modifications. Project completion will have to wait until flows are right, so likely after November, however must complete installation and operation check before the end of the year. The fish trap

Review 2001 Surface Flow Attraction Study:
Phil presented study results in Power Point format, which will be available on the website once the draft report is submitted. The draft report will be submitted at the next meeting.

- Agencies requested copies of all drafts, regardless of stage of completion
- Pool Elevation (slide 9) should be plotted on graph
- How to improve study – do we refine study for 2002? Was the flow too deep?
- R2 will be looking at May 13th, the peak, to see whether the peak in run timing was due to environmental factors or other variables beyond the scope of the study
- A repeated study requires three replicates over time to overcome the run timing variability
- 2,000 fish appeared to be an adequate release group size
- Minimize variations in Project operations during testing should be sought if a repeat test is conducted
- Radio tagging is another option to strengthen the results and identify movement/path

Baffle Flow-Net Discussion:
David Hericks from Pacific International Engineering discussed the capabilities of the acoustic Doppler velocimeter (ADP) technology, and took questions from the group regarding its application to support passage facilities design.

- An acoustic Doppler velocimeter is capable of defining vertical & horizontal velocities over time under different plant operating conditions and pool elevations. The meter can be used to determine flow distribution through the top and bottom openings of the intake fish baffle with gates open. The meter could be deployed as a stationary unit or as a mobile unit (i.e., from a boat) to measure forebay flow patterns.
- Physical barriers or obstructions within the forebay pose some limitation on flexibility and data collection opportunity. These instruments could support construction of a 3-dimensional flow model, and would be useful in constructing a physical model.
- The instrument may not be adequate for more than near-field measurements.
- The design group or studies development subgroup will determine the value of this methodology for design development.

Review MWH Upstream Facilities Conceptual Alternatives, Brainstorm Upstream Needs & Conceptual Designs:

- Dan Turner discussed Technical Memorandum No. 1 "Upstream Passage Conceptual Design", containing the various alternatives that had been brainstormed by the group September 5th.
- MWH will list engineering & biological issues & critique each of these alternatives for discussion at the next meeting.
- Fred Seavey requested complete and proper documentation of rejected ideas and rationale for the decisions as the range of passage options is narrowed, e.g., fish ladders.
- Dam removal was mentioned as an option not yet considered. PSE stated that this option would not be considered within the passage design proceedings.

Discuss 2002 Downstream Study Needs & Develop Concept Filter:
- It was decided to discuss this in a separate working group meeting.

Summarize Concepts for Fish Passage:
- It was decided to discuss this in a separate working group meeting.

Select Studies which Support Design Selection:
- Juvenile acoustic tagging – 3-D, near-field and far-field
- Repeat baffle study
- Baffle flow split
- Temperature profiling
- Velocity profiling
- Hydroacoustics of forebay and reservoir
- Pre-smolt sockeye acoustic tagging
- Unnatural predation opportunities
- Computational fluid dynamics (CFD) model
- Kelts, cutthroat and bull trout behavior and aggregations identification
- Reservoir operations model
- Historical run and correlations (e.g., environmental, meteorological)

Develop Schedule Implications:
- It was decided to review PSE's draft passage development schedule.

Old Action Items:
- Fred - bring Skagit Chinook length-frequency data.
- Fred - look at statistical variation from year to year in the gulper mark and recovery data.
- Kevin Brink - analyze how fluctuation limits affect spill (# events, amounts, seasons, duration, flow-days by month), to facilitate discussions regarding limits to drawdown range and effects on screening designs. Kevin will report at a future meeting. (The Charles Howard has the capability to address specific operational issues. These will have to be individually addressed once the model is complete)

Parking Lot:
- Hydroacoustic data - Arnie
- Fish species run timing, emergence timing, length-frequency data, meteorological data – Doug, Nick

- Design strategy process
- Conceptual designs as they relate to costs
- Sediment studies

Meeting Evaluation
Well-Dones:
- good participation
- moved along
- facilitation

Opportunities to Improve:
- ran out of time
- ran overtime
- reference file names to attachments e-mailed to Don Schluter
- handle White River and other non-Baker relicensing issues separately

Proposed Agenda for December 11 Downstream Passage Meeting, 9 a.m. - 3 p.m., WestCoast SeaTac Hotel:
Objective: Review downstream fish passage studies and designs options and develop course of action.
1. Review Minutes & Agenda
2. Review Draft Project Schedule & Implications - PSE
3. Review Action Items
4. Review Charles Howard Model - Bob Barnes
5. Review Downstream Passage Alternatives – MWH
6. Develop Method of Narrowing Design Options
7. Review Downstream Studies - Nick
8. Evaluate Meeting
9. Schedule Next Meeting & Agenda

Proposed Agenda for December 12 Upstream Passage Meeting, 9 a.m. - 3 p.m., WestCoast SeaTac Hotel:
Objective: Review preliminary design concepts and evaluation matrix and develop direction for studies and design.
1. Review Minutes & Agenda
2. Review Draft Project Schedule & Implications - PSE
3. Review Action Items
4. Review Upstream Passage Alternatives - MWH
5. Develop Method of Narrowing Design Options
6. Evaluate Meeting
7. Schedule Next Meeting & Agenda

Attachments