

**FISH AND WILDLIFE SERVICE
ENGINEERING AND CONSTRUCTION**

Engineering and Construction

Part 361 Dam Safety

Chapter 3 Emergency Action Plans for High and Significant Hazard Dams

361 FW 3

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OVERVIEW

3.1 What is the purpose of this chapter? This chapter describes policies, procedures, and responsibilities for emergency action planning for U.S. Fish and Wildlife Service (Service) high and significant hazard dams (see [361 FW 2](#) for definitions).

3.2 What is the scope of this chapter? This chapter applies to all employees who have responsibilities for developing Emergency Action Plans and performing the requirements within them.

3.3 What are the authorities for this chapter? See 361 FW 1 for a list of authorities for all the chapters in Part 361.

POLICIES, PROCEDURES, AND RESPONSIBILITIES

3.4 Why is emergency planning necessary?

A. We develop Emergency Action Plans and test those plans to do everything we can to avoid potential dam failures and to mitigate their impact.

B. A dam safety incident:

(1) Is an unusual event or condition that may increase the risk of failure or misoperation of a dam. It requires the dam operator to assess the situation (with help from the Regional Dam Safety Officer (RDSO) or Service Dam Safety Officer (SDSO)) and take appropriate action, including implementing the Emergency Action Plan.

(2) May include increased seepage, a large flood, failure of operating equipment, earthquakes, and security threats, such as criminal acts, vandalism, or unauthorized surveillance activities.

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3.5 Who is responsible for emergency action planning for Service high and significant hazard dams? See Table 3-1.

Table 3-1: Responsibilities for Emergency Action Planning

This official...	Is responsible for...
A. The Director	Approving or declining to approve Servicewide policy for all Service programs.
B. Regional Directors	Ensuring the safe operation and maintenance of dams in their Regions.
C. The Service Dam Safety Officer (SDSO)	(1) Developing Emergency Action Plans and Standard Operating Procedures (SOP) for all high and significant hazard dams, (2) Assisting RDSOs in implementing Emergency Action Plans, (3) Performing periodic Emergency Action Plan exercises (also see 361 FW 2), and (4) Updating Emergency Action Plans and SOPs for major repairs and rehabilitation to high and significant hazard dams.
D. Regional Dam Safety Officers (RDSO)	(1) Assisting the SDSO in developing Emergency Action Plans for high and significant hazard dams; (2) Providing technical and decision-making support to field staff during unusual or emergency events; (3) Annually reviewing Emergency Action Plans and updating and distributing revisions to Emergency Action Plans and SOPs; and (4) Annually testing, verifying, and certifying Emergency Action Plans.
E. Regional Engineers	Assisting the RDSOs and the SDSO in developing and implementing Emergency Action Plans.

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This official...	Is responsible for...
F. Project Leaders	<p>(1) Implementing and performing the actions described in the Emergency Action Plans;</p> <p>(2) Ensuring adequate staff and training to implement Emergency Action Plans;</p> <p>(3) Ensuring adequate equipment and materials are readily available in an emergency;</p> <p>(4) Working with RDSOs to annually test, verify, and certify Emergency Action Plans;</p> <p>(5) Maintaining current copies of the Emergency Action Plans and SOPs; and</p> <p>(6) Ensuring the safety of employees and visitors who may be impacted by dam failure or misoperation.</p>

3.6 What are the requirements for Emergency Action Plans?

A. All high and significant hazard dams must have an Emergency Action Plan.

B. Emergency Action Plans must include, at a minimum:

- (1)** Names and contact information of personnel and public officials responsible for public safety and media contacts;
- (2)** Actions required under specific hydrologic situations and other events that threaten the safety of the dam, such as earthquakes, seepage, or sabotage; and
- (3)** Actions required to mitigate a dam failure.

