

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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May 22, 2012

Mitchell Stewart
Sacramento District
U.S. Army Corps of Engineers
1325 J. Street
Sacramento, CA 95814

Subject: Isabella Lake Dam Safety Modification Project Draft Environmental Impact Statement,
Kern County, (CEQ # 20120073)

Dear Mr. Stewart:

The U.S. Environmental Protection Agency (EPA) is providing comments on the Isabella Lake Dam Safety Modification Project Draft Environmental Impact Statement (DEIS). Our comments are provided pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations (40 CFR Parts 1500-1508), our NEPA review authority under Section 309 of the Clean Air Act, and the provisions of the Federal Guidelines promulgated at 40 CFR 230 under Section 404(b)(1) of the Clean Water Act

EPA supports the project purpose – remediating seismic, hydrologic, and seepage deficiencies at the Isabella Main and Auxiliary Dams and spillway. We acknowledge the project’s urgency and the risk from catastrophic flooding. We are concerned that the applicability of EPA’s general conformity regulations has not been correctly assessed, and offer to review the Administrative Final Environmental Impact Statement to assist the Corps in complying with EPA’s General Conformity Rule.

We have rated the DEIS as *Environmental Concerns -Insufficient Information (EC-2)* (please see the enclosed “Summary of EPA Rating Definitions”). For more information about general conformity and additional comments on air quality, water quality, environmental justice, noise, and project description, please see our enclosed detailed comments.

We appreciate the opportunity to review this DEIS. When the Final FEIS is released for public review, please send one hard copy and one electronic copy to the address above (mail code: CED-2). If you have any questions, please contact me at (415) 972-3521, or contact Tom Kelly, the lead reviewer for this project. Tom can be reached at (415) 972-3852 or kelly.thomasp@epa.gov.

Sincerely,

/S/

Kathleen Martyn Goforth, Manager
Environmental Review Office
Communities and Ecosystems Division

Enclosures: EPA’s Detailed Comments
Summary of EPA’s Rating Definitions

cc (via email): Brenda Ehmann, Sequoia National Forest
Julie Damo, Eastern Kern County Air Pollution Control District
Lonnie Woss, Central Valley Water Quality Control Board

Air Quality

Conformity

The DEIS does not demonstrate compliance with EPA's general conformity rule. It correctly states that "a conformity determination is required since all the proposed Action Alternatives exceed de minimis thresholds for PM10" (p. 3-53), however, the DEIS does not provide any general conformity de minimis thresholds for comparison. The summary tables of air emissions on pp.3-56, 3-60, 3-63, 3-66, and 3-71 show two rows labeled "Total" and "Annualized Total." (We have assumed the units provided for total emissions are tons, because tons per year would be inconsistent with total emissions.) The DEIS states, "[c]onstruction emissions were calculated for the entire life of each alternative, divided by the number of years the construction activities would occur, in order to reach and (sic) annualized emissions total," (p. 3-53). To determine if General Conformity is applicable to the project, the Corps must either estimate emissions for each year of the project, which EPA would prefer, or estimate the year of maximum emissions. If the second approach is taken, the Corps should clarify the basis for determining the maximum year of emissions.

On page 3-43, the DEIS provides a discussion on "*Air Quality Determination for Transportation Plans and Programs – Conformity Rule.*" Transportation Conformity ensures that federal funding and approval goes to those transportation activities that are consistent with air quality goals. Transportation Conformity applies to transportation plans, transportation improvement programs, and projects funded or approved by the Federal Highway Administration (FHWA) or the Federal Transit Administration (FTA) in areas that do not meet or previously have not met air quality standards for ozone, carbon monoxide (CO), particulate matter (PM10 and PM2.5), or nitrogen dioxide (NO2), known as "nonattainment areas" or "maintenance areas," respectively. All other projects should demonstrate compliance with EPA's General Conformity Rule.

The DEIS discusses a "Regional Conformity Analysis" on page 3-54. That discussion relates specifically to GHG emissions, but the General Conformity Rule does not apply to GHG emissions. The criteria and procedures for conformity apply only in nonattainment and maintenance areas with respect to the criteria pollutants under the Clean Air Act: CO, PM10, PM2.5, NO2, ozone, and sulfur dioxide.

Recommendations:

The Corps should provide a copy of the project's conformity applicability analysis and, if necessary, the conformity determination, in the Administrative Final Environmental Impact Statement, so that EPA may provide feedback in advance of distribution of the Final Environmental Impact Statement (FEIS).

