



# Dam Safety Program

Department of Land and Natural Resources  
State of Hawaii

## EAP DEVELOPMENT GUIDELINES

Revised April 2009

Many dams in Hawaii have a potential to cause loss of life and considerable property damage if they were to fail, due to factors including height of the dam, proximity to downstream development, and volume of water stored. The State of Hawaii, Department of Land and Natural Resources (DLNR), Dam Safety Program (DSP) minimizes these risks through an ongoing dam safety inspection program. In addition, planning for possible emergencies is another public safety component of the DSP.

Hawaii Revised Statutes Chapter 179D-30 requires the Owners of State-regulated high and significant hazard potential dams and reservoirs to establish an Emergency Action Plan (EAP) to assist the local community in effectively responding to a dam safety emergency. Owners are also required to provide this EAP to the DLNR, State and County Civil Defense agencies, police department, fire department, and other necessary parties. The DSP has developed a statewide template available for use in updating or preparing an EAP for dams and reservoirs.

### What is an EAP?

A document establishing the following procedure for an unusual or emergency event: (1) detect by observation or inspection, (2) determine event level, (3) activate notification plan, (4) follow pre-planned actions, including an evacuation plan upon indication of an impending dam failure or unsafe condition, (5) terminate event.

### Dam Owner's Responsibilities:

- Contact and coordinate with local Emergency Management agency (City and County Department of Emergency Management or County Civil Defense) to develop an effective EAP.
- Submit an updated EAP following statewide template to DSP by September 30, 2009 (separate EAP required for each State-regulated high-hazard and significant-hazard facility).
- After concurrence by DSP, distribute Official Copies of EAP to necessary parties.
- Review, update and resubmit changes annually.
- Initiate an EAP call test every 2 years (as described in "Appendix C, Training, Testing and Updating" of the EAP template).
- Be trained in monitoring and operating the facility, including during periods of heavy precipitation, flooding, unusual hydrologic or geological events, and other unusual conditions.
- Be prepared to act promptly and efficiently when a dam begins to show signs of distress. Early identification of hazardous conditions will permit prompt implementation of emergency procedures outlined in the EAP. The Dam Owner should be capable of identifying specific types of potential failure modes such as overtopping and piping, and be trained in implementing remedial procedures to prevent or mitigate dam failure.

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### Considerations for EAP Template:

1. Included text is intended as a guideline for minimum level of detail expected; details may be added as appropriate for each facility.
2. Items to be completed by Owner are highlighted in yellow, and should be unhighlighted or deleted (as appropriate) after change is made.
3. “Dam Owner’s Representative” may refer to one or more persons and/or roles. The Dam Owner’s Representative should have the proper training, technical expertise, responsibility, and authority to monitor & operate the facility, declare emergency situations, and implement the EAP. Named Dam Owner’s Representative(s) should be available for standby and emergency call-outs, and be able to arrive at the facility to immediately respond to such emergencies.
4. Event Level 1, 2 and 3 flowchart call priorities have been developed by DSP in conjunction with local Civil Defense agencies and should not be modified without prior approval.
5. Forms included in EAP template are intended for recordkeeping purposes and may be modified as appropriate for each facility. Blank copies should be kept on-hand, and completed forms should be maintained on file.
6. The “Guidance for Determining the Event Level” table should include facility-specific criteria such as alarm triggers, pre-existing conditions, and potentially alarming seepage flowrates. Guidance may be found in the “References” tab on the DSP website (including “Recommended Operating Procedures for Dams, Appendix B” by Gannett Fleming) and by consulting with your technical representative for further scenarios that may be appropriate to add to the table.
7. EAPs are considered documents for Official Use Only. Confidential information including personal phone numbers, facility access codes, and inundation maps/vulnerability assessment information should not be publically distributed.
8. Emergency personal phone numbers of Dam Safety Program staff and County Civil Defense agencies have been made available to Dam Owners via a password-protected portion of our website (“Owner Login” in left column menu). Please contact the designated contact of your facility for this username and password.

### QUESTIONS?

Please contact the Dam Safety Program at (808) 587-0236