Oroville Independent Review Board
Memorandum #3
December 13-14, 2018 Meeting

Prepared for
Oroville Dam Safety Ad Hoc Committee Meeting No. 3
January 10, 2019
IRB Members
IRB Members

• (Elizabeth) Betty Andrews, Environmental Science Associates
• Dr. Lelio Mejia, Geosyntec Consultants
• Bruce Muller, US Bureau of Reclamation (Retired)
• Paul Schweiger, Gannett Fleming, Inc.
• Daniel Wade, San Francisco Public Utilities Commission
Past Recommendations

Comment Log
Past Recommendations

(Comment Log)

• Need for common understanding of status

• Sufficient refinement to demonstrate progress toward resolution
Past Recommendations (Comment Log)

• Status Descriptions

• **Under Consideration** – Project team is considering the recommendation, but hasn’t committed to if or how the recommendation will be addressed.

• **Planned** – The IRB has accepted the Project Team’s response and an appropriate action is planned.

• **In Progress** – The IRB sees evidence of the planned actions being underway.
• Status Descriptions
  
  • **Closed** – The IRB has reviewed and confirmed that the Project Team’s planned action has been completed and adequately addressed.
  
  • **Not Adopted** – The Project Team didn’t adopt the recommendation. An explanation has been or will be provided.
  
  • **Superseded** – The IRB has revised a prior recommendation to provide additional clarity.
### Past Recommendations (Comment Log)

Status as of 12/14/2018

<table>
<thead>
<tr>
<th>Recommendation Status</th>
<th>IRB #1</th>
<th>IRB #2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under Consideration</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Planned</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>In Progress</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Closed</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Not Adopted</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Superseded</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td><strong>22</strong></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>
New Recommendations
1. Does the IRB have any recommendations or comments on the evaluation criteria/progress?

- Thoughtful and deliberate process.
- IRB pleased with selection of DWR’s Asset Management framework for assessing risk.
- Recommend further development in the near term
  - Additional consequence/outcome categories
  - Beneficial project outcomes
2. Does the IRB have any recommendations or comments on the Task briefings?

- General
  - Common and consistent terminology.
  - Express issues clearly – focus objectives on outcomes rather than process.
  - Establish a minimum set of hard constraints.
  - Establish common format for tables of issues, objectives and constraints.
2. Does the IRB have any recommendations or comments on the Task briefings?

Task 1 – Alternatives Evaluation to Restore Spillway Design Capacity to Pass the Probable Maximum Flood (PMF).

- Revise Task title to “Evaluating Measures to Enhance Spillway Reliability and Resiliency.”
- Identify and assess data gaps related to geology between the secant pile wall and the river.
2. Does the IRB have any recommendations or comments on the Task briefings?

Task 2 – Operational Needs Assessment to Support Development of Alternative Reservoir Outflow Enhancements.

- Complete assessment of issues prior to formulating measures.
- Incorporate any physical changes since 1970 into flood operations procedures.
- Continue consideration of strategy for addressing climate change used in Central Valley Flood Protection Plan Update 2017.
Task 4 – Alternatives Evaluation for Low-Level Outlet.

- When identifying measures, identify whether they directly achieve reliability or do so through redundancy.
- Focus more on good engineering practice and less on regulatory requirements.
- Objective T4-3 - “... provide additional capacity and flexibility for routine reservoir operations ...”
- Additional documentation/verification of assumptions for drawdown calculations.
- Ensure assessment of construction risk for measures proposed.
2. Does the IRB have any recommendations or comments on the Task briefings?

Task 6 – Instrumentation and Monitoring for the Oroville Dam Complex.

- Expand focus to include mechanical and electrical systems critical to operations.
- Expand scope to include visual monitoring.
- Examine accuracy of inflow forecasts and document protocol for loss of communications with upstream instruments.
3. Does the IRB have any recommendations or comments on the Part 12D Level 2 briefing?

- Level 2 Risk analysis will benefit the CNA study.
- Proposed process has been used in the federal sector for 20 years.
- Proposed facilitators, SME’s, recorders and reviewers have substantial experience in both dam engineering and risk analysis of dams.
- Partitioning of the risk analysis due to complexity seems to be well conceived.
4. Does the IRB have any recommendations or comments on the final report outline?

- Give priority to similar outlines for task reports.
- Add section for description of significant modifications.
- Add high level description of project motivation, approach and report organization.
- Document rationale for the 6 tasks.
- Consider adding descriptions of how and why design practices have evolved since 1969 – emphasize goal being to ensure the dam meets/exceeds current design standards.
5. Does the IRB have any recommendations or comments on the IRB Comments Log?

- Covered earlier in the presentation
6. Does the IRB have any other recommendations or comments?

Looking forward to hearing about the following at IRB #4:

- Schedule progress.
- Initial results from Level 2 Risk Assessment.
- Definition of issues/objectives/constraints tables.
- Final draft of the evaluation framework.
- Outlines of the task reports contained in the appendices.
Questions?