

Reclamation Manual

Directives and Standards

Emergency Action Plan Content Requirements

This appendix provides specific requirements for the content of Reclamation Emergency Action Plans (EAPs) to ensure a foundational level of uniformity across Reclamation.

1. **Purpose and Scope.** Reclamation EAPs will contain the mandatory purpose and scope statement, provided below, in the preface/introduction of the EAP. This statement may be modified for condensed external agency only versions of the EAP (where used) to more appropriately define the purpose and scope.

Purpose. The primary purpose of this emergency action plan (EAP) is to provide effective and timely risk communication to the public safety agencies responsible for warning and evacuation of populations at risk (PAR) downstream of Reclamation water impoundment structures to reduce potential loss of life during situations of elevated flood risk.

Additionally, this EAP serves the purposes of providing, (1) response procedures for Reclamation and facility operations personnel, (2) an administrative record of programmatic intent, and (3) a reference for training and exercises.

Scope. The scope of this EAP includes:

- (1) **Flood Hazard Identification.** Identification of all unusual or hazardous conditions (e.g., probable failure modes, natural disasters, operational failure, security breach, etc.) provided as descriptive initiating conditions (a.k.a., triggers) that may lead to water releases from the structure that would threaten PAR.
- (2) **Dam Owner Procedures.** Procedures and tools (e.g., checklists, emergency level decision matrix, notification charts) intended for use by Reclamation [and partner dam operations *if applicable*] personnel to provide a consistent process of detection, activation, classification, intervention, notification, re-evaluation, and termination.
- (3) **Supporting Information.** Facility and other reference information (e.g., structural data, emergency classification definitions, warning time, inundation maps) to support flood response planning for public safety agencies responsible for warning and evacuation in the inundation zone.

This EAP does not include response procedures related to occupant emergency planning, continuity of operations, hazardous materials spills, security response, or hazard-specific emergencies not impacting the potential for flood releases from the structure. For information related to these other incident types, reference the appropriate plans listed below:

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- *[insert list of relevant area/field office incident response plans other than EAP (e.g., continuity of operations plan, occupant emergency plan, etc.), to include any site security plan(s) for the facility(ies)]*

This EAP does not include instructions for downstream/external public safety agencies and assumes that notifications and incident information will be used by those agencies in accordance with local flood response and evacuation plans (outside the jurisdiction of Reclamation). Furthermore, it is assumed that the public will receive and understand official information related to warning and evacuation and will act in its own best interest to follow instructions to evacuate when advised to do so by local or state authorities.

2. **Roles and Responsibilities.** EAPs will include a roles and responsibility section that includes:
 - A. a general description of the EAP-related roles and responsibilities for each associated office, facility, and group/position;
 - B. a summary of the authority and responsibility for incident management and decision-making during dam safety incidents and operational control of the facility during high water levels and high flow releases (e.g., Reclamation vs operating partner and where applicable the U.S. Army Corps of Engineers);
 - C. a general description of the roles of associated local, state, and federal public safety agencies; and
 - D. identification of the positions within the area/field office (or operating partner where applicable) with authorization to formally activate the EAP on behalf of the responsible area office (e.g., area manager, facility manager, area office incident commander).
3. **Response Process.** EAPs will include a standardized EAP process based on the concepts of, 1) detection, 2) activation, 3) classification, 4) notification, 5) intervention, 6) re-evaluation, and 7) termination.
4. **Response Checklists.** All detailed incident response instructions and specific tasks for Reclamation (and where applicable, operating partner) personnel will be assigned and consolidated into role and/or office-specific checklists to provide an efficient and user-friendly response document.
5. **Emergency Level Classification System.** All EAPs will incorporate and follow a standardized system of emergency level classification comprised of, (A) Emergency Levels, and (B) initiating conditions, as defined below.

