



Year-In-Review

National Dam Safety Program Fiscal Year 2020

March 2021



FEMA

1. Year-In-Review

The National Dam Safety Program is a partnership of public and private sector stakeholders that promotes the establishment and maintenance of effective federal and state dam safety programs to reduce the risks to human life, property, and the environment from dam related hazards.

The program began to publish this series to showcase essential National Dam Safety Program accomplishments that occurred during Fiscal Year 2020. It provides the dam safety community, as well as the public, a heightened understanding of the Program's objectives: to reduce the risk associated with dams and promote the benefits of dam safety.

To promote dam safety, FEMA coordinates with federal, state and private sector partners through:

- The National Dam Safety Review Board (NDSRB), comprised of federal, state and private sector partners, advises FEMA's administrator in setting dam safety priorities. The board also consults the administrator on the effects of dam safety policy.
- The Interagency Committee on Dam Safety (ICODS), comprised of federal agencies having an involvement with dams, was founded in 1980 to encourage the establishment and maintenance of effective federal programs, guidelines and policies to enhance dam safety and security.

Table 1: Accomplishments for Fiscal Year 2020

Program Highlights	
Total Training/Collaborative Assistance Technical Sessions	15
Training Participants	more than 516
New updated guidance or tools	9

1.1. Trainings

1.1.1. EMERGENCY MANAGEMENT INSTITUTE TECHNICAL SEMINAR – FEBRUARY 2020

The National Dam Safety Review Board Work Group on Dam Safety Training welcomed all dam and levee safety professionals and those responsible for responding to dam and levee safety incidents to the annual National Dam Safety Program Technical Seminar (NDSPTS).

The annual technical seminar took place Feb. 19-20, 2020, on the campus of the National Emergency Training Center (NETC) in Emmitsburg, Maryland. In total, 225 individuals were in attendance. This seminar highlighted and shared advances in the science and engineering for prediction and estimation of extreme storm events, hydrologic and hydraulic forecasting and decision support and dam engineering design.

1.1.2. COLLABORATIVE TECHNICAL ASSISTANCE (CTA)

The FEMA [Collaborative Technical Assistance \(CTA\) series](#) helps communities at risk of dam-related flooding to better understand their risk landscape and the potential consequences of dam-related emergencies. This technical assistance includes planning for emergencies related to operational discharges or dam-related infrastructure failure. In Fiscal Year 2020, the FEMA program worked with two partners - San Diego County, California and South Carolina Homeowners Association.