The FEIS should specifically identify emissions reductions resulting from changes to alternatives or mitigation measures¹.

¹ In discussions with Tom Kelly, EPA, Michell Stewart, Army Corps, indicated the Corps is evaluating several possible changes to the project that could reduce costs and air quality emissions, such as reusing filter sand from existing dams, rather than excavating sand from borrow areas.

Emissions Modeling

The DEIS uses a variety of models to estimate air emissions, such as EMFAC 2011 and URBEMIS 2007 version 9.2.4 (p. 3-51). The modeling results are summarized in tables, such as Tables 3-7 and 3-8, but the DEIS does not provide any more detailed information on air quality emissions. EPA cannot assess the adequacy of mitigation without more detailed information about the source of emissions, for example: the types of equipment and engines used (e.g. Tier 4), the emissions reduction estimated for watering graded soil, emissions associated with transit on dirt, gravel and paved roads, control technologies for the concrete batch and crushing plants, etc.

Recommendation:

The FEIS should include modeling inputs, and the emissions associated with each piece of equipment used in the project.

Diesel Particulate Filters

We are pleased the Corps is willing to use diesel particulate filters as a mitigation measure for all on-road and off-road diesel equipment (included as a mitigation measure in Table 3-125), but the DEIS does not specify the efficiency of the particulate filters. Additional measures, required under the California Air Resources Board's (CARB) In-Use Off-Road Diesel Vehicle Regulation², appear to be applicable to the project. If so, this rule would require an average particulate emission rate for the owners of off-road diesel (construction) fleets, as well as average NOx emission targets.

The mitigation measure discussing diesel particulate filters states: “[u]se diesel particulate filters on on-road and off-road diesel equipment, if they are permitted under manufacturers’ guidelines.” We suggest deleting the caveat regarding manufacturers’ guidelines, and revising this measure to read, “[u]se diesel particulate filters, *approved for each specific engine by EPA³ or the CARB*, on on-road and off-road diesel equipment.⁴” If the Corps is concerned about manufacturer approval of filters, we suggest a review of the warranty provisions associated with certified/verified particulate filters.

Recommendations:

The FEIS should include:

- a commitment to the use of non-road equipment retrofitted with filters approved for each specific engine by EPA or the CARB ($\geq 85\%$ reduction or ≤ 0.01 g/bhp-hr particulate matter), or new non-road equipment meeting the most stringent of applicable Federal⁵ or State Standards⁶;
- alternatively, a discussion of how the project will comply with the CARB In-Use Off-Road Diesel Vehicle Regulation;
- consideration of the use of electric vehicles, natural gas, biodiesel, or other alternative fuels during construction and operation phases to reduce the project’s criteria and GHG pollutant emissions;
- a commitment to maintain and tune engines per manufacturers’ specifications to perform at CARB and/or EPA certification levels; prevent tampering; and conduct unscheduled inspections to ensure these measures are followed;

² See <http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm>.

³ See <http://epa.gov/cleandiesel/verification/verif-list.htm>.

⁴ See <http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm>.

⁵ EPA's website for nonroad mobile sources is <http://www.epa.gov/nonroad/>.

⁶ For California, see CARB emissions standards, see: <http://www.arb.ca.gov/msprog/offroad/offroad.htm>.

Vehicle and Equipment Idling

The DEIS commits to limiting vehicle idling to less than 5 minutes as a mitigation measure to reduce noise impacts (p. 3-166), but a contractor might reasonably conclude this mitigation measure does not apply far from off-site receptors. The Corps may have intended the five minute idling restriction as an air quality mitigation measure, but the DEIS includes a less specific air quality mitigation measure to shut down equipment when not in use (p. 3-74). We note that the previously mentioned In-Use Off-Road Diesel Vehicle Regulation also restricts idling to less than five minutes for fleets subject to the rule.

Recommendation:

- The FEIS should include an air quality mitigation measure to limit idling to no more than five minutes.

GHG Emissions

As it does for other air emission estimates, the DEIS only summarizes GHG emissions. (We have assumed that the unit of measure provided for total emissions in Table 3-10 is tons, because tons per year would be inconsistent with total emissions.) Because the DEIS does not provide detailed information regarding sources of GHG emissions, we cannot verify the accuracy of the emissions estimate. While the emissions models used by the Corps may provide GHG emissions for on-road and non-road project emissions, the DEIS does not mention indirect emissions. Indirect emissions for the project include those generated by the production of power used for the crushing plant, batch plant and conveyors.

