Reclamation Manual

Directives and Standards

Subject: Operating Practices and Procedures for High and Significant Hazard Potential Dams (and other facilities, as applicable)

Purpose: To ensure the uniform application of operating practices and procedures at Bureau of Reclamation (Reclamation) high and significant hazard potential dams (and other facilities where specifically noted). The benefits of this Directive and Standard (D&S) include protection of the Federal investment, asset management, and safe and reliable operation of project facilities.

Authority: Reclamation Project Act of 1902 (Act of June 17, 1902, 32 Stat. 388) and amendatory and supplementary acts; Reclamation Safety of Dams Act of 1978 (Pub. L. 95-578, 92 Stat. 2471), as amended; and Departmental Manual Part 753, *Dam Safety Program*

Approving Official: Director, Dam Safety and Infrastructure

Contact: Asset Management Division (86-67200)

1. **Introduction.** The delivery of authorized project benefits depends on the operational reliability, structural integrity, and safe operation of Reclamation's high and significant hazard potential dams. To operate and maintain these structures effectively, with an understanding of each facility's unique features and expected performance, Reclamation employs the following measures, as described in this D&S:

   A. General Requirements for Standing Operating Procedures

   B. Safety and Security

   C. Exercising Gates and Valves at Outlet Works

   D. Exercising Spillway Gates

   E. Reservoir Sedimentation Monitoring

   F. Reservoir Capacity Allocations

   G. Temporary Reservoir Surcharge

   H. Operating Record

   I. Maintenance Management System

SUPERSEDES FAC 02-01 (215) 03/31/2005 and (515) FAC TRMR -66 03/30/2015
(Minor revisions approved 03/09/2016, 04/18/2017, 01/12/2018, 05/14/2018, 09/25/2018, 02/20/2019, 05/15/2020, 11/02/2020, 04/29/2021)

J. Dam Operator Training

K. Completion of Dam Operator Training

2. **Applicability.** This D&S applies to all Reclamation staff who are responsible for oversight of the operations and maintenance (O&M) of Reclamation-owned high and significant hazard potential dams and facilities managed by Reclamation at the direction of Congress in Section 12 of Public Law 95-578, 95th Cong. (92 Stat. 2471), the Reclamation Safety of Dams Act of 1978, as amended, and commonly referred to as "Section 12 dams."

   A. At the discretion of the regional director, an area office manager, field office manager, or facility manager will perform the activities assigned or delegated to them as a "responsible manager."

   B. Responsible managers will determine the appropriate application of some or all requirements of this D&S to low hazard dams and other associated facilities (e.g., canals, pumping plants) within their oversight.

3. **General Requirements for Standing Operating Procedures.** Standing Operating Procedures (SOPs) will include all instructions necessary to operate the dam and its appurtenant structures and equipment safely. For high and significant hazard potential dams with a reserved works powerplant, SOPs must also comply with Reclamation Manual (RM) D&S, *Power Review of Operation and Maintenance (PRO&M) Program* (FAC 04-01).

   A. **Development of SOPs.**

      (1) Regional directors will ensure that all facilities with high and significant hazard potential dams maintain complete and current SOPs.

      (2) Regional directors will ensure that multi-facility control centers maintain complete and current SOPs.

      (3) Project managers of construction activities at high and significant hazard potential dams (e.g., new construction, dam safety modifications, or major rehabilitation and replacement activities) will ensure that the project management plan identifies who will provide the final or revised SOP to the operating office or entity and when it will be provided.

   B. **Release.** The regional director or responsible manager will issue the SOP and sign and date the initial letter of transmittal to show that the SOP has been established as an official document. This letter will be retained with the SOP. Letters transmitting SOP revisions will not replace the initial letter of transmittal unless the existing SOP is replaced by a new SOP.

(1) The SOP will include the letter of transmittal, the complete distribution list, and a control number for each copy to each office.

(2) The electronic version of the SOP will be furnished as a complete document. Each volume of a multi-volume SOP is a complete document.

