

WHAT IS AN EMERGENCY ACTION PLAN?

An EAP is a plan of action to reduce potential property damage and loss of lives in an area affected by a dam failure. A complete EAP includes a map of the potential inundation areas, procedures and information for warning downstream emergency management authorities, and other crucial information. At their discretion, emergency managers may add directions to the dam, evacuation routes, and the locations of shelters, emergency resources, businesses, schools, hospitals, nursing homes, residences, and highways at risk.

More than 800 HHP dam owners in North Carolina need to complete their EAPs. No dam owner has to shoulder the burden of creating an EAP alone. City and County Emergency Management Directors and the North Carolina Department of Environment and Natural Resources (DENR) Dam Safety Program staff stand ready to partner with dam owners in helping them create EAPs. Available resources include technical and emergency management expertise, along with state and national educational materials, EAP forms and examples, and step-by-step guidelines.

EAP procedures are developed in coordination with local emergency management officials to ensure compatibility with their needs, systems and functions. The dam owner has to be the leader who initiates the EAP process, but the emergency responders are going to be the primary users of the EAP. They and other involved parties need to be satisfied with its accuracy, thoroughness, and likelihood of success. The completed document should have had input from emergency action managers, emergency response organizations, and leaders of downstream communities and development – directly or indirectly, everyone who may be impacted.

DENR has begun an initiative to greatly increase the number of EAPs for state-regulated dams over the next few years. DENR engineers will be holding workshops to help dam owners understand the importance of EAPs, content of EAP forms, procedures and approval processes.



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KEY POINTS ABOUT EAPs

- An EAP must clearly specify the dam owner's responsibilities to ensure timely and effective action. Responsibilities of dam owners include: surveillance (watching the condition of the dam) and notification (phoning local emergency officials).
- EAPs are developed by the dam owners working in coordination with emergency managers.
- The emergency manager is the link between the dam owner and emergency responders.
- Local emergency responders are primary users of EAPs.
- Public awareness is a critical component of emergency planning. Many citizens do not know they may live or work near a HHP dam. Public participation in preparation of an EAP will enhance confidence in the plan and its accuracy.
- The EAP defines events that trigger emergency actions.
- Inundation maps show areas that may have to be evacuated. The maps facilitate notification by displaying flood areas and also estimated travel times for the wave front.
- An EAP includes a notification flowchart with names and numbers of who will call whom and in what priority.
- EAPs are constantly updated to include new information such as changes in downstream development.
- Emergency events at dams are infrequent. Training and rehearsals/exercises of EAPs help maintain readiness.

QUESTIONS OR COMMENTS

Phone toll-free 877-410-3551
Email: info@damsafetyaction.org

EMERGENCY ACTION PLANS BENEFIT DAM OWNERS AS WELL AS PEOPLE AT RISK



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An Emergency Action Plan includes procedures for warning those living, working, or enjoying recreation below a dam. Local emergency managers may add evacuation routes to an EAP.

DAM OWNER RESPONSIBILITIES

For most dam owners and managers, a failure of their dam would be a personal as well as a legal calamity. Often the owners are local residents who know many of the people, businesses, schools, and other institutions that would be impacted by an inundation. Some dam owners are neighborhood associations and other organizations whose members reside near the dam's reservoir.

In North Carolina, the owner of a High-Hazard Potential (HHP) or Class C dam has strong legal and social incentives to provide an Emergency Action Plan (EAP). A dam owner is responsible for a dam's operation and any incident related to it. That entails significant liability, especially with HHP dams that can threaten lives as well as property.

Considerable time and effort must be devoted to creating an EAP, filing it appropriately with state and local officials, updating plan details, testing the plan's assumptions and functionality, and following its procedures in an emergency.

Current dam safety laws and regulations in North Carolina cannot compel a HHP dam owner to provide an EAP unless the dam is new construction or requires a repair permit. In the context of legal liability, however, the act of completing an EAP demonstrates that the dam owner has been actively attempting to prevent and mitigate harm to persons and property.

EVERY HIGH-HAZARD POTENTIAL DAM NEEDS AN EAP

An EAP takes time, focus, and dedication. The time is now. The focus is on saving lives. The dedication is to the safety of all North Carolinians.



GETTING STARTED

North Carolina's dam safety law and the regulations that implement it specifically absolve the state from liability from damages caused by a dam failure. Some owners of HHP dams are simply not aware of what an EAP is, what information it gathers, its importance for public safety, and the benefit to them of having it on hand. Other owners believe that periodic state safety inspections are sufficient for an EAP. This is not the case. Safety inspections and EAPs are very different. Most dam owners are anxious to complete an EAP but many do not know how to get started or do not realize the urgency.

A typical form for an EAP on a HHP dam can be somewhat intimidating. An extensive amount of detail is required, and a dam owner may feel overwhelmed. That need not be the case. Creating an EAP on a HHP dam is a process that involves a partnership with the state, the county, and the community.