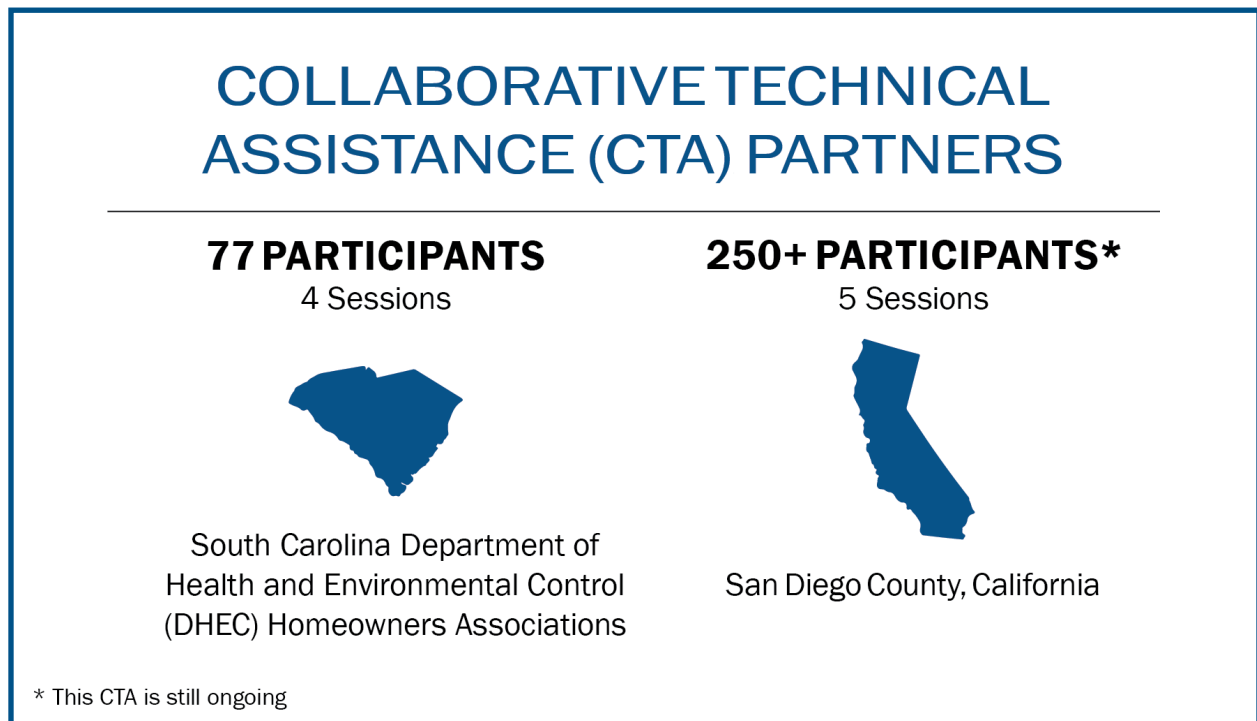


Figure 1. Collaborative Technical Assistance (CTA) Partners

1.1.3. DECISION SUPPORT SYSTEM FOR WATER INFRASTRUCTURE SECURITY (DSS-WISE™) LITE – RAPID DAM BREAK FLOOD AND CONSEQUENCE ASSESSMENT: REGION 1 – IN-PERSON SESSION NOV. 5-6, 2019; VIRTUAL SESSION – SEPT. 29, 2020

This workshop, offered by FEMA, instructed dam safety professionals, dam safety regulators, community officials and emergency managers to understand how to rapidly identify the potential flood hazard areas downstream of dams, why it is important to evaluate the consequences of potential dam releases or failures, what steps can be taken before a dam failure incident to mitigate flood risk and manage the risk that remains. The Region 1 seminar took place in Boston and hosted 17 attendees and the virtual seminar hosted 200 attendees.

1.1.4. RISK AND CRISIS COMMUNICATION STRATEGIES FOR DAM EMERGENCIES: WORKSHOP AND TABLETOP EXERCISE – MARCH 11-12, 2020

This FEMA hosted workshop concluded with a half-day tabletop exercise aimed at examining and exercising communications plans. The scenario involved a simulated local dam incident. Attendees received information from the dam owners/operators about the emergency situation(s) and were expected to use the skills, models and tools taught throughout the workshop, along with existing plans, to “respond” to the simulated emergency. Mock media interaction was also provided throughout the exercise, allowing participants to conduct press briefings and help evaluate how communications may have influenced protective actions taken. The seminar took place in Denver and hosted 30 attendees.

1.1.5. L2455 COURSE: COMMUNITY DAM SAFETY, PREPAREDNESS, AND MITIGATION – MARCH 2-3, 2020

This two-day course instructed attendees how to reduce risks and mitigate the consequences resulting from a dam failure, and to recover more effectively in the event of a failure. Students included dam owners, emergency service providers, emergency planners and managers, land use and transportation planners, community leaders and other members of the community to work together through upfront planning. The course had over 40 participants.



