EVERY HIGH-RISK DAM NEEDS AN EAP

ARE YOU AT RISK?

Dam safety officials categorize dams according to the potential hazard risk to lives and property should the dam fail. In Texas, a High-Hazard Potential (HHP) dam and a Significant-Hazard Potential Dam (SHP) are ones where failure likely would take lives as well as property. An EAP may save lives and property damage through timely evacuations of those who live, work, or enjoy recreation near a HHP or a SHP dam.

DO YOU HAVE A STAKE IN DAM SAFETY?

Stakeholders are citizens, business owners, and recreationists in harm's way at times, often without realizing it. Do you like to hunt game in areas below or near a dam? Like to RV or camp out along the shores of a lake or stream? Enjoy swimming or fishing in a Texas lake or canoeing one of its rivers? Do you farm land or raise livestock in a floodplain? Do you manage a nursing home, hospital or school in a community near a dam? Are you an emergency responder? Do you volunteer for the Red Cross or Salvation Army? Do you regularly need to travel across or have access to an area below a dam?

If so, you have a stake in whether a HHP or SHP dam has an EAP.

DamSafetyAction.org

LEARN MORE ABOUT EMERGENCY ACTION PLANS

You can find out more about EAPs, dam safety programs in Texas, and initiatives to increase the number of EAPs on HHP dams. Websites of the Texas Commission on Environmental Quality Dam Safety Program, the Federal Emergency Management Agency (FEMA), and the Association of State Dam Safety Officials (ASDSO) have information on EAPs.

The website www.damsafetyaction.org contains extensive EAP information and examples, plus links to other sources of EAP documents. This website is part of an outreach and communications program produced as an information and educational source for dam owners, emergency managers, and the public. Supported by FEMA, this program will assist DENR dam safety officials in reaching a goal of 100 percent completion of EAPs on HHP dams.

Lives depend on Emergency Action Plans. Be an involved citizen.

QUESTIONS OR COMMENTS

Phone toll-free 877-410-3551

Email: info@damsafetyaction.org

MORE THAN 400 HIGH-HAZARD DAMS IN TEXAS NEED EMERGENCY ACTION PLANS

YOUR SUPPORT AND INVOLVEMENT CAN HELP CLOSE THE GAP

DamSafetyAction.org

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.

Lake Livingston's EAP was triggered when Hurricane Rita tore away rip-rap and caused extensive damage.

Texas has hundreds of smaller state-regulated High-Hazard Potential and Significant-Hazard Potential dams that need EAPs. Many are in suburban areas.

The Dam Safety Program in the Texas Commission on Environmental Quality (TCEQ) is implementing new regulations that require every High-Hazard Potential (HHP) and Significant-Hazard Potential (SHP) dam to have an EAP. Hundreds have been completed, but hundreds of other dams still do not have an EAP. TCEQ has developed guidelines and a template for EAPs and is working with dam owners to help them with this responsibility. Local Emergency Management Coordinators also can be helpful to dam owners in completing lists of those who need to be notified if a dam is failing.

AN EAP IS A GUIDELINE AND A LIFELINE

Emergency Action Plans are a Public Health and Safety Benefit for all Texans

WHY AN EAP?

- **EAPs save lives.** They provide crucial written warning procedures that can help emergency managers evacuate schools, hospitals, nursing homes, and summer camps as needed.
- **EAPs are good for business.** They may provide warning time for orderly shutdown and perhaps even to remove or secure some assets, data, and equipment.
- **EAPs are required for dam safety.** Without an EAP all those in the inundation zone may not receive warning. Evacuation and response may be needlessly complicated or even compromised. Transportation, sheltering, food, water and other supplies may be delayed.
- **An EAP can protect you, your family, your job, your business, your peace of mind.** Any time you're downstream of a dam you're at risk. Even when hiking, fishing, hunting, camping or motoring, an EAP can help get you to safety.

AN EAP IS THOROUGH, URGENT, AND UPDATED

Texas guidelines and documents for emergency action planning may be found at: http://www.tceq.state.tx.us /compliance/field_ops/dam_safety/damsafetyprog.html

These documents include dam safety laws and regulations, forms, checklists and other helpful information.

