

# RECLAMATION

*Managing Water in the West*

## **Red Bluff Fish Passage Improvement Project - Pumping Plant and Fish Screen Charter**

**Bureau of Reclamation – Tehama Colusa Canal Authority  
Mid-Pacific Region**



## Purpose

This Project Charter is an agreement between the executive-level sponsors shown on the signature page (The Bureau of Reclamation and the Tehama-Colusa Canal Authority (TCCA) are hereinafter collectively referred to as “the Partners”). This Charter defines the scope of work of the new Red Bluff Pumping Plant and Fish Screen Project (Project), how the Project will be managed, the major roles and responsibilities that will be carried out through the duration of the Project, and establishes the Executive Management Group (EMG) that will oversee the Project. This Charter describes the characteristics and boundaries of the Project and will be the basis for the Project Management Plan (PMP). This Charter, and any amendments thereto (subject to approval by the EMG), will be appended to the PMP. Attachment 1 is the outline for the PMP. The EMG will review this Charter before completion of each phase and will amend this Charter as necessary.

## Background

The Red Bluff Diversion Dam, on the Sacramento River approximately 2 miles southeast of Red Bluff, California, diverts water from the Sacramento River to the Corning Canal and the Tehama-Colusa (TC) Canal. Completed in 1964, the dam is a concrete gated weir structure 5,985 feet in length, including the earthen wings. The dam enables the diversion of up to 2500 cubic feet per second of water by gravity for later delivery to approximately 150,000 acres of irrigated lands along the Interstate 5 corridor between Red Bluff and Willows, California. Diversions are made possible by closing eleven slide gates (referred to as “gates in”) located between piers spanning the length of the dam, causing Lake Red Bluff to form upstream of the dam. As the Lake water surface elevation rises to the canal invert elevation, diversions occur. The dam and canals were authorized as part of the Sacramento Canals Unit of the Central Valley Project (CVP), including the act of September 26, 1950 (64 Stat. 1036).

For more than 20 years following its completion, the dam was operated to provide year-round diversions. Due to fishery impacts—primarily the impediment to upstream and downstream passage by salmonids and the green sturgeon--the gravity diversion period has been reduced in several increments in the intervening years. At present, the gates are in during the four-month period spanning May 15 to September 15 of each year.

The dam was originally equipped with fish ladders at both abutments designed to allow upstream migration of king salmon and steelhead for access to their

spawning areas. Not long after its construction, however, concerns arose as to the possible impacts of the dam on salmon migration as the efficacy of the ladders came into question. By the late 1980's a multi-year, multi-agency team published a series of recommendations for remedial actions. Most were implemented before the passage of the CVPIA.

Fish species of concern that are presently affected by the dam operation include winter-run Chinook salmon, spring-run Chinook salmon, and green sturgeon. Sacramento River winter-run Chinook salmon were listed as threatened under the Endangered Species Act (ESA) in 1989, and their status was changed to endangered in 1994. Central Valley spring-run Chinook salmon were listed as threatened in 1999, and green sturgeon were listed as threatened in April of 2006. After winter-run Chinook salmon were listed, a 1993 Biological Opinion (BO) was released, requiring operational changes at the dam that remain in effect today.

Reclamation began researching alternative means to protect fish species while continuing to provide water deliveries to the canal. A Research Pumping Plant (RPP) was constructed in 1995 to test new fish-protection technology. Another pump was added in 2006, raising the total pumping capacity to 310 cubic feet per second. Due to the continued potential adverse impacts of dam operations to listed species, Reclamation began further analyzing alternative operational scenarios in the late 1990's. A draft EIS describing a pumping plant as an action alternative was published in 2002, but work on the draft was curtailed pending the outcome of the Operating Criteria and Plan (OCAP) ESA Section 7 consultation.

