

Responses to Comments from a Member of the Ad Hoc Group on the CNA Public Summary Report

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| 1         | Cover  | <p>1.1. The Ad Hoc Group appreciates the opportunity to be included in Oroville’s Comprehensive Needs Assessment, a lot was learned, and looks forward to continued dialog at the Citizen Advisory Commission meetings. Just as DWR was tasked by regulators to complete the CNA study, the Ad Hoc members are equally accountable to the downstream communities we represent, and thus act with both oversight and communicational responsibility.</p> <p>1.2. The attached document contains information for suggested edits to the CNA public report. These suggested edits speak not only to DWR, but our downstream constituents demonstrating we did our due diligence in looking out for their concerns. If the final report is determined to not be a fair representation of the Ad Hoc involvement and ongoing concerns, we retain the option to release a final report of our own.</p> <p>1.3. The general concerns with the draft report could be summarized into three categories:</p> <ul style="list-style-type: none"> <li>• Distrust in the risk analysis and O&amp;M prioritization of risk verses water delivery projects.</li> <li>• Omission of relevant information from both past and present to the general public.</li> <li>• Misleading statements to control the narrative towards less safe/non-urgent next steps, despite uncertainties.</li> </ul> <p>1.4. Within the body of the report is great work by the CNA task teams in developing alternative plan 1-10 and the engineering work that guided those plans. We applaud their effort. But as we have stated before, the best of plans are only stated intent, and safety can only be achieved when people actually implement the plans. Time will tell, regarding the people making the decisions at DWR, and if justice can finally be achieved for both southern and northern California citizens.</p> | <p>1.1. Comment noted. The CNA project was not mandated by regulatory agencies; it was voluntarily undertaken by DWR.</p> <p>1.2. Comment noted.</p> <p>1.3. Comment noted, but respectfully disagree. Every attempt was made to share as much information as was publicly possible at the eight Ad Hoc meetings held over the course of the project. DWR also retained an Independent Review Board to represent public safety in reviewing the procedures, results, and documentation of the CNA Project. The overall conclusion of the CNA Project is consistent with another independent review by a separate panel of experts – the 2019 FERC Part 12D Independent Consultant (report dated July 2020).</p> <p>1.4. DWR will move forward, taking the recommendations from the CNA planning level report, into the overall SWP dam safety and Capital Improvement Projects (CIP) process as described in the reports and as presented at the last Ad Hoc Group meeting.</p>   |
| 2         | ix     | <p>2.1. Although the analysis of the Oroville Facility is being termed "comprehensive," this report is not. The report is clearly written to omit critical information that the general public needs to make an informed decision. What was omitted from the report is very telling of DWR's lack of transparency that the Ad Hoc Group was tasked to prevent.</p> <p>2.2. The flood events of 1986 and 1997 that resulted in over \$500,000 in settlement payments by DWR are just as important historical event as the spillway. Having the 150,000 AF of flood storage that Marysville Dam would have provided, these levee failures may have been avoided. Instead of hard storage, DWR adapted a WCM with surcharge flows over the unprotected emergency spillway during certain standard floods (1/200 yr). Task 2 of the CNA - new Water Control Manual is intended to address this shortcoming, thus inclusion of this information is very relevant to Oroville's history within the public CNA report.</p> <p>2.3. Three major disasters within a thirty one year period (1986-2017) add [perspective] to the term "likelihood of occurrence" used in the risk analysis within this report. Disaster every ten years is fact. Making occurrence determinations in ranges from 1/100 - 1/10,000 is simply guess work.</p>   | <p>2.1. The CNA was a comprehensive planning project which DWR committed to FERC and DSOD to evaluate what enhancements are necessary to ensure Oroville Dam’s operational and dam safety reliability compared to modern standards. DWR does not agree that critical information was omitted from the report. The CNA Project Team responded to questions from the Ad Hoc Group and provided information requested about critical Potential Failure Modes and what facilities they affected. The entire CNA Summary Report is an effort to provide information to the public – a report that was not mandated by FERC or any other regulatory agency. With regard to the quality of the CNA evaluation, the Independent Review Board (IRB) stated in their final report (Report No. 10) that <i>“The IRB believes that DWR and its consultants completed a world-class study that will provide valuable information to assist DWR leadership with decisions about potential investments that will help assure the safety and reliability of Oroville Dam and its appurtenances. The study approach was innovative and the IRB encourages DWR to apply this approach, or a scaled version of this approach, to other projects in the State Water Project.”</i> A copy of the final IRB report was attached to the Public Release Summary Report as Appendix B.</p> <p>2.2. The premise of this comment is incorrect. In 1955, a flood of approximately 200,000 cfs down the Feather River failed a levee protecting Yuba City and flooded the basin – 38 people lost their lives. One of the benefits that Oroville Dam provides is to reduce flood risks to downstream communities. To this end, the dam has been very successful reducing flood flows for four flood events (1964, 1986, 1997, and 2017) from peak flows of approximately 190,000 to 300,000 cfs that would likely have flooded numerous downstream communities down to only about 150,000 cfs, or less. The 1986 and 1997 levee failures were not related to the operation of Oroville Dam and were not overtopping failures of the levees. These levee</p> |

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|           |        |   | <p>failures were related to underseepage and weaknesses in the levee itself. The settlements referred to are not related to the State Water Project or Oroville Dam. Rather they were related to the fact that the State of California (actually the Reclamation Board, now renamed the Central Valley Flood Protection Board) is considered to be a de facto owner of these State-Federal Project levees because it accepted the flood control projects from the Corps of Engineers, and the federal government cannot be successfully sued. During the last decade the State committed \$5B in bond funds to flood management, most of which was spent in Northern California. The Urban and Non-urban Levee Evaluation projects and numerous levee improvement projects were funded by these funds, and many communities along the Feather River now have significantly improved levees. These levee improvement projects continue today.</p> <p>The CNA report provided status updates on potential WCM revisions through the USACE process.</p> <p>2.3. Comment noted. Though not identified it is likely that two of the inferred disasters were not related to Oroville Dam, but rather with the levee system. No levees failed or resulted in flooding of protected communities during the 2017 Oroville Spillway Incident. None of the incidents inferred represent an uncontrolled release of the reservoir, and in fact, Oroville Dam performed well and as intended during the 1986 and 1997 flood events.</p> <p>The risk assessments were performed consistent with federally established and industry leading methodologies.</p> |
