BAKER R. FISH PASSAGE FACILITIES DESIGN
FISH PASSAGE TECHNICAL DESIGN TEAM

9:00 a.m. - 3:00 p.m.
October 15, 2003

AGENDA

Objective: Continue engineering design development of Upper Baker FSC and guidance net system.

9:00 - 9:10	Review agenda and handouts (Verretto)
9:10 - 9:15	Review minutes & action items (Verretto)
	Downstream Passage
9:15 - 9:30	Overall schedule review (Verretto)
9:30 - 9:45	Trip planning – itinerary, logistics (Welch)
9:45 - 10:15	Reservoir numerical model update (Verretto, Eldridge)
10:15 - 10:35	Guide net design development, schedule (Brink, Hijazi)
10:35 - 10:45	Break
10:45 - 11:45	Guide net design development, cont. (Brink, Hijazi)
11:45 - 12:15	Lunch (provided)
12:15 - 2:30	FSC design development, schedule (Dorratcague, Postlewaite)
2:30 - 2:45	Surface collectors review (Eldridge)
2:45 - 2:55	Stress relief pond size and design (Verretto, Eldridge)
2:55 - 2:56	Other Issues (Verretto)
2:56 - 2:57	Evaluate meeting & review assignments (Verretto)
2:57 - 2:58	Long-term schedule, agenda, facilitation (Verretto)

PSE PUGET SOUND ENERGY

Baker River Project Relicense

Red Lion SeaTac Hotel 206-246-5535

DRAFT MEETING MINUTES
BAKER RIVER FISH PASSAGE FACIILTIES DESIGN
FISH PASSAGE DESIGN TEAM

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

Project: Baker River Project
FERC No. 2150

Written By: Nick Verretto, MWH

Meeting Date: October 15, 2003

Location: Red Lion SeaTac Hotel

Attendees:

Kevin Brink, PSE	Ed Meyer, NMFS
Dennis Dorratcague, MWH	Frank Postlewaite, MWH
Ray Eldridge, MWH	Gary Sprague, WDFW
Cary Feldmann, PSE	Jim Stow, USFWS
Bruce Heiner, WDFW	Nick Verretto, PSE
Mark Hijazi, MWH	

Purpose: Continue engineering design development of Upper Baker FSC and guidance net system.

Future Meeting Dates:

Oct. 29 –30, 2003	*Passage Sites Trip*
Nov. 4, 2003	*Design Team Meeting (FSC & Net) at MWH*
Dec. 03, 2003	*9-3 technical design mtg at Red Lion SeaTac Hotel.*
Dec. 04, 2003	*9-3 passage design mtg at Red Lion SeaTac Hotel.*
Dec. 10, 2003	*Design Team Meeting (FSC & Entrance Module) at Baker*
Dec. 11, 2003	*Design Team Meeting (Net & Net Transition) at Baker*

See handout for additional meeting dates, through license submittal date.

New Action Items

Verretto – Distribute minutes and future meeting notice.

Postlewaite – Modify velocity plot through the structure from 4-foot cross sections to 2-foot cuts to ensure that no discontinuity is missed due to the methodology.

Eldridge – Call Cal Sprague of ACE (503-808-4305) or Dave Herson with the Walla Walla district (509-527-7175) to get a copy of the Columbia spill season, volumes and dams involved, and include the information in the surface collection review TM.

Eldridge – Add historical information regarding the Wanapum surface collector (no longer used) to the memo, as well as other facilities' historical information.

All – Submit surface collector memo comments and edits to Ray and Nick by the end of October.

Technical Memos/Reports Distributed

The items distributed and reviewed at the meeting were: 10/15/03 agenda (PSE), surface collection technologies 2nd draft technical memo (MWH), FSC design memo (MWH), FSC hydraulic grade-line plot (MWH), guide net and transition structure design memo (MWH).

Review Agenda, Minutes & Action Items
Verretto – Distributed handouts and reviewed general content of each.
Wiltse – Reviewed agenda with the group.

Overall Schedule Review
Verretto reviewed the long-term schedule, noting only a couple of minor changes.

Trip Planning – Itinerary, Logistics
Verretto reviewed the surface passage sites trip itinerary and collected some group information for submittal to the federal agencies requiring it for security purposes.

Reservoir Numerical Model Update
Verretto provided some background into the cfd model development, and the tentative schedule for running the model in 2004. PSE's original thinking was that the design development might entail development of both a numerical as well as a physical model. Later investigations and discussions with ENSR led PSE to believe that the physical model would be more applicable to the Baker Project. Still further discussions and review has ruled out the use of a physical model to determine forebay hydraulics, due to the extremely low velocities. PSE and ENSR have determined that a reservoir numerical model is the only method that affords an opportunity to describe the forebay hydraulics.