In December 2006, Reclamation re-released a Draft EIS, including a two-fold purpose and need statement:

- Substantially improve the long-term ability to reliably pass anadromous fish and other species of concern, both upstream and downstream, past RBDD.
- Substantially improve the long-term ability to reliably and cost-effectively move sufficient water into the TC Canal and Corning Canal systems to meet the needs of the water districts served by the Tehama-Colusa Canal Authority (TCCA).

Reclamation cited as its preferred alternative the construction of a pumping plant capable of pumping 2,180 cfs initially, but with a "footprint" allowing expansion to 2,500 cfs, the full capacity of the canal. The preferred alternative would reduce the "gates in" period to 2 months when the plant became operational.

Other means of improving fish passage at the RBDD were contemplated in the Draft EIS. Modifying the fish ladders were considered in some alternatives as well as constructing a bypass channel for fish passage. However, given the listing of green sturgeon (subsequent to the CVPIA) and recent evidence of adult sturgeon passage problems at RBDD, it was clear that passage for sturgeon as

well as salmon had to be addressed. Ladder design for green sturgeon is still in the research stage, and at this point the fishery agencies have no evidence that sturgeon can effectively use ladders. Thus, there is unanimous agreement among resource agencies that operating the RBDD with the “gates out” during sturgeon migration is much more likely to result in improved fish passage.

## **Project Authorities**

Reclamation’s legislative authority to participate in this project is the Central Valley Project Improvement Act of October 30, 1992, Public Law 102-575, (CVPIA) Section b (10), which authorizes and directs the Secretary to:

Develop and implement measures to minimize fish passage problems for adult and juvenile anadromous fish at the Red Bluff Diversion Dam in a manner that provides for the use of associated Central Valley Project conveyance facilities for delivery of water to the Sacramento Valley National Wildlife Refuge complex in accordance with the requirements of subsection (d) of this section. Costs associated with implementation of this paragraph shall be reimbursed in accordance with the following formula: 37.5 percent shall be reimbursed as main project features, 37.5 percent shall be considered a non-reimbursable Federal expenditure, and 25 percent shall be paid by the State of California.

The existing Red Bluff Diversion Dam (RBDD) and appurtenant facilities are authorized by the Section 2 of the Sacramento Valley Canals Act of September 26, 1950, 64 Stat. 1036 (1950 Act). Section 3 of the 1950 Act requires the Secretary to “consult the local interests to be affected by the construction and operation”, Section 4 of the 1950 Act enumerates the repayment of expenditures, and Section 5 of the 1950 Act requires the Secretary to submit to Congress both “a completed report and finding of feasibility under the provisions of the Federal reclamation laws” prior to an expenditure of funds for construction.

The TCCA’s authority to participate in this project is established by the 1996 Amended Joint Powers Agreement and the California Water Code section 35875, *et seq.* of the California Water District Law..

## **Project Objectives**

Project objectives are specific, clear concise measurable descriptions of why the project is being built and the measure of success at project completion.

As stated in the April 2008 Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) the Project purpose and needs are to:

- “Substantially improve the long-term ability to reliably pass anadromous fish and other species of concern, both upstream and down-stream, past RBDD.”
- “Substantially improve the long-term ability to reliably and cost-effectively move sufficient water into the Tehama-Colusa (TC) and Corning Canal systems to meet the needs of the water districts served by the TCCA.”

The Partners have agreed to the following additional objective:

- To complete the Project as efficiently, economically and expeditiously as possible.

## Scope of the Project

The principal Project features are limited to the following, as generally described in the Final EIR/EIS and Record of Decision (ROD), Alternative 3 at the Mill site. This is the baseline scope from which any scope changes will be tracked throughout the duration of the Project.

