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# ENVIRONMENTAL Fact Sheet

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## Emergency Action Plans: Prudent Planning Required for Dam Owners

There are many dams in New Hampshire that have a potential to cause loss of life and considerable property damage if they were to fail. This potential for damage is due largely to the dams height, strategic location and the quantity of water being stored. The New Hampshire Department of Environmental Services Water Division attempts to minimize these risks through an active dam safety inspection program, but planning for possible emergencies is necessary to further ensure public safety should a dam failure occur.

### **Planning Required**

In 1988, the New Hampshire State Legislature recognized the need for dam owners to prepare a plan to assist the local community in responding effectively to a dam failure. The legislature amended RSA 482:2 and RSA 482:12 and adopted RSA 482:11a to require that dam owners develop an Emergency Action Plan for all dams that may be a menace to public safety due to their condition, height, and location.

### **What is an EAP?**

The Emergency Action Plan (EAP) is a document establishing: (1) a notification plan, (2) information on the potential extent of downstream flooding and (3) pre-planned emergency actions to be taken upon indication of an impending dam failure or unsafe condition.

### **Dam Owner's Responsibilities**

The dam owner is required to work with the local community(ies) in developing an effective EAP, periodically reviewing and updating the plan, and initiating a test of the emergency communications network. After approval of the EAP by DES, the EAP must be kept on file with the local community(ies) including the police department, fire department, and emergency management director, the NH Bureau of Emergency Management, the NH State Police, DES and, if state roads will be impacted, the NH Department of Transportation.

Dam owners and operators must be trained in monitoring and operating the structure and be prepared to act promptly and efficiently when a dam begins to show signs of failure. Early identification of hazardous conditions at the dam will permit prompt implementation of emergency procedures outlined in the EAP. It is important that the dam owner or operator be familiar with operating the structure and be capable of identifying specific types of failure modes such as over-topping and piping.

## **Information required to be in EAPs**

The following items should be addressed in all Emergency Action Plans.

**Monitoring.** In order to comply with the state's Administrative Rules, each dam owner shall monitor or assign monitors to the dam during periods of heavy precipitation, flooding, or unusual hydrologic events and potentially dangerous structural conditions. The monitor should be properly trained in the operation of the structure, have authority from the dam owner to operate the structure during emergency situations, be familiar with the dam operating procedures, and be trained in observing and locating various signs of abnormal situations for the particular dam. Timely response to a potential dam emergency is critical and the information given by the monitor to local authorities will be used in determining future actions spelled out in the EAP.

**Preventive Action.** The dam owner should indicate actions that the monitor may take to correct a malfunction of the dam. The dam owner should also provide the monitor with a list of preventive and mitigative action measures to be undertaken during emergency situations.

**Warning.** The dam owner should provide a communication system whereby the monitor can effectively communicate with the designated parties in the EAP during emergency situations. DES and other state emergency response agencies have developed a general protocol to be tailored specifically to each dam. The DES Water Division should be notified as quickly as possible regarding any situation that cannot be rectified by the monitor.

**Evacuation.** The dam owner must incorporate a map in the EAP indicating the areas below the dam that would be flooded if the dam were to fail. The local community will use this map in planning and implementing the evacuation of personnel and material from the flooded area. Each of these items is outlined in the administrative rules (Env-Wr 505) for the development of an Emergency Action Plan.

The notification flowchart should include the titles of local and state officials to be informed of a pending or actual emergency at the dam. The flowchart should be presented in a clear and logical sequence of calls to inform appropriate local and state officials.

The inundation map should be of sufficient scale and detail to clearly identify physical features in relation to the flooded areas. This map will be utilized by local community(ies) in the evacuation of personnel from the flooded area. It must be recognized that a clear and detailed inundation map is a primary requisite to a successful evacuation plan.

For more information relative to the design, construction, maintenance and operation of dams, please contact the DES Dam Bureau at (603) 271-3406 or email [damsafety@des.nh.gov](mailto:damsafety@des.nh.gov). General information is available at <http://des.nh.gov/organization/divisions/water/dam/index.htm>. You may also visit our office at 29 Hazen Drive, Concord, NH.