Oxbow Fish Hatchery Snake River Sockeye Salmon Smolt Program

2008 Annual Progress Report

October 1, 2007- September 14, 2008

Prepared by:

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ODFW Report Number

October 2008

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Smolt Program**

Project Progress Report

2008 Annual Report

By

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To

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Introduction

This contract proposal is in response to the Federal Columbia River Power System Biological Opinion Implementation Plan/Update Proposed Action (UPA) associated with increasing the number of Snake River sockeye smolts by 150,000. To accomplish this proposal the cooperation and efforts of three government entities has been planned (e.g., Idaho Department of Fish and Game (IDFG), Oregon Department of Fish and Wildlife (ODFW), and the National Marine Fisheries Service (NMFS). Improvements at the IDFG Eagle Fish Hatchery and NMFS Burley Creek Hatchery will focus on increasing sockeye salmon captive broodstock and egg production. Improvements at the ODFW Oxbow Fish Hatchery will be made to accommodate the incubation, hatching and rearing of 150,000 sockeye salmon smolts for release into Idaho's Sawtooth Valley, Upper Salmon River near IDFG's Sawtooth Fish Hatchery and/or Redfish Lake Creek 1.4 km downstream of Redfish Lake. Modifications to Oxbow Fish Hatchery (ODFW) will include retro-fit existing pond drains so pond cleaning effluent water can be routed to the pollution abatement pond, and modifications to the abatement pond. Also included in this project as an added phase, was the rerouting of the hatchery building effluent water to meet state DEQ guidelines for the use of formalin to treat salmonid eggs. Some additional funding for the described Oxbow Hatchery modifications will come from Mitchell Act Funding. All personnel costs associated with this project will come from Mitchell Act funding.

Due to heavy work load issues, being under staffed, and two emergency projects in the spring and summer of 2006, ODFW engineers were not able to complete all plans and get them out for bid in 2006. As a result of these circumstances retro-fitting pond drains and modifications to the abatement pond was carried over into fiscal year 2007-2008. A no cost time extension to the contract was approved by BPA.

The format for this report will follow the standard format for Statement of Work Report (SOW), which includes sub-categories Work Element (WE), and within the WE the Milestone Titles.

Statement of Work Report

Project Title: Snake River Sockeye Cap Prop
Project #: 2007-402-00
Contract Title: 2007-402-00 CAP OXBOW FISH HATCHERY SOCKEYE SMOLT PROGRAM
Contract #: 29324
Providence: Mountain Snake Sub basin: Salmon
Work order ID: 200284 Task ID: 1
Contract Type: Contract (IGC) Pricing Type: Cost Reimbursement (CNF)
Contractor(s): Oregon Department of Fish and Wildlife (ODFW) (Prime – ORFISWIL00)

Work Elements

Work Element – Work Element Title

A: 165, Produce Environmental Compliance Documentation

D: 171, Build Artificial Production Facility – Construction associated with modifying Oxbow Fish Hatchery abatement pond.

E: 119 Manage and Administer Projects – Oversee Engineering Design General Contract Management.

F: 132, Produce (Annual) Progress Report – Submittal of Contract Execution Accomplishments.

G: 132 Produce (Annual) Progress Report – Submit Progress Report for the period September 2007 to September 2008.

H: 185, Produce Pisces Status Report – Periodic Status Reports for BPA.

Accomplishments in the Fiscal Year 2007-2008

WE: A 165

An on site inspection was done in October of 2006 by Nancy H. Weintraub, Bonneville Power Administration, Environmental Team Leader. After a visual inspection and observing that both work areas had already been disturbed with previous construction (concerned with archaeological sites). She approved the site where the spring water pipe line work was to be done and also cleared the sites where future modifications to the rearing ponds and the abatement pond would take place.

All required federal and state permits for this construction project were acquired before actual work began.

WE D: 171

Milestone A: Environmental compliance requirements complete. Environmental compliance requirements were already completed as mentioned above.

Milestone B: Final Plans and Specifications for Wastewater Treatment System. Final plans and specifications for the project were completed at the end of October of 2007.

Milestone C: Wastewater Treatment System Design put out for bid. There was a pre-bid meeting and site inspection on November 1, 2007 and the final bid was submitted November 15, 2007.

Milestone D: Detailed Line Item budget by Subcontractor Negotiated and Approved. Shortly after the bid was awarded to Lee Industrial Inc., John Lee sent a detailed line item budget and a schedule of construction events. The line item budget was submitted to BPA for approval and approved.

Milestone E: Installation of effluent drains and piping to abatement pond. The best way to represent this milestone is to show a sequence of pictures depicting the work.

Oxbow Hatchery fish rearing ponds were built in series to maximize the amount of limited water the hatchery receives. Pictures in figures 1-9 show the work that was done at the second set or lower of ponds in the series. The pictures in figures 10-17 show the work that was done to the first set or upper ponds in the series.

Because the project bid amount was under the original contracted amount of money by approximately \$ 22,000 there was some extra money that could be spent. As a result of this circumstance Greg Baesler was contacted and he approved the spending of this additional money on another small project that will help the hatchery meet State DEQ guidelines for the use of formalin as a salmonid egg treatment more efficiently. With this extra money and additional money from ODFW Mitchell Act funds the contractors placed a permanent underground pipeline from incubation building to a pond where the water can be metered out to meet the dilution requirements set forth by DEQ. The pictures in figures 18- 27 will show the work that was done.

Fig. 1 Core drilling through concrete for the new eight inch effluent drain pipe. The rebar shows the beginning frame work for the new common drain between two lower rearing ponds.

Fig. 2 The common drain between the two lower rearing ponds is formed and ready for concrete to be poured. Note the eight inch drain pipe in the lower left of the picture.

