

# Reclamation Manual

## Directives and Standards

<b>Subject:</b>	Dam Safety Program
<b>Purpose:</b>	Describes the Bureau of Reclamation (Reclamation) Dam Safety Program activities and the allocation of costs to Safety Evaluation of Existing Dams (SEED) and Initiate Safety of Dams Corrective Action (ISCA) funding authorities for Dam Safety activities. The benefit of this Directive and Standard (D&S) is to ensure consistent decision-making actions for dam safety issues.
<b>Authority:</b>	Reclamation Project Act of 1902 and Supplementary Acts; Reclamation SOD Act of 1978 (Pub. L. 95-578; 92 Stat. 2471), as amended; Departmental Manual (DM), Part 753.
<b>Approving Official:</b>	Director, Dam Safety and Infrastructure
<b>Contact:</b>	Dam Safety Office (86-67100)

1. **Introduction.** The objective of the Dam Safety Program is to ensure that Reclamation facilities do not present unreasonable risks to the public, public safety, property, and the environment. To achieve this objective, Reclamation monitors, examines, and evaluates the performance of dams in its inventory of facilities. Issues are evaluated in terms of loading conditions, structural response, and the potential consequences of dam failure. Reasonable risk reduction actions are implemented when determined appropriate by Reclamation. In addition to SEED and ISCA activities described herein, there are many activities funded from a variety of sources that help Reclamation achieve its Dam Safety Program objectives. Procedures for identifying, communicating, and documenting decisions are described in Reclamation Manual (RM), *Decisions Related to Dam Safety Issues* ([FAC P02](#)).
2. **Applicability.** This D&S applies to all Reclamation personnel and offices having jurisdiction and oversight for dam safety work associated with high or significant hazard potential dams that are either owned by Reclamation or are included as part of an authorized Reclamation project. This directive establishes the decision-making requirements for determining activities to be performed within Reclamation's SEED and ISCA portions of the Dam Safety Program. This directive also defines how project costs are determined and defines certain criteria for projects to be considered under the authority of the Reclamation SOD Act.
3. **Collaborative Decision-Making.** Under Reclamation's Dam Safety Program, the Regional Director, Chief, Dam Safety Office, and corresponding Area Manager are collectively responsible for all decisions related to issues at specific dams. They will collaborate on all decisions to resolve dam safety issues and keep the Commissioner adequately informed of dam safety issues and decisions. The decisions will be appropriately documented and communicated. Ultimate authority and responsibility for Reclamation dam safety is delegated from the Secretary of the Interior to the Commissioner of Reclamation in DM, Parts 255. This D&S will henceforth use "decision-makers" to indicate when the Regional

# Reclamation Manual

## Directives and Standards

---

Director, Chief, Dam Safety Office, and appropriate Area Manager collaborate on decision-making responsibilities as a single governing body.

- A. Decisions are developed for dam safety issues including changes in estimated risks, a change in hazard classification potential, facility title transfer, annual assessment reporting, etc., and for any non-dam safety activities at the facility that could impact risk, as discussed in Paragraph 7. Non-Dam Safety Activities.
  - B. The authority to make public safety decisions remains with Reclamation. Procedures for identifying, communicating, making, and documenting decisions are set forth in [FAC P02](#). When decisions are made to reduce risk, the risk reduction action will be documented consistent with the SOD Act, as amended.
4. **Communicating Dam Safety Issues.** All Reclamation employees will communicate dam safety issues identified or called to their attention through the official channels of their particular organization or directly to decision-makers.
5. **Safety Evaluation of Existing Dams (SEED).**
- A. **SEED Activities.** SEED activities provide assurance that Reclamation dams perform in a manner to achieve Reclamation's Dam Safety Program objective. The SEED activities within the Dam Safety Program provide for responding to ongoing incidents, data collection, performance monitoring, comprehensive reviews, technical studies, and analyses to identify and evaluate potential dam safety issues. SEED activities are performed at Reclamation's high and significant hazard dams that pose a risk to the public. The results of SEED activities allow Reclamation decision-makers to identify and prioritize risk reduction actions based on their relative effectiveness in reducing risk to the public across the inventory of high and significant hazard potential dams.
  - B. **Issue Evaluations.** Issue evaluations are a SEED activity that help Reclamation leadership decide whether a dam safety issue requires risk reduction. Issue evaluations may include review of available data, collection of additional data, analyses of existing conditions, risk analysis of existing conditions, and other studies determined to be necessary to adequately characterize the risk at a dam. If risk reduction is required to address public safety or to avoid significant property or environmental loss, a decision is required to justify a corrective action.
  - C. **Non-Reimbursable Costs.** Costs associated with SEED Program activities are non-reimbursable. SEED activities benefit the public by ensuring that prudent and reasonable practices are used to manage risks and identify dam safety issues that place people, property, or the environment at unreasonable levels of risk. SEED Program activities comply with criteria established in RM D&S, *Bureau of Reclamation-wide Program Funding Criteria* ([BGT 04-02](#)), as the activities are designed to ensure that Reclamation facilities serve their intended purposes safely, productively, and economically.

