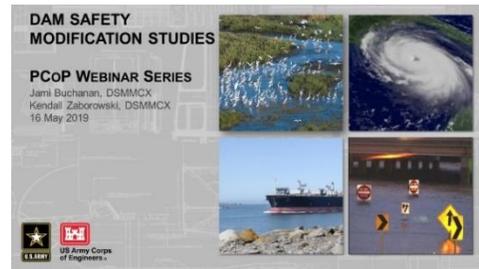


Dam Safety Modification Studies

May 16, 2019

Q&A Session

This webinar provided an overview of Dam Safety Modification Studies including best practices, how these studies incorporate risk informed planning, and examples of recent successes. The webinar was presented by Kendall Zaborowski and Jami Buchanan, planners with the Dam Safety Modification Mandatory Center of Expertise (DSMMCX), and provided an overview of the USACE Dam Safety Program and its relationship to planning; described the Tolerable Risk Guidelines framework; and discussed how Dam Safety Modification Studies are different from other Civil Works feasibility (General Investigations) studies.



This summary of the Question / Answer session of the webinar is not a transcription; questions and responses have been edited and reordered for clarity.

Plan Formulation Considerations for Dam Safety Modification Studies

Can you discuss the potential for using non-structural measures in Dam Safety Modification Studies (DSMS) to reduce risk and our ability (or inability) to implement those measures?

When we evaluate or characterize risk, there are two primary components we analyze: the likelihood of harm occurring, and the consequences of said harm occurring. Nonstructural measures usually address harm reduction through the reduction of consequences (e.g., placing warning sirens in a community with a dam, implementing reverse 911, setting up evacuation route signage). Such measures are definitely considered in DSMS planning.

However, there are several difficulties associated with nonstructural measures in the context of a DSMS: First, planning teams are operating under limited authority. Under a DSMS, USACE has authority to modify an existing structure in order to maintain the established project purpose; if the team goes outside of this scope, new congressional authority would be required, which would limit certain nonstructural measures such as buyouts. Teams can certainly recommend such measures if they think it's the most effective way to reduce risk, but there will be a delay in realizing that risk reduction because of the need to pursue a new authority. Second, there is a balance that must be struck between USACE and communities such that USACE isn't completely managing community risk; communities should be taking action as necessary (including implementing nonstructural measures) to fulfill their shared responsibility of managing risk because they are securing benefits, too.

Can you provide some clarification on the following language in [ER 1110-2-1156, Safety of Dams](#)? "The impounding capacity at maximum water storage elevation includes storage of floodwaters above normal full storage elevation." If the storage to be considered a dam is 50 acre-feet, exactly how is that 50 acre-feet calculated?

In general, the Dam Safety community has supplemented the acre-feet calculation to determine whether the ER applies to a structure with the determination of the hazard potential of the dam or

structure. Both USACE and state-managed Dam Safety programs use the following three hazard classifications: low hazard (no significant economic or life-loss consequences); significant hazard (economic loss downstream); and high hazard (both economic loss and life loss downstream, or life loss only). If a structure is determined to have a high hazard classification, then the ER applies.

DSMS Review and Compliance Processes

Concurrent review for most feasibility studies occurs between the Tentatively Selected Plan (TSP) and Agency Decision Milestone (ADM), but for DSMSs it looks like this step occurs after the Dam Safety Oversight Group (DSOG) meeting, which aligns with the ADM (*reference Slide 8*). Is there also a final review of the document?

That's an excellent observation – the graphic on Slide 8 isn't perfect, as some of the reviews start before the DSOG and some start after. We like to start concurrent technical review in between the TSP and the DSOG milestone. Post-DSOG is when we conduct concurrent public review and Policy and Legal Compliance Review with the Office of Water Project Review. This is also when independent external peer review (IEPR) occurs, if necessary. If your team is conducting a DSMS, the DSMMCX will help you through the scheduling details, including reviews.

Have the District Quality Control (DQC) reviews for most of the recent DSMSs been consistent with the requirements in [EC 1165-2-217, Review Policy for Civil Works](#)?

The DSMMCX works directly with teams and makes sure they are aware of the new requirements in EC 217 and are doing their best to comply with them.

Are the TSP milestone briefing materials for the example DSMS projects available for other USACE planning teams?

Teams can request example FOUO briefing materials from Kendall Zaborowski and Jami Buchanan on an individual basis.

Can you discuss the National Environmental Policy Act (NEPA) and environmental law compliance process with DSMS – is an integrated report required? How has Endangered Species Act (ESA) consultation gone with the studies that have been completed? How does such compliance impact the alternatives approach and/or schedules and budgets?

First, the Dam Safety Program does not write integrated NEPA documents with DSMS reports, for the reason that DSMS reports are designated as “for official use only” (FOUO) due to the sensitive information they contain about dams and downstream consequences. The FOUO designation of the Dam Safety Modification Report means that the NEPA documentation is kept separate, which is different from regular feasibility studies.

Second, like any other feasibility study, DSMSs must comply with NEPA, including assessing your range of alternatives and making a determination early on about what you think the most appropriate NEPA action is (i.e., environmental impact statement, environmental assessment, categorically excluded work,

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etc.) Regarding alternatives approaches, schedules, and budgets, teams need to consider their NEPA compliance requirements up front during the first several planning iterations.

We have one ongoing study, Whittier Narrows Dam out of SPL, that is working towards a Biological Opinion with the Fish and Wildlife Service. Like many other studies, working through ESA coordination is going to come down to ensuring the right level of detail in the technical work, and the relationship building and communication with our Federal agency partners.

Who are the decision-makers at each DSMS milestone, and what are their roles and responsibilities for delegated studies?

There is no delegated authority in place for DSMSs at this time, so decision making responsibility still lies at Headquarters. The decision makers at each milestone are made up of the Dam Safety leadership vertical team – the District Dam Safety Officer (DSO), Dam Safety Program Manager (DSPM), and Planning Chief; the MSC DSO, DSPM, and Planning Chief; and the Headquarters DSO and DSPM. In addition, Maria Wegner has been delegated as the plan formulation representative from Headquarters, so she is often involved in milestone meetings and is a voting member of the DSOG. Dave Moser, USACE Chief Economist, represents economics and consequence analysis, and is also part of the vertical team. Finally, the directors of some of the Centers of Expertise are also part of the vertical team – Pat Morgan of the DSMMCX, Nate Snorteland of the Risk Management Center (DSOG chair), and Robert Simrral of the Mapping, Modeling & Consequences Center.

Engaging with the DSMMCX

What are the suggested methods for a District to engage with the DSMMCX as a project transitions from an Issue Evaluation Study to a DSMS?

Typically, the DSMMCX has a good idea about the pipeline of DSMSs coming its way. In fact, the DSMMCX may even contact a District before the District knows this type of work is coming. If not, Districts can reach out directly to Kendall or Jami.

Since DSMSs have FOUO sensitivities, what does the public involvement process look like, and do key messages get vetted by the USACE Dam Safety Program?

Like with other planning studies, we use the NEPA process to engage the public. Just because the reports are FOUO doesn't mean that the risk related to structures cannot be communicated effectively to communities. Key messages to the public are typically vetted through the USACE Dam Safety Program and District DSOs and DSPMs, but by the public involvement process the DSMS study team should be regularly engaged with the Dam Safety vertical team members as well as other planning team members to ensure risk is communicated consistently.