Aerial View of a Dam, Source: Cédric Dhaenens

1.2. Publications/Reports

1.2.1. COLLABORATIVE TECHNICAL ASSISTANCE SUMMARY SHEETS

FEMA offers a Collaborative Technical Assistance series to help communities at-risk of dam-related flooding to gain a better understanding of their risk landscape and the potential consequences of dam-related emergencies. The series includes planning for emergencies related to operational discharges or dam-related infrastructure failure. The following summary sheets were developed in Fiscal Year 2020:

- [Summary Sheet Overview](#)
- [Community Needs Scoping and Introduction](#)
- [Dam Risk Consequences/Lessons Learned](#)
- [Stakeholder Engagement and Communication](#)
- [Plan Development](#)
- [Emergency Action Plan and Emergency Operation Plan Refinement and Approval](#)
- [Plan Implementation and Program Evaluation](#)

1.2.2. BIENNIAL REPORT TO CONGRESS FOR FISCAL YEARS 2018 AND 2019

The Dam Safety Act of 2006 ([Public Law 109-460](#)) requires the FEMA Administrator to submit a report to Congress that:

- Describes the status of the National Dam Safety Program
- Describes the progress achieved by Federal agencies during the two preceding fiscal years (FYs) in implementing the Federal Guidelines for Dam Safety
- Describes the progress achieved in dam safety by states participating in the Program
- Includes recommendations for legislative and other action that the Administrator considers necessary.

This report describes the progress of the National Dam Safety Program Fiscal Years 2019 - 2020. Although this report was finalized in Fiscal Year 2020, it is in for final review by federal partners.

1.2.3. DSS-WISE™ LITE CASE STUDY REPORTS

Decision Support System for Water Infrastructure Security™ Lite (DSS-WISE™ Lite) is a web-based, automated two-dimensional dam-break flood modeling and mapping capability developed by the National Center for Computational Hydroscience and Engineering (NCCHE), the University of Mississippi. Its development, operation, and maintenance are supported by FEMA. The National Dam Safety Program developed a [case study](#) to showcase how states are using the DSS-WISE Lite software as a dam risk management tool.

1.2.4. REHABILITATION OF HIGH HAZARD POTENTIAL DAMS (HHPD) GRANT GUIDANCE

The purpose of FEMA's Rehabilitation of [High Hazard Potential Dams Grant Program Guidance \(FEMA Policy 104-008-7\)](#) is to establish the framework and requirements to implement the grant program. This guidance document is incorporated by reference as part of FEMA's official policy on, and interpretation of, the requirements for implementation of FEMA's High Hazard Potential Dam Safety grant program. It details specific criteria of the program and provides information for eligible applicants on how to apply for funding for a dam rehabilitation project. It supplements the information provided in the Notice of Funding Opportunity and carefully outlines strategies for the rehabilitation process by interpreting the federal statutes, regulations and best practices.

1.2.5. FEDERAL GUIDELINES FOR DAM SAFETY UPDATE

The guidelines encourage strict safety standards in the practices and procedures employed by federal agencies or required of dam owners regulated by the federal agencies. In Fiscal Year 2020, the National Dam Safety Program conducted a review and update to the guidelines. Although completed and entered into the agency formal review process, in November 2020, this publication was recalled and is being re-edited to address concerns around tailings dams.



Dam Under Construction, Source: Alex Bagirov

1.3. Grants

1.3.1. FY20 STATE ASSISTANCE GRANTS

A total of \$6.15 million was awarded in Fiscal Year 2020. The purpose of the [State Assistance Grants](#) is to provide financial assistance to states for strengthening their dam safety programs.

1.3.2. REHABILITATION OF HIGH HAZARD POTENTIAL DAMS (HHPD) GRANT

The President signed the “[Water Infrastructure Improvements for the Nation Act](#)” or the “WIIN Act,” on Dec. 16, 2016, which adds a new grant program under FEMA’s National Dam Safety Program (33 U.S.C. 467f). Section 5006 of the Act, [Rehabilitation of High Hazard Potential Dams](#), provides technical, planning, design, and construction assistance in the form of grants for rehabilitation of eligible high hazard potential dams. Fiscal Year 2020, FEMA received \$10 million to implement the Rehabilitation of High Hazard Potential Dams Grant Program. This grant provides assistance with planning and other construction activities. There was a total of [26 awardees](#).

Table 2. Fiscal Year 2020 High Hazard Potential Dam Grant Highlights

Grant Highlights	
Total Award Recipients	26
Funds Allocated	\$10 million
Hotline Questions Answered	More than 80