| 3         | ix     | <p>3.1. The significant head cutting erosion that initiated the evacuation occurred with less than 2 ft of flood water [that] over-topped the emergency spillway. However the current water control manual allowed 11 ft surcharge flows to overtop the unprotected hillside during certain standard floods (1/200) event.</p> <p>3.2. The stability of the hillside to handle surcharge flow during a standard flood was sold to FERC and ACOE on a flawed report.</p> <p>3.3. Appendix F3 of the IFT Report made these statements about the geology report for the emergency spillway - " none of the reports covering Oroville assets that were prepared for regulatory purposes identified the design inadequacies" ... "there were cutting and pasting of accurate geological descriptions from previous report" ... "inaccurate characterization of sound rock conditions over the entire area of the spillway was perpetuated by truncating earlier, more complete descriptions" ... "Normalization of deviance (where departure from desirable conditions become expected and accepted)."</p> | <p>3.1. The erosion experienced on the Emergency Spillway in the 2017 event was over unarmored terrain. The hillside downstream of the Emergency Spillway has been greatly modified since, protected by a 750 ft long structural RCC apron and 40-70 ft deep Secant Pile Wall. The buttress will provide significant protection to the spillway crest structures and a portion of the hillside downstream of the crest structures. DWR is currently using an enhanced flood pool that prevents the routing of flood waters over the emergency spillway during a standard project flood.</p> <p>3.2. The reservoir operation was designed to handle the Standard Project Flood (SPF) with an inflow of approximately 440,000 cfs and reduce this to a discharge flow of only 150,000 cfs. The reservoir can still manage the SPF as designed without experiencing the headcutting erosion observed in 2017 due to the improvements provided by the newly constructed RCC apron and Secant Pile Wall.</p> <p>The PMF update report has been submitted to FERC and DSOD, and is in the process of final resolution with these agencies.</p> <p>3.3. These fragmented comments are not representative of the extensive geologic and foundation investigations and evaluations contained in the numerous original site geology reports. Nor are the described characterizations representative of the comprehensive geologic studies done on the Emergency Spillway and FCO chute following the 2017 event and used to design subsequent repairs.</p>  |
| 4         | ix     | <p>4.1. The rapid down ramping of discharge flow extended the damage downstream to include: levee damage and near-miss flooding of Yuba City, 100 year old riparian habitat and orchard ground slouching into river, sedimentation, loss of navigability, damaged spawning beds and stranded juvenile salmon.</p> <p>4.2. Several lawsuits were filed by downstream stakeholders as a result of DWR's mismanagement of [its] facility.</p>  | <p>4.1. This statement is the subject of current litigation and DWR has no comment.</p> <p>4.2. This statement is the subject of current litigation and DWR has no comment.</p>   |

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| 5         | ix     | It still lacks the spillway capacity required to pass a new probable maximum flood (PMF) without damage to the facility, CNA Task 1 - Spillway Capacity.   | <p>5. Passing a PMF (an extremely rare event associated with a 21,000-year return period) without damage to the unlined portion of the spillway channel is not typically a design objective for an Emergency Spillway. The primary requirement is to prevent failure of the dam. DWR has filed an updated PMF report with both FERC and DSOD. Both agencies have reviewed and commented. Resolution of agency comments is nearly complete.</p> <p>Deciding whether to provide additional armoring or constructing a new Emergency Spillway is a risk-informed decision. Nine of the ten CNA recommended plans include additional spillway improvement measure options for future DWR consideration.</p>   |
| 6         | ix     | Most of the CNA tasks originated from recommendations identified during the 2014 FERC Part 12 inspections and DSOD inspections, thus satisfying a regulatory requirement that preceded the spillway event.   | 6. This comment is inaccurate. The CNA project was conceptualized in founding documents following DWR's commitment to the project in 2017 – see January 12, 2018, letter from DWR to FERC in Figure 5 of the CNA Public Release Summary report. Part 12D and DSOD inspections were reviewed during the CNA project work, but were not fundamental to project scoping. The CNA Project was a voluntary effort by DWR and was not mandated by either FERC or DSOD.  |
| 7         | ix     | <p>7.1. Key members of the Ad Hoc Group expressed frustration at DWR for not being forthright in providing requested information during meetings, or including relevant information in the public report. Reports that were public in the past were being withheld for CEII protection.</p> <p>7.2. The Ad Hoc Group plans to retain its option to draft a final CNA report for public circulation. Thus the effort to lay out the basic information within these comments, for the general public and media to understand. DWR may want to incorporate these recommended additions to their report prior to the release of the Ad Hoc report to prevent further examples of lack of transparency.</p> | <p>7.1. Every effort was made to share as much information as was permitted under CEII restrictions. Presentations were also made at each meeting by the IRB whose panel members reviewed all of the CNA documents, including those classified as Critical Energy Infrastructure Information (CEII).</p> <p>7.2. Comment noted. DWR has issued a public version of the CNA report.</p>  |
| 8         | x      | <p>8.1. Based solely on DWR's self- ranking CNA risk analysis process ...</p> <p>8.2. The 2019 FERC part 12 process that utilizes independent consultants and incorporated the IFT recommendations is not provided for comparison in this report or Appendix.</p>  | <p>8.1. Comment noted. CNA recommendations were based on the CNA team's analytical results as described in the report.</p> <p>8.2. FERC requires independence of these efforts.. However, DWR's CNA Public Release Summary report included a summary of the risk results from the independent L2RA evaluations. This provides a comparison of the results from the two different risk analyses.</p> <p>It should be noted that the CNA included an Independent Review Board (IRB) providing formal oversight and formal comments requiring the CNA to address, something the L2RA did not incorporate. The IRB reported the results of its reviews throughout the CNA Project at the beginning of each Ad Hoc Group meeting. Moreover, the CNA risk evaluations also incorporated every single recommendation made by the IFT to improve PFM workshops that the L2RA incorporated.</p> <p>Separate from the CNA project, DWR will be required to respond to the recommendations made by the FERC-required Part 12D Independent Consultants.</p> |