Recommendation:

The FEIS should include detailed estimates of GHG emissions, for both direct and indirect emissions, in an appendix.

Addressing the Effects of Climate Change on the Project

The Council on Environmental Quality's Draft Guidance on climate change states:

Climate Change issues arise in relation to the consideration of:

- (1) The GHG emissions effects of a proposed action and alternative actions; and
- (2) The relationship of climate change effects to a proposed action or alternatives, including the relationship to proposal design, environmental impacts, mitigation and adaptation measures.

While the DEIS evaluates the former, it did not consider the latter. The California Department of Water Resources⁷, for example, projects an increase in extreme weather, leading to higher winter river flows, runoff, and flooding. While the action alternatives are likely to provide more benefits than drawbacks in addressing the effects of climate change, we also emphasize the importance of measures that may make the project more adaptable to the effects of climate change.

⁷ Climate Change in California, June 2007, see <http://www.water.ca.gov/climatechange/docs/062807factsheet.pdf>.

Recommendation:

The FEIS should evaluate climate change effects to the proposed action and alternatives, including the relationship to proposal design, environmental impacts, mitigation, and adaptation measures.

Fugitive Dust Control Plan

The DEIS lists dust control measures in a variety of locations (e.g. pages 3-73 and 3-74) as mitigation measures. The DEIS does not discuss compliance with Kern County Air Pollution Control District Rule 402 to reduce emissions of particulate matter less than 10 (PM10) and less than 2.5 microns (PM2.5).

Recommendations:

The FEIS should discuss development of a Fugitive Dust Control Plan in compliance with KCAPCD Rule 402 to reduce PM10 emissions during construction. We further suggest the plan include: posted speed limits at construction site entrances; a construction traffic management plan⁸ that maintains traffic flow and minimizes vehicle travel on unpaved roads; and monitoring of fugitive dust.

Water Quality

Stormwater Pollution Prevention Plan

The DEIS states, “[i]f equipment is operating on soils that cling to wheels, use a „grizzly“ or other such device using rails, pipes, or grates to dislodge mud, dirt, and debris from the tires and undercarriage of vehicles on the road exiting the project site, immediately before the pavement” (page 3-73). While the DEIS suggests this is an optional step for air quality, we suggest it is a basic element of a Storm Water Pollution Prevention Plan for construction. In this case, it would have an added benefit of minimizing particulate air emissions. The project will have a small number of entry and exit points from the construction areas to public roads. Some of these exit points will be regularly used and subject to changing weather conditions and twice a day watering, where the roads are not compacted and covered in gravel.

The DEIS lists several additional mitigation measures that address air quality on pages 3-73 and 3-74. EPA commends the Corps for limiting vehicle speeds to 15 miles per hour. We note, however, that the list includes several similar and somewhat inconsistent mitigation measures about watering disturbed areas and roads. The 1st, 5th, 8th and 10th (bulleted) mitigation measures all discuss preventing excess dust, some by watering, one by the use of dust palliatives or paving, and another by stabilizing with water or other appropriate methods. Some mitigation measures are required a minimum of twice daily, one contains no minimum, and another specifies watering will occur twice daily.

Recommendations:

The FEIS should require the construction contractor to install a tire and undercarriage washing station (e.g. grizzlies) at all exit locations to public roads, unless vehicles would only have traveled on well covered gravel roads prior to reaching those exits. The FEIS should also include mitigation measures to:

⁸ A Traffic Management Plan is noted on page 3-401, but it is intended to address emergency access and public notification of road closures.

- cover construction roads in gravel for a length of 20 feet following tire washing and cleaning stations, to ensure vehicles exit construction sites free from without tracking mud or soil.
- use sandbags, hay bales or equivalent measures to prevent run-off to roadways in construction areas adjacent to paved roadways, consistent with the project's Storm Water Pollution Prevention Plan (SWPPP).

The FEIS should consolidate repetitive mitigation measures to reduce air quality impacts. The revised measure should ensure that disturbed areas and unpaved roads are watered at least twice daily, even on days when construction is not occurring.