- Flat plate fish screen, cleaning system, protective debris boom of sufficient capacity to pass up to 2,500 cfs (designed by TCCA and consultant)
- Intake channel and training walls (designed by TCCA and Consultant)
- Pumping plant designed to discharge up to 2,000 cfs with provision for an additional 500 cfs pumping capability to be installed at a later date (designed by Reclamation)
- Siphon under Red Bank Creek (designed by Reclamation)
- Electrical power supply (designed by Reclamation)
- Water conveyance channels upstream and downstream of the siphon (designed by Reclamation)
- Site work, access road, contaminated removal (designed by TCCA and Consultant)
- Appurtenant facilities (designer per associated main facility)
- Biological mitigation directly attributed to construction of the project (designed by TCCA and Consultant)
- Interim pumping facility of 500 cfs

The categories of Project activities and examples of their significant output products are limited to those necessary to complete the above features including:

- Project management (PMP and updates and project documentation)
- Real estate acquisitions (rights of entry, appraisals, and purchase agreements)
- Design data collection
- Hydraulic and sedimentation modeling
- Engineering, design, and geology (design summary, drawings and specifications)
- Public outreach
- Procurement (construction and other contracts)
- Environmental and Cultural Resources compliance (final EIR/EIS, Record of Decision (ROD)/Notice of Decision (NOD), Biological Opinions)
- Quality assurance and quality control
- Safety and security
- Construction and construction management
- Project closeout (closeout record, Designers' Operating Criteria, as-built drawings, final accounting)

The details of project deliverables will be developed during later processes, as the product characteristics are progressively elaborated through time. The completed project and underlying lands will be owned by Reclamation as features of the Sacramento River Division of the Central Valley Project.

The Project Scope does not include: related on-going or future aquatic studies, biological adaptive management studies, post-construction operations and maintenance or the like, or other activities and studies that have been carried out under Section 3406(b)(10) to date. Several potential mitigation measures have been described in NEPA/CEQA documents. If it is determined such measures are within the statutory authority for the Project, they will be in the Project Scope.

## **Roles and Responsibilities**

### **Initial Tasks**

As agreed to at a meeting on April 8, 2008, between Brian Person, Reclamation, Jeff Sutton, TCCA, and Mike Urkov, NewFields, and described in Attachment 2, the following initial tasks will be carried out concurrently from the date of the April 8 meeting:

- Complete the EIS/EIR, draft ROD and NOD – Reclamation and TCCA as appropriate in accordance with State and Federal law

- Initiation of permitting – TCCA
- Public outreach – TCCA
- Updating and developing additional design data – TCCA and Reclamation
- Mapping and bathymetry surveys – Reclamation
- Draft PMP – Reclamation
- Hydraulic modeling – Reclamation

## **Project Management**

The Partners will each appoint a project manager for the Project. The project managers will lead the day-to-day development of the Project. The project managers will complete a draft PMP for the EMG to adopt. They will coordinate closely on all aspects of the Project.

More detailed roles and responsibilities will be agreed to and delineated in the PMP.

## **Establishment of an EMG**

The Partners agree to establish an EMG as described herein. The EMG's purpose is to provide overall guidance through out the Project; to ensure representatives from each organization follow the PMP; and to make decisions on the Project that cannot, due to lack of authority or lack of agreement, be made at the staff level. The project managers will jointly bring any issues to the EMG for consideration and decision.

## **Structure and Membership**

The EMG shall consist of four members, including a chairman. The members shall be:

Reclamation: Area Manager, Northern California Area Office (Chair)

TCCA: General Manager

The EMG will develop further its operating protocol during the development of the PMP.

## **Decision Making and Documentation**

The EMG is intended to promote cooperation and coordination between Reclamation and TCCA, and as such, will make decisions and recommendations by consensus. Decisions will be documented in writing.

## **Dispute Resolution**

If the EMG cannot agree, the Regional Director, Mid-Pacific Region, and the Chairman of the Board of Directors, TCCA, will resolve issues to the maximum extent possible within their respective authorities.

## **Project Cost**

At the time of signature of this Charter, the Partners agree that a reasonable target Total Project cost is \$200 million, at a February 2001 cost level, including a 25 percent management contingency<sup>1</sup>. It is recognized that the EMG will revise this total project cost upon agreement of the detailed baseline schedule in the PMP. For the purposes of compiling the Total Project Cost, only expenditures after October 1, 2008 will be included.