C. The RDSO must annually:

- (1)** Review Emergency Action Plans for high and significant hazard dams in his/her Region in accordance with procedures outlined in the Emergency Action Plans;
- (2)** Test, verify, and certify Emergency Action Plans by November 1st of each year;
- (3)** Submit a verification statement, in accordance with the SOPs, and any revisions to the Emergency Action Plans to the SDSO on or before December 30th of each year; and
- (4)** Distribute revisions to Emergency Action Plans to the plan holders.

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3.7 What are the requirements for testing Emergency Action Plans to ensure they're adequate? The SDSO must perform tests of Emergency Action Plans to ensure that the plans are current and that the responsibilities and required actions are clearly understood. The SDSO conducts two types of tests—a periodic test at the same time as a formal Safety Evaluation of Existing Dams (SEED) inspection and a tabletop exercise performed at the same time as an intermediate SEED inspection or annual checklist inspection (see [361 FW 2](#) for more information about SEED inspections).

A. Periodic tests of the Emergency Action Plans must involve field station personnel, emergency management professionals, the RDSO, and the SDSO (or designated representative). The tests must include:

- (1)** An overview of the Service's Dam Safety Program;
- (2)** A lecture on dam safety basics, potential failure modes, general operation and maintenance of the dam, inspection techniques, and monitoring. The lecture must include:
 - (a)** A description of each section of the Emergency Action Plan;
 - (b)** A description of the dam, its features, and potential failure modes; and
 - (c)** A visual tour of the dam;
- (3)** Presentation of dam failure inundation mapping for both "sunny day" failure and failure caused by floods;
- (4)** Two mock failure scenarios to demonstrate the critical functions (i.e., surveillance, decision making, and notification) that include role playing by the field station participants, emergency management professionals, the RDSO, and the SDSO (or designated representative); and
- (5)** Documentation of comments, recommendations, and proposed changes to the plan (see section 3.8 below for information on the After Action Report).

B. Tabletop exercises must involve field station personnel and the SDSO (or designated representative), with assistance from consultants, as needed. The exercises must include:

- (1)** A review of the description of each section of the plan, including surveillance, decision making, notification, and the communication procedures within the Service;
- (2)** One mock failure scenario to demonstrate the critical functions and to test the internal communication protocols within the Service; and
- (3)** Documentation of comments, recommendations, and proposed changes to the plan (see section 3.8).

AFTER ACTION REPORTS (AAR)

3.8 What are the requirements for developing After Action Reports (AAR)? The SDSO (with assistance from consultants, as needed) must complete or approve an AAR after periodic tests and tabletop exercises and after significant dam safety incidents.

A. The AAR for tests/exercises:

(1) This AAR must include:

- (a)** A description of the test/exercise;
- (b)** A list of participants;
- (c)** A discussion of the findings, comments, and suggested changes to the Emergency Action Plan; and
- (d)** An assessment of the plan and final recommended changes to it.

(2) The SDSO, or his/her designee, must:

- (a)** Approve the AAR and upload it to the DAMS database or insert it into the Emergency Action Plan, and
- (b)** Attach a completion memorandum to the original AAR verifying that the changes to the Emergency Action Plan have been completed.

B. The AAR for incidents:

(1) This AAR must include:

- (a)** A description of the incident;
- (b)** A list of people who were involved in or affected by the incident;
- (c)** A discussion of the findings, comments, and final resolution of the incident; and
- (d)** An assessment of the incident and any recommended changes to the Emergency Action Plan with proposed completion dates.

(2) The RDSO must complete the AAR for incidents in which the Emergency Action Plan is activated. The RDSO must upload the AAR to the DAMS database or insert it into the Emergency Action Plan.

(3) The SDSO, or his/her designee, must:

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- (a) Approve the AAR and re-upload it to the DAMS database or re-insert it into the Emergency Action Plan, and
- (b) Attach a completion memorandum to the original AAR verifying that the recommendations have been completed.

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DEPUTY DIRECTOR

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