| 9         | x      | <p>9.1. The word "unacceptable" refers to risk that are only justified under extraordinary circumstances. It does not mean Oroville's risk are tolerable, or acceptable by downstream citizens.</p> <p>9.2. The word "identified" is used here to omit the fact that there are 25 studies requested to address risk uncertainties, and until these studies are complete, we don't know the risks at Oroville.</p>  | <p>9.1. Unacceptable risk in this report is in the context of dam safety and system reliability and follows guidelines and criteria established by FERC and other federal agencies.</p> <p>9.2. The risk assessment findings were on current existing conditions and were typically independent of ongoing studies with the exception being the FCO structural analysis. The CNA risk evaluations were fortunate to have more information on risk factors than is commonly available in such risk evaluations; for example, detailed studies of the hydrologic and seismological hazards were begun before the 2017 incident. Ongoing studies are typical in dam safety. Reevaluations never end.</p>   |

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|           |        | 9.3. Although this statement is not false, it is not forthright in providing the reader with the amount [of] remaining uncertainties, or what uncertainties the studies are to address. Thus the wording of this statement creates a "False Narrative."  | 9.3. Recommended future studies are briefly summarized at the end of the CNA Public Release Summary report as follows: <i>"hydrologic, scour, landslide, mechanical reliability, and seismic stability investigations."</i><br><br>A full listing is found in the CEII CNA report reviewed by the IRB and submitted to FERC and DSOD. For the most part, these studies are updates of previous evaluations which provided a basis for making the risk estimates. Such studies are updated on a continuing basis throughout the lifetime of a dam project.  |
| 10        | x      | The L2RA study categorized consequences of risk simply in terms of fatalities without any consideration for financial consequences. Within that context it still identified three unacceptable risks and three others that straddled the line. Therefore the statement that the parallel reports were in general agreement is also misleading to the public.   | 10. The statement of general agreement is accurate and detailed in the report. 82% of the PFMs common to both the CNA and L2RA were within one-order of magnitude of matching. The accepted range of uncertainty for a semi-quantitative risk assessment is up to three orders of magnitude. All of the CNA risk estimates were within the range of estimates made by the L2RA. Regardless of who made the risk estimates, all of the higher risk Potential Failure Modes, whether estimated by CNA or by the L2RA team, were targeted for risk reduction examinations and the development of risk reduction Measures and Plans within the CNA report.   |
| 11        | x      | <p>11.1. The original cost of the dam's construction was amortized over the life of the 50 year water contract, thus making annual water charges affordable. The same financial method would make affordable billions of dollars in improvement projects to provide an acceptable level of public safety, and [dependable] water deliveries for the life of the next 50 year contract.</p> <p>11.2. DWR is suggesting downstream communities accept higher levels of "tolerable risk" for a 50 year old dam, due to the cost of implementing retrofit safety projects.</p> <p>11.3. Additionally regulators are encouraged by dam owners to grandfather safety requirements dating back to the time of construction, such as the [requirement] to have the capacity to rapidly draw down the reservoir during an emergency event.</p> <p>11.4. Thus residents downstream of Oroville are going to be asked by DWR to accept a much lower level of safety than the current standards within the industry today.</p> | <p>11.1. DWR will utilize standard funding processes for future dam safety and Capital Improvement Projects.</p> <p>11.2. This statement is inaccurate. The acceptability or tolerability of the risk for a potential vulnerability has nothing to do with the age of the dam. For risks that are <u>not Unacceptable</u>, they are only <b>Tolerable</b> if there are reasonable and practicable efforts made to reduce risk further. This process/concept is often referred to as "ALARP" which prescribes lowering risks to a level that is As Low As Reasonably Practicable." This too is part of risk management procedures and acceptance criteria developed by federal agencies and others over the last 3 decades. The Early, Interim, and Long-term risk reduction plans recommended by the CNA Project incorporate this process. Risks that are <b>Unacceptable</b> generally need to be quickly addressed, but the CNA found no such risks. Two PFMs, which would occur under extreme loading conditions, were on the border of being Unacceptable – the only one of the two related to Public Safety (overtopping of Parish Camp Saddle Dam for a 40,000 year flood) will be addressed by the Interim Risk Reduction Project. The other, flooding of the Hyatt PP, has substantial operational and financial consequences and will be examined under the Long-term risk management strategy recommended by the CNA.</p> <p>11.3. This comment is inaccurate. The report is strictly fact-based and has no ability to influence independent regulatory agencies who are bound to their responsibilities by statutes and regulations. The CNA report highlighted the limitations in current reservoir drawdown capabilities and all 10 of the Alternative Risk Reduction Plans included Measures that would improve the reliability/capacity of reservoir drawdown, with 7 of the recommended Plans including a new Low Level Outlet (tunnel).</p> <p>11.4. The CNA project was chartered to evaluate dam safety and system reliability with respect to modern standards. Risk evaluations were determined on estimated likelihoods of occurrence, not whether a deterministic standard was met.</p> |
| 12        | x      | <p>12.1. The early implementation, of installing piezometers, raising the saddle dam 3 ft, and conducting a state of the art seismic study were risks identified by the IRB team for immediate action, since the cost of further study wasn't warranted.</p> <p>12.2. Then we wait several more years for the completion of 25 pending studies needed to reduce uncertainties for other intolerable risk the CNA was unable to identify.</p>   | 12.1. Comment is inaccurate. The CNA Project Team identified the installation of piezometers and the completion of a seismic stability evaluation of the main dam, and recommended that they be implemented. DWR agreed to this and has completed the installation of most of the planned piezometers and has started initiating the work for the seismic stability evaluation. The Measure for raising Parish Camp Saddle Dam by 3 feet was developed by the CNA Task 5 Team to address a risk that the Task 5 Team had identified, and this Measure was incorporated into every Alternative Risk Reduction Plan. The IRB   |