(3) Dam Safety and Infrastructure's Asset Management Division (AMD) will manage the SOP site of the Enterprise Content System (ECS), the Department of the Interior's approved repository for records. The SOP site in ECS will be the location for storing Reclamation's record copy of the current SOP. SOP records will be managed in accordance with the Information Management Handbook as required in RM D&S, *Information Management* (RCD 05-01).

(4) The electronic version of the SOP uploaded to the SOP site in ECS must function as a stand-alone record that references but does not include the Emergency Action Plan (EAP), Site Security Plan (SSP), or Communications Directory.

(5) Revisions to the SOP will be distributed as part of a complete document in electronic format. Hard copies of revised pages will be provided only to the holders of physical copies with control numbers.

C. **Distribution.** The responsible manager will publish and distribute official SOPs and related supporting documents (e.g., reservoir regulation manual or water control manual). Distribution of official copies of the SOP will be restricted to Reclamation staff and to the non-Federal entities or government agencies that have oversight or contractual responsibilities for the facility. The distribution will include information on securely storing, handling, and further distributing the documents according to RM D&S, *Identifying and Safeguarding Controlled Unclassified Information (CUI)* (SLE 02-01).

(1) Unless stated otherwise in the approved SOP, the responsible manager will determine the appropriate number of hard copies of the SOP to be sent to the dam site or adjacent power facility. The responsible manager will ensure the facility's operating entity keeps a current, complete hard copy of the SOP at the facility in a secure and readily accessible location for use by operating personnel.

(2) The regional director or responsible manager will ensure that the complete SOP in electronic format is uploaded to ECS and will notify the following groups when a new or revised SOP is available: Dam Safety and Infrastructure (86-67000) (asset-mgt-div@usbr.gov), the AMD file managers (86-67200) (eap-sop-library@usbr.gov), Technical Service Center (TSC) Instrumentation and Inspections Group (86-68360), TSC Hydraulic Equipment Group (86-68420), and the TSC Lead Examiner (86-68311). If the SOP contains information on a

Reclamation-operated power facility, the responsible manager will also notify the Power Resources Office (86-51000).

D. **Reviews and Revisions.** The regional director or responsible manager will coordinate an annual review of the SOP and revise the document as needed. The responsible manager will consult key operating personnel at the dam, the field office, the area office, the regional office, and other facility review team members, as necessary, to ensure that SOP instructions meet the requirements of this D&S.

(1) **Responsibility for Revisions.** The responsible manager will ensure that SOPs are revised periodically and will approve any significant draft revisions. Prior to approval, the responsible manager will transmit draft revisions to the regional office for review following established regional business practices.

(2) **Transmittal of Revisions.** The regional director or responsible manager will upload the complete SOP in electronic format (or SOP volume for multi-volume SOPs) with all revisions to the SOP site in ECS and transmit the revised SOP to all official copyholders within 60 calendar days of the revision. The regional director or responsible manager will sign the letter transmitting the revised SOP to indicate official approval of the changes. SOPs must be denoted as CUI and handled, stored, and disposed of in accordance with SLE 02-01.

(3) **Funding.** The costs to review, revise, update, and transmit SOPs are non-reimbursable administrative activities. Transferred works operating entities will bear all costs incurred by them to review SOPs and suggest needed revisions to the responsible manager.

E. **Deviations.** The regional director will establish procedures for documenting deviations required during emergency operations when prior approval is not feasible. The regional director's processes and documentation must meet the requirements of RM D&S, *Operational Configuration Management* (FAC 04-11), at reserved works facilities.

