

## RECORD OF DECISION

### ISABELLA LAKE DAM SAFETY MODIFICATION PROJECT

I have reviewed the Isabella Dam Safety Modification (DSM) Report, dated October 2012, and the Isabella Lake DSM Project Final Environmental Impact Statement (EIS), dated October 2012, addressing the need to remediate existing hydrologic, seismic, and seepage deficiencies associated with the main dam, auxiliary dam, and spillway. The Isabella Reservoir and Dam were originally authorized by Congress under the Flood Control Act of 1944, Public Law 78-534, § 10, 58 Stat. 901 (1944). Based on this review and views of other interested agencies and the public, I find that the selected plan for modification of the Isabella Dam and spillway (“Life Safety Plan 4” in the DSM Report and “Alternative Plan 4” in the Final EIS), is based on life safety requirements; considerations of cost effectiveness; and is technically sound; in accordance with environmental statutes; and in the public interest. The benefits to be gained from implementing the selected plan outweigh any adverse effects. Thus, I approve the selected plan for the Isabella Lake DSM Project for construction.

The U.S. Army Corps of Engineers (Corps) has determined that the Isabella Dam facilities require a suite of structural and non-structural improvements in order to safely meet authorized project purposes and to reduce risk to the public and property from dam safety concerns posed by floods, earthquakes, and seepage. The Corps employs a widely accepted method for determining and assessing risk at dam projects based on appropriate guidelines regarding tolerable risk. Although economic and environmental risks are important considerations when determining tolerable risk, life safety is paramount. The Corps considered economic, environmental and life safety factors in deciding among the possible alternatives.

Given the large population downstream of Isabella Lake, as well as significant dam safety deficiencies, remedial action is needed. The proposed remediation will reduce the likelihood and consequences of dam failure and restore the authorized project benefits. Life safety concerns were the most important factor for the Corps in selecting the preferred alternative. The Corps fully analyzed the extent of environmental impacts, and where practicable, adopted mitigation measures to reduce and minimize environmental effects.

The selected plan consists of the following features, including the refinements described in the Final EIS:

- Main dam full height filter and drain (with approximately 16-foot crest raise);
- Retrofit of main dam control tower for access with the raised dam;
- Improvements to existing spillway;
- Construction of an approximately 900-foot wide emergency spillway;

- Auxiliary dam modification (with approximately 16-foot crest raise);
  - Approximately 80-foot wide (crest width) downstream buttress;
  - Shallow foundation treatment;
- Realignment of Borel canal conduit through right abutment of auxiliary dam;
- Relocation of auxiliary dam control tower outside the potentially liquefiable foundation zone; and
- Relocation of state routes 155 and 178 to accommodate the dam crest raises.

In the Draft EIS, in addition to the no action alternative, eight action alternatives (incorporated by reference herein) composed of various structural and non-structural measures were initially considered. In the Final EIS, the Corps did not perform a detailed analysis of the three following alternatives because, in accordance with 40 CFR § 1502.14, these were not deemed reasonable in light of the project's purposes: 1) reregulation of the existing reservoir; 2) removal of the dam; and 3) construction of new dams. The remaining five alternatives selected for further analysis in the Final EIS were generally similar in their approach and measures applied to remediate the deficiencies identified in the Isabella DSM Report. The differences were largely a result of varying levels of resiliency, redundancy, and robustness incorporated in the design and their associated cost. The five action alternatives selected for further analysis were fully described in the Isabella DSM Report and Final EIS. They are incorporated herein by reference.

Technical and economic criteria used to formulate the alternative plans were in accordance with Engineering Regulation (ER) 1110-2-1156. Applicable laws, regulations, executive orders, and guidelines were considered in evaluating the alternatives. Alternative Plan 4 was found to best minimize environmental, economic, and human consequences for the least cost; while adequately meeting tolerable risk guidelines and the majority of essential Corps guidelines per the above regulation. Alternative Plan 4 was also designated as the environmentally preferable and Least Environmentally Damaging Practicable Alternative.

During the Draft EIS review period, a total of 435 comments were received from the public and various agencies. Although the public was engaged on a variety of issues, the most important issue identified by the public was concern about lowered lake levels during construction and their impact on recreation, the local economy, water quality, and air quality. Refinements to Alternative Plan 4, identified as the selected plan and assessed in the Final EIS, have reduced adverse environmental impacts from those anticipated in the Draft EIS. In addition, these refinements have addressed and reduced the concerns expressed by the public, including those associated with lake lowering.

