

**Forest Service Manual
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**Forest Service Manual 2800 – Minerals And Geology
Chapter 2840 - Reclamation**

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2840.1 – Authority

Laws and regulations cited in FSM 2801 provide surface management and mineral management authorities. The following regulations give Forest Officers specific authorities for reclamation:

1. Title 36, Code of Federal Regulations, Part 228, Subpart A, Section 228.8 - Requirements for environmental protection. These regulations set forth the rules and provisions to minimize adverse environmental impacts on surface resources resulting from locatable mineral activities.

2. Title 36, Code of Federal Regulations, Part 228, Subpart C, Section 228.47 - General terms and conditions of contracts and permits. These regulations set forth the requirements for reclamation and other provisions on areas disturbed by pit and quarry operations.

Other authorities for mineral management and reclamation are granted to and held by the Department of the Interior. These authorities represent the context within which Forest Service authorities must be carried out. Forest Officers must be familiar with or comply with certain provisions of these rules:

1. Title 30, Code of Federal Regulations, Part 700-999 - Office of Surface Mining Reclamation and Enforcement. These regulations set forth the rules and procedures for the administration of the coal program.

2. Title 43, Code of Federal Regulations, Part 3100 - Oil and gas leasing. These regulations set forth rules and provisions for onshore oil and gas leasing.

3. Title 43, Code of Federal Regulations, Part 3200 - Geothermal resource leasing. These regulations establish requirements for developing and utilizing geothermal resources.

4. Title 43, Code of Federal Regulations, Part 3400 - Coal management. These regulations set forth rules and provisions governing management and disposal of coal.

5. Title 43, Code of Federal Regulations, Part 3500 - Leasing of non-fuel, solid leasable minerals. These regulations provide for solid leasable mineral activities other than coal and oil shale.

2840.2 – Objectives

The Forest Service manages the reclamation of lands disturbed by mineral and associated activities in order to:

1. Minimize the environmental impacts resulting from such activities.

2. Ensure that disturbed lands are returned to a use that is consistent with long-term forest land and resource management plans.

2840.3 - Policy

1. Reclamation shall be an integral part of Plans of Operation that propose surface disturbance.

2. All lands disturbed by mineral activities shall be reclaimed to a condition that is consistent with forest land and resource management plans, including applicable State air and water quality requirements.

3. All reclamation requirements included in a Plan of Operations shall include measurable performance standards. Reclamation requirements shall be those reasonable, practicable, and necessary to attain standards.

4. Reclamation shall be undertaken in a timely fashion and occur sequentially with on-going mineral activities.

5. Reclamation bonds, sureties, or other financial guarantees shall ordinarily be required for all mineral activities that require a Plan of Operations; dollar amounts of such guarantees shall be sufficient enough to cover the full cost of reclamation.

6. To the extent practicable, reclaimed National Forest System land shall be free of long-term maintenance requirements.

2840.4 - Responsibility

1. Forest Supervisors are responsible for approving Plans of Operation.

2. Regional Foresters are responsible for developing measurable performance standards for common reclamation practices.

3. Regional Foresters, Station Directors, and the Area Director are responsible for initiating, documenting, and executing internal agreements to cover the transfer of new technical information and facilitate training.

4. Regional Foresters are responsible for initiating, documenting, and executing cooperative agreements with other state or Federal agencies that have significant regulatory roles on National Forest System land in order to define the roles of each agency (FSM 2846).

2840.5 - Definitions

1. Mineral Activities. Any aspect of mineral exploration, development, or production.

2. Reclamation. Those actions performed during or after mineral activities to shape, stabilize, revegetate, or otherwise treat the affected lands in order to achieve a

safe and ecologically stable condition and land use that is consistent with long-term forest land and resource management plans and local environmental conditions.

3. Plan of Operations. A written description of planned, on-the-ground mineral activities, including reclamation, to be conducted by the mineral operator for either locatable, leasable, or common variety minerals.

4. Topsoil. Those soil materials useful for the establishment, growth, and perpetuation of vegetal cover on disturbed areas. Such soil materials provide mechanical support for plant root systems and plant nutrients for establishment and growth; useful soil materials may include selected subsoils.

5. Performance Standard. The expected site conditions to be achieved upon completion of reclamation activities.

6. Multiple Bonding. Having more than one bond, surety or other financial guarantee for reclamation on any one mineral operation.

7. Excess Bonding. Where the total amount of bonds, sureties or other financial guarantees exceeds the cost of reclamation.

