

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

9:00 a.m. - 3:00 p.m.  
December 04, 2003

**AGENDA**

Objective: Develop performance standards and other issues supporting the settlement agreement.

9:00 - 9:10	Review agenda and handouts (Wiltse)
9:10 - 9:15	Review minutes & action items (Wiltse)
<b>Downstream Passage</b>	
9:15 - 9:30	Schedule, sequencing (Verretto)
9:30 - 10:35	Settlement agreement article development (Feldmann) <ul style="list-style-type: none"><li>• Stress-relief ponds</li><li>• Performance standards/testing</li><li>• Appendix details</li><li>• Compensation</li></ul>
10:35 - 10:45	Break
10:45 - 11:45	Settlement agreement article development, cont. (Feldmann)
11:45 - 12:15	Lunch (provided)
12:15 - 2:30	Settlement agreement article development, cont. (Feldmann)
2:30 - 2:45	Other Issues (Verretto)
2:45 - 2:55	Evaluate meeting & review assignments (Verretto)
2:55 - 3:00	Long-term schedule, agenda, facilitation (Verretto)



**DRAFT MEETING MINUTES  
BAKER RIVER FISH PASSAGE FACILITIES DESIGN  
FISH PASSAGE DESIGN TEAM**

*Objective: Develop performance standards and other issues supporting the settlement Agreement.*

**Project:** Baker River Project  
FERC No. 2150

**Written By:** Ray Eldridge, MWH

**Meeting Date:** December 04, 2003

**Location:** Red Lion SeaTac Hotel

**Attendees:** Arnie Aspelund, PSE                      Gary Sprague, WDFW  
Kevin Brink, PSE                                  Nick Verretto, PSE  
Ray Eldridge, MWH                               Stan Walsh, SSIT/STC  
Cary Feldmann, PSE                              Lyn Wiltse, PDSA  
Ed Meyer, NMFS

**Purpose:** Develop performance standards and other issues supporting the settlement agreement and continue engineering design development.

***Future Meeting Dates:***

*Jan. 20, 2004            9-3 passage 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.*

**New Action Items**

Verretto – Update Settlement Agreement Articles with changes provided during the meeting.

Verretto – Distribute old and revised FSC construction schedules & minutes of both October meetings.

Verretto – add definitions of terms and decisions to the evaluation matrix.

Verretto/Eldridge – Draft a description of the evaluation matrix and send to group.

Eldridge – Update FSC construction schedule based on LB commissioning date of 03/01/09.

Eldridge – Distill the significant schedule dates for the Aquatic WG and Solution Team on an 8 x 11 sheet – both old and revised versions.

Eldridge - Review pond design at Cowlitz, ODF&W, and Umatilla for methods of forcing fish out of the ponds without inducing jumping, injury or avoidance for incorporation into Baker stress-relief ponds.

Meyer – Speak with Steve Fransen about the proposed construction schedule modification.

Walsh – Speak with Larry Wassermann about the proposed construction schedule modification.

**Technical Memos/Reports Distributed**

The items distributed and reviewed at the meeting were: 12/03/03 and 12/04/03 agendas (PSE), long-term planning schedule (PSE), updated team list (PSE), draft minutes of 10/14/03 settlement meeting & 10/15/03 technical design meeting (PSE), performance evaluation matrix (PSE), decision matrix flow chart (PSE), Baker River Draft Proposed Actions, Section 3.2 (Fish Passage Management Implementation Plan) and Appendix



(PSE), tentative itinerary for October 28-31 downstream sites trip (PSE), downstream fish passage stress-relief pond sizing technical memo (MWH).

### **Review Agenda, Minutes & Action Items**

Verretto – Distributed handouts and reviewed general content of each.

Wiltse – Reviewed agenda with the group.

### **Schedule, Sequencing**

Verretto reviewed the schedule and indicated that the year-by-year phasing of the Upper and Lower Baker FSCs begins in 2007 and that the Settlement Agreement should permit modification to the preliminary phasing plan as agreed by the parties as a result of preliminary testing and logistic issues which may develop. The present schedule is as follows:

	UB #1	LB #1	UB #2	LB #2
Engineering start	10/14/03	03/20/06		
Engineering finish	06/03/05	09/16/06		
Construction start	11/12/05	09/17/07		
Construction finish	12/31/06	02/01/08		
Testing (mech.)	03/01/07	03/01/08		

Sprague noted that the schedule should be in an appendix to the Settlement Agreement and that it should serve as a “yard stick” for measurement of performance, and that some flexibility should be allowed. Nick noted that the logistical concerns alone argued for a one-year push of the Lower Baker phase one installation. As the multitude of construction projects scheduled for this period were considered, it became evident to team members that the schedule proposed was overly optimistic, and that such an intense schedule could only lead to problems in the final product.

Due to mechanical & logistical difficulties, schedule conflicts and information needs (from the phase one Upper Baker installation), the group agreed to reschedule Lower Baker phase one commissioning from 03/01/08 to 03/01/09 (group agreed on 11-month push). The schedule revision was predicated on agreement that the remainder of the schedule remain unchanged.

MWH will modify the schedule based on these discussions and submit to the group. MWH will also distill the significant dates for the Aquatic WG and Solution Team on an 8 x 11 sheet – both old and revised versions. Ed will speak with Steve and Stan with Larry regarding the proposed change.

### **Settlement Agreement Article Development (Section 3.2)**

#### **• Stress-relief ponds**

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 (for team members who were absent at yesterday’s discussion). The facility is sized for 150,000 fish/day, although calculated numbers per the design team’s recommendations produced a maximum of 97,000 sockeye and 20,000 coho per day. At 30 fish/lb., 5,000 lbs. of fish would be loaded into one of three ponds for 48 – 72 hours holding time before being released into the Baker River. Using a loading density of 0.3 lbs./cu. ft., each pond would require a flow of 1.4 cfs and be 3,100 sq. ft., or approximately 16’W x 65’L x 4’D.