F. **Outside Requests.** The local Freedom of Information Act (FOIA) Officer will be contacted to ensure all pertinent requirements are met when responding to requests from the public (including FOIA requests) or other Federal, state, or local agencies for SOPs and other operating documents. The following content will be removed from the operating documents prior to fulfilling such requests:

(1) critical operating and site security information related to equipment and appurtenant structures at the dam or powerplant (including equipment operating procedures and related drawings), pursuant to exemption 2 of the FOIA;

(2) information related to exploitable vulnerabilities or to access of operating areas of the dam, powerplant, and related appurtenant structures (including procedures, locations, and drawings), pursuant to exemption 2 of the FOIA;

(3) communication information related to personal or restricted use telephone numbers and radio frequencies, pursuant to exemption 6 of the FOIA; and

(4) operational and site security drawings, designs, computer source code, and communication and control procedures and protocols, along with other information related to the supervised remote control of dam, powerplant, and waterway systems, pursuant to exemption 2 of the FOIA.

4. **Safety and Security.**

A. Activities such as entry into confined spaces, rope-supported work, and O&M involving hazardous energy require compliance with multiple safety and health program elements. As needed for the facility, site-specific procedures will be established to allow for the safe and efficient accomplishment of these activities in compliance with all applicable safety and health standards. In addition, at facilities operated and maintained by Reclamation, the procedures will follow the requirements of Facilities Instructions, Standards, and Techniques (FIST), Volume 1-1, Hazardous Energy Control Program, and the area office's local hazardous energy control procedures.

B. The SOP must include site-specific procedures for the operation, inspection, and testing of facility security equipment following RM D&S, *Facility Security* (SLE 03-02).

5. **Exercising Gates and Valves at Outlet Works.** Unless stated otherwise, the requirements of this paragraph apply to all gates and valves serving emergency (guard) and regulating functions. SOPs must describe site-specific exercising procedures for gates and valves at outlet works. Minimum exercising requirements and procedures include:

A. Gates and valves must be tested using emergency or backup power sources at least once every eight years to coincide with the Comprehensive Review (CR). At facilities with multiple gates and valves, emergency and backup power sources will be used to operate at least one gate or valve being tested.

B. Each gate or valve that releases reservoir water through an outlet works will be exercised through a complete opening and closing cycle (full travel) annually under a balanced-head condition.

C. A 10-percent unbalanced-head (flow) condition exercising of gates and valves will be performed on a four-year frequency.

(1) The SOP will identify butterfly valves that should not be exercised under unbalanced-head conditions in order to avoid damaging the valve seats.

(2) Facility managers will ensure that unbalanced-head condition exercises are performed, data collected, and results reported to the region, area office, field office, TSC, and other offices as appropriate for the type of inspection supported.

(3) Gates and valves that control flow into a common or shared power penstock and outlet works shall be exercised per FIST requirements only. All outlet works gates and valves downstream of a bifurcation from a power penstock shall also be exercised per FIST requirements only.

D. All gate and valve exercising operations will be documented in the operating record. Data related to unbalanced-head exercising of gates and valves will be documented in Periodic Facility Review (PFR) and CR reports per requirements of FAC 01-07. The Mechanical Equipment Group (86-68410) will upload the data from the PFR and CR reports located in ECS to Reclamation's Mechanical Equipment Database for gate and valve tests. The area manager will notify the Mechanical Equipment Group and the Instrumentation and Inspections Group that the data is available in ECS.

E. If a variance from the requirements of this paragraph is needed, the responsible manager will initiate a request using the procedures described in RM D&S, *Request for Deviation from a Reclamation Manual Requirement and Approval or Disapproval of the Request* (RCD 03-03). The responsible manager will update the SOP, as needed, to include site-specific requirements associated with approved variances.

6. **Exercising Spillway Gates.** The responsible manager will include site-specific exercising procedures for spillway gates in the SOP of each facility with spillway gates. Minimum exercising requirements and procedures include:

A. Spillway gates must be exercised annually through a complete opening and closing cycle (full travel) under a balanced-head, unwatered condition.

(1) Exceptions to the requirement for a balanced-head, unwatered condition include buoyant leaf type gates, drum gates, and morning glory ring gates, if the gate completes a full travel cycle with annual fluctuations of the reservoir. While these types of gates do not complete an opening and closing cycle in the balanced-head condition, this performance under annual fluctuations of the reservoir satisfies the requirement when full travel is observed.