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|           |        | <p>12.3. The statement "there is not a need for any immediate risk reduction actions" negates this information and furthers a false narrative.</p>   | <p>encouraged DWR to consider this Measure, along with two others, for implementation in the near term since their costs were relatively low. The CNA Team adopted the IRB recommendation.</p> <p>12.2. Implementation of all or part of any one of the 10 recommended plans is not contingent on the completion of the recommended future studies. The studies being recommended address those potential vulnerabilities with the higher, but not Unacceptable, risks and will help DWR make better decisions with regard to which risk reduction measures have higher priorities. It is expected that many, if not all, of these studies (e.g. landslide, hydrologic, seismic stability) will confirm that the Oroville Dam Complex overall has relatively low dam safety risks.</p> <p>12.3. We disagree that this is a false narrative. The CNA Project found no vulnerabilities considered to be Unacceptable, and in keeping with federal guidelines, DWR is moving to implement risk reduction measures that will reduce risks even further. The IRB concurred that the Oroville Dam facilities have relatively low risk, and the 2019 FERC Part 12D Independent Consultant found that <i>"The project is suitable for continued safe and reliable operation. No emergency remedial measures are necessary for continued safe operation."</i> These results are important in prioritizing DWR's risk management efforts for the entire SWP.</p> |
| 13        | x      | <p>13.1. The SWC association has long been critical of DWR's cost of operations and the 2018 IFT report agreed.</p> <p>13.2. Even before the 2000 California Energy Crisis that nearly doubled the electrical cost for pumping water through the SWP, the SWCs were pressuring DWR for rate reductions in their contract, such as the 1997 Monterey Agreement, and the 2020 Water Contract Extension.</p> <p>13.3. Years of cost constraints and lack of human resources created the need for the 2016 Extraordinary Fund to address a backlog of O&amp;M projects. The \$224,000,000 capital plan addresses over 40 projects, about 12 of the projects Oroville and thirty some down south.</p> <p>13.4. Due to the 2017 Spillway Event most of this work is scheduled over the next 5 years, competing with the newly identified safety projects within the CNA process.</p> | <p>13.1. The SWC are briefed on annual and long-term SWP budgets. The comment is tangential to the sentence in the report which states the risks and priorities at Oroville will be considered along with those at all other SWP facilities. Any element of Oroville Dam that is found deficient by FERC or DSOD will require remediation on a schedule acceptable to those agencies and will be managed outside of normal timeframes for SWP routine budget planning processes.</p> <p>13.2. Comment noted. This comment is not directly related to the CNA project.</p> <p>13.3. This comment is inaccurate and not related to the CNA project. Further, all \$224 million of the 40 scheduled 2020-2025 Infrastructure Improvements described in the project reports and at the Ad Hoc meetings are within the Oroville Complex.</p> <p>13.4. All projects recommended in the CNA report will work in parallel and will be complimentary to one another. There may be overlap but no conflict or competition between the recommendations.</p>   |
| 14        | 2      | <p>14.1. Failure to mention the immediate seismic stability study request of the FCO gates is misleading since one would assume the gates to be part of the FCO structure quoted as meeting modern engineering standards. CNA Task #3 - FCO enhancement.</p> <p>14.2. Modern engineering standards would lead one to believe that the regulatory requirement of the combined spillway capacity to pass the PMF without damage to the facility was met, and that should be mentioned here to introduce Task 1 Spillway Capacity.</p> <p>14.3. Another false narrative minimizing the current risk conditions.</p>   | <p>14.1. Ongoing analysis of the FCO headworks and its gate systems is detailed extensively in the CEII-classified Task 3 and overall Project reports. This comment is made on a passage in the report that is commenting on the reconstructed FCO Spillway Chute that is downstream of the headworks.</p> <p>14.2. Regulatory requirements do not require passing the PMF without damage. The PMF can be passed without breaching the reservoir. A PMF would result in large scour of the hillside downstream of the Emergency Spillway apron and secant pile wall. The 10 plans recommended by the CNA for future consideration include measures to limit or eliminate hillside scour under the PMF.</p> <p>14.3. DWR disagrees with this comment.</p>   |
| 15        | 2      | <p>15.1. The 2005 EP Act increased FERC's jurisdiction and its penalty authority, thereby increasing the importance of the Commission's enforcement program. As a result the 2014 Part 12 was the most in depth regulatory investigation preformed on Oroville Dam at the time.</p>  | <p>15.1. Comment noted.</p>  |

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|           |        | <p>15.2. Most of the concerns contained in the CNA originated from the FERC recommendations following the 2014 Part 12 inspections and thus the leading reason for the CNA was regulatory compliance before the spillway event.</p> <p>15.3. The omission of this information furthers a false narrative of, "look what we are doing for you." In actuality both citizens and regulators need to look at what DWR did not do for us.</p> <p>15.4. During the 2014 Part 12 independent consultants suggested three Probable Failure Modes that were nearly identical to the what occurred during the 2017 Spillway event. DWR staff argued the improbability of occurrence and all three were never carried forward.</p> <p>15.5. Despite this, the recommendations included calls for stability studies of both spillways. Due to the acceptable lack of urgency within the dam industry to identify uncertainties, the spillway instabilities were not identified in the three years leading up to the 2017 event.</p>   | <p>15.2. The CNA project was conceptualized in founding documents following DWR's commitment to FERC and DSOD in June 2017 to complete the project. Part 12D and DSOD inspections were not fundamental to project scoping.</p> <p>15.3. Comment noted.</p> <p>15.4. The three failure modes mentioned were indeed included in the 2014 PFMA report, however, they were not carried forward by decision of the FERC-approved Independent Consultants. The PFMA Workshop was conducted by an Independent Facilitator. A principal reason why they were not carried forward was that it was considered unlikely that scour erosion on the spillway chute/channels would lead to failures of the crest structures and result in an uncontrolled release of the reservoir. The 2017 incident did not result in an uncontrolled release of the reservoir, and post-incident risk analyses by the Corps of Engineers resulted in a conclusion that failure of the crest structures was a very low risk.</p> <p>15.5. The structural stability evaluations recommended in the 2014 Ninth Part 12D Independent Consultant report were for the FCO Headworks and the Emergency Spillway Crest Monolith Structures, not for scour erosion such as what occurred in 2017. Structural analyses had been initiated for FCO Headworks prior to the 2017 incident. Structural analyses were completed for the Emergency Spillway monoliths during the Spillways Recovery Project and a new buttress was constructed. Structural analyses for the FCO Headworks are nearly complete as described in the CNA report.</p>  |
