

**Connecticut Department of Energy & Environmental Protection
Water Planning and Management Division
Dam Safety Program**

EMERGENCY ACTION PLAN COMPLETENESS REVIEW CHECKLIST

Dam Name: _____ CT Dam ID #: _____

Town(s): _____ Date of EAP Submission: _____
Date of EAP: _____

New or Updated EAP: _____ If Updated, Date of Last Submission: _____

EAP Requirements

- 1. Title Page**
 - a. Includes date the EAP was submitted
 - b. Identifies the document as an EAP and specifies the dam for which it was developed
 - c. Includes dam names, CT Dam ID number, reservoir names, hazard class, and town(s) in which the dam is located
- 2. Executive Summary**

Includes description of:

 - a. Physical components of the dam
 - b. Pertinent history
 - c. Riverine system upstream and downstream of the dam
- 3. Location of Emergency Operations Center**
 - a. Identifies location of an EOC - where responsible officials will gather during an emergency to direct and coordinate emergency operation (provide address and phone number)
- 4. Dam Monitoring Procedure**

Outlines procedures for monitoring the dam during periods of heavy rainfall and runoff, or when other conditions develop that warrant close monitoring of the dam

 - a. Identifies person and their alternate(s) responsible for conducting monitoring of the dam
 - b. Requires initiation of the Dam Monitoring Procedure when the NWS announces a Flood Warning for the area where the dam is located, or when other conditions develop that warrant close monitoring

- c. Is conducted at an interval that has been calculated by a professional engineer retained by the owner, to correspond with the particular hydrologic, hydraulic and structural components of the dam
- d. Includes viewing the dam and, if possible, walking the dam crest at regular intervals to determine if any sloughing of the embankment, cracking, settlement, or movement of the dam has occurred. Also includes inspection of the toe of the dam and the abutment contacts to detect any signs of deterioration of the dam or its components, and inspection of the spillway(s) and outlet structure(s) for accumulation of debris
- e. Requires notification to the local authority upon initiation of monitoring
- f. Requires written record of all monitoring activity (record form may be included in an appendix). Written record must include:
 - i. date and time of each inspection interval
 - ii. rainfall data
 - iii. reservoir level
 - iv. observation of any changes in the dam including sloughing of the embankments, cracking, settlement, movement, erosion, seepage, deterioration of abutment contacts, debris obstructing spillways or outlet structures, or any other sign the dam is deteriorating
 - v. if seepage is observed, comment on location, amount of flow, and whether seepage is clear, cloudy or muddy
 - vi. if movement, sloughing or erosion is observed, comment on the depth and location of conditions
- g. Includes steps taken to provide adequate lighting to view the dam at night
- h. Includes an inventory of emergency equipment and supplies and their location, and personnel which could be utilized to respond to emergencies at the dam
- i. Lists personnel and their alternates that would be utilized by the dam owner or operator responsible for decision making and implementing emergency repairs, in the event the owner is absent

5. Notification Flow Chart

- a. Flow chart shows titles or associated contact names with phone numbers of local, state, federal, tribal agencies, and any public service company responsible for providing emergency services
- b. Contacts on flow chart shall be called when the Dam Monitoring Procedure is initiated in response to a NWS Flood Warning, when an Early Warning Notification is recommended by the owner/operator, and when a Final Warning Notification is recommended
- c. Flow chart clearly depicts the order and circumstance under which named contacts will be notified.

6. Warning Notification Procedure

Provides a formal warning notification process to alert the local authority who is responsible for acting on the warning and/or determining whether to evacuate residents or others within the inundation zone in the event of an emergency

- a. _____Includes a warning notification list with addresses for residences, businesses, and highways located in the inundation zone, to be used to warn inhabitants downstream that the dam may fail, or is in imminent danger of failing
- b. _____Provides an Early Warning Notification to the local authority responsible for providing emergency services when any of the following conditions are observed:
 - i. A marked increase in seepage through an embankment, particularly if evidence of a boil is observed
 - ii. An increase in the rate of rise of the impoundment such that the non-overflow section(s) of the dam may be overtopped
 - iii. Conditions are developing at the dam that could lead to a potential failure
- c. **Early Warning Notification includes:**
 - i. _____name of dam owner and operator
 - ii. _____name and location of dam
 - iii. _____conditions that indicated the dam may be compromised
 - iv. _____a notice to the emergency management authority to warn residents
- d. _____Provides a Final Warning Notification to alert the local authority who is responsible for acting on the final warning and evacuating residents when any of the flowing conditions have been observed:
 - i. A dramatic increase in seepage flow (or pre-existing boil), particularly if piping is occurring
 - ii. Cracking, settlement, or movement of masonry or concrete spillways, training walls or other structures
 - iii. The rise of impoundment is such that the non-overflow section(s) of the dam will overtop or is overtopping and the dam is failing or is in imminent danger of failing
 - iv. Substantial erosion or sloughing of dam embankments
 - v. Any other condition which would likely result in a failure of the dam
- e. **Final Warning Notification includes:**
 - i. _____name of dam owner and operator
 - ii. _____name and location of dam
 - iii. _____conditions at the dam indicated the dam is in imminent danger of failing
 - iv. _____this is a final warning
 - v. _____a notice to the emergency management authority to warn residents that evacuation is necessary

7. Termination of Emergency

- a. _____Description of procedure for determining when the emergency can be terminated

- b. Identifies parties responsible for determining when the emergency can be terminated

8. Inundation Map

- a. Prepared by a Professional Engineer
- b. Map is sufficient in graphic detail and of a scale that clearly shows the downstream inhabited areas and the inundation zones
- c. All elevations are based on a reference to Geodetic North American Vertical Datum (NAVD88)

The inundation map must show at a minimum the following features:

- d. Name and address or location of the dam
- e. Local names for all pertinent downstream features (buildings, homes, railroads, bridges, schools, hospitals, camp grounds, other dams, and any other significant facilities)
- f. Inundation zone for wet weather, with arrows indicating direction of the flood wave
- g. A north arrow and bar scale
- h. Pertinent downstream cross sections, such as roads (include road names)

Related information must be included *with* the Inundation Map:

- i. Estimated timeline that shows arrival times of peak floodwaters expressed in hours and minutes and incremental increase in water depth above the baseline elevation at critical intersections, structures, or inhabited structures
- j. List of all streets, roads, and highways, including the address of the residences and businesses subject to flooding
- k. A location map sufficient in scale to clearly show the exact location of the impoundment in relation to the surrounding area, other dams in the area, and the delineation of the drainage area. Map should include a north arrow, a bar scale, and the size of the drainage area in square miles
- l. A description of the method or computer model used to prepare the inundation map

9. Description of Drill

- a. Description of an exercise, or test to be conducted at a minimum of every two years
- b. Drill includes participation of all appropriate personnel identified in the EAP that are responsible for providing emergency services in the event the EAP is initiated

10. Distribution List of Affected Agencies – Include in an appendix

- a. List of all local, state, federal, and federal tribal affected agencies that will receive a copy of the EAP

Completeness Recommendation:

Sections 1 – 10 (except Section 8)

Complete Incomplete

Comments: _____

Staff Reviewer: _____

Date: _____

Section 8 Inundation Map and Related Information

Complete Incomplete

Comments: _____

Staff Reviewer: _____

Date: _____

Revision Review

Sections: _____ Date of Revision: _____

Complete Incomplete

Comments: _____

Staff Reviewer: _____

Date: _____