From:	Roger Peters
To:	Board Comment; Jack Gibson; Monty Schmitt; Larry Bragman; Cynthia Koehler; Larry Russell
Cc:	Ben Horenstein; Crystal Yezman
Subject:	Hazard Mitigation Plan- Bd 3/15/22 meeting--Item 7
Date:	Tuesday, March 15, 2022 1:45:24 PM

MMWD Board of Directors,

I write to comment on Item 7 on the Agenda for your 3/22 meeting tonight. I realize that this matter has been the subject of a very lengthy public process, and was addressed at your Operations Committe meeting last week. I simply had not followed the progress of this effort. As such, my comments are out of time functionally for purposes of inclusion in the Hazard Mitigation Plan (HMP) scheduled for adoption. I apologize for the lateness of the comments and ask that you and the MMWD staff factor them in to the extent useful as you implement remedial and protective actions consistent with the HMP.

My comments are as follows:

1. Dam Failure--Although the discussion of the dam failure risk notes (Chapter 7.1.1) that dam failure is often a secondary result of an earthquake, that sequential possibility is not discussed in any substantive detail as applied to the various MMWD dams. The risk methodology appears to suggest (p6-2) that the dam failure modeled was based on presumed flood inundation. Table 7-2 does reflect that the hazard potential of a dam failure is high. Given the high reliance on own-stored water to operate the MMWD system that conclusion is justified.

In contrast to the Chapter 7 assessment, the "medium" risk ranking for dam failure in Chapter 16 seems out of line. In particular, since the risk ranking for earthquake hazards is ranked as "high", the absence of an analysis of the secondary effect of a dam failure caused by an earthquake renders the medium risk ranking for dam failure as not being particularly well supported. Further, in view of the possibility that the failure of one or more of the larger dam/reservoirs would almost certainly seriously impact the available water supplies for the District for an extended period of time, the low impact rating reflected in Chapters 16.2 and 16.3 for dam failure seem also open to question. From a layperson's expected value perspective, more hazard attention is warranted for the possibility of a dam failure in an area already way past its expected time for a serious earthquake. That is particularly the case, as here, where continuity of service depends on a water system that relies on dams for

75% of its water.

2. Time to return structures to functionality --In terms of hazard vulnerability, I found the discussion in Chapter 9.4.3 relative to earthquakes and the expected time to return structures (and operations?) to functionality very helpful. I was uncertain why that same analysis was not presented for other hazards. As an example, Chapter 10.4 discussing flood vulnerability did not did not contain a similar assessment.

As to the actual times shown for return to functionality after various assumed earthquakes, I was surprised with the estimate that the MMWD system was projected to be able to largely return (80-100%) to functionality within 90 days. That seem overly optimistic for a serious earthquake.

Linking back to Comment #1 above, it would be helpful to see an assessment of return to functionality times for a major dam failure caused by a significant earthquake.

3. Out-of-area hazards--Given that 25% of MMWD's water supply comes from Sonoma County, it would be useful to have some assessment of the how the significant hazard assessments for Sonoma County Water (SCW) would interact with with MMWD's operational assessment. If SCW had a major hazard incident what impact would that have on MMWD's operations?

I appreciate the time and effort devoted to developing the Hazard Mitigation Plan. Those sorts of plans need to be living documents that are adjusted as changed conditions warrant. As suggested by my comments, I believe that MMWD's high reliance on own-stored reservoir water puts it at high risk for continuity of operations in the face of a number of plausible high impact hazards. Continuity of operations work plans associated with each of the identified hazards are essential operating tools. If they don't presently exist, preparation of such materials would be well worth the time and money needed to develop (and trial test) those sorts of operating manuals.

This HMP should also inform the approaches MMWD considers to improve water supply reliability going forward.

Thanks for taking my late comments.

Roger Peters