HIGH-HAZARD POTENTIAL

Each state has a system to determine a dam's Hazard Potential – a situation which creates the potential for consequences such as loss of life, property damage, or other adverse impacts. These adverse impacts may occur in a defined area downstream of a dam or upstream of the dam if there is backwater flooding or a landslide around the reservoir perimeter.

Classification of a dam as High-Hazard Potential (HHP) does not reflect in any way the current condition of the dam (i.e., safety, structural integrity). HHP dams receive more frequent safety inspections.

In Texas, Dam Safety Program engineers determine the "hazard potential" of a dam, meaning the probable damage that would occur if the structure failed, in terms of loss of human life and economic loss or environmental damage. Dams are assigned one of three classes based on the nature of their hazard potential:

1. **Low-Hazard Potential (LHP).** No loss of human life expected (no permanent habitable structures in the breach inundation area downstream of the dam); and minimal economic loss (located primarily in rural areas where failure may damage occasional farm buildings, limited agricultural improvements, and minor highways).
2. **Significant-Hazard Potential (SHP).** Loss of human life possible (one to six lives or one or two habitable structures in the breach inundation area downstream of the dam); or appreciable economic loss, located primarily in rural areas where failure may cause:
   - damage to isolated homes;
   - damage to secondary highways;
   - damage to minor railroads; or
   - interruption of service or use of public utilities, including the design purpose of the utility
3. **High-Hazard Potential (HHP).** Loss of human life expected (seven or more lives or three or more habitable structures in the breach inundation area downstream of the dam); or excessive economic loss, located primarily in or near urban areas where failure would be expected to cause extensive damage to:
   - public facilities;
   - agricultural, industrial, or commercial facilities;
   - public utilities, including the design purpose of the utility;
   - main highways; or
   - railroads used as a major transportation system.

The classification of dams can be changed if the hazard potential has changed. When the failure of an upper dam would likely cause failure of a lower dam ("cascading"), the consequence of the lower dam's failure determines the upper dam's hazard classification

IDENTIFY DAMS OF INTEREST NEAR YOU

HHP and SHP dams are scattered across Texas, but tend to cluster around population centers.

When you know the county where a dam is located and a nearby town, using Geographic Information Systems (GIS) software such as Google Earth can often provide a "bird's eye view" of the area terrain. The website www.lat-long.com has a list of Texas dams, with links to maps and satellite views that show the terrain. Another helpful tool for determining whether an area is at risk is the National Flood Insurance Program floodplain mapping program, including the Texas Water Development Board flood mitigation website (www.twdb.state.tx.us/wrpi/flood/other.asp), which has links to other floodplain mapping services, including those of the Federal Emergency Management Agency.

If you can identify a likely SHP or HHP dam near an area where you live, work, travel, or have recreational activities, it is important that the dam have an EAP. The TCEQ Dam Safety Program maintains a list of dams in the state, who owns them, and their hazard classification. The hazard classification of a dam and details of its EAP are not disclosed to the public. You are entitled to know the name of the owner of a nearby dam, and you can ask your local county or municipal Emergency Management Coordinator whether that dam has an EAP.

Knowing the location and owner of a dam that may impact your home, business, or favorite recreational area is important. Knowing there is an EAP for the dam, even if you don't know the details in it, can provide some peace of mind. But a thorough EAP will include an "inundation map" that clearly defines the boundaries of the "hazard area" and shows where the water will go, how fast, and how deep.

MAKE CONTACT

Once you have identified the likely SHP or HHP dam of interest, you can ask whether an EAP has been filed. Contact:

Warren Samuelson
State Dam Safety Manager
Dam Safety Program, MC 174
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087
Phone: 512-239-5195
Email: WSamuels@tceq.state.tx.us

Another contact is the Emergency Management Coordinator (EMC) of the county or city where the dam is situated. A call to the county courthouse or city hall should result in the name and phone number of the EMC. When EAPs are in process or have been completed, the EMC will be involved or have the EAP on file. If you are among those at risk, make sure the EMC knows how to reach you in an emergency.

If the dam owner is known, you may contact that person or office directly. Phone numbers and addresses of dam owners should be available through the Dam Safety Program or the EMC's office. Most dam owners are anxious to complete an EAP when they realize the importance for public safety and their own liability. You or an organization you know may even be able to help an owner with some of the detail work on an EAP.