TEAM UP WITH THE EXPERTS

The best way to begin is by drawing on the expertise of state and county officials who will be part of your EAP team. Locally, make time to sit down with the city or county Emergency Management Director (EMD). The EMD will know

Emergency Action Plans are a Public Health and Safety Benefit for Everyone

how and where to gather much of the information needed, other professionals who can be called upon for help, and precisely which details are most important to gather first. Priorities can be established, and a reasonable timetable for completion of the EAP can be developed. The county courthouse or city hall will have the name and contact information for the EMD.

Another good starting point is the North Carolina Department of Environment and Natural Resources (DENR) Dam Safety Program office in Raleigh. On its website DENR has posted templates and forms to assist dam owners with EAPs. These are found at:
www.dlr.enr.state.nc.us/pages/damsafetyprogram.html.

DENR engineers also provide several other tools to help with EAPs. Dam owners may contact the DENR dam safety office at:

NC State Dam Safety Program
Dept. of Environment and Natural Resources
Division of Land Resources - Land Quality
1612 Mail Service Center
Raleigh, NC 27699-1612
Phone 919-733-4574
Email: Steve.McEvoy@ncdenr.gov
Email: Tami.Idol@ncdenr.gov

DENR RESOURCES:

The DENR Dam Safety Program website has several forms, checklists, and guidelines to assist dam owners with EAPs. A new EAP form is being developed for use by dam owners starting in November 2010. It will help ensure thoroughness and consistency in EAPs across the state. Meanwhile DENR continues to provide by mail or online a number of documents, guides, and manuals for dam owners, including templates for EAPs. These can be ordered by phone or downloaded from the website: www.dlr.enr.state.nc.us/pages/damsafetyprogram.html Included on the website are:

- Dam Operation, Maintenance and Inspection Manual
- Determination if a Dam is Governed by the Dam Safety Act
- Dam Hazard Classification Data Form
- Emergency Action Plan Template Shell

DENR's website is being updated with new information for dam owners. Check it often for new EAP reference documents.

NATIONAL RESOURCES

Several national organizations provide extensive training and information for dam owners wanting to complete EAPs.

Among them:

- The Association of State Dam Safety Officials (ASDSO), which welcomes dam owners as members and has an extensive website at www.damsafety.org
- The Federal Emergency Management Agency (FEMA) at www.fema.gov.
- The USDA Natural Resources Conservation Service (NRCS) at www.nrcs.usda.gov.

Following are just some of the materials available.

ASDSO RESOURCES:

<http://www.damsafety.org/resources/downloads>

- Dam Ownership: Responsibility & Liability
- Dam Safety, An Owners Guidance Manual
- Emergency Action Planning for Dam Owners (FEMA 64)
- Emergency Action Planning Video
- Procuring the Services of a Professional Engineer

ASDSO also holds workshops for dam owners at various locations around the United States. These workshops cover several topics, including EAPs. For more information, contact ASDSO at:

Association of State Dam Safety Officials
450 Old Vine Street
Lexington, KY 40507
Phone: 859-257-5140
info@damsafety.org • www.damsafety.org

FEMA RESOURCES:

FEMA also makes several publications and videos available to dam owners through the website:

www.fema.gov/plan/prevent/damfailure/publications.shtm

The following resources address emergency action planning and the safety of dams and are free to dam owners, operators, and regulators.

- Training Aids for Dam Safety (TADS): A Self-Instructional Study Course in Dam Safety Practices (FEMA 609DVD)

- Expert Video Series (FEMA P-717DVD through FEMA P-722DVD)
- Emergency Action Planning Video
- Emergency Action Planning for State Regulated High-Hazard Potential Dams: Findings, Recommendations, and Strategies (FEMA 608)
- Emergency Action Planning for Dam Owners (FEMA 64)
- Federal Guidelines for Dam Safety (FEMA 93)
- Glossary of Terms (FEMA 148)
- Hazard Potential Classification System for Dams (FEMA 333)

For information specific to North Carolina, contact:

Federal Emergency Management Agency
3003 Chamblee Tucker Road
Atlanta, GA 30341
Phone: 770-220-5200

NRCS RESOURCES:

USDA's Natural Resources Conservation Service (NRCS) has created guidelines and templates for EAPs. A fact sheet on EAPs can be found at:

ftp://ftp-fc.sc.egov.usda.gov/NDCSMC/EAP/EAP_factsheet.pdf

NRCS also has posted its own EAP instructions at:

<http://directives.sc.egov.usda.gov/viewerFS.aspx?hid=21519>.

For NRCS programs in North Carolina, contact:

USDA Natural Resources Conservation Service
4407 Bland Rd., Suite 117
Raleigh, NC 27609
Phone: 919-873-2100

