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NORTH CAROLINA
Environmental Quality

Dam Safety Emergency Action Plan Frequently Asked Questions (FAQs)

Q. What is an Emergency Action Plan (EAP)? Where can I educate myself about EAPs?

A. An EAP is a formal document that identifies potential emergency conditions at a dam and specifies actions to be followed to minimize loss of life and property damage. Please refer to FEMA P-946 “Federal Guidelines for Inundation Mapping of Flood Risks Associated with Dam Incidents and Failures” for additional guidance.

Q. I’ve owned this dam for a number of years with no safety problems. Why am I now being required to prepare an EAP for my dam?

A. The Coal Ash Management Act of 2014 (Session Law 2014-122) requires that all owners of High and Intermediate hazard dams in North Carolina submit a proposed Emergency Action Plan that includes, at a minimum, all of the following:

- i. A description of potential emergency conditions that could occur at the dam, including security risks.
- ii. A description of actions to be taken in response to an emergency condition at the dam.
- iii. Emergency notification procedures to aid in warning and evacuations during an emergency condition at the dam.
- iv. A downstream inundation map depicting areas affected by a dam failure and sudden release of the impoundment.

Q. When is my EAP due?

A. Due to the passage of Session Law 2015-7, all EAPs for High and Intermediate hazard dams were due by December 31, 2015. Alternatively, once a dam has been classified as High or Intermediate hazard, the dam owner has ninety (90) days to submit an EAP to the North Carolina Dam Safety Program per NCGS § 143-215.31.(a1)(3). Dam owners who are required to submit an EAP, but have not yet done so, are subject to enforcement action, including possible civil penalties and/or injunctive actions, which may include, but is not limited to, a Notice of Deficiency or a Dam Safety Order mandating drainage of the impoundment, per NCGS § 143-215.36.

Rev. June 2016, Rev. April 2017, Rev. September 2022



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Q. Do I need to resubmit my EAP on an annual basis?

- A. EAPs are required to be updated and resubmitted annually, one year from the anniversary date of the most recent approval per NCGS § 143-215.31(a1)(3). A Tabletop Exercise is recommended to be conducted prior to the annual resubmission of the EAP.

Q. Do I need to submit a downstream inundation map with my EAP?

- A. Per NCGS § 143-215.31(a1)(2)(d), a downstream inundation map depicting areas affected by a dam failure and sudden release of the impoundment must be provided with the EAP. Provide all supporting methodology used to develop the downstream inundation map, including: methodology used, assumptions made, modeling software used (if any), electronic files of the models, associated inputs, date of creation, legend table, compass, topographic contours, scale size, and directional arrows. The downstream inundation map should depict both the Sunny-Day Breach (simulating a piping failure with the reservoir at normal pool elevation) and the Rainy-Day Breach (simulating an overtopping failure at maximum pool elevation during passage of the SDF) inundation zones. The two scenarios may be shown on the same map or set of maps using different colors. Downstream inundation maps should be developed using an engineering computer model (e.g., HEC-RAS Unsteady Model, or other two-dimensional hydraulic analysis model, etc.), as referenced in FEMA P-946 “Federal Guidelines for Inundation Mapping of Flood Risks Associated with Dam Incidents and Failures”. The HEC-RAS models are available to anyone at no cost from the US Army Corps of Engineers at: <https://www.hec.usace.army.mil/software/hec-ras/>. The downstream inundation map must depict the inundated areas superimposed on recent aerial imagery or a topographic map (including labeled two-foot interval topographic contours) clearly showing all impacted structures, roads, railroads, and other well-known features (located within the inundation zone extent) and reference each on Residents/Business/Roads/Infrastructure at Risk (Table 5.1).

Q. Where should the downstream limit of my downstream inundation map be?

- A. The downstream limit of the breach inundation zone analysis should be the most downstream point where habitable structures are not located in the non-hydrologic fair weather dam breach inundation zone and the with- and without-dam breach flood elevations for the hydrologic failure converging to a specified vertical tolerance of 1 foot, unless sufficient justification exists for a larger vertical tolerance.

Q. Does my downstream inundation map have to be prepared and sealed by a Professional Engineer (PE)?

- A. Per NCGS § 143-215.31(a1)(2)(d), a downstream inundation map depicting areas affected by a dam failure and sudden release of the impoundment does not require preparation by a licensed professional engineer or a person under the responsible charge of a licensed professional engineer unless the dam is associated with a coal combustion residuals surface impoundment.



Q. I already have an EAP with a downstream inundation map for my dam. Do I need to have the downstream inundation map re-done when I am updating my EAP annually?

- A. Dam owners should review the EAP and downstream inundation map for correctness and modify to include any changes to the downstream hazards. If no updates are needed to the EAP and downstream inundation map at the time of annual resubmittal, update the date of the EAP on each page and include a cover letter that states there have been no changes in the last year when resubmitting to North Carolina Dam Safety Program.

Q. Should I use the online EAP Development Tool (Risk Management Portal) to complete and submit my EAP?

- A. The EAP Development Tool (Risk Management Portal) was decommissioned in January 2021. All EAPs must be validly submitted to the North Carolina Dam Safety Program by:
- i. Using the template available at the following website (<https://deq.nc.gov/about/divisions/energy-mineral-and-land-resources/dam-safety/planning-dam-emergency>).
 - ii. Submitting one (1) electronic copy to the following email address (DamSafety@ncdenr.gov).
 - iii. If the electronic copy file size is too large, place them on a thumb drive and send to:
NC DEQ – DEMLR
ATTN: Dam Safety
1612 Mail Service Center
Raleigh, NC 27699-1612

Q. What happens after my EAP is submitted to the North Carolina Dam Safety Program?

- A. Your EAP will be reviewed in order to determine if the EAP complies with the full requirements mandated by law and complies to internal policies and guidance in order to adequately address the protection of public health, safety, and welfare of the environment and natural resources.
- i. If additional revision or information is required, an EAP Revision Request letter will be issued to the dam owner. The dam owner will need to contact our office to communicate their intent to comply with the request within 30 days of receipt of the letter, otherwise enforcement action may be initiated.
 - ii. If no additional revision or information is required, an Approval of EAP letter will be issued for your dam. The dam owner will still need to update and resubmit the EAP annually.

Q. My dam is classified Intermediate Hazard. Do I need to prepare an EAP?

- A. An EAP is required for all High and Intermediate hazard dams that are not exempt from the Dam Safety Law of 1967. If you are uncertain of the exemption status of your dam, contact the following email address (DamSafety@ncdenr.gov).



Q. My dam is exempt/breached/drained. Do I need to prepare an EAP?

A. Dams that are exempt from the Dam Safety Law of 1967 do not require an EAP.

Dams that are breached do not require an EAP.

Dams that have been breached as part of a phased repair plan and are expected to re-impound water in the future do require an EAP.

Dams that are drained, which implies the potential to re-impound water, do require an EAP.