8. Interim Shutdown. The cessation of mineral activities by the operator prior to the expected time described in the Plan of Operations.

9. Disturbed Area. The surface lands disturbed by mineral or associated activities.

2841 - Reclamation Components for Plans of Operations

Forest Supervisors shall ensure the following administrative and environmental components are adequately addressed in each Plan of Operations when applicable:

1. Administrative Components.

- a. Timing, kind, and amount of reclamation to be accomplished concurrently with mineral activities.
- b. Reclamation requirements for interim shutdown, including seasonal shutdown.
- c. The maximum allowable time in the event of interim shutdown before final reclamation measures will be required.
- d. Concurrent and final reclamation of transportation facilities, such as roads, railways, tramways, power line corridors, and pipelines.
- e. Removal of facilities and reclamation of the site.

- f. Timeframes for periodic review and updating of the Plan of Operations, including reclamation performance requirements and financial guarantees.
- g. Procedures for ensuring interim and final stability of waste embankments, including dumps, tailings dams, or impoundments.

2. Environmental Components.

- a. Final configuration of the disturbed areas, including such items as roads, pits, waste embankments, ponds, leach pads, drill holes, and facility sites.
- b. Revegetation of disturbed areas, including timing, kind, and amount.
- c. Topsoil management, including soil salvage and reapplication (FSM 2550 and FSH 2509.15).
- d. Air quality management during and after operations (FSM 2580 and FSH 2509.19).
- e. Watershed management, including runoff and erosion control, and riparian and wetland protection (FSM 2520 and FSH 2509.15).
- f. Water quality management, including physical and chemical characteristics of surface and subsurface water during and after operations (FSM 2530 and FSH 2509.15).
- g. Visual resource management during and after operations (FSM 2380 and FSH 2309.22).
- h. Potential for the occurrence and control of hazardous or toxic substances, including acid mine drainage, that may contaminate air, water or soil.
- i. Fish and wildlife habitat reclamation or mitigation (FSM 2630 and FSH 2609.11).
- j. Tailings and associated tailings facilities.
- k. Stream diversions, reservoirs, ditches, or canals.

2842 - Reclamation Performance Standards

In addition to a consideration of appropriate reclamation components (FSM 2841), a Plan of Operation shall include measurable performance standards for all reclamation requirements in the plan. Develop performance standards for at least the following.

1. Revegetation.
2. Soil and water conservation measures.
3. Mass stability of overburden or other waste embankments.

4. Concurrent reclamation.
5. Post-mining land configuration.

Regions or Forests should develop Region-wide or Forest-wide reclamation performance standards for common reclamation practices.

Use performance standards in determining the amount of the reclamation bond, surety, or other financial guarantee and as criteria for release of these instruments.

2843 - Reclamation Bonding

Tie dollar amounts of bonds or other financial guarantees to specific reclamation activities or standards to facilitate full or partial release of the instruments. Release bonds or other guarantees as satisfactory reclamation is performed and completed, and the area stabilized.

Avoid multiple or excessive bonding. See FSM 2846 for direction on bonding when other agencies with bonding authority are involved in the administration of mineral activities on National Forest System lands.

2844 - Reclamation Monitoring

Regional Foresters and Forest Supervisors shall determine those sites that need monitoring to assess the condition and environmental quality of reclaimed sites following release of bonds or other financial guarantees. Base monitoring priorities on the degree of risk to human health and safety or on long-term environmental effects.

Reclaimed sites or structures that might require monitoring include, but are not limited to, revegetated areas, large waste embankments, tailing dams and impoundments, french-drains, stream diversions, dam structures on permanent water impoundments, and water treatment facilities.

2845 - Reclamation Information and Technology Transfer

To ensure that the role of the Regions, Stations, and Area in providing reclamation assistance or technology transfer to field units is clear, Regions, Stations, and the Area should develop Memorandums of Understanding among themselves that define the roles of each in the technology transfer process. The Memorandums should spell out such responsibilities as technical assistance, reclamation training, field contacts, and expenditures. In devising Memorandums of Understanding look for opportunities for cost savings and improved service to field units (FSM 1320).

2846 - Cooperative Agreements

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Where more than one agency, Federal and/or State, has jurisdiction over a mineral operation, the role of each agency should be defined in a cooperative agreement. The cooperative agreement becomes a primary basis for avoiding multiple and excessive bonding and eliminating conflicting reclamation requirements.