(2) Exceptions from the annual full-travel exercise requirement (or from approved site-specific requirements in the SOP) must be initiated by the responsible manager through a memorandum and approved only by the regional director

following established regional requirements for review and concurrence. The exception approval memorandum will include the reason or justification for the exception and the anticipated period of approval, not to exceed three years.

(3) The regional director can approve consecutive short-term exceptions using Paragraph 6.A.(2), but the overall period of variance from the annual requirement cannot exceed a total of eight years. No later than the end of the sixth year of approved consecutive short-term exceptions, the regional director will notify the Director, Dam Safety and Infrastructure, whether a long-term deviation of more than eight years is anticipated. If a long-term deviation is anticipated, the regional director's notification will initiate the process for establishing site-specific gate testing requirements as described in Paragraphs 6.A.(4) and (5).

(4) Facilities that have not met the full-travel exercise requirement for eight or more consecutive years require a long-term, site-specific deviation. Long-term, site-specific deviations from the full-travel exercise requirement must be approved using the processes outlined in RM Policy, *Decisions Related to Dam Safety Issues* (FAC P02), and RM D&S, *Request for Deviation from a Reclamation Manual Requirement and Approval or Disapproval of Request* (RCD 03-03). The approved deviation will document the site-specific testing procedures and frequency for the facility. Approved site-specific exercising requirements must be documented in the SOP.

(5) At facilities with approved site-specific spillway gate testing deviations, the SOP will identify alternative methods for assessing spillway gate operations.

B. Spillway gates must be exercised annually to confirm that the gates will open at least one foot and then close under an unbalanced condition at or near the expected maximum water surface for the year.

C. Spillway gates and spillway valves must be tested using emergency or backup power sources at least once every eight years to coincide with the CR. At facilities with multiple gates and valves, emergency and backup power sources will be used to operate at least one gate or valve being tested.

D. All spillway gate exercising operations will be documented in the operating record, and the data will be recorded using the forms and guidance provided by the Mechanical Equipment Group. Data related to gate exercising operations that occur during the PFR and CR examinations will be included in those reports per requirements of FAC 01-07. The Mechanical Equipment Group will upload the data from the PFR and CR reports located in ECS to Reclamation's Mechanical Equipment Database. The area manager will notify the Mechanical Equipment Group and the Instrumentation and Inspections Group that the data is available in ECS.

7. **Reservoir Sedimentation Monitoring.** The regional director will coordinate, schedule, and budget for Reclamation's costs in the development of reservoir sedimentation plans for storage reservoirs at high and significant hazard potential facilities that do not have a reservoir sedimentation monitoring plan in place. The plan will support the periodic update of reservoir surface areas and storage capacities for the full range of reservoir elevations based on the sediment volumes.

   A. Reservoir sedimentation monitoring plans will document the sedimentation volume and spatial distribution of sediment within the reservoir and along the primary upstream river channels. The monitoring plan will also describe the general method, frequency, extent, and reporting of the monitoring data. AMD will make the *Guidelines for Developing Reservoir Sedimentation Monitoring Plans* available.

   B. Reservoir Sedimentation Information (RSI) Database. Upon completion of each reservoir survey, each region will provide reports and data to AMD (asset-mgt-div@usbr.gov) for inclusion in the RSI database.

8. **Reservoir Capacity Allocations (RCA).** The regional director or responsible manager will approve and distribute updates to RCA sheets (Form No. 7-1686, *Reservoir Capacity Allocations*) as part of the SOP for the associated dam.

9. **Temporary Reservoir Surcharge.** Regional directors must approve decisions to store water in surcharge prior to a surcharge event.

   A. The regional dam safety coordinator will review any new use or proposed revision to the use of temporary surcharge storage to determine if the use falls within the scope of approved risk-neutral temporary surcharges. If not, the regional dam safety coordinator must inform the Chief of the Dam Safety Office (DSO) and the appropriate DSO program manager of the determination. The DSO program manager will inform the regional dam safety coordinator of any potential impacts to dam safety and will determine whether to pursue a formal risk neutrality analysis.

