



The Federal Emergency Management Agency (FEMA) encourages you to find information on the National Dam Safety Program on www.FEMA.gov. The FEMA Resource and Document Library (www.fema.gov/resource-document-library) is a searchable web-based collection of all publicly accessible FEMA information. It allows users to locate, download, save, or print items from the web. You can also visit our Dam Safety web pages: www.fema.gov/protecting-our-communities/dam-safety.

Dam Safety Resources for the General Public

- [Be Aware of Potential Dam Failure in Your Community Fact Sheet](#)
A flyer on dam failure and safety.
- [\(FEMA P-1016\) Selecting Analytic Tools for Concrete Dam Address Key Events Along Potential Failure Mode Paths July 01, 2014](#)
This document stresses the importance of understanding the sequences of events leading to failure of concrete dams and selecting analysis methods that address these specific events (2014).
- [\(FEMA P-956\) Living with Dams: Know Your Risk Brochure February 28, 2013](#)
A booklet designed to help answer questions about dams.
- [\(FEMA L-262\) The National Dam Safety Program: 25 Years of Excellence](#)
This brochure provides an overview of FEMA's role as lead agency and the responsibilities of the Federal agencies that own, regulate, operate, and maintain dams.

National Dam Safety Program Information

- [Catalog of FEMA Dam Safety Resources August 01, 2008](#)
This catalog provides an overview of National Dam Safety Program publications and resources available to the public.
- [Dam Safety in the United States: A Progress Report on the National Dam Safety Program Fiscal Years 2008 through 2011 February 01, 2009](#)
This report describes the status of the National Dam Safety Program, the progress achieved by the federal agencies during the two preceding fiscal years in implementing the Federal Guidelines for Dam Safety, and the progress achieved by the states participating in the Program.
- [\(FEMA 316 CD\) Model State Dam Safety Program July 01, 2007](#)
This document outlines the key components of an effective dam safety program and provides guidance on the development of more effective and sustainable State programs to eliminate the risks created by unsafe dams.
- [\(FEMA B-821\) National Dam Safety Program Annual Year in Review 2012 July 01, 2013](#)
This Year-in-Review provides the National Dam Safety Program's (NDSP's) progress in 2012 along with important accomplishments that continue across all Program elements, including State assistance, research, training, and the alignment of the Program within the emergency management and resilience frameworks.

- [\(FEMA P-916\) National Dam Safety Program Strategic Plan](#)
This Strategic Plan for the National Dam Safety Program (NDSP) for Fiscal Years (FY) 2012 through 2016 was developed to present the goals and objectives established by FEMA and its partners in the NDSP to reduce the hazards from dam failures and demonstrate the benefits of dams in the United States.

Videos and Software

- [Emergency Action Planning Video](#)
A video about the various aspects of emergency action planning for dams.
- [\(FEMA P-717 DVD through FEMA P-722 DVD\) Expert Video Series August 01, 2008](#)
Six videos developed by the Interagency Committee on Dam Safety and the Department of the Interior, Bureau of Reclamation.
- [Geospatial Dam Break, Rapid EAP, Consequence and Hazards GIS Toolkit and Users Guide](#)
This DVD has a suite of ArcGIS tools designed to support the development of simplified dam break studies, Risk Mapping, Assessment and Planning (Risk MAP) datasets, loss of life assessments, Emergency Action Plans (EAPs) and EAP map panel creation.
- [\(FEMA P-713\) Risk Prioritization Tool for Dams March 01, 2008](#)
A standards-based decision-making tool for risk-based dam safety prioritization.
- [\(FEMA 609 DVD\) Training Aids for Dam Safety \(TADS\): A Self-Instructional Study Course in Dam Safety Practices September 01, 2007](#)
A self-contained, self-paced training course that includes workbooks and videos.

Technical Manuals and Guides

- [\(FEMA L-266\) Conduits through Embankment Dams September 01, 2005](#)
A brochure that summarizes the procedures and guidance for best practices associated with conduits through embankment dams.
- [\(FEMA L-264\) Dam Owner's Guide to Animal Impacts on Earthen Dams September 01, 2005](#)
A brochure to help dam owners manage and reduce wildlife and wildlife damages at earthen dams.
- [\(FEMA L-263\) Dam Owner's Guide to Plant Impact on Earthen Dams September 01, 2005](#)
A brochure that describes the dangers of problem vegetation on earthen embankment dams.
- [\(FEMA 608\) Emergency Action Planning for State Regulated High-Hazard Potential Dams: Findings, Recommendations, and Strategies August 01, 2007](#)
An Emergency Action Plan developed to help prevent loss of life from dam failure.
- [\(FEMA P-1032\) Evaluation and Monitoring of Seepage and Internal Erosion May 01, 2015](#)
Internal erosion occurring at Federal (and non-Federal) embankment dams and levees poses a threat of failure and potential risk to public safety. This document presents a summary of current Federal practices for monitoring and measuring seepage, identifying potential failure modes (PFMs) related to internal erosion, assessing risk related to internal erosion, and remediating internal erosion.