| 16        | 2      | <p>16.1. The statement, "major dam safety projects commonly take a decade or more to design and complete" is not justification to reduce the urgency for public safety. It was a lack of urgency and complacency to FERC 2014 recommendations that contributed to the 2017 event.</p> <p>16.2. The historic reconstruction of the spillways within two years of the event demonstrated what is possible if there is the will and reason to do so.</p> <p>16.3. Standard industrial practices were scrapped for innovative processes, such as; accelerate the contract selection process, start demolition and excavation for foundation prep, design phases allowing work before final design, daily coordination between DWR, regulators and consultants, could be incorporated again.</p> <p>16.4. A former Director of DWR went further to say "it may even be cheaper in the long run to consolidate projects and implement the above approach."</p> <p>16.5. This statement of "taking a decade or more" attempts to control the narrative and DWR's perceived agenda of buying time to first fix water delivery issues identified in the 2016 Extraordinary Fund, while waiting for CNA uncertainties to be resolved.</p> <p>16.6. With the completion of the CNA and the 2019 FERC Part 12, we are now beginning to know ... what we don't know.</p> <p>16.7. The other concern of the Ad Hoc Group is the acceptable lack of urgency within the dam industry to reduce uncertainties. The 2017 Spillway event demonstrates what can occur during just 3 years of wait time.</p> | <p>16.1. The typical 10-year timeframe to complete design, permitting, and construction of a major dam project was made to communicate the typical required timeframe required for a major dam safety remediation project, not offered as a justification.</p> <p>16.2. The Spillways Recovery project was completed under emergency conditions and required extraordinary permitting and approvals, dam safety regulatory and engineering processes and procedures, e.g., a Governor's Executive Order and other waivers. (Anderson Dam in Santa Clara County was recently denied similar requested provisions. Duration for the Folsom Dam Auxiliary Spillway project was approximately a decade.)</p> <p>16.3. The described approaches are not ideal but were required by the emergency nature of the project. There are no risks currently identified at Oroville that would call for such actions.</p> <p>16.4. DWR is not aware of this quote from a former director nor of the context in which it may have been made, however emergency work usually is completed at higher costs. Again, there is no risk or need calling for such a repair or action.</p> <p>16.5. The 10-year timeframe is typical and may indeed be optimistic. Examples for comparison taking longer include Folsom Dam Spillway, Lake Isabella seismic remediation, and Anderson Dam seismic remediation. Again, there are no risks requiring such action at Oroville.</p> <p>16.6. Comment noted.</p> <p>16.7. The CNA and L2RA processes are the most comprehensive ever undertaken in the United States for a non-federal dam. The CNA planning study was a voluntary effort by DWR, not one mandated by either FERC or DSOD. Early, Interim, and Long-term risk management actions are planned and starting.</p> |

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|           |        | 16.8. In this DWR statement, "Major dam safety projects commonly take a decade or more to design and complete," tells us the DWR and possibly its regulators have not learned the lessons of the past.  | 16.8. Please see responses to 16.5 and 16.7.   |
| 17        | 4      | <p>17.1. The IRB was not tasked to review all the studies and reports. They instead made a recommendation for an internal peer review by another DWR engineer.</p> <p>17.2. DWR committed verbally to the Ad Hoc Group that the lead engineer and review engineer would sign the documents that will be retained as part of the STID.</p> <p>17.3. The Ad Hoc Group has not received confirmation that this commitment has been completed.</p>  | <p>17.1. The IRB members reviewed all reports in draft and final form and the supporting technical evaluations that were provided to them in advance of the meetings with presentations given by the CNA Team at each IRB meeting. Internal peer reviews were performed as recommended by the IRB in addition to IRB reviews, including multiple reviews by the Integration Team, of the reports and risk evaluations completed by separate CNA task teams.</p> <p>17.2. All project work was reviewed extensively by the CNA Integration Team. The CNA project organization had no designation for lead engineer or review engineer. The technical memoranda documenting technical analyses to support the CNA risk analyses and development of measures were signed and stamped by the lead engineers performing those studies.</p> <p>17.3. Please see response to 17.2.</p>  |
| 18        | 4      | <p>18.1. The IRB tracking log of the 79 formal comments and recommendations was omitted from the Appendix and should be included so as to demonstrate where the IRB felt the need to intervene or question DWR's thinking.</p> <p>18.2. The IFT report stated, "DWR had a strong sense of pride in the organization and its historic achievement ... likely contributed to DWR overestimating its capabilities in recent decades with respect to dam engineering and safety ... many DWR staff didn't know what they didn't know, which created an issue of "unknown unknowns."</p>   | <p>18.1. All 79 formal comments and recommendations made by the IRB were included in their reports following each of the IRB meetings. The Ad Hoc was provided these reports so the Ad Hoc could be aware of the areas where the IRB made comments. The IRB presented summary updates of the status of each comment at each Ad Hoc meeting and often summarized the content of those comments at a high level at those Ad Hoc meetings. The IRB stated that they were satisfied with DWR's responses to comments and were able to close their comments.</p> <p>18.2. Comment noted.</p>  |
| 19        | 6      | <p>19.1. The Downstream Consequences Report (Ford) was requested by the Ad Hoc Group and like many other requests, never provided.</p> <p>19.2. Since financial consequences of occurrence is a key measurement for categorizing risks as; unacceptable, tolerable, or acceptable it's important for the report to include all indirect financial consequences the downstream communities would have to bear, including: Highways, roads, public and private infrastructure, lost crops and business revenue, sales, property and income tax revenue, future development and growth, [personal] wages, belongings, and cleanup cost.</p> <p>19.3. Failure to provide the report for Ad Hoc review, and omitting it from the appendix calls into question the very categorization of financial consequences and thus the final scoring of the risk analysis itself.</p> <p>19.4. Additionally regulators and citizens alike must question the categorization of risk for an event with financial cost up to \$1 Billion, such as spillway reconstruction. Under the CNA risk [matrix] such an event could happen between 1/10 and 1/30 years and still [be] considered tolerable.</p> <p>19.5. It's critical that DWR is just as forthright and transparent regarding the risk analysis used in the O&amp;M [matrix] to prioritize the scheduling of water delivery projects over safety projects, and the urgency for their completion.</p> | <p>19.1. The content of the referenced downstream consequence report prepared by HDR contains public safety information and is therefore information DWR cannot make publicly available. DWR has made this information available to law enforcement agencies in the region and will continue to do so.</p> <p>19.2. Direct and indirect costs were included in the risk assessments. The elements identified in the comment would be indirect costs and high-level estimates of these costs were made in the risk evaluations.</p> <p>19.3. Please see response to comment 19.1. Details of the consequences were included in the CNA Report submitted to the FERC.</p> <p>19.4. The stated combination of Financial Impacts and likelihood would not be considered a tolerable risk. This appears to be a misreading of the CNA Risk Matrix – the combination cited is actually in the red area far above the Tolerable Risk Reference Line – it would not be considered to be Tolerable.</p> <p>19.5. The CNA risk matrix and risk analyses did not prioritize SWP water delivery over Public Safety. In fact, SWP water delivery consequence levels only could reach a Consequence Level 5 (Major – Column 5 in the CNA Risk Matrix). On the other hand, Public Safety could rise to a Consequence Level 11 (Column 11 in the CNA Risk Matrix). In the CNA risk evaluations, Public Safety consequences always dominated SWP water delivery consequences.</p> |