All practicable means to avoid, minimize, and compensate for adverse effects on environmental resources were considered in plan formulation, and these mitigation measures, as

described in the Final EIS, have been incorporated into the authorized project. Although the project will not result in any long-term unavoidable significant impacts, there will be short-term unavoidable significant air quality, noise, and recreation impacts during construction. The Final EIS identifies the need for permanent relocation of some residents in the construction impact zone. In addition, the Final EIS identifies impacts associated with the removal of the U.S. Forest Service – Sequoia National Forest Lake Isabella Kern River Ranger District Office (and associated maintenance buildings and fire station), the Launch 19 boat facility, and Auxiliary Dam Recreation Area.

Mitigation measures pertaining to construction of the selected plan and recommended in the Final EIS are adopted in this Record of Decision (ROD) as environmental commitments. Monitoring plans recommended in the Final EIS are also adopted in this ROD to ensure that (1) the impacts described in the Final EIS are not exceeded; and (2) the mitigation features function as intended. A summary of key resource mitigation measures adopted are identified and described below:

1. **Air Quality.** In response to EPA’s comment on the Final EIS, and for purposes of complying, with EPA’s general conformity rule to ensure the project will not exceed the *de minimis* thresholds, the Corps is committed to implementation of the following key mitigation measures:

- Tier 4 emission standards would be fully implemented for all heavy and off-road emissions sources at the time of the projected start date for the project;
- A *Dust Control Plan* compliant with Eastern Kern Air Pollution Control District (EKAPCD) Rule 402 would be approved by EKAPCD prior to commencement of construction activities;
- All stationary emission sources such as rock crushing, bulk concrete plant operations and dewatering pups would be electrified and would have no internal combustion engines associated with their regular operation; and
- Additional Best Management Practices (BMPs) as identified and described in the Final EIS.

2. **Water Quality.** The Final EIS contains a Clean Water Act (CWA) subsection 404(b) (1) evaluation for the selected plan. Even though all practicable measures have been taken to minimize harm to wetlands, some placement of fill within jurisdictional wetlands (0.3 acres) and waters of the United States (approximately 36.5 acres of fill placement below the reservoir’s Ordinary High Water Mark (OHWM)) is required for the project. There is no practicable alternative to this disturbance. In order to ensure compliance with the CWA, the Corps is committed to implementation of the following key mitigation measures:

- A Section 401 State Water Quality Certification for activities associated with implementation of the project is required and an application (including the 404(b)(1)) for 401 certification would be submitted to the Central Valley Regional Water Quality Control Board (CFRWQCB) prior to commencement of construction activities;
- A *Rock Material Disposal Management Plan* for the placement of unused rock material from the emergency spillway excavation to Engineer's Point on and below the OHWM would be required prior to commencement of construction activities;
- Water quality monitoring would be conducted throughout the construction period to assist in preventing adverse water quality impacts and ensure compliance under the CWA. Action levels would be based on existing water quality baseline studies, the CWA, the NPDES Permit for construction-related activities, the Tulare Lake Basin Plan, coordination with the CFRWQCB, and other applicable regulations; and
- Additional BMPs as identified and described in the Final EIS.

3. **Traffic and Circulation.** In order to minimize the level of impacts resulting from the traffic generated by construction of the selected plan, implementation of the following key mitigation measures is necessary:

- A *Traffic Safety Management Plan* would be completed prior to commencement of construction activities. This Plan would be in accordance with Caltrans California Manual on Uniform Traffic Control Devices; and
- Additional BMPs as identified and described in the Final EIS.

4. **Noise and Vibration.** In order to minimize the level of impacts resulting from noise and vibration generated by construction of the selected plan, implementation of the following key mitigation measures is necessary:

- A *Construction Noise and Vibration Monitoring Plan* would be completed prior to commencement of construction activities. This plan would include site-specific noise and vibration attenuation measures to ensure that maximum feasible noise and vibration attenuation is achieved; and
- Additional BMPs as identified and described in the Final EIS.