- (FEMA 602CD) Final Report on Coordination and Cooperation with the European Union on Embankment Failure Analysis August 01, 2007
An integration of the European Community and U.S. Research findings over a 3-year period.
- (FEMA P-946) Inundation Guidelines
The purpose of this document is to provide dam safety professionals with guidance on how to prepare dam breach inundation modeling studies and conduct mapping that can be used for multiple purposes, including dam safety, hazard mitigation, consequence evaluation, and emergency management including developing EAPs. This guidance is intended to provide a consistent approach that can be applied across the country.
- (FEMA 484) Technical Manual: Conduits through Embankment Dams September 01, 2005
Procedures and guidance for best practices associated with conduits through embankment dams.
- (FEMA 473) Technical Manual for Dam Owners: Impacts of Animals on Earthen Dams September 01, 2005
A manual that provides guidance to dam specialists.
- (FEMA 534) Technical Manual for Dam Owners: Impacts of Plants on Earthen Dams September 01, 2005
A manual that advances awareness of dam safety problems associated with impacts on earthen dams.
- (FEMA P-1014) Technical Manual: Overtopping Protection for Dams Brochure May 31, 2014
This brochure explains the contents of the Overtopping Protection for Dams DVD. It provides new design approaches that have been developed that may allow for the dam to be safely overtopped. The design and construction of overtopping protection for dams is increasingly being viewed as a viable alternative to larger spillways as developing watersheds or changing hydrology produce higher peak flows.
- (FEMA P-1015) Technical Manual: Overtopping Protection for Dams DVD May 31, 2014
This technical manual provides useful and relevant information regarding the design, construction, and performance of overtopping protection alternatives for embankment and concrete dams.
- (FEMA P-675) Technical Manual: Plastic Pipe Used in Embankment Dams November 01, 2007
Procedures and guidance for best practices associated with embankment dams.

Research Needs Workshop Reports

Since 1999, the National Dam Safety Program research funds have been allocated to workshops in specific areas. The following eight workshops encourage research and make significant contributions to improving the safety and security of dams.

- (FEMA 536) Dam Spillways September 01, 2005
A workshop report that documents the state-of-practice concerning cost-effective techniques of dam service and emergency spillways.
- (FEMA 541) Embankment Dam Failure Analysis September 01, 2005
A workshop report that discusses the new technology related to risk assessment, embankment dam failure, and flood routing.

- (FEMA 538) Hydrologic Issues for Dams September 01, 2005
This workshop report documents expert findings in the areas of risk analysis, standards, and meteorological needs.
- (FEMA 540) Impacts of Plants and Animals on Earthen Dams April 01, 2003
This workshop report identifies dam safety state-of-practice issues and research needs relative to plant and animal penetrations of earth-filled dams.
- (FEMA 539) Outlet Works
A workshop report that addresses outlet work failure modes; conduit materials; gates, valves, and controls; rehabilitation of conduits; and outlet work inspection.
- Risk Assessment for Dams
This workshop report presents the detailed discussions of Federal, State, and private sector experts on the areas of risk assessment applications for dam safety.
- (FEMA 535) Seepage through Embankment Dams September 01, 2005
A report on the workshop on issues, solutions, and research needs related to seepage through embankment dams.
- (FEMA 537) Spillway Gates September 01, 2005
This workshop report documents lessons learned from the Folsom tainter gate failure and applies those lessons across the broad spectrum of spillway gates.

Federal Guidelines for Dam Safety

- (FEMA 65) Earthquake Analyses and Design of Dams May 01, 2005: Guidelines that provide the basic framework for the earthquake design and evaluation of dams.
- (FEMA 64) Emergency Action Planning for Dams July 01, 2013: Guidelines to encourage strict safety standards and to encourage emergency action planning for dams to help save lives and reduce property damage.
- (FEMA P-1025) Federal Guidelines for Dam Safety Risk Management January 01, 2015: Guidelines that provide an in depth view of all risk associated with dam construction and design.
- (FEMA 148) Glossary of Terms April 01, 2004: A provision of common terminology for dam safety for use within Federal agencies.
- (FEMA 333) Hazard Potential Classification System for Dams April 01, 2004: Guidelines that set forth a hazard potential classification system for dams that is simple, clear, concise, and adaptable to any agency's current system.
- (FEMA 94) Selecting and Accommodating Inflow Design Floods for Dams August 01, 2013: Guidelines that provide procedures for selecting and accommodating inflow design floods.

All resources are located online in FEMA's Resource and Document Library, www.fema.gov/resource-document-library. Many publications can be ordered from the FEMA Publications Warehouse by calling 1-800-480-2520 (Monday to Friday from 8:00 a.m. to 5:00 p.m. EST) or sending a fax to 1-240-699-0252. You can also email a request to FEMA-Publications-Warehouse@dhs.gov. Please provide the title, FEMA publication number, and the quantity of each publication, along with your name, address, zip code, and daytime telephone number.