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Docket No.: P-137

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FEDERAL ENERGY REGULATORY COMMISSION
Office of Energy Projects
Division of Dam Safety and Inspections – San Francisco Regional Office
100 First Street, Suite 2300
San Francisco, CA 94105-3084
(415) 369-3300 Office – (415) 369-3322 Facsimile

February 14, 2020

In reply refer to:
Project No. 137-CA
NATDAM Nos. CA00379,
CA00382, CA00409

Ms. Debbie Powell, Vice President
Pacific Gas and Electric Company
Mail Code N11E
P.O. Box 770000
San Francisco, CA 94177-0001

Re: Dam Break Analyses and Inundation Maps

Dear Ms. Powell:

This is in response to a letter dated May 13, 2016 from Ms. Mary Richardson that submitted the continuation of dam break analyses and inundation mapping for Salt Springs, Lower Bear, and Upper Bear Dams, which are all parts of the Mokelumne River Project, FERC No. 137. The submittals represent the continuation of modeling and mapping downstream of Lake Camanche, which was the downstream terminus of the initial phase of dam break analyses for the subject dams. We have completed our review and have the following comments:

**Dam Break Analyses**

1. Confirm the breach parameters assumed for Camanche Dam. Only limited explanation was provided in the report text and the column for Camanche Dam in each Table 4 (breach parameters) was labeled as ‘N/A’.

2. Per the Commission’s Engineering Guidelines, the average breach width for Camanche Dam is referenced as a factor of the dam height. The report text references a factor of 1.9, while an examination of the electronic model files indicates a factor closer to 3.3. Confirm that the average breach width is appropriate.
3. In the City of Stockton, neither the Calaveras River nor Highway 4 were defined in the two-dimensional mesh as break lines or internal connections. Confirm that these modeling choices do not impact the inundation areas shown in the maps.

4. For the Lower Bear and Upper Bear Dams ‘Sunny Day’ cases, where Camanche Dam does not fail, provide an explanation on how the Camanche spillway was added to the model.

5. While the primary sensitivity analyses were conducted in the previous phase of the dam break analyses, provide an explanation if any sensitivity analyses were conducted for the subject reports.

6. For the ‘Fair Weather’ cases for Lower Bear and Upper Bear Dams, the spillway rating curve found in the models did not match the known spillway rating curve for Camanche Dam spillway. Furthermore, the reports provided no explanation of this portion of the models. The models should be updated to use the official spillway rating curve unless otherwise justified in the reports.

**Inundation Maps**

7. Improve the consistency in the index point ‘data squares’ where “distance downstream” is currently referenced to Camanche Dam, but the flood wave travel time is referenced to the Project No. 137 dam.

8. The use of ‘incremental rise’ in the index point ‘data squares’ and then ‘maximum depth’ in the map legend are different terms and should not be considered the same. Confirm whether these terms are accurate and consider depicting only ‘maximum depth’ to simplify understanding for Emergency Management Agencies (EMAs).

9. Each symbol for ‘Potentially Affected Bridge/Underpass’ appears to be an index point with an associated ‘data square’. Please add data to the two symbols on page 1 of each map set in central Lodi that currently have no data associated with them.

10. For the ‘Potentially Affected Bridge/Underpass’ index points, there are a number of critical underpasses on Route 99 and Interstate 5 that are not labelled. PG&E should consider providing additional data at these points.

11. Road labels on the maps are inconsistent and are sometimes completely obscured by the inundation shading. At times, Route 99 and Interstate 5 were difficult to find. Similarly, labels for the ‘Lodi’ and ‘Stockton’ were faded and small font. Revise the maps as appropriate.
Within 45 days of the date of this letter, please provide responses to these comments or a plan and schedule for doing so. We appreciate your cooperation in this aspect of the Commission’s public safety program. If you have any questions, please contact Mr. Wes Cooley at (415) 369-3340.

Sincerely,

Frank L. Blackett, P.E.
Regional Engineer