Water Quality Protection and Monitoring

While EPA supports the mitigation measures to protect water quality, on pages 3-99 and 3-100, their implementation is only considered. The mitigation measures include additional or supplemental water quality monitoring, temporary aeration of lake water in the event that dissolved oxygen levels drop below historically observed levels, and turbidity curtains when construction activities are near open water. Along with dissolved oxygen, water temperature is critical to aquatic health. The DEIS does not discuss the possibility of increased lake temperatures. EPA is particularly concerned about water quality during the removal of the coffer dam.

Recommendations:

The FEIS should revise the mitigation measures to commit to supplemental water quality monitoring and a water quality protection program, including:

- monitoring specific monitoring parameters, such as turbidity, dissolved oxygen conductivity and water temperature, to assess potential negative impacts of the project, to evaluate the project's effects on water quality;
- rapid turn-around of test results (field test kits may be available for many parameters), to provide real-time feedback on the effectiveness of mitigation measures; and
- a list of action levels protective of beneficial uses of Lake Isabella that assure the Corps will reevaluate mitigation measures or project elements to minimize impacts; and
- readily observable action levels for the use of turbidity curtains, based on parameters such as the observation of windblown dust, wind speed, and distance from grading or excavation activities to the lake.

Waters of the United States

The DEIS does not provide detailed information on impacts to waters of the United States, which includes wetlands, but does note that a detailed wetland delineation will be completed once access to the property has been given (p. 3-237). Page 3-198 discusses a preliminary delineation of wetlands and other waters of the U.S. The same page also states: "Approximately 18 acres of emergent wetlands were observed below the Auxiliary Dam, just south of Barlow Road (see Figure 3-19)." The area identified as emergent wetlands in Figure 3-19, however, appears to be less than four acres. (A square acre would measure 0.125 miles on each side, corresponding to the smallest measure of the scale on the Figure 3-19.) Similarly, the area shown in Figure 3-20 is much smaller than the "approximately 7 acres of emergent wetlands known to occur in the vicinity of the Borel Canal portal structure and connection to the existing Borel Canal and within proposed Staging Area A-3 (see Figures 2-25 and 3-20)."

The DEIS notes that the a Clean Water Act Section 404(b)(1) analysis will be prepared for the preferred alternative prior to the Final EIS (2-233). It does not specify whether the 404(b)(1) analysis will be included in the FEIS. Mitigation measures for impacts to wetlands and other waters of the U.S. include a Wetland Mitigation Plan and a Site Restoration Plan (p. 3-237). The DEIS does not clarify whether these documents will be prepared as part of the FEIS.

Recommendations:

The FEIS should include the following:

- a clear map of all jurisdictional waters that will be impacted by the project, ensuring the document's descriptions match the figures.
- a 404(b)(1) analysis, supporting the preferred alternative, as an appendix.
- either a copy of the wetland mitigation plan and site restoration plan or a summary of the key elements of these plans, such as the location where wetland mitigation will occur and the key elements of the site restoration plan.

Environmental Justice

The Department of Defense is signatory to the August 4, 2011 Memorandum of Understanding (MOU) on Environmental Justice and Executive Order 12898. In addition to reinforcing the federal government's commitment to environmental justice, the MOU has a specific focus on NEPA and Title VI of the Civil Rights Act. As stated by the Council on Environmental Quality (CEQ)⁹, the identification of disproportionately high and adverse human health or environmental effects on a low-income or minority population does not preclude a proposed agency action from going forward nor compel a finding that a proposed project is environmentally unacceptable. Instead, the identification of such effects is expected to encourage agency consideration of alternatives, mitigation measures, monitoring needs, and preferences expressed by the affected community or population.

The DEIS states "[b]ased on the information presented in Tables 3-95 and 3-96, there is no evidence to suggest that the population of the Lakeside Village Mobile Home Park, just below the Auxiliary Dam, is an environmental justice population" (p. 3-362). While the DEIS evaluation of minority and low income populations is at the block group level, which is the smallest area of analysis using U.S. Census data, that area may be too large justify conclusions about the Lakeside Village Mobile Home Park.

The DEIS mentions relocating residents (Table ES-2, p.ES-27), without identifying the specific residents; however, we note that the Lakeside Village Mobile Home Park and other nearby structures are located within Staging Areas A-2 and A-3 (see Figure 2-25).

