FEDERAL ENERGY REGULATORY COMMISSION
Office of Energy Projects
Division of Dam Safety and Inspections – San Francisco Regional Office
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San Francisco, CA 94105-3084
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September 5, 2019

In reply refer to:
Project No. 5737-CA
NATDAM No. CA00294

Mr. Christopher Hakes
Deputy Operating Officer
Water Utility Enterprise
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118-3686

Re: Anderson Dam – Evaluation of Existing Risk Reduction Measures

Dear Mr. Hakes:

This letter is regarding our previous request of Santa Clara Valley Water District to evaluate the current risk reduction measures in place at Anderson Dam. While existing risk reduction measures were discussed during the June 2019 Board of Consultants (BOC) Meeting Number 10, there were no recommendations, follow-up actions, or proposed modifications to existing risk reduction measures described in your August 12, 2019 BOC Meeting Number 10 Report.

Prior to the BOC meeting, we discussed that the existing risk reduction measures must be evaluated because progress on the remediation has been slow due to technical, construction, environmental, and cultural resource constraints, and will likely continue to be challenging for years to come. We note that the BOC was approved in June 2012. An optimistic start date for construction is currently scheduled for 2023, more than a decade after formal efforts to evaluate and remediate Anderson Dam began. Given past significant delays and continued uncertainties surrounding the schedule, the existing risk reduction measures must be re-evaluated to demonstrate that the communities downstream of your project have a satisfactory level of protection against hydrologic and seismic risks associated with the dam.

Enclosed to this letter are comments you must address to assess the hydrologic and seismic risks associated with Anderson Dam. By November 1, 2019, you must provide a report which addresses these comments and provides recommendations along with a plan

and schedule regarding additional risk reduction measures at the project. Additional risk reduction measures to be considered should include, but not be limited to: additional reservoir drawdowns, construction of interim outlet works, installation of pumps to enhance spillway releases, operations of Coyote Reservoir, enhancements to the Emergency Action Plan, additional EAP exercises, and coordination with local Emergency Management Agencies on warning/evacuation procedures and public awareness measures.

It is critical that you continue to work to provide maximum levels of risk reduction to the public until the project has been successfully remediated. If you have any questions, please contact me at (415) 369-3318 or Mr. David Capka at (202) 502-6314.

Sincerely,

Frank L. Blackett, P.E.
Regional Engineer

Enclosure

cc:
Ms. Sharon Tapia, Chief
Division of Safety of Dams
2200 X Street, Suite 200
Sacramento, CA 95818

Anderson Dam Project No. 5737 Enclosure
Comments for Report on Seismic/Hydrologic Risks

1. Complete the pending dynamic deformation analysis for the embankment at the current reservoir restriction, as described in our June 21, 2018 letter.
2. Evaluate dynamic deformation and cracking for water levels below the current reservoir restriction to a depth that is as low as can be reasonably achieved. This approach should consider the Maximum Credible Earthquake. To expedite this exercise, the reservoir level can be varied in increments that allow for accurate interpolation of displacement.
3. Based on the previously accepted dynamic deformation analysis (and associated cracking) that led to the current reservoir restriction, provide a plot of water level versus calculated displacement.
4. Estimate the return periods for an earthquake which could cause the existing critical features to become inoperable. At a minimum this should include the low level outlet as well as the spillway chute.
5. Provide expected maximum reservoir elevations for various storms from a 5-year event to the Probable Maximum Flood event with varying initial reservoir levels (ranging from completely drawn down to the current reservoir restriction elevation 589.5 ft, NGVD29 Datum). The average monthly mean flow could be added as the base flow for these simulations. Also, perform this analysis to simulate past sequential events, like the series of storms/runoff that caused the spill in 2017, with the above initial reservoir levels. Include the historical records for these sequential events.
6. For each scenario evaluated in comment 5, provide the duration the water surface elevation exceeds the restricted level, the duration the spillway flows, and the peak spillway discharge.
7. Show general inundation zones from a hypothetical dam failure scenario for each of the estimated maximum reservoir elevations identified in item number 5.
8. Show the general inundation zones from spillway discharge flows (without a dam failure) for each of the estimated maximum reservoir levels identified in item 5.
9. Comments 5-8 could be addressed using the HEC-HMS model developed for 2013 PMF study and the HEC-RAS model developed for the EAP's inundation maps preparation study. (The HEC-RAS model is currently under our review.) Submit the electronic files of the models along with your analysis report.
10. We understand you are operating the reservoir informally on a self-imposed Guide Curve in order to comply with the required reservoir restriction. Provide the Guide Curve for our review.

Document Content(s)