



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX 75 Hawthorne Street
San Francisco, CA 94105

November 18, 2002

Michael J. Ryan
Area Manager
Northern California Area Office
Bureau of Reclamation
16349 Shasta Dam Boulevard
Shasta Lake, CA 96019-8400

Dear Mr. Ryan:

The Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the **Fish Passage Improvement Project, Red Bluff Diversion Dam**, Tehama, Glenn, Colusa, Yolo Counties, CA (CEQ Number: 020376, ERP Number: IBR-K39075-CA). Our review is pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act. This letter provides a summary of EPA's concerns. Our detailed comments are attached.

The Tehama-Colusa Canal Authority (TCCA) and US Bureau of Reclamation (Bureau) propose to implement modifications to Red Bluff Diversion Dam (RBDD) to reduce or minimize the impacts of the RBDD on upstream and downstream migration of juvenile and adult anadromous fish, while improving the reliability of agricultural water supply in the Tehama-Colusa and Corning Canal systems.

Fish passage and agricultural water diversion needs at the RBDD currently conflict. When the RBDD gates are lowered into the Sacramento River, the elevation of the water surface behind the dam is raised, allowing gravity diversion of water into the Tehama-Colusa and Corning Canals for delivery to seventeen irrigation districts and creating Lake Red Bluff. Raising the gates (gates-out position) allows the river to flow unimpeded but precludes gravity diversion into the canals. When the gates are lowered (gates-in position) to facilitate diversions, RBDD presents a barrier for both upstream- and downstream-migrating fish. Fish ladders included in the original dam design are inefficient at certain flows. Additionally, the tailrace and lake created by the dam provide for species that prey on juvenile salmon, reducing their overall survival rates. Fish passage at the RBDD is crucial because more than 75 percent of naturally spawning chinook salmon in the Sacramento River spawn in the reach upstream of RBDD.

This project is part of the CALFED Program. The feasible alternative approaches involve various RBDD gates-in and gates-out scenarios, accompanied by improvements to existing

facilities and construction of new fish ladders, fish screens, and pumping facilities. Current operations and facilities provide for a 4-month gates-in period from May 15 to September 15, three fish ladders (two permanent fish ladders on each side of RBDD, one temporary fish ladder in the center of RBDD), and operation of a Research Pumping Plant which is testing fish friendly screw and helical pumps.

Five action alternatives and the No Action alternative are evaluated in detail. Alternative 1A, 4-Month Improved Ladder Alternative, provides for a four-month gates-in period, new fish ladders, and an increase of pumping capacity to 1700 cubic feet per second (cfs) from 320 cfs. Alternative 1B, 4-Month Bypass Alternative, would also provide for a four-month gates-in period, modified right bank fish ladder, increased pumping capacity to 1700 cfs, and a new 1000 cfs bypass channel around the left abutment of RBDD. Alternative 2A, 2-Month Improved Ladder Alternative, would reduce the gates-in period to two months, July 1 through August 31, modify both the left and right fish ladders, and increase pumping capacity to 2000 cfs. Alternative 2B, 2-Month with Existing Ladders Alternative, would use the existing fish ladders, reduce the gates-in period to 2 months, and increase pumping capacity to 2000 cfs. Alternative 3, Gates-Out Alternative, would eliminate the gates-in period and increase pumping capacity to 2500 cfs. The Gates-Out Alternative would eliminate Lake Red Bluff and would provide run-of-the-river fish passage throughout the year.

TCCA has identified the Gates-Out Alternative as their preferred alternative because it maximizes pumping capacity and agricultural water supply reliability. The Bureau has not identified a preferred alternative. The US Fish and Wildlife Service (FWS), California Department of Fish and Game (CDFG), National Marine Fisheries Service (NMFS), and California Department of Water Resources (DWR) have identified the Gates-Out alternative as the alternative which would provide the greatest benefits to fish passage. Reduced gates-in alternatives, Alternatives 2A and 2B, are identified as the next best alternatives for providing increased fish passage.

The Red Bluff-Tehama County Chamber of Commerce and local citizens have expressed strong objections to any alternative that would eliminate the seasonal creation of Lake Red Bluff due to the significant adverse impacts to local recreation opportunities and revenue. Their preferred alternative would be to maintain the current 4-month gates-in period. The citizens of Red Bluff have also supported a bypass channel alternative. TCCA and the Bureau included the 4-Month Bypass Alternative in the detailed evaluation of alternatives due to this intense local interest.