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<sup>1</sup> Based on the February 2001 cost estimate by CH2M-Hill

## Project Schedule

For the purposes of establishing baseline milestones, the following assumptions are agreed to:

The Project will be completed in the following phases:

- Phase 1: Design Data
- Phase 2: Final Design
- Phase 3: Procurement
- Phase 4: Construction
- Phase 5: Project Closeout

At the time of signature of this Charter, the Partners agree that a reasonable target Project completion date is May 15, 2012, including 12 months of management schedule reserve for unknown schedule delays. The EMG will revise this date upon agreement of the detailed baseline schedule in the PMP.

Signatures below indicate agreement to the provisions contained within this Charter

### Mid-Pacific Region

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Brian Person, NCAO Area Manager

Date

### Tehama-Colusa Canal Authority

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Jeff Sutton, General Manager

Date

# Contents of the Project Management Plan

## **1.0 Introduction and Background**

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## **3.0 Project Objectives and Scope**

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## **6.0 Finances**

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- 6.2 Budgets
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## **8.0 Communication and Coordination Plan**

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## **9.0 Change Control Plan**

**Attachment 1, cont.**

**Appendices**

**A. Engineering and Design Plan**

- 1.0 Design Standards
- 2.0 Design Criteria
- 3.0 Design Data
- 4.0 VE
- 5.0 Specifications and Drawings Standards

**B. Procurement Plan**

- 1.0 Contracts List (Construction, Cultural Resources, Design A/E, Hazmat)
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**D. Environmental Quality and Compliance Plan**

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**F. Safety and Security Plan**

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**I. File and Documentation Plan**

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- 2.0 Project Forms

**J. Resource Assignment Matrix**

**K. Briefing Papers**

**L. Project Closeout Plan**

**M. Project Charter**

**N. Maps, Drawings, and Photos**

## Attachment 2

**Table 1 – Assignment of Primary Design and Construction Management Responsibilities**

Task	Lead		Review/QA	
	Reclamation	TCCA	Reclamation	TCCA
Project Management	√	√		
Design Data <sup>2</sup>	√	√		
Land Acquisition <sup>3</sup>	√			√
Permitting <sup>4</sup>		√	√	
Numeric & Physical Hydraulic Modeling of River, Screens & Forebay	√			√
Coffer Dam		√	√	
Screen Design		√	√	
Fish Bypass System Design <sup>5</sup>		√	√	
Debris Boom Design		√	√	
Forebay Design		√	√	
Discharge Conveyance & Outlet Struct. Design	√			√
Site/Bridge Design		√	√	
Demolition & Haz. Mat		√		√
Plant Design	√			√
Switchyard Design	√			√
Power Supply Design	√			√
Maint./Elect. Bldgs. Design	√			√
VE Study <sup>6</sup>	√	√		
Specifications <sup>7</sup>	√	√	√	√
Cost Estimate	√		√	
Procurement	√			
Construction Management	√			√

<sup>2</sup> Design data gathering will be a well-coordinated joint effort; capitalizing on the data already acquired and involving both entities to assure their respective design responsibilities are effectively met.

<sup>3</sup> The designation of the Canal Authority as lead is in recognition of the fact that they have already begun acquisition efforts. However, because the Project will be federally-owned, certain acquisition processes, such as appraisals, negotiations, etc., must be performed by Reclamation or under Reclamation's direct oversight and involvement.

<sup>4</sup> Reclamation recognizes that the Canal Authority has already studied the site and that the unpermitted landfill may pose unique and high risk project permitting issues.

<sup>5</sup> If deemed necessary after consultation with NOAA Fisheries.

<sup>6</sup> A Value Engineering Study will be required for a project of this cost and scope.

<sup>7</sup> The CSI specifications format will be used by all designers on this project.