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- A. **Emergency Levels.** EAP incidents will be classified using Emergency Levels as defined below:
- (1) The “Emergency Level” will be a combination of a numerical indicator of severity level of either **1, 2, or 3**, and one of the categories, “**high flow**”, “**non-failure**”, “**potential failure**”, or “**imminent failure**”¹, corresponding to hazard types and initiating conditions (see Figure 1 below).
 - (2) The numerical levels of severity (i.e., 1, 2, and 3), as defined below, are based on the potential threat of flooding to PAR, provide an overall framework for EAP related emergencies, and trigger external (in addition to internal) notifications.
 - (a) Level 1 – Threat corresponding to the need to notify affected public safety agencies to be on standby.
 - (b) Level 2 – Threat corresponding to the need to notify affected public safety agencies to consider public warning (and possibly evacuation of most vulnerable PAR).
 - (c) Level 3 – Threat corresponding to the need to notify affected public safety agencies to consider public evacuations.
 - (3) The “high flow” category is to be used for operational releases or an elevated risk of releases from a dam (not applicable to canals and other structures) severe enough to warrant notifications to affected public safety agencies due to the likelihood of flooding impact. The correlation of high flows to severity levels will be determined by the responsible office in accordance with the definitions above.
 - (4) The structural related categories of “non-failure”, “potential failure”, or “imminent failure”, as defined below, are to be aligned under the respective severity levels (i.e., 1, 2, and 3) for all structural related hazard types.
 - (a) Non-Failure – Condition of, or threat to, the structure is concerning (i.e., elevated risk) and may require intervention; where remediation is plausible.
 - (b) Potential Failure – Condition of, or threat to, the structure is serious (i.e., high risk) and may require extraordinary intervention; where the likelihood of remediation is uncertain.
 - (c) Imminent Failure – Condition of, or threat to, the structure is severe (i.e., very high risk); where remediation is not likely.

¹ Per FEMA-64.

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Emergency Level Decision Matrix (concept)

	Level 1	Level 2	Level 3
	External Notifications		
HAZARD TYPES	High Flow (1)	High Flow (2)	High Flow (3)
Hydrologic Event	• initiating condition	• initiating condition	• initiating condition
	Non-Failure	Potential Failure	Imminent Failure
Structural Issues	• initiating condition	• initiating condition	• initiating condition
Security Threat	• initiating condition	• initiating condition	• initiating condition
Others as appropriate	• initiating condition	• initiating condition	• initiating condition

Figure 1 – Example Emergency Levels table concept/format.

- (5) The possible Emergency Levels are, “Level 1 - High Flow”, “Level 2 - High Flow”, “Level 3 - High Flow”, “Level 1 - Non-Failure”, “Level 2 - Potential Failure”, or “Level 3 - Imminent Failure.”
- (6) Where appropriate, the additional level, “Internal Alert,” may be used to indicate incidents that require heightened awareness or immediate investigation but have not yet risen to the level where external public safety agencies need to be notified, providing the Reclamation area office and dam operator the opportunity to organize before a hazard elevates to the level requiring external notifications.
- (7) Where appropriate, the additional Emergency Level, “Level 4 – Failure,” may be used to indicate the occurrence of a dam failure (with an associated catastrophic release of the reservoir), thus indicating a loss of water impoundment capacity and an urgent threat to PAR and first responders in the inundation zone according to flood wave travel times.

B. Initiating Conditions. The classification of EAP-related incidents will incorporate descriptions of various hazard-based conditions (as determined by the regional/area office) that provide a framework for determination of Emergency Levels, according to the following:

- (1) **Alignment.** Development of the initiating conditions will align with the Emergency Level definitions for notifying affected public safety agencies and will be refined in collaboration with those agencies to best support downstream risk communication, and where applicable be aligned appropriately (i.e., not conflict) with flood alert messaging provided by the National Weather Service.
- (2) **Hazard Types.** All applicable hazard types in which there is a risk of life-threatening flood waters occurring from the structure will be identified and used to organize the initiating condition descriptions, and will include at a minimum:

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- (a) hydrologic events (e.g., weather forecasts, high reservoir level, inflow, or releases);
 - (b) structural issues (e.g., seepage, cracks, displacements); and
 - (c) security threats (e.g., assessed threat potential to impact the structure or operational control).
- (3) **Potential Failure Modes.** For high-hazard dams, potential failure modes (per the latest Comprehensive Review) will be incorporated into the initiating conditions.
6. **Notification Requirements.** EAPs will include, (1) notification instructions and communications systems protocol, (2) notification charts, and (3) pre-scripted messages, to support accurate, consistent, and timely risk communication to affected public safety agencies, according to the requirements below:
- A. **Notification Instructions.** A narrative description of all necessary information needed to support effective and timely external and internal notifications will be included in the EAP, and will incorporate at a minimum:
- (1) External notifications will be made:
 - (i) at each Emergency Level declaration (Level 1 and above);
 - (ii) when significant gate/release changes occur (not applicable to canal EAPs); and
 - (iii) to all appropriate public safety agencies, as identified on the EAP Notification Chart(s).