EPA commends the joint goals of improved fish passage and agricultural water supply reliability. We believe the DEIS presents alternatives which provide a mutually beneficial balance between these two goals. EPA concurs with TCCA, FWS, CDFG, NMFS and DWR that the Gates-Out or 2-month gates-in alternatives best meet the purpose and need of improving fish passage, while improving the reliability of agricultural water supply in the Tehama-Colusa and Corning Canal systems. The DEIS clearly demonstrates that only these alternatives would provide measurable fish passage benefits (Tables 3.2-6 to 3.2-11).

Bypass alternatives have been formally reviewed in at least three previous public documents. All three documents have resulted in recommendations that the bypass alternatives not be considered further (Appendix A, pg. A-20). The bypass channel is considered experimental, with a significant risk of failure to achieve fish passage improvements. As currently designed, the 4-Month Bypass Alternative, would have significant adverse effects on the Sacramento River Discovery Center, US Forest Service campground, and the Red Bluff Recreation Area (Appendix A). Mitigation for these adverse effects may not be feasible. Given the severe land use conflicts and untested, experimental nature of the bypass alternative, EPA concurs with the US Forest Service, FWS, CDFG, NMFS, DWR and the DEIS evaluation, that Alternative 1B, 4-Month Bypass Alternative, is the alternative which would provide the least fishery benefits (Appendix G).

We acknowledge the potential adverse recreation and economic impacts which could occur with the loss of Lake Red Bluff or reduction of its presence from four months to two months. We note the extensive mitigation measures provided in the DEIS to offset these impacts (Section 3.5 Recreation, Section 3.10 Socioeconomics). For instance, the promoters of the Nitro National Drag Boat Festival, which provides significant local economic benefits, have expressed interest in moving the race date to July, during the gates-in period for the 2-Month Alternatives (pg. 3-212). Furthermore, the primary project purposes of the RBDD are irrigation, flood control, and power production (pgs. 1-4 to 1-7). Therefore, RBDD must first be managed and operated to fulfill these chief project purposes. In fact, the US Forest Service acknowledged in their 1991 Lake Red Bluff FEIS that the use of Lake Red Bluff and RBDD could change and has postponed lake dependent development until resolution of the fish passage issue (pg. 3-208). Recreation is recognized as a beneficial use of the RBDD facilities even though recreation beneficiaries have not taken part in the management, funding, or repayment of these facilities. The DEIS shows that it should be possible to avoid, minimize, and offset adverse recreation and economic impacts caused by the permanent loss of Lake Red Bluff or its absence for an additional two months. We urge TCCA, the Bureau and the City of Red Bluff to work collaboratively and creatively to minimize potential adverse recreation and economic impacts.

While EPA supports the Gates-Out or 2-Month Alternatives, we have concerns regarding hazardous materials and air quality. We are also concerned about water quality impacts. These concerns relate to temperature effects of alternatives which would retain the dam for a four-month period; the soil contaminant hot spots on the Mill Site; and the rise of groundwater, caused by creation of Lake Red Bluff, in the unlined Class III landfill owned and operated by the Pactiv Corporation (pg. 3-247). Although Pactiv intends to close the landfill, elimination of Lake Red Bluff or a reduction in its presence, would help reduce the rise of groundwater into the landfill and potential contamination of this groundwater.

Based upon our review, we have rated the document EC-2 Environmental Concerns - Insufficient Information. Please refer to the attached "Summary of Rating Definitions for further details on EPA's rating system.

We appreciate the opportunity to comment on the DEIS. Please send two copies of the Final EIS to the address above (Mail Code: CMD-2) when it is filed with EPA's Washington, D.C. office. If you have any questions, please feel free to contact me or Laura Fujii, the primary

point of contact for this project. Laura Fujii can be reached at 415-972-3852 or Fujii.Laura@epa.gov.