| 20        | 6      | 20.1. Regulators know that past PFM risk analysis failed to [identify] the spillway problems and are in the process of making improvements.   | 20.1. Lessons learned from past PFM evaluations and recommendations by the IFT were incorporated in the CNA PFM evaluations.   |

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|           |        | <p>20.2. During the 2014 FERC Part 12 Inspection three of the PFMs suggested were nearly identical to what occurred during the 2017 Spillway Event yet never carried forward.</p> <p>20.3. The 2019 FERC Part 12 incorporated recommendations from the IFT report addressing some of these concerns. As a result the 2019 FERC inspection developed its own list of recommendations and requested some 20 additional studies be [performed] to reduce numerous areas of uncertainty. DWR has yet to publicly release the FERC recommendations from this investigation.</p> <p>20.4. The CNA risk analysis and risk ranking were only developed internally without independent consultants, but simply guidance from the IRB.</p> <p>20.5. The lead IRB member made these comments at Ad Hoc Meeting# 7 -</p> <p>20.5.1. "When you begin to look at things in a risk context, then you start asking many more questions than are asked through standard deterministic analysis that lead to factors of safety. And you can make errors both ways with factors of safety."</p> <p>20.5.2. "In a large number of cases where factors of safety are computed, they are only computed for those things that we know how to [analyze], and it a significant risk to believe that just because someone has computed a factor of safety that that is adequate for a full understanding of the risks posed by a dam."</p> | <p>20.2. Please see response to comment 15.4. The three failure modes mentioned were in the 2014 PFMA report, however, they were not carried forward by decision of the FERC-approved Independent Consultants. The PFMA Workshop was conducted by an Independent Facilitator. All three of these PFMs were fully developed as input to the CNA risk evaluations.</p> <p>20.3. The FERC Part 12D Independent Consultant reports contain Critical Energy Infrastructure Information and is therefore not releasable to the public due to the sensitive nature of that information. DWR is preparing a summary of these recommendations that will be made available to the public.</p> <p>20.4. The CNA risk evaluation results were reviewed by the IRB, and detailed comparisons were made to the risk evaluations performed by the independent L2RA team. The IRB reviewed these comparisons. There has never been a dam safety risk evaluation where two parallel teams made separate contemporaneous evaluations for the same dam and Potential Failure Modes – it represents an unprecedented independent quality control check. With regard to receiving guidance and independent review of the CNA evaluations from the Independent Review Board (IRB), and then implementing those recommendations, the IRB stated in their final report (Report No. 10) that <i>"The project team and DWR are to be commended for their effort to carefully consider the input of the IRB and for consistently addressing our comments and recommendations during the process of finalizing the reports...All of the comments have been closed or otherwise addressed as appropriate. The IRB appreciated how the Project Team addressed the IRB's comments and recommendations."</i> A copy of the final IRB report was attached to the Public Release Summary Report as Appendix B.</p> <p>20.5.1. Comment noted.</p> <p>20.5.2. Comment noted.</p> |
| 21        | 7      | <p>21.1. Independent consultants in the L2RA were asked to only consider loss of life consequences and not financial consequences to facility owners or downstream citizens.</p> <p>21.2. Even within this more lenient criteria they ranked 3 PFMs as unacceptable and another 3 PFMs straddling the line of unacceptable as shown on page 53.</p> <p>21.3. The statement "general agreement" between the reports furthers DWR's false narrative.</p> <p>21.4. A more accurate comparison would have been the 2019 FERC part 12 inspection which produced recommendations for 20 some studies to reduce uncertainties. Unlike previous Part 12 inspections, DWR has not released the redacted PFM study and its list of recommendations.</p> <p>21.5. The Ad Hoc Group thanks FERC for not simply taking their best guess, but [ordering] actual studies on uncertainties for Oroville.</p>   | <p>21.1. Comment noted. However the CNA risk analysis did consider downstream financial impacts.</p> <p>21.2. The CNA risk estimates were within the ranges of estimates developed by the L2RA for these PFMs. The CNA report included measures in the 10 recommended plans that responded to all L2RA high risk scenarios.</p> <p>21.3. Please see response to comment 10. The statement of general agreement is accurate and detailed in the report. 82% of the PFMs common to both the CNA and L2RA were within one-order of magnitude of matching. Additional details of the comparison are provided in the report.</p> <p>21.4. The 2019 Tenth FERC Part 12D Inspection Report included the results of the L2RA evaluations, but did not make separate risk evaluations, so there would not be anything to compare to other than the L2RA. Many of the 20 or so studies recommended overlap those recommended by the CNA, and the Part 12D report comments on and endorses several CNA efforts, including the installation of new piezometers.</p> <p>21.5. The CNA Project was a voluntary effort by DWR. It was not mandated by FERC or DSOD.</p>   |
| 22        | 8      | <p>22.1. Division of Safety of Dams (DSOD) is a division within DWR and thus in the difficult position of being the oversight regulator for its own parent organization.</p>   | <p>22.1. Requirements for DSOD independence are included in Division 3 of the California Water Code. This includes the requirement for an independent review by a Consulting Review Board composed of expert engineers and geologists for every DWR dam within the jurisdiction of DSOD.</p>   |