   B. A regional director's general authorization for temporary surcharges documented in the facility SOP or in a dam safety decision memorandum will serve as concurrence by the regional director.

   C. In an emergency, the responsible manager will inform the regional director of the surcharge storage as soon as possible (see Paragraph 3.E for procedures to approve deviations during emergency conditions).

10. **Operating Record.**

A. **Requirements.** The dam operator or the designated alternate on duty will maintain a record of all operating activities. The operating record will comprise the operating logbook (hard copy or electronic) and other sources of recorded data (e.g., Supervisory Control and Data Acquisition (SCADA) and Capital Asset and Resource Management Application (CARMA)), as noted in Paragraph 10.B. Previously completed operating records will be kept in a secure and dry location that will allow for ready reference by the dam operating personnel and Reclamation staff.

B. **Content.** The operating record will contain chronological documentation of the following operating activities:

(1) normal and emergency operation of outlet works and spillways, including individual gate position changes;

(2) water elevations and discharges;

(3) date, time, and operating conditions for any observed sediment release from the reservoir;

(4) startup and stopping of mechanical, electrical, and electronic equipment;

(5) test of standby equipment or gate controls, including applicable security equipment;

(6) testing and exercising of outlet and spillway gates, valves, and other control devices;

(7) minor and major maintenance activities, including scheduled maintenance;

(8) reservoir surveillance;

(9) initial acknowledgment of an emergency or unusual condition;

(10) security alarms, suspicious activities, or incidents, including the date and time the incident was forwarded to the regional or Reclamation duty officer;

(11) request and concurrence to change from normal operation during an emergency or unusual conditions or record deviation when prior approval cannot be obtained;

(12) communications network checks and emergency exercises conducted;

(13) record of names (and addresses where appropriate) of all visitors, including Reclamation employees on facility review teams and other onsite assessment teams;

(14) verification of annual site inspections, facility reviews, ongoing visual inspection checklist (OVIC) completion, instrumentation data collection, and special examinations; and

(15) miscellaneous items pertinent to operation, emergency, or unusual conditions at the structures.

C. **Format.** When practical, the operating record will be maintained in electronic format using CARMA or another maintenance management system, word processor (e.g., MS Word or Adobe Acrobat), or a combination of electronic formats. Hard copy operating logbooks will be used when maintaining an electronic record is not practical.

D. **Operating Record Entries.** Electronic record entries must be password protected or have other appropriate actions taken to prevent loss or alteration of past records. All handwritten entries in a hard copy operating logbook must be made legibly in ink, dated, and signed. Errors must be lined out lightly, so that the incorrect notation is still legible after the correct entry is made.

11. **Maintenance Management System.** A maintenance management system, such as CARMA, will be established at each reserved works dam to track all pertinent maintenance and inspection operations scheduled and accomplished at the facility.

12. **Dam Operator Training.**

A. **Requirements.**

(1) At least two operating personnel attending the dam must have the dam operator training required by this D&S: one trained as the primary dam operator and one as the designated alternate. In some cases, it will be necessary to include more than two personnel to ensure primary and backup coverage of the dam operator duties. For unattended dams with powerplants, powerplant maintenance personnel must be encouraged to attend dam operator training.

(2) All new dam operators (and newly designated alternates) must receive onsite dam operator training within one year of being on duty at the dam. As practical, an experienced operator will provide on-the-job training to ensure continuity of adequate O&M practices and procedures. Additionally, all new operators and alternates must complete a classroom training session within two years of beginning their duties. Classroom training will be provided using alternate means, such as videoconferencing or teleconferencing, when necessary.

(3) All established dam operators and designated alternates are required to receive refresher classroom training and onsite training at the prescribed frequency

outlined in Paragraph 12.B of this D&S, which will form the basis of a proficiency review program to validate their knowledge and abilities related to expected duties and responsibilities. The only exceptions to this requirement are the following:

(a) Control room operators for powerplants where adequate technical personnel are available to assist in O&M, dam safety, and security activities, as determined by the area manager.