The design needs to identify methods of forcing fish out of the ponds without inducing jumping, injury or avoidance. Facilities to consider include Cowlitz, ODF&W, and Umatilla. Pond operation during high river flows must be considered. Release modes to be considered include backing trucks into pond, release hoses and chutes to avoid free-fall truck release into ponds.

Cary updated the settlement text as the discussion progressed. The ponds will need three compartments to accommodate 48-hrs. holding. Raceways and ponds can be considered, but no mechanical crowding.

- **Performance standards/testing – article and appendix**

Wiltse led a page-by-page review of the fish passage article and appendices. Cary updated the text as edits were agreed during the course of discussions. Discussions addressed: overall passage settlement schedule, performance standards clarification, decision-making impacts to schedule - FSC modification, evaluation, and compensation. A description of the evaluation matrix is required. Nick and Ray will produce and send to group. Nick will add definitions of terms and decisions to the matrix.

The performance matrix describes the performance testing and decision to move from the 500 cfs to the 1000 cfs unit. It describes the incentive that PSE has to making the 500 cfs unit successful within a reasonable period of time in order to avoid having to install the 1000 cfs unit. In other words, unless reasonable progress is made in each successive year, the 1000 cfs FSC will be installed.

The matrix recognizes that differences between test results have to be large to be considered significant. The table compares the results of tests and determines direction of the program based on these results. The intent was to have GTE 15% difference between tests to be significant.

The group then reviewed Cary's decision matrix (flow chart). It suggests that progress and success in annual performance tests would impel the retention of the 500 cfs unit. For example, the 500 cfs unit would be retained if collection rates of release groups were as follows in subsequent years: year one – 70%, year two – 77%, year three – 83%, year four – 88%, year five – 92%, year six – 95%.

Three questions need to be addressed by the group: 1) what constitutes “reasonable progress”, 2) how do we test reservoir survival, and 3) what is a migrant?

Ed requested a list of development options, i.e., how far will PSE go if performance standards are unmet by the FSC system? As an example, will the following be pursued or even considered: fully inclined nets, guidance walls, flow deflection, multiple FSCs, plumbed discharge with new unit installation, huge vee net, operating schedule, reservoir control, continued biological studies, secondary systems and alternative technologies? Ed and Nick agreed to meet to develop options for achieving performance standards after installation.

*Note from previous meeting: Feldmann asked what would happen if we were getting better FSC/system performance than the standards in one area, and could we trade that better performance for an area that had lower than target performance? Meyer noted that he had not encountered that before and that he would defer to Steve Fransen for a decision.*

- **Compensation**

This issue was not discussed.

### **Other Issues**

None identified.

### **Meeting Evaluation**

Agreed to forego opportunity.

### **Long-Term Schedule, Agenda, Facilitation**



*Jan. 20, 2004      9-3 passage technical design mtg at Red Lion SeaTac Hotel.*  
*Jan. 21, 2004      9-3 passage design mtg at Red Lion SeaTac Hotel (Lyn unavailable).*  
*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, Jan. 21, 2004, 9-3 passage design mtg at Red Lion SeaTac Hotel.***

Review agenda and handouts (Verretto)

Review minutes & action items (Verretto)

Schedule, sequencing (Verretto)

Settlement agreement article development (Verretto)

- Stress-relief ponds
- Performance standards/testing
- Appendix details
- Compensation

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.

<b>FSC Performance Evaluation Matrix</b>					
<i>Year One</i>					
			<b>500 cfs FSC</b>		
	<b>% Capture</b>	<b>&lt;70</b>	<b>70-80</b>	<b>80-90</b>	<b>&gt;90</b>
	<b>&lt;70</b>	discuss	keep 500, modify & test	keep 500, modify & test	keep 500, modify & test
<b>1000 cfs FSC</b>	<b>70-80</b>	keep 500, modify & test	keep 500, modify & test	keep 500, modify & test	keep 500, modify & test
	<b>80-90</b>	build 1,000	keep 500, modify & test	keep 500, modify & test	keep 500, modify & test
	<b>&gt;90</b>	build 1,000	build 1,000	keep 500, modify & test	keep 500, modify & test
<i>Year Two</i>					
			<b>500 cfs FSC</b>		
	<b>% Capture</b>	<b>&lt;75</b>	<b>75-85</b>	<b>85-90</b>	<b>&gt;90</b>
	<b>&lt;70</b>	discuss	keep 500, modify & test	keep 500, modify & test	keep 500, modify & test
<b>1000 cfs FSC</b>	<b>75-85</b>	test 1 more year	keep 500, modify & test	keep 500, modify & test	keep 500, modify & test
	<b>85-90</b>	build 1,000	test 1 more year	keep 500, modify & test	keep 500, modify & test
	<b>&gt;90</b>	build 1,000	build 1,000	test 1 more year	keep 500, modify & test
<i>Year Three</i>					
			<b>500 cfs FSC</b>		
	<b>% Capture</b>	<b>&lt;75</b>	<b>75-85</b>	<b>85-90</b>	<b>&gt;90</b>
	<b>&lt;70</b>	discuss	keep 500	keep 500	keep 500
<b>1000 cfs FSC</b>	<b>75-85</b>	test 1 more year	discuss	keep 500	keep 500
	<b>85-90</b>	build 1,000	test 1 more year	discuss	keep 500
	<b>&gt;90</b>	build 1,000	build 1,000	test 1 more year	discuss