



Delaware Dam Safety Program

Frequently Asked Questions

What is the Delaware Dam Safety Program?

The Delaware Dam Safety Law adopted in 2004 provides the framework for requirements for proper design, construction, operation, maintenance, and inspection of dams in the interest of public health, safety, and welfare. The program was developed to reduce the risk of failure of dams and to prevent injuries to persons, damage to downstream property and loss of reservoir storage.

The proposed regulations require inspections, preparation of Emergency Action Plans (EAP's), and a prioritization of structural improvements for publicly owned dams with a high or significant hazard potential. The intent of the program is to build partnerships among DNREC's Dam Safety Program and the local public agencies with dam safety responsibilities.

Delaware hasn't had a Dam Safety Program. Why is it important?

Efforts by the U.S. Army Corps of Engineers (ACOE) to inventory Delaware's dams began in the early 1970's. Inspections of fourteen dams were completed in 1981 through the National Inventory of Dams project. Since that time, additional efforts to inventory Delaware's dams were undertaken by the University of Delaware Water Resources Agency, and most recently, by DNREC and program contractor, URS Corporation.

Delaware's program is modeled after national dam safety program guidelines. Since 2004, DNREC has worked to develop the inventory of dams and the draft regulations for dam safety. As the 49th state to develop dam safety regulations, Delaware has learned from many other state programs. The regulations will reflect the knowledge that exists in Dam Safety Programs in our region today, while maintaining the flexibility to make the requirements unique to Delaware.

Why aren't private dams regulated?

The Delaware Dam Safety Law passed in 2004 provides only for the regulation of certain publicly owned dams. Regulations cannot be developed for private dams. During the inventory project, the contractor, URS Corporation, identified 323 dams – both public and privately owned. Through a system of mapping and field identification, only 53 publicly owned dams met the criteria for regulation.

How are dams classified?

The dam classification system, utilized by the national model dam safety program and adopted by most states, uses high, significant and low hazard classifications.

- “High hazard potential” dam shall mean any dam whose failure or mis-operation will cause probable loss of human life.
- “Significant hazard potential” dam shall mean any dam whose failure or mis-operation will cause possible loss of human life, economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns.
- “Low hazard potential” dam shall mean any dam whose failure or mis-operation is unlikely to cause loss of human life but may cause minor economic and/or environmental losses.

Should I be concerned about living downstream from a dam with a “high hazard potential” classification?

A hazard classification is used to determine the potential consequences downstream **if** a dam fails. This classification is used as a “worse case” scenario should a dam failure occur. The hazard classification does not take into consideration the conditions of the dam, how well the dam is managed or the history of any problems. Those factors are taken into account in assigning a risk factor. A dam can be High Hazard and Low Risk or Low Hazard and High Risk.

What factors are used to calculate a risk factor?

The Federal Emergency Management Agency (FEMA) is currently developing the procedure to evaluate a dam for potential risk factors. The contractor working on Delaware's program, URS Corporation, is the firm developing this procedure.

The risk analysis takes into consideration the hazard class, condition of the dam, level of maintenance, frequency of inspections, likely failure modes, historic incidents, population at risk, and potential for loss of life, as well as other risk factors. The evaluation of risk results in a risk category of high, medium or low.

What is an Emergency Action Plan (EAP)? Can I find out if my home or business is included in a downstream area of risk?

An Emergency Action Plan (EAP) is a plan of action for emergency notification and procedures should a dam fail. Each regulated Delaware dam, as funding is provided, will have an EAP developed using recently established federal guidelines.

To develop an EAP, a dam breach analysis is performed to determine spillway capacity and identify structures at risk downstream should the dam fail. These engineering analyses are performed with sophisticated computer models. Next, a plan for emergency notification and emergency management procedures in accordance with the National Incident Management System (NIMS) is developed and coordinated with local emergency management agencies. Finally, an Operation and Maintenance Plan is developed for each regulated dam.

As downstream areas of risk are identified for each dam, the approximate inundation area is mapped, and the maps will be made available as public information. DNREC and the public dam owner will work to develop the information related to each dam.

Will new land development projects be impacted by the inundation areas?

When dam EAP's and related maps are developed, the information will be made available to the local land use planners and approval agencies. DNREC may be involved in recommendations related to land use downstream from dams, but those decisions are made at the local government level. Additional development downstream from a dam may change the hazard classification and will need to be taken into consideration in updating dam classifications.

How does the state justify rolling out a new program that will be expensive to manage in these tight budgetary times?

Many of the activities involved in the management of this program are either already being completed, or can be integrated into the existing program. For instance, DeIDOT will be asked to perform dam safety inspections on dams that they own. With training, the dam inspection function can be readily assumed with few additional resources. DNREC will also assist municipalities with inspection functions.

The cost of dam repair and rehabilitation is expensive. Capital improvements for dam infrastructure will need to be prioritized statewide and federal and state funding secured. Currently, federal legislation – the National Dam Safety Rehabilitation Act – is being considered in Congress. Federal funds for dam infrastructure in Delaware would require a state funding match.

How will public agencies manage these new duties of dam regulation, and what help can they expect from the state?

DNREC will provide technical assistance to local government agencies charged with administering the Dam Safety regulations. Statewide resources will be devoted to managing information and providing technical engineering specifications, templates and manuals through agencies such as FEMA and U.S.ACOE. The Association of State Dam Safety Officials provides excellent resources to the states for assistance to dam owners. Training for dam owners is a high priority for DNREC and will be available soon after the regulations are promulgated. Costs associated with regulatory requirements may be assumed incrementally by local government agencies in some cases. DNREC does not intend to deem any local agency to be in “non-compliance” because of funding shortfalls.

How can I get in touch with someone to find out if I live in an area impacted by a regulated dam?

To find out the answer to any question related to a dam safety issue, please contact:

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