# Reclamation Manual

## Directives and Standards

---

### 6. Initiate Safety of Dams Corrective Action (ISCA).

- A. **Initiation of ISCA Activities.** The SOD Act provides authority for Reclamation to modify structures or take non-structural actions to reduce risk. When decision-makers determine that a risk reduction action to address public safety and preserve all or a portion of project benefits is justified and the purpose and need requirements for funding through the SOD Act have been met, all subsequent activities will be performed under the authority of the SOD Act. Reclamation may use SOD Act authority when the purpose and need for risk reduction actions is the result of changes from new hydrologic or seismic data or changes in the state of the art.
- B. **Involvement of Water and/or Power Contractors and Power Marketing Agencies.** While final risk reduction action decisions remain with the Commissioner of Reclamation, all contractors who share in the repayment responsibilities for the SOD modifications to a dam will have the opportunity to fully participate in the process leading to the determination and implementation of the appropriate risk reduction actions. Reclamation believes that efforts to reduce risk at Reclamation dams are enhanced by working in partnership with water and/or power contractors to develop, review, and implement the necessary actions to assure that Reclamation dams safely perform their intended functions. Reclamation contractors who have elected to participate in the process of determining a risk reduction action are responsible for meeting all the information protection requirements according to RM D&S, *Identifying and Safeguarding Controlled Unclassified Information (CUI)* ([SLE 02-01](#)). To encourage this partnership, regional directors will:
- (1) Provide contractors with:
    - (a) a written explanation of the need to reduce risk within 30 days of a decision that such action is required;
    - (b) an explanation of the process for identifying, seeking authorization for, and implementing an appropriate risk reduction alternative; and
    - (c) an opportunity to participate in the development of risk reduction alternatives.
  - (2) Work with contractors to develop a plan for periodic communication and reporting of project status during the period of the dam safety modification project. The plan will identify the areas of implementation in which the contractors wish to be involved (project management, cost tracking, engineering design and evaluation, National Environmental Policy Act compliance, etc.). This plan will be documented in writing and transmitted to contractors.
  - (3) Invite the contractor(s) to participate on the Project Management Team, which will manage the activities necessary to carry out the risk reduction process.

# Reclamation Manual

## Directives and Standards

Whether or not the contractors decide to participate as part of the Project Management Team, minutes of the Project Management Team meetings will be provided to the contractors.

- (4) Identify opportunities (where appropriate) for the contractors to enter into contracts with Reclamation to perform certain activities in accordance with Federal Acquisition Regulations (FAR) and other appropriate legal and policy authorities and Paragraph 5.A.(2)(c) of RM D&S, *Safety of Dams Repayment and Cost Allocation* ([PEC 05-05](#)).

- C. **Risk Reduction Responsibilities.** Reclamation retains responsibility for ensuring the technical adequacy of risk reduction actions. When developing risk reduction alternatives, consideration will be given only to alternatives that can reasonably be accomplished and significantly reduce the risk to the public. The judgments associated with “reasonable” and “significant” will be made by decision-makers. Comparison of alternatives and selection of the preferred alternative will be in accordance with *Principles and Requirements for Federal Investments in Water Resources (March 2013)* and the National Environmental Policy Act. The comparison of alternatives will also include an analysis of the estimate of risk reduction provided by each alternative.
- D. **Dam Modifications Authorized by the SOD Act.** For the purposes of determining if a risk reduction action is authorized by the SOD Act, Reclamation will consider a dam modification to be any alternative where any of the significant existing features of the dam, including the water barrier, foundation, abutments, spillways, outlets, or dam site, will be used in the modified facility. Modifications authorized by the SOD Act for new hydrologic or seismic loadings or changes in the state of the art may require certain components of the dam to be removed or rebuilt as a cost-effective means to reduce the risk of dam failure and the resultant consequences.