Physical modeling of FSC components and related structures may still be considered, although its usefulness for determining anything new regarding the screening structure is likely low, given the level of experience of the design team in designing similar structures. Further development of the model will determine whether the numerical model is capable of providing the forebay hydraulic information desired.

Eldridge provide examples of outputs of numerical models for design team members not familiar with the methodology. Stow mentioned that the data needed for calibration and validation of the model have to be planned in advance of the modeling effort. No objection was raised regarding the modeling direction.

Guide Net Design Development, Schedule
Hijazi presented the new guide net and transition structure designs. The system is being planned for construction and installation March 2004, and incorporates much of the hydraulic controls discussed during the ongoing FSC design process. Entrance velocity, acceleration and flow continuity will be greatly controlled with the new net transition structure (NTS), which is an aluminum-framed, HDPE-lined inclined channel. The net design incorporates a huge number of innovations developed over several iterations of the system, as well as continuous design development which began last fall. A few design comments were taken from the team and will be incorporated into the design.

FSC Design Development, Schedule
Postlewaite and Dorratcague reviewed the FSC designs. A velocity plot through the structure was discussed. The plot was created by taking 4-foot cross sections vs. flow to determine velocities, and is used to identify flow discontinuities. It appears that no significant ones exist, although the spreadsheet will be reduced to 2-foot cuts to ensure that no discontinuity is missed due to the methodology.

The primary screens stop at 3 fps, and enter the secondary screens channel at 3-foot width, as requested at the last meeting. Screen cleaning method in the primaries will be by brush assembly, and in the secondaries by backwash due to the confined area.

Surface Collectors Review
Eldridge reviewed the 2nd draft technical memo, which incorporated additions suggested September 9. Because the surface spill is another source of surface passage, it was suggested that Ray call Cal Sprague of ACE (503-808-4305) or Dave Herson with the Walla Walla district (509-527-7175) to get a copy of the Columbia spill season, volumes and dams involved, and include the information in the TM.

Turbine survival performed at Lower Baker in late 50s or early 60s by Roy Hamilton (?) may be useful to include in the TM. Results of the U. S. Fish Commission study showed ~60% survival through turbines. Although this can not be considered a passage system, it should be noted that without such unanticipated ancillary downstream passage success the Baker runs would long ago have been extirpated, leaving no opportunity for the recovery now being experienced.

Ray will also add historical information regarding the Wanapum surface collector (no longer used) to the memo, as well as other facilities' historical information. Everyone is to submit memo comments and edits to Ray and Nick by the end of October.

Stress Relief Pond Size and Design
Eldridge led a discussion of the draft TM for the stress relief ponds that would be located near the confluence of the Baker and Skagit Rivers.

The group requested that the estimate of numbers of fish be expanded in the TM as well as looking at methods of water to water transfer of fish from the hauling trucks to the ponds. The intent is to place as little stress on the fish as possible. There was also a request to look into the cycle timing of how lots of fish would be placed into the ponds and the holding times that would be provided.

Meyer indicated that he would like to see us look into another way of introducing water into the ponds rather than the end discharge shown on the drawing.

It was agreed that PSE/MWH would expand the TM and address the comments made.

Other Issues
None identified.

Evaluate Meeting
Did not conduct meeting evaluation.

Long-Term Schedule, Agenda, Facilitation

Oct. 29-31, 2003	*Passage sites trip.*
Dec. 03, 2003	*9-3 technical design mtg at Red Lion SeaTac Hotel.*
Dec. 04, 2003	*9-3 passage design mtg at Red Lion SeaTac Hotel*
Jan. 20, 2004	*9-3 technical design mtg at Red Lion SeaTac Hotel.*
Jan 21, 2004	*9-3 passage design mtg at Red Lion SeaTac Hotel.*
Mar 8, 2004	*9-3 technical design mtg at Baker Lodge.*
Mar 9, 2004	*9-3 passage design mtg at Baker Lodge.*

See handout for additional meeting dates, through license submittal date.

Wednesday, Dec. 03, 2003, 9-3 passage technical design mtg at Red Lion SeaTac Hotel.
Review agenda and handouts (Verretto)
Review minutes & action items (Verretto)
Downstream Passage

FSC design development (Postlewaite, Eldridge)
FSC & preliminary forebay hydraulics (Postlewaite, Greg Clark)
Stress-relief pond design (Eldridge)
Guide net design development, schedule (Hijazi, Brink)
Log boom design (Dorratcague)
Downstream sites trip review (Brink)
Other Issues (Verretto)
Evaluate meeting & review assignments (Verretto)
Long-term schedule, agenda, facilitation (Verretto)

Facilitation: Will be provided for future passage meetings (not technical design meetings), unless otherwise noted.