



Dam Failure: Overview of Federal Programs and Resources

May 26, 2020

On May 19, 2020, following several days of heavy rain, the Edenville Dam on the Tittabawasee River in Gladwin County, Michigan, failed and [sent a large volume of water downstream](#) that overtopped the Sanford Dam in Midland County. A local utility company owns both dams. Michigan evacuated approximately 10,000 downstream residents. Concerns were raised about the potential spread of environmental contamination from a Dow Chemical Company facility in Midland and an associated federal Superfund site, which are downstream of the dams. On May 21, 2020, President Trump [approved](#) Michigan's emergency declaration and ordered Stafford Act federal assistance for responding to severe storms and flooding beginning on May 16.

This flood represents the first major test of the federal response to a weather-related emergency during the COVID-19 operating environment. Below is an overview of federal programs that may be applicable to nonfederal dam safety incidents.

Dam Safety

The [National Inventory of Dams](#) (NID) lists more than 90,000 dams, of which 97% are owned by nonfederal entities. About 17% of NID-listed dams are classified as [high hazard potential](#) (i.e., the loss of at least one life is likely if the dam fails), including the Edenville and Sanford Dams, which were built nearly 100 years ago for hydropower and flood control. The NID lists 2,384 of the high hazard potential dams as [poor or unsatisfactory](#). Stakeholders [estimate](#) the cost to rehabilitate high hazard potential nonfederal dams is approximately \$20 billion.

Dam owners generally are responsible for dam safety. Selected states and federal programs may provide limited assistance. Every state (except Alabama) and Puerto Rico has established a [dam safety regulatory program](#). The [National Dam Safety Program](#) (43 U.S.C. §467f), operated by the Federal Emergency Management Agency (FEMA), provides support for state dam safety programs. In addition, FEMA's [High Hazard Dam Rehabilitation Grant Program](#) (43 U.S.C. §467f-2) may provide limited funding assistance for eligible high hazard nonfederal dams.

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Nonfederal Hydropower Licensing

The Federal Energy Regulatory Commission (FERC) licenses the construction and operation of nonfederal hydropower projects under the Federal Power Act (16 U.S.C. §§791-825r). FERC [monitors and investigates](#) hydropower facilities to ensure compliance with license terms and conditions, and it may revoke a license if the licensee has knowingly violated a final order.

Regarding the two Michigan dams, FERC

- issued a [license](#) in December 1987 that expires in September 2028 for the Sanford project;
- revoked the license for the Edenville project, held by Boyce Hydro Power LLC as the licensee, in September 2018 due to the licensee’s “[longstanding failure to increase the project’s spillway capacity to safely pass flood flows, as well as its failure to comply with its license](#)” among other things; and
- issued a four-year [preliminary permit](#) for the Edenville project in December 2019, which allows the permittee—a multi-county coalition named Four Lake Task Force—to maintain [priority of application for a license](#) while the permittee studies the site in question and prepares for a license application.

Emergency Response to Oil or Chemical Spills Caused by Flooding

Flooding may disperse preexisting contamination, potentially damage remedies at cleanup sites, or cause new releases at operating facilities. The [National Contingency Plan](#) (NCP) establishes the procedures for coordinating federal, state, and local roles in responding to oil or chemical spills. The U.S. Environmental Protection Agency (EPA) coordinates the federal response under the NCP for releases in the inland zone.

EPA [reports](#) “it is prepared to assist the State of Michigan in assessing and responding to any public health and environmental impacts from the [Tittabawassee River Superfund Site](#) and Dow’s Midland facility due to the ongoing flooding.” Dow [reports](#) it has activated the Midland facility’s flood preparedness plan. Such events illustrate long-standing issues regarding facility vulnerabilities and the permanence of cleanup site remedies.

National Flood Insurance Program

The [communities affected by flooding](#) caused by the dam failures participate in the [National Flood Insurance Program](#) (NFIP). [Dam breach inundation zones](#) are not shown on NFIP flood maps as areas requiring flood insurance. However, over 300 residents of Midland County had NFIP flood insurance as of April 30, 2020, and will be able to claim for flood damage through the [NFIP claims process](#). An NFIP claim does not require an emergency declaration or a [major disaster declaration](#).

FEMA Disaster Assistance and COVID-19 Complexity

Funding for [Public Assistance \(PA\) emergency work](#) is now available for state and local governments following the [emergency declaration](#) on May 21, 2020. This includes debris removal and work undertaken to save lives and protect property. Certain nonprofit organizations are eligible for PA, but for-profit businesses are not. FEMA has provided [guidance for adaptation to COVID-19](#) in disaster [response and recovery](#).

FEMA Hazard Mitigation Assistance includes the [Hazard Mitigation Grant Program \(HMGP\)](#), which is triggered by a [major disaster declaration](#) and is awarded as a formula grant to a state based on the estimated total federal assistance, subject to a sliding-scale formula ([42 U.S.C. §5170c\(a\)](#)). States can use HMGP funds for any [eligible activity](#) for any type of hazard and are not limited to the hazard or area for which the grant was awarded.

CRS Resources

- CRS Report R45981, *Dam Safety Overview and the Federal Role*
- CRS Report R45017, *Flood Resilience and Risk Reduction: Federal Assistance and Programs*
- CRS Report R44593, *Introduction to the National Flood Insurance Program (NFIP)*
- CRS Insight IN11187, *Federal Emergency Management Agency (FEMA) Hazard Mitigation Assistance*
- CRS In Focus IF11529, *A Brief Overview of FEMA's Public Assistance Program*
- CRS Report R42579, *Hydropower: Federal and Nonfederal Investment*
- CRS In Focus IF11411, *The Legal Framework of the Federal Power Act*
- CRS Report R43251, *Oil and Chemical Spills: Federal Emergency Response Framework*

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