Execution of the SOD modification may also require new features to be constructed to cost effectively reduce the risk of dam failure and the resultant consequences. Examples may be the construction of an embankment or the addition of a new spillway or dike through a saddle in the reservoir rim. The Chief, Dam Safety Office, is responsible for ensuring that the Dam Safety Office documents the participation of the contractors in the dam safety modification report. The modification report will also include any alternative risk reduction actions recommended in writing by the contractors.

The Commissioner authorizes and is ultimately responsible for dam safety-related structural modifications

- E. **ISCA Activities.** The SOD Act provides that funds may be appropriated for the purpose of collecting data and developing risk reduction alternatives, environmental studies and mitigation, economic studies, and other activities necessary to determine the extent of required modifications. The budget line items for SOD work will consist

# Reclamation Manual

## Directives and Standards

---

of the ISCA Program line item and specific dam line items. Once a decision is made that a risk reduction action is required, then all future costs will be to the ISCA line item and specific dam line items. These funds may also be used for formulating the proposed risk reduction alternatives; preparing the modification report; preparing repayment studies; executing repayment contracts; and final design, data collection, independent review, value engineering, preconstruction site work, construction contracts, security during construction, construction management, as-built drawings, construction documentation, confirmation of risk reduction, permitting and environmental mitigation, and any other activities necessary to implement the risk reduction action. Analysis and mitigation for cultural resources costs required by the Archeological and Historic Preservation Act are generally non-reimbursable in accordance with RM D&S, *Cultural Resources Management (CRM)* ([LND 02-01](#)).

- F. **Initiation of Construction and Repayment.** Once a proposed risk reduction action has met the Congressional reporting requirement in accordance with the SOD Act, repayment of the costs incurred in the modification of a structure will be performed in accordance with the requirements of [PEC 05-05](#).
7. **Non-Dam Safety Activities.** When changes are proposed to operations or other activities such as construction or drilling are considered at dams with high or significant hazard potential, coordination with the Dam Safety Office is required. The Chief, Dam Safety Office, will confirm evaluations are performed and documented to ensure the action does not result in significant changes to existing potential failure modes and that the activity will not create any new failure modes of concern. The evaluations will be funded by another program and not the Dam Safety Program.
8. **Definitions.**
- A. **Contractor.** Water and/or power user organization (a customer) that has an active repayment or water/power service contract with Reclamation, a Federal power marketing agency, or a non-Federal entity that pays or shares in the cost of the reimbursable portion of a proposed dam safety risk reduction action.
- B. **Dam Safety Issue.** An issue that, if not resolved:
- (1) could lead to a failure or malfunction resulting in an uncontrolled release of stored water that would place the public and/or resources at risk, or
  - (2) would compromise Reclamation's ability to detect developing adverse dam performance and prudently respond to that performance.
- C. **Hazard Potential.**
- (1) **High Hazard Potential Dam.** A dam where failure or mis-operation will probably cause loss of human life.

# Reclamation Manual

## Directives and Standards

---

- (2) **Significant Hazard Potential Dam.** A dam where failure or mis-operation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.
- D. **Risk.** The product of the likelihood of a structure being loaded, adverse structural performance (e.g., dam failure), and the magnitude of the resulting consequences.
9. **Review Period.** The originating office will review this release every 4 years.

## RECLAMATION MANUAL TRANSMITTAL SHEET

Effective Date: \_\_\_\_\_

Release No. \_\_\_\_\_

Ensure all employees needing this information are provided a copy of this release.

### Reclamation Manual Release Number and Subject

### Summary of Changes

NOTE: This Reclamation Manual release applies to all Reclamation employees. When an exclusive bargaining unit exists, changes to this release may be subject to the provisions of collective bargaining agreements.

### Filing instructions

Remove Sheets

Insert Sheets

All Reclamation Manual releases are available at <http://www.usbr.gov/recman/>

Filed by: \_\_\_\_\_

Date: \_\_\_\_\_