Sincerely,

/S/

Lisa B. Hanf, Manager
Federal Activities Office

Attachments: Summary of EPA Rating Definitions
Detailed Comments

cc: Buford Holt, Northern California Area Office, Bureau of Reclamation
Max J. Stodolski, Red Bluff Division, Bureau of Reclamation
Art Bullock, Tehama-Colusa Canal Authority
Jim Smith, US Fish and Wildlife Service
Mike Tucker, National Marine Fisheries Service
Mike Van Dame, Mendocino National Forest
Harry Rectenwald, California Dept. of Fish and Game
Dwight P. Russell, California Dept. of Water Resources

DETAILED COMMENTS

Hazardous Material Comments

1. All action alternatives include construction of a new pumping station on the Mill Site. Soil borings and test pits have shown motor oil in several soil samples, chromium exceeding state hazardous waste criteria in one soil sample, and polychlorinated biphenyls above the EPA industrial preliminary remediation goal in one sample (pg. 3-111). Mitigation for construction-related impacts states that the construction contractor will follow applicable federal, state, and local regulations if contaminated soil is encountered. EPA is concerned with the soil contaminant hot spots on the Mill Site. We believe the process of remediation and disposal of contaminated soil should be determined and fully disclosed prior to construction.

Recommendation:

EPA recommends that more specific information on the remedial and disposal process for contaminated soil be included in the final EIS (FEIS). Include Tehama-Colusa Canal Authority's and the Bureau's most current assessment for the areas having known or suspected contamination and the proposed schedule for remediation, if remediation is required. The FEIS should briefly describe applicable State and Federal requirements.

2. We are concerned with the rise of groundwater, caused by creation of Lake Red Bluff, in the unlined Class III landfill owned and operated by the Pactiv Corporation. At times when the groundwater level is high, elevated levels of inorganic constituents are detected in groundwater collected from site wells. Total dissolved solids, turbidity, iron, and manganese concentrations have exceeded the secondary maximum contamination levels in the well downgradient of the landfill. The DEIS states that Pactiv has completed a corrective action plan and intends to close the landfill, possibly by capping the landfill with a geosynthetic clayliner or designating a containment zone (pg. 3-247 to 3-248). We note that capping the landfill would not necessarily resolve the encroachment of groundwater from below or address groundwater encroachment and contamination caused by the creation of Lake Red Bluff.

Recommendation:

The FEIS should fully address the potential effects of the action and no action alternatives on the groundwater contamination situation at the Pactive Class III landfill. For instance, elimination of Lake Red Bluff, a reduction in its elevation, or a reduction in the number of months the lake is created, could reduce or eliminate the rise of groundwater into the landfill and subsequent groundwater contamination.

Air Quality Comments

EPA believes that it is important and appropriate that the FEIS address the new eight-hour ozone standard and the new "fine" particulate matter standard (PM_{2.5}). The DEIS states that the project site is not in attainment for the state PM₁₀ and ozone standards. The area is also expected not to be in attainment for the 8-hour Federal ozone standard (pg. 3-455). PM_{2.5} is not addressed in the DEIS. Although EPA has not designated nonattainment areas for either eight-hour ozone and PM_{2.5} standards, we believe these standards may have bearing on the proposed actions. Because the eight-hour ozone standard is more stringent than the one-hour ozone standard, it is likely that parts of the project area would be designated as a nonattainment area for the eight-hour ozone standard, possibly within the time frame of the proposed action. Therefore, it would be useful, and appropriate under the public disclosure requirements, to include a discussion of the implications of the new eight-hour ozone standard with respect to the execution of this project. EPA recognizes the serious health effects that "fine" particulates can cause, and, therefore, urges project proponents to reduce particulate emissions to the greatest extent possible. This is particularly important where the project will impact sensitive receptors, such as children and the elderly. We note that the Sacramento River Discovery Center, US Forest Service Campground, and Red Bluff Recreation Area are close to proposed construction sites and are heavily used by school children and recreationists.

Recommendations:

In its discussion of air quality impacts the FEIS should include a discussion of the new eight-hour ozone standard, as well as the new PM_{2.5} standard. To the extent that monitoring data is available on these two criteria pollutants, include that information in the FEIS. In addition, we urge the Co-Lead Agencies to commit to a detailed discussion of measures to reduce construction and operational generation of PM_{2.5}.

Water Quality Comments

Data suggest that RBDD has a warming effect on the Sacramento River (pg. 3-92) and, in fact, the temperature objective for this reach of the Sacramento River is frequently violated at the RBDD. Thus, a reduction of the gates-in period from four months to two months, as well as the gates-out alternative, could lower the temperature of the Sacramento River water. Despite the discussion of temperature issues with the current gates-in regime (pg. 3-91), the DEIS does not appear to fully assess the water temperature impacts of the alternatives. In addition, the installation of cofferdams to enable construction could increase turbidity and sedimentation in the river.