Recommendations:

The Corps should consider collection of additional information to assess the community likely to be relocated by project construction, and provide the results of such assessment in the FEIS. If relocations will affect minority or low-income populations, we suggest:

- modification of alternatives, as appropriate, based on input from the displaced community, and
- with regard to relocation and compensation services, consideration of the need for (1) translation services, (2) assistance in locating and obtaining a replacement property, (3) transportation to visit potential replacement housing, (4) assistance in

⁹ Environmental Justice Guidance Under the National Environmental Policy Act, Council on Environmental Quality, 10 December 1997.

packing and moving, (5) relocation specialists to work with the population. If residents potentially relocated request it, the Corps should consider alternative staging areas, but EPA recognizes such an alternative might not alleviate the health and safety concerns that necessitate the relocation.

Noise

Executive Order 13045 on Children's Health and Safety directs that each Federal agency shall make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children, and shall ensure that its policies, programs, activities, and standards address these risks. Some physiological and behavioral traits of children render them more susceptible and vulnerable than adults to health and safety risks. Based on current EPA policy and guidance, analysis and disclosure of impacts to children should be included in a NEPA analysis if there is a possibility of disproportionate impact on children related to the proposed action.¹⁰

The American Society for Testing Materials has recommended an in-classroom noise standard of 35 to 40 dBA depending on room size¹¹. As a basis for their recommendation, they cite studies linking higher noise levels in classrooms to lower standardized test scores¹². The Robert Wood Johnson Commission to Build a Healthier America has stated¹³: "a large body of evidence links education with health, even when other factors like income are taken into account."

Since classroom noise appears to hinder education and educational attainment is linked with health, classroom noise exposures represent an environmental risk that disproportionately affects children. The noise metric in the DEIS, L_{dn} , considers noise levels averaged over 24 hours with a penalty for noise during nighttime. While this is appropriate for residential exposures, it is not appropriate for school or day care exposures, because L_{dn} will average quiet nighttime periods with noisy day-time periods, yet school and daycare centers are primarily open during the day.

Recommendation:

The FEIS should consider schools and day care centers as sensitive receptors and calculate a noise estimate based on school exposure (e.g. 8:00 a.m. to 3:00 p.m. on weekdays).

Project Description

Elements of the DEIS discussion of alternatives are unnecessarily confusing. The Army Corps staff has indicated that design alternatives may change between the DEIS and FEIS, so clearly stating the alternatives may become even more complicated. The DEIS includes five action alternatives, a no-action alternative, and three alternatives considered but rejected from further analysis. Each alternative is presented with two names (e.g. RMP [or risk management plan] 3: Alternative Plan 1). The RMP terminology is not used in Chapter 3, Affected Environment and Environmental Consequences. RMPs 2, 8 and 9 were eliminated from further consideration. The discussion of alternatives would be clearer if the considered but rejected alternatives are not presented in the executive summary, and are clearly separated from alternatives further evaluated in DEIS.

¹⁰ <http://www.epa.gov/compliance/resources/policies/nepa/children-health-risks-pg.pdf>

¹¹ The standard is a maximum one-hour-average A-weighted steady background noise level. See American Society for Testing Materials Standard S 12.60-2002 for more information.

¹² See Annex A of the American Society for Testing and Materials Standard S 12.60-2002.

¹³ Robert Wood Johnson Foundation, Commission to Build a Healthier America, Issue Brief 6, Education and Health, September 2009.

Additionally, different alternatives are combined in many figures, resulting in the presentation of incorrect information. Figure 2-12, Cross Section View of Main Dam with Full-Height (Alternative Plans 1, 2, 3 and 4) shows a 16 foot crest raise, which is only part of Alternative Plan 4, and new bench along the downstream slope, which is not part of Alternative 4 according to Figure 2-20 (Plan View Sketch of Main Dam with Full Height Filter (Alternative Plan 4)). The cross-section of Figure 2-12 is substantially different from Figure 2-14, Cross-Section View of Main Dam Full Height Filter with RCC Overlay (Alternative Plans 1, 2 and 3). Figure 2-12 explains this difference with a clarifying statement, “NOTE: This is a Cross Section of the Dam Centerline per Figure 2-9b” but the DEIS does not contain a Figure 2-9b.

Recommendations:

The FEIS should minimize the use of the RMP terminology and avoid discussion of alternatives rejected from further analysis in the Executive Summary. The FEIS should also improve the organization of Chapter 2 by separating the three rejected alternatives from alternatives evaluated in the FEIS. Additionally, Chapter 2 should include separate cross-sections and plan views, both for the main and auxiliary dam, unless the design is identical for given alternatives (e.g. the Plan View of the Temporary Cofferdam for the Alternative Base Plan, Alternative Plan 1 and Alternative Plan 2).