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|           |        | <p>22.2. In the past it has been questioned on its effectiveness to enforce violations and recommendations regarding the safety at Oroville Dam.</p> <p>22.3. Additionally a recent peer review of DSOD expressed concerns on its ability to enforce recommendations or [levy] fines on violations. There was even a bill introduced into state legislation which would move DSOD away from DWR and into the Department of Natural Resources to eliminate influence and increase DSOD independence.</p> <p>22.4. Given the age of the FCO gates, active earthquake faults, seepage concerns, and minimal low-level outlet capacity, Oroville's inability to rapidly draw down the lower 2/3 of the reservoir according to DSOD current standard will be a real test of its independence and authority over its parent organization.</p> <p>22.5. For DWR to make numerous statements of "no unacceptable risks" within this CNA report, is telling DSOD they expect to receive an exception to the draw down requirement, due to preexisting conditions.</p>   | <p>22.2. Comment unrelated to the CNA project.</p> <p>22.3. Comment unrelated to the CNA project.</p> <p>22.4. Comment unrelated to the CNA project. Reservoir drawdown capacity through low-level outlets and potential vulnerabilities of the radial gates were prominently considered in the CNA evaluations and potential risk reduction measures were developed for future consideration to address these potential vulnerabilities.</p> <p>22.5. This is a CNA finding and conclusion based on probably the most comprehensive risk analysis of its kind ever performed for a non-federal dam. It is basically the same conclusion reached by the recent 2019 10<sup>th</sup> FERC Part 12D Independent Consultant.</p> |
| 23        | 9      | <p>23.1. Even before the 2000 California Energy Crisis, which nearly doubled the electrical cost of pumping water through the SWP, the SWC association was pressuring DWR for rate reductions, as was signed in the 1997 Monterey Agreement and the 2020 State Water Contract Extension.</p> <p>23.2. In 2016 the SWCs agreed to \$224 million of capital expenditures to address a backlog of O&amp;M safety and delivery projects. The 2016 Extraordinary Fund has scheduled an average of \$45 million worth of projects over the next 5 years. This is 9 times the \$5M / yr. of safety projects completed from 2011-2013.</p> <p>23.3. The delay has created the need to prioritize these long standing delivery projects against recently discovered safety projects. Even FERC studies needed to reduce uncertainties will have to compete for human /financial resources.</p> <p>23.4. Within the water contract agreement, the SWCs pay all cost for O&amp;M projects. DWR is said to have authority to "do what they deem necessary" and SWC reserves the right to challenge later.</p> <p>23.5. DWR waited for SWC to agree to extraordinary financing to address this backlog of O&amp;M concerns rather than when the issue is first identified, as was [intended] in the original contract and "pay as you go" in the new contract. Thus what was pushed back for funding concerns is now pushing back safety concerns, such as the urgent need to resolve 25 uncertainties at Oroville.</p> | <p>23.1. Comment noted. This comment is not directly related to the CNA project.</p> <p>23.2. Please see response to comment 13.3.</p> <p>23.3. Dam safety projects required by FERC and DSOD are subject to schedules approved by those agencies and not under control of DWR.</p> <p>23.4. Comment noted. This comment is not related to the CNA project.</p> <p>23.5. Comment noted. The 25 recommended investigations were developed by the CNA teams as a result of the CNA risk analyses completed this year.</p>   |
| 24        | 70     | <p>24.1. The statement - "with respect to traditional dam safety engineering requirements, the plans that show the most risk reduction and improved resilience may represent an excessive effort." This suggestive statement is an attempt to lower downstream citizens expected level of safety.</p> <p>24.2. For downstream citizens who lived through 3 major disasters within the 31 years between 1986 - 2017, we have lost our "respect for traditional dam safety engineering requirements."</p> <p>24.3. The Ad Hoc Group greatly appreciates the efforts of FERC Dam Safety in their renewed effort and realization that past traditional requirements have failed and should not be the standard going forward.</p>  | <p>24.1. The statement is intended to clarify that the plans with the greatest number of measures may also include overlapping redundancies that are not all necessary for dam safety.</p> <p>24.2. It is important to note that Oroville Dam did its job and provided immense flood relief during the 1986 and 1997 floods, and several communities along the Feather River would have been flooded without the flood reduction it provided. Even during the 2017 incident, the damaged spillways reduced peak river flows from 190,000 cfs to approximately 100,000 cfs. No levees failed during the 2017 event.</p> <p>24.3. Comment noted.</p>  |
| 25        | 77     | <p>25.1. A Probable Maximum Flood (PMF) hydrology study is required for FERC Part 12 inspections. In preparation for a recent Part 12 inspection, DWR requested and received an exemption for a new PMF study.</p>   | <p>25.1. An updated PMF study is complete, has been submitted to FERC and DSOD, and is in the stages of final agency comment resolution.</p>  |

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|           |        | <p>25.2. The PMF hydrology study submitted in 2019 was challenged by FERC for not following new methodology. Atlas 12 was adapted as the new standard years before DWR created this latest PMF study used for the CNA, L2RA and FERC Part 12.</p> <p>25.3. Since DWR helped to develop this new methodology, its adaptation as the new standard should not have been a surprise. When last asked DWR said they are still negotiating with FERC over the study.</p> <p>25.4. One [of] the changes in Atlas 12 takes into consideration the duration of an event similar to the Great Flood of 1862 when San Francisco recorded 33" of rain during a 10 week period.</p> <p>25.5. The Biblical Flood That Will Drown California<br/> <a href="https://www.wired.com/story/the-biblical-flood-that-will-drown-california/">https://www.wired.com/story/the-biblical-flood-that-will-drown-california/</a><br/>           What they found was stunning. The Great Flood of 1862 was no one-off black-swan event. Summarizing the science, Ingram and USGS researcher Michael Dettinger deliver the dire news: A flood comparable to—and sometimes much more intense than—the 1861–1862 catastrophe occurred sometime between 1235–1360, 1395–1410, 1555–1615, 1750–1770, and 1810–1820; “that is, one megaflood every 100 to 200 years.”</p> <p>25.6. In the past PMF information has been available to the public. When the Ad Hoc Group requested the current PMF, DWR denied that request for CEII concerns.</p> <p>25.7. A major regulatory requirement for dam safety is the ability of the spillways to pass PMF inflows without damage to the facility. It's questionable that Oroville's current spillways have that capacity.</p> <p>25.8. A current requirement of DSOD is dams must [have] the low-level outlet capacity to rapidly draw down the reservoir during an emergency event, such as FCO failure, earthquake, uncontrolled seepage, [etc.]</p> <p>25.9. Given this new realization that past hydrology estimates are not adequate for establishing dam safety requirements, one must ask why DWR asked for the past exception to not update their PMF study and attempted to enter into these parallel investigations without using Atlas 12.</p> <p>25.10. Are we seeing a continuation of what the IFT Report called "Normalization of Deviation?"</p> | <p>25.2. DWR has responded to all FERC comments and has provided justifications and substantiation for all of the methods and procedures used in the PMF evaluations. Responses are currently under final review.</p> <p>25.3. There is no new standard for HMR 58/59. Please see response to comment 25.2.</p> <p>25.4. Comment noted.</p> <p>25.5. Comment noted.</p> <p>25.6. The Probable Maximum Flood report contains Critical Energy Infrastructure Information and is therefore not releasable to the public due to the sensitive nature of that information</p> <p>25.7. There is no major regulatory requirement to pass the PMF without damage to the facility. The requirement is to not fail the dam. Please see response to comment 14.2.</p> <p>25.8. DSOD maintains drawdown guidelines, not rigid requirements, as described on the DSOD website and in the CNA reports. The CNA considered drawdown capabilities in its risk analyses and prominently discussed this in the reports. 7 of the 10 alternative risk reduction plans included a new low-level outlet for future consideration.</p> <p>25.9. DWR has completed an updated hydrologic study and PMF estimates as required by FERC and DSOD. Final resolution of comments is underway.</p> <p>25.10. DWR just completed one of the most comprehensive risk analyses of its kind ever performed for a non-federal dam and has thoroughly looked into the risks. Over 400 PFM scenarios were developed and 5 consequence categories considered, leading to over 2000 risk estimates being completed.</p> |
