Independent Review Board

Memorandum #1

June 19, 2018
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- IRB Members
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IRB Members
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• (Elizabeth) Betty Andrews, Environmental Science Associates

• Dr. Lelio Mejia, Geosyntec Consultants

• Bruce Muller, US Bureau of Reclamation (Retired)

• Paul Schweiger, Gannett Fleming, Inc.
General Observations
General Observations

- Oroville Dam benefits numerous people throughout the state of California and the nation.
- Extraordinary efforts are underway to repair the damage to the spillway from February 2017.
- DWR has appropriately initiated an effort to comprehensively consider all aspects of the safety of Oroville Dam.
- DWR has assembled 6 teams of highly respected experts to address the key potential safety issues at the dam.
Specific Recommendations
1. Does the IRB have any recommendations or comments on the background and purpose of the Comprehensive Needs Assessment project?

- CNA is well conceived and planned.
- CNA is an appropriate effort to assure the safety and reliability of a key water resource facility for the State of California.
2. Does the IRB have any recommendations or comments on the DWR organization or role of the IRB?

- Add a specific plan for execution of project integration
- Map interdependencies between tasks
3. Does the IRB have any recommendations or comments on the strategy and structuring of the Comprehensive Needs Assessment approach?

- Conduct a comprehensive assessment of risk
- Consider interim actions to reduce risk for issues with significant risk to the public
- Establish evaluation criteria prior to formulating alternatives
- Document what is currently working well
- Include gain or loss of project benefits amongst the consequence categories to be considered in evaluating risk reduction
3. Does the IRB have any recommendations or comments on the strategy and structuring of the Comprehensive Needs Assessment approach? Cont’d

• Evaluate and document existing project components for robustness, redundancy, reliability, and resiliency

• Adopt a value planning approach to alternative formulation

• Adopt a “begin with the end in mind” philosophy to ensure timely completion of the study
4. Does the IRB have any recommendations or comments for Tasks 1–6?

- Generally applicable recommendations:
  - Use a common terminology
  - Ensure quality management includes initial assignment of adequate resources to do quality work
  - Enlist a holistic approach to evaluation of mechanical, electrical and control systems
  - Consider reliability of systems that deliver power to the “grid”
  - State assumptions that form the context of all assessments of risk
4. Does the IRB have any recommendations or comments for Tasks 1–6?

- Task 1 – Restoration of Spillway Capacity
  - Revise task title to more closely match the intended objective
  - Reassess downstream consequence thresholds
4. Does the IRB have any recommendations or comments for Tasks 1–6?

• Task 2 – Operational Needs Assessment
  • Address how climate change/variability has been accounted for in the operational plans for the reservoir
4. Does the IRB have any recommendations or comments for Tasks 1–6?

- Task 3 – Flood Control Outlet Enhanced Reliability
  - Include hydraulic performance assessment for various gate operations
4. Does the IRB have any recommendations or comments for Tasks 1–6?

- Task 4 – Low Level Outlet
  - Add reservoir evacuation capacity information to scope of work
  - Document/summarize analysis/assumptions related to reservoir sedimentation
  - Assess the project benefits that could be derived by enabling active management of the reservoir volume between elevations 350 and 640 feet
4. Does the IRB have any recommendations or comments for Tasks 1–6?

• Task 5 – Embankment Reliability and Improvements
  • Include recommendations for collection of additional data to reduce uncertainty
4. Does the IRB have any recommendations or comments for Tasks 1–6?

• Task 6 – Instrumentation and Monitoring
  • No recommendations
5. Does the IRB have any other recommendations or comments?

• Describe the rationale for the selection of the 6 tasks included in the Comprehensive Needs Assessment
Questions?