Fig. 3 Another view of the common drain between the two lower rearing ponds.

Fig. 4 The beginning frame work for outside effluent drain on the lower rearing ponds.

Fig. 5 The outside drain is formed and ready for concrete to be poured.

Fig. 6 Finished common pond drain (top middle) connected to eight inch drain pipe which drains to a fourteen inch pipe.

Fig. 7 Another view of the finished common pond drain. Notice the attached pond cleaning gate in the middle left of the picture. When cleaning a pond the effluent will go through this gate to the common drain then to the eight inch pipe and on to the abatement pond drain pipe.

Fig. 8 Finished outside pond drain (upper left) connected to an eight inch drain pipe which connects to the main fourteen inch drain pipe.

Fig. 9 Lower east end pollution abatement drains, drain to a fourteen inch main pipe which drains to this manhole and then on to the abatement pond.

Fig. 10 Rebar was attached to the existing concrete to create a new waste water channel. Notice all the concrete piers have been saw cut to form one continuous channel.

Fig. 11 Forms for waste water channel ready for concrete.

Fig. 12 Front view (middle left) of effluent water channel wall in upper ponds. The pipe does not have the gate attached at this time. Each rearing pond has two cleaning pipes in the center of the screen slots.

Fig. 13 Back side view of the new effluent water channel between the upper and lower rearing ponds. Note new concrete walls which form the walls of the channel and the

aluminum plate creates top of the water channel. The aluminum plates were bolted to the existing concrete and sealed with a special marine grade silicone sealant.

Fig. 14 Here is a view looking length wise up the waste water channel just before it was sealed up.

Fig. 15 This picture shows the last slot of the upper waste water channel before the contractors poured the concrete wall and put the plate on the top. The blue fourteen inch

PVC pipe drains from the rearing ponds to a manhole which drains to the abatement pond.

Fig 16 A view of the fourteen inch PVC pipe line going through the pond wall from the effluent water channel to the manhole.

Fig. 17 Here is a view of the completed upper effluent water channel from the back side. The angled aluminum plates are the cleaning slots; the flat aluminum plates continue the effluent channel between ponds.

Here are some pictures depicting work done to put in the permanent formalin discharge line from the hatchery building.

Fig. 18 A picture of the hatchery building discharge water distribution box before the modifications were made.

Fig. 19 Concrete curb and new Bilco Door and bollards set in place around the discharge water distribution box

Fig. 20 The pipe on the left is the new formalin discharge pipe and the pipe on the right is water coming from the hatchery building. To use the new system dam boards are inserted into the slots and the box is allowed to fill up and flow through the new pipe.

Fig. 21 Picture showing finished view of the hatchery building discharge water distribution box.

Fig. 22 The pipeline on the far left was not used prior to this new project. The pipeline on the left side connected to the box will be the new pipe that carries formalin discharge water to the pond where it can be metered into Little Herman Creek and still meet DEQ parameters for discharge.

Fig. 23 Trench showing the path of the new eight inch formalin discharge drain line.

Fig. 24 Another picture showing the route of the new pipeline.

Fig. 25 This picture shows the path of new discharge pipe along the lower west end ponds. One of the reasons this project was requested at this time, was the trench for the formalin discharge pipeline was going through a trench already open because of the abatement drain line work.

Fig. 26 The final connection over the pond wall to complete the route of the formalin discharge pipeline.

Fig. 27 Formalin pipeline connection over the wall and completed.

Milestone F: Modification to intake structure of abatement pond. A new fourteen inch stainless steel manifold structure was installed to handle the increased effluent flow to the abatement pond and to evenly distribute the incoming effluent water. Again pictures will be the best way to depict this work.

Fig. 28 Here is a picture showing the old six inch inlet directly above the new fourteen inch intake manifold. The pipe to the right of the picture is a cleanout in case the manifold would plug. The old aerator in the middle of the picture was removed as part of abatement pond renovations.

Fig. 29 Another picture of new inlet structure. The old six inch inlet above new inlet was plugged with grout.

Milestone G: Modification to outlet structure and piping of abatement pond. A new aluminum outlet structure was installed to replace small and poorly designed old outlet structure.

Fig. 30 New aluminum outlet trough being installed. The old outlet trough fit between the grout patches on the wall and was under sized to accept the amount effluent water the new piping system was going to deliver to the abatement pond.

Fig. 31 View of the finished abatement pond outlet structure. The water drains up over the weir (plastic teeth) to the center of the trough into a fourteen inch pipe which drains into the thirty inch main hatchery drain.

Milestone H: Repair and maintenance to existing abatement pond. Repairs and maintenance to the abatement pond consisted of, plugging the old inlet hole, removing an old pipe that was originally installed to clean the pond of debris, removing the old outlet structure, and cleaning the accumulated debris from the bottom of the pond. As a result of consulting with state DEQ officials the leaking seams in the abatement pond did not need to be repaired.

Fig. 32 The rusted pipe (old cleaning system) at the bottom right of the picture was removed, because it was plugged and non-functional.

Fig. 33 Cleaning accumulated debris out of abatement pond. The pipe on the left side of the picture is connected to a six inch diesel pump.

Fig. 34 Equipment used to pump out the debris from the abatement pond and filter the solids from the water so it could go back to Little Herman Creek.

Fig. 35 Clean abatement pond.

WE E: 119

Milestone E. Subcontractor submitted a detailed line item budget of the cost of the project to ODFW and it was then sent on to the COTR.

Milestone G. ODFW engineers and construction inspectors managed and supervised the subcontractors during the construction process.

WE F: 132

Done

WE G: 132

Done

WE H: 185

Periodic status reports have been submitted during 2007 and 2008.