| 26        | 85     | <p>[Note: The following text was highlighted and then commented upon: “It may be that no further risk-reduction projects beyond the Interim Implementation Project and Other Interim Measures will be warranted for the near future, or even foreseeable future, particularly if there are major safety or operational needs elsewhere in the SWP.”]</p> <p>Comment text:</p> <p>26.1. The statement - "no further risk-reduction projects may be warranted, particularly if there are major safety or operational needs elsewhere in the SWP" can be [interpreted] as there is only a limited</p>  | <p>26.1. Comment noted.</p> <p>26.2. Comment noted.</p> <p>26.3. Comment noted. DWR will continue to monitor and assess the condition of the facility and quickly mitigate any significant risks that are identified. Additionally, Federal and State dam safety regulators would also mandate a quick response to any dam safety risk.</p> <p>26.4. Comment noted. This comments appears unrelated to the CNA project.</p>  |

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|           |        | <p>amount of human and financial resources in the foreseeable future. Again DWR is creating [a] false narrative to reduce expectations.</p> <p>26.2. DWR as the operator of the SWP retains the authority to maintain the SWP as they deem necessary or as required by its regulators and should exercise its independence and authority.</p> <p>26.3. If it's found that water delivery projects require a misappropriate amount of human and financial resources, then one must question DWR on their ability to continue to act as an independent owner and operator of the state water project for allowing such a backlog of known and unknown risks to exist.</p> <p>26.4. The Ad Hoc Group made a request to DWR to provide a list of just the known projects that created the need for the 2016 Extraordinary Fund. For each of the projects we requested the description and purpose of the project, risk ranking on the O&amp;M [matrix], and the date first identified. Like many other requests made by the Ad Hoc Group, DWR has yet to comply.</p>  |   |
| 27        |        | <p>27.1. CNA Task #2 - New Water Control Manual - The Task 2 work demonstrated that forecast-informed reservoir operations (FIRO) at Lake Oroville is viable, with the potential to yield both flood risk reduction and water supply benefits.</p> <p>27.2. Forecast Informed Reservoir Operations (FIRO) is a departure from the traditional hard flood storage ACOE has used in the past. It creates a sliding flood pool depending on the annual precipitation, wetness index, and forecast.</p> <p>27.3. A major advantage for the SWCs is during drought years, the flood pool will be reduced from its current 900,000 AF, which sometimes prevents the lake from filling thus causing reduced water deliveries.</p> <p>27.4. The advantage for downstream communities is by incorporating new forecasting tools, early releases through low-level outlets can increase the flood pool days before the storm event arrives. It's within this area of operations DWR hopes to meet some of the unknowns of climate change.</p> <p>27.5. The three basic requirements for implementation of FIRO [are]: good science, capable and resilient facility, [knowledgeable] and unbiased human decisions.</p> <p>27.5.1. Good science goes beyond the great work being done by the [Scripps] Institution and others, it starts within DWR. Do they know, what they don't know? Do they have an aggressive plan to reduce uncertainties? Will they commit to state of the art studies as requested for the FCO gates? Or will they continue the practice of "normalization of deviation" demonstrated in past geology and current hydrology reports?</p> <p>27.5.2. Capable and resilient facility is what this CNA report hoped to demonstrate. Although this report's narrative was written to portray such conditions may currently exist, it's now obvious that a lot more may still need to be done. FIRO will test the resilience of 50 year old FCO gates and troubled river value outlet, both lacking redundancy. And the downstream levee system that may experience additional outflows exceeding the river channel with FIRO.</p> <p>27.5.3. Knowledgeable and unbiased human decision making in probably the greatest unknown, as was discussed within the Independence Forensic Team (IFT) Report. FERC in their April 11, 2018, letter to</p> | <p>27.1. Comment noted.</p> <p>27.2. Comment noted.</p> <p>27.3. Comment noted.</p> <p>27.4. Comment noted.</p> <p>27.5. Comment noted.</p> <p>27.5.1. Comment noted.</p> <p>27.5.2. Comment noted.</p> <p>27.5.3. Comment noted.</p> <p>27.6. Comment noted.</p> <p>27.7. Comment noted.</p> |

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|           |        | <p>Director Nemeth requested more clarity on how DWR's multi-year plan addresses findings and recommendations of the forensic report. Her response and the progress of the plans [were] not shared with the Ad Hoc Group.</p> <p>-----</p> <p>Dam Safety Organization and Practices<br/>Excerpts from IFT Report - Appendix K</p> <p>"there are investigations proposed by the Dam Safety Branch that had not made the DWR Director's Board of FERC recommendation lists. This is due to a general lack of resources, with the result being that "things that aren't broken" are not being investigated" ... " It is apparent from the IFT that does not have the background expertise to be knowledgeable on all aspects of engineering involved with dam safety.</p> <p>General Organizational, Regulatory And Industry Factors. Excerpts from IFT report Chapter 6:</p> <p>"the IFT found that DWR was likely subject to significant pressure by the SWC to control costs" ... "there was a well-intentional desire within DWR to focus on operations, to meet the water delivery needs of the SWC" ... "DWR needed to balance these goals of production versus safety and lacked leadership and authority at the executive level."</p> <p>27.6. Regardless of whether or not DWR moves to FIRO Operations to address climate change, DWR has not demonstrated knowledgeable and unbiased human decision making in the past. Can their unbiasedness be trusted during a FIRO storm event to make the necessary early releases for safety .... that might jeopardize water deliveries in the summer?</p> <p>27.7. It's advised that similar to the CNA process that examined Capable and Resilient Facilities, another independent investigation of Human and Organizational issues be completed and then shared with the Citizens Advisory Commission in the near future.</p> |           |

1. Spelling, punctuation, and word choice have been lightly corrected.