Recommendation:

The FEIS should evaluate in more detail the potential effects of the alternatives on water quality. This evaluation should examine potential effects to river temperatures of continued periods of water impoundment at the dam. Construction-related impacts should be described in more detail,

and Best Management Practices and mitigation measures to avoid or minimize adverse effects should be described and implemented.

General Comments

1. A total of 17 water districts contract with the federal government for water deliveries from the Tehama-Colusa and Corning canals. These districts have contracts totaling 325,000 acre-feet (af) of water each year. The DEIS states that the total maximum diversion from RBDD would not change from the cumulative Central Valley Project (CVP) service contract amount (pg. 3-268). However, all the action alternatives appear to provide a maximum diversion total of 667,260 af to 757,350 af (Tables 3.8-2 to 3.8-6).

Recommendation:

We recommend the FEIS describe in more detail the CVP water service contract held by TCCA, especially diversion limitations and requirements. It would also be helpful to include a short description of other water sources for TCCA, how water supply shortfalls are met, and the diversion schedules from RBDD during normal, dry, and wet years. Describe the relationship between the total contract amount of 325,000 af and the maximum diversion potential of the action alternatives. For example, describe the conditions when TCCA would be able to utilize the maximum diversion potential of the pumps.

2. The Socioeconomic evaluation does not appear to include a description of the significance criteria. The significance criteria is especially important for the socioeconomic effects analysis because, although the difference between effects of the alternatives is quite small, the DEIS concludes that some alternatives have no significant impacts while other alternatives do have significant impacts.

Recommendation:

The FEIS should include a full description of the significance criteria used for socioeconomic impacts. We are especially interested in why the DEIS concludes that the 2-month alternatives have no significant impacts while the Gates-Out alternative does. Data in the DEIS states that impacts of the 2-month gates-in alternatives would result in a total loss of \$3.5 million dollars per year to Tehama County out of a revenue base of \$1.7 billion and 1.1 percent loss of sales and tax revenues to the City of Red Bluff. The loss under the Gates-Out alternative would be \$4.2 million per year to Tehama County out of \$1.7 billion revenues and a 1.9 percent loss of sales and tax revenues to the City of Red Bluff (pg. 3-321).

3. A cost analysis for each alternative does not appear to be included in the DEIS. Given the potential high costs of some of the facilities, such an evaluation would be helpful to the public and decision maker.

Recommendation:

The FEIS should include a table with the relative cost of each action alternative. If specific values are not available, an estimate should be used to at least provide a comparison of the financial feasibility of the alternatives.

4. We commend TCCA and the Bureau for the proposed mitigation ratios of 3:1 for impacts to waters of the U.S. It appears that the 2-month gates-in alternatives and Gates-Out alternative have lower impacts to both water of the U.S. and to listed species.

Recommendation:

The discussion about wetland delineation on page 5-6 should be under the Section 404 discussion, not Section 10 discussion. Authorization under Section 10 will be required since the Sacramento river is considered navigable to the Kewick Dam. We request a copy of your mitigation plan for review when it is available to the public.

5. The DEIS does not appear to evaluate the seismic risk to the Mill Site, pumps , fish screen or conveyance pipes.

Recommendations:

The FEIS should include a short evaluation of seismic risks, if any, at the proposed construction sites. For instance, would liquefaction be a concern?

6. Loss of Lake Red Bluff or a reduction of the months it is created would have a significant impact on public and private boat docks and ramps which are sized to the lake elevations. The DEIS states that these impacts cannot be mitigated. EPA believes there are means to mitigate these impacts such as extending the docks and ramps to the river shoreline or providing floating docks and facilities. Such measures have been used on water supply reservoirs to mitigate for an increase in reservoir elevation fluctuations.

Recommendation:

TCCA and the Bureau should pursue mitigation measures to address the potential impacts to boat docks and ramps, currently dependent on Lake Red Bluff elevations. For instance, the FEIS should evaluate the feasibility of extending existing boat docks, replacing or modifying existing public docks and ramps, or providing other facilities which could offset the loss of existing boat docks and ramps.

7. The DEIS states that the 4-Month Improved Ladder alternative and 4-Month Bypass alternatives would have the same volume of excavated material, 800,000 cubic yards of soil (pg. 3-249). However, the Bypass alternative includes improvement to one fish ladder plus excavation of a large bypass channel.

Recommendation:

The FEIS should re-evaluate the estimate of excavated material for the two alternatives above and correct the volume values, if necessary.