5. **Biological Resources.** The Final EIS contains a *Final Fish and Wildlife Coordination Act Report* (CAR), *Final Habitat Evaluation Procedures Report* (HEP) and *Programmatic Biological Opinion* (BO) from the U.S. Fish and Wildlife Service. The CAR provided recommendations to off-set the adverse impacts to vegetation and wildlife during and after construction of the project. The BO provided conservation measures that must be implemented in order for the exemption in section 7(o) (2) of the Endangered Species Act to apply. In order to

minimize the impacts to biological resources from construction-related activities of the selected plan, implementation of the following key mitigation measures is necessary:

- All avoidance and minimization measures required per the *Conservation Guidelines for the Valley Elderberry Longhorn Beetle (VELB)* would be fully implemented prior to and after commencement of construction activities;
- All reasonable and prudent measures necessary to minimize impacts to VELB as required by the BO would be implemented prior to and after commencement of construction activities. Compensation for threatened and endangered species includes about 0.6 acre for the VELB);
- A *Habitat Restoration Plan* for disturbed areas that incorporates seeding, planting, and other vegetation rehabilitation techniques would be developed and implemented before commencement of construction activities. This plan would include seed collection and/or transplanting of special status plants from impacted areas, avoidance area marking, and post-construction monitoring of restoration areas;
- Compensate for permanent vegetative impacts utilizing the compensation acreages recommended in the HEP for the following three vegetative types: 1) Compensate for impacts on the sagebrush scrub upland cover-type by creating approximately 110 acres of sage-brush scrub. Compensate for impacts on the emergent wetland cover-type by creating approximately 0.3 acre of emergent wetlands. Compensate for impacts on the pine-oak woodland cover-type by creating about 42 acres of pine-oak woodland.

6. **Land Use.** There are land use impacts, as described in the Final EIS. Appropriate mitigation measures to reduce potential impacts were described in the Final EIS or will be described in supplemental NEPA documents.

- Relocation of the U.S. Forest Service – Sequoia National Forest Lake Isabella facilities. Measures to mitigate impacts to the U.S. Forest Service facilities have not been adopted by the Corps, because they are not within the Corps' authority and appropriations to implement as part of the Isabella Lake DSM Project. The U.S. Forest Service is responsible for preparing a *Relocation Plan* and appropriate supplemental NEPA document tiered to the Final EIS.
- Other Real Estate Actions. Required details on relocation of residents, property acquisition requirements, and disposal of acquired property will be developed upon project approval. The Corps is preparing a *Real Estate Plan* and appropriate supplemental NEPA document tiered to the Final EIS.
- Final design and alignments for State Routes 155 and 178. Resolution requires additional input from Caltrans. The final design with rerouting options would be determined in consultation with Caltrans and analyzed in detail in an appropriate supplemental NEPA document tiered to the Final EIS.

- **Farmlands.** Temporary disturbances and permanent conversion of approximately 10 acres of agricultural land is required for project features and construction staging areas under the selected plan. There is no practicable alternative to the conversion of a portion of this agricultural land. Although not considered to be *prime farmland*, the site is adjacent to an area designated as unique farmland by the California Department of Conservation. The Natural Resource Conservation Service was provided a copy of the Final EIS for review and no comments of concern were received by this agency.

7. **Recreation.** There are recreation impacts, as described in the Final EIS. Refinements to the selected plan described in the Final EIS will avoid extended lake lowering for construction during the recreation season, thus minimizing impacts to recreation. Other measures to mitigate recreation impacts have not been adopted by the Corps, because they are not within the Corps' authority or appropriations as part of implementation of the Isabella Lake DSM Project. The Corps is preparing a *Recreation Plan* to explore and identify options to offset adverse effects on recreation resulting from construction of the Isabella Lake DSM Project. Preparation of the *Recreation Plan* will be undertaken in coordination with the U.S. Forest Service.

8. **Cultural Resources.** The Corps would fulfill its responsibilities under Section 106 of the National Historic Preservation Act by carrying out the terms of the final signed programmatic agreement.

The Isabella Lake DSM Project approved in this Record of Decision addresses the risk of downstream flooding associated with dam failure. Because downstream communities are also likely to experience flooding from existing spillway flows, additional flood risk management studies are recommended in the DSM Report to address residual (non-breach) flood risk downstream of the project. These studies are recommended due to the increase in downstream population since the dam was constructed and associated increased risk to public safety, which exceeds life safety thresholds defined in Dam Safety Guidance at ER 1110-2-1156. The DSM Report also recommends some specific non-structural measures. The non-structural measures and downstream studies are vital components to address residual (non-breach) flood risk in the town of Lake Isabella, California and in the City of Bakersfield, California.

This ROD completes the National Environmental Policy Act process. As the selected plan is refined during Preconstruction Engineering and Design, a supplemental NEPA document tiered to the Final EIS will be prepared as appropriate. The ROD will be made publicly available upon request, or can be found on the Sacramento District website.

DEC 1 8 2012

Date



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