(b) Dam operators employed by water districts that manage several high and significant hazard potential dams and have their own "proficiency review" program for dam operators, if the program is determined adequate by the area manager.

B. **Frequency.**

(1) Each dam operator and designated alternate is required to regularly attend:

(a) classroom training no less than every four years, and

(b) onsite training no less than every eight years.

(2) The responsible manager tasked with conducting, monitoring, and approving dam operator training will determine the appropriate sources (e.g., from Reclamation or a professional organization such as the Association of State Dam Safety Officials) and frequency of both classroom and onsite training. A determination that more frequent training is required will be based on the need due to operational complexities of the dam, dam operator proficiency, a change in dam operator or alternate operator, changes in equipment, instrumentation, following a Safety of Dams or security modification, etc.

C. **Scheduling.** The regional director will ensure that scheduled classroom and onsite dam operator training sessions meet the requirements of this D&S. At the discretion of the responsible manager, Reclamation staff will provide information on equivalent training available from other sources that can be used to satisfy the classroom training requirement.

D. **Training Instructors.** Instructors for both classroom and onsite training must have a thorough knowledge of and experience in the application of the principles, practices, and procedures related to the O&M and safety of dams. Other areas of training, such as security, will be provided by Reclamation staff with expertise in those subject areas.

E. **Content of Classroom Training.** Because classroom training typically is conducted for groups of dam operators and their designated alternates representing different

facilities, the training will present a more general discussion of the subject material. Classroom training is to accomplish the goal of providing the participants with a fundamental knowledge of the full range of operations required for dams of all sizes. Classroom training also provides an opportunity for operators to meet and share information with other operators. At a minimum, the classroom training will cover the following topics:

(1) purposes of Reclamation projects (and how the dams interrelate);

(2) design and construction of safe dams;

(3) awareness of dam failures, incidents, and risks from natural hazards and other causes;

(4) instrumentation (purposes, types, locations, readings, and maintenance requirements);

(5) dam operator duties and responsibilities, including general safety and security awareness and procedures;

(6) emergency management and use of EAPs, to the extent not addressed as part of emergency management exercises;

(7) documentation (operating and reference):

(a) SOP, EAP, SSP, Designers' Operating Criteria, and any other critical documents;

(b) reference material and supporting documents;

(c) equipment manufacturers' instructions; and

(d) operating record;

(8) facility reviews/site examinations; and

(9) hydrology and reservoir operations.

F. **Content of Onsite Training.** Onsite training will be conducted for dam operators and their designated alternates for their respective facility, either at the facility or a similar facility. Trainers will consult the *Training for Dam Operators Instructors Manual* for guidance on general training content. Because the goal of onsite training is to provide participants with site-specific information that is pertinent to all facets of their unique facility, onsite training will cover the following topics:

(1) SOP, SSP (only to the extent not addressed as part of periodic security reviews), and other site-specific operating and reference documents;

(2) reservoir operating procedures for both normal and emergency events;

(3) EAP and emergency management responsibilities, to the extent not addressed as part of emergency management exercises;

(4) operations related to major control gates/valves and other associated mechanical, electrical, and electronic equipment used for local or remote operations, security, etc.;

(5) instrumentation purposes, locations, reading and reporting requirements, and maintenance;

(6) operating record;

(7) performance parameters and dam safety potential failure modes, as well as general information and awareness regarding potential security-related failure modes;

(8) how to use a maintenance management system and related documentation needs;

(9) personnel safety and operational security procedures (access/key control, identification badges, alarm assessment and response, etc.);

(10) communication, attendance, and access factors related to operations; and

(11) other specific duties and responsibilities related to the dam.

13. **Completion of Dam Operator Training.**

A. Upon completion of the onsite training, the dam operator or designated alternate will sign and date a completed Form No. 7-2533, *Dam Operator Proficiency Review*. The principal onsite instructor will also sign each Form 7-2533 to verify the completion of the onsite training and note the date and location of the most recent classroom training session. Copies of the form will be provided and maintained by the regional director, or responsible manager with delegated responsibility for the facility, and a copy provided to the operating entity, as applicable.