(The use of Emergency Level numbers for external notifications is optional.)
 - (2) Internal notifications will be made:
 - (i) at each Emergency Level declaration (including Internal Alert when used in an EAP);
 - (ii) to necessary area/field office and dam operations personnel to ensure adequate situational awareness and coordination (in accordance with area office incident communications protocol);
 - (iii) to the Regional Duty Officer (in accordance with SLE 08-03 and regional incident reporting protocol); and

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(iv) to the Regional Security Officer and the Area Office Security Coordinator.

- (3) Notification procedures will include protocol for the use of communications equipment and systems for all offices/locations (including backup systems and methods).
- (4) Notification procedures will identify a structured notification process, the primary office/group/position responsible for conducting EAP notifications, and a contingency communications protocol for on-site dam operation staff to report an imminent life-threatening condition to downstream public safety agencies (i.e., level 3 (or 4) severity; immediately calling 911 and/or local emergency management officials).

B. Notification Charts. Notifications charts will include, at a minimum:

- (1) the list of local/downstream public safety agencies that would be affected or are otherwise responsible for warning and evacuation of PAR associated with the structure(s) and/or affected inundation areas associated with the EAP;
- (2) the National Weather Service office associated with the river system or affected inundation areas;
- (3) any (other) affected federal agencies or Department of the Interior bureaus;
- (4) all affected American Indian tribes;
- (5) any dam owners with large/significant dams in the affected inundation areas;
- (6) any other appropriate utilities or transportation organizations, stakeholders, or individual emergency response organizations in the affected inundation areas; and
- (7) an order of contact priority (as applicable).

C. Pre-scripted Messages. EAPs will include pre-scripted messages (aligned with identified Emergency Levels) to support consistent and accurate notifications to external agencies.

7. **Primary and Backup Communications Systems Information.** EAPs will contain instructions for the use of primary (e.g., landline/cell phone) and secondary/backup (e.g., radios, satellite phone) means of communication at all facilities/locations necessary to ensure sustainability of internal coordination and external notifications during emergency situations. If this information is provided in a separate document (e.g., emergency communications plan), the EAP may summarize and refer to this information.

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8. **Facility-Specific Conditions and Potential Failure Modes.** EAPs will be tailored to and address conditions specific to the subject facility(ies) including conditions related to hazard identification (detection and classification) and any procedures related to structural intervention. High-hazard dam EAPs will consider, incorporate, and describe as appropriate likely potential failure modes from the most recent facility Comprehensive Review, as well as any pertinent facility-specific conditions, limitations, or issues.

9. **Preparedness and Facility Information.** EAPs will include a general description of the facility(ies) covered by the EAP and other useful information as appropriate (e.g., photos, maps, drawings, studies, reports, MOUs, emergency communication directory). In accordance with Federal Emergency Management Agency (FEMA) guidelines for EAPs, FEMA-64, EAPs will include facility/office specific information covering the following topics (except where referencing another plan/document):
 - Training and exercising
 - Surveillance and monitoring
 - Evaluation of detection methods and limitations
 - Access to the site
 - Response during periods of darkness
 - Response during weekends and holidays
 - Response during periods of adverse weather
 - Alternative sources of power
 - Emergency supplies and information
 - Alternative systems of communication
 - Communication strategies to the public and media
 - Facility shutdown procedures (e.g., for canal EAPs)

10. **Canal EAP Format and Content.**
 - A. Canal EAP format and content will generally mirror that of dam EAPs but may be scaled to a more limited scope of information based on complexity and consequences.
 - B. Canal EAPs may refer to common information already contained in an associated dam EAP (and thereby be condensed in size).
 - C. Emergency Level initiating conditions will be developed to the extent possible for classification of situations that could lead to a failure of the canal and threaten downstream populations at risk.
 - D. EAPs for urban canal reaches/systems will be identified and referred to as a “Canal Emergency Action Plan” (formerly “Emergency Management Plan”).
 - E. Inundation maps are not required for canal EAPs.