B. The responsible manager will ensure that area office personnel assist the dam operators in addressing deficiencies observed during the onsite training and noted on Form No. 7-2533 until the dam operator reaches an acceptable proficiency level. Instructors and

reviewers will use Form 7-2533 to record the dam operator's improvement in the required proficiencies.

C. The responsible manager will record completion of training requirements through the Dam Safety Information System (DSIS), and the DSIS record will be updated annually by October 1 of each year.

14. **Definitions.**

A. **Area and Capacity Tables.** Tables that relate reservoir surface areas and storage capacities to water surface elevations.

B. **Construction Activity.** Any activity to rehabilitate, renovate, or replace existing assets or to develop new assets. Construction activities are performed by Reclamation force account staff or other in-house staff labor or accomplished through a construction contract and include the procurement of equipment and materials that are to become a fixed part of Reclamation facilities. See also RM D&S, *Project Management* (CMP 07-01), and RM D&S, *Construction Activities* (FAC 03-02).

C. **Dam Operator.** The person responsible for the daily or routine O&M activities of a dam and its appurtenant structures. The dam operator (also referred to as the dam tender) commonly resides at or near the dam.

D. **High Hazard Potential Dam.** Those dams where failure or mis-operation will probably cause loss of human life.

E. **Operating Record.** A dated record of performed operations and maintenance items or observations pertinent to a dam, facility, or structure.

F. **Responsible Manager.** An area office manager, field office manager, or facility manager will perform the activities assigned or delegated by the regional director to them as a "responsible manager."

G. **Significant Hazard Potential Dam.** Those dams 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 other considerable impacts.

H. **SOP.** A comprehensive single-source document covering all aspects of the normal operating procedures for a specific dam and reservoir. Its purpose is to ensure adherence to approved operating procedures. While often kept together with the EAP, SPP Communication Directory, and other related documents, the SOP functions as a separate stand-alone document.

15. **Review Period.** The originating office will review this release for RM certification every 4 years.

RECLAMATION
Managing Water in the West

RECLAMATION MANUAL TRANSMITTAL SHEET

Effective Date: **04/20/2022**

Release No. **679**

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

Reclamation Manual Release Number and Subject

FAC 02-01 Operating Practices and Procedures for High and Significant Hazard Potential Dams (and other facilities, as applicable)

Summary of Changes

This D&S is a major revision to an existing Temporary Reclamation Manual Release (TRMR) currently issued under the same title with subject area code TRMR-66. This release re-issues FAC 02-01 as a permanent release updating requirements for the scope, format, and distribution of Standing Operating Procedures (SOPs) and supplements and revises existing bureau-wide procedures for activities covered by SOPs, including valve and gate testing at outlet works and spillways, reservoir operations, record keeping, and operator training. A summary of revisions follows:

- **Reorganizes the D&S sections to group related topics together.**
- **Identifies and assigns responsibilities by position (regional director, area manager, dam operator, etc.).**
- **Clarifies temporary surcharge approval processes and responsibilities.**
- **Revises and clarifies gate and valve testing requirements at outlet works. Frequency of gate and valve testing at outlet works was increased to four years from six.**
- **Requires annual full-travel spillway gate testing. A new exception procedure gives regional directors authority to defer the procedure for up to eight years. Longer variances must be approved by the Director, Dam Safety and Infrastructure.**
- **Sedimentation monitoring was added to the reservoir operations section of the SOP.**
- **Specifies ECS as the repository for record copies of the SOP. Changes distribution of revised SOPs to full documents in electronic format, retaining hard copies with page-in, page-out revisions at essential locations only.**

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
FAC TRMR-66 pp 1-14	**FAC TRMR-66 pp 1-15**
FAC TRMR-66 App A pp 1-1	

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

Filed by: **Marciano Budel**

Date: **04/20/2022**