ALABAMA SURFACE MINING COMMISSION
ADMINISTRATIVE CODE

CHAPTER 880-X-10D
PERFORMANCE STANDARDS UNDERGROUND MINING ACTIVITIES

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880-X-10D-.01 Scope.

This Rule sets forth the environmental, protection performance standards for underground mining activities.
Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History:

880-X-10D-.02 Objectives.

This Rule is intended to ensure that all underground mining activities are conducted in a manner which preserves or enhances environmental and other values in accordance with the Act.
Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History:

880-X-10D-.03 Signs And Markers.

(1) Specifications. Signs and markers required under this Rule shall --

(a) Be posted and maintained, and removed by the person who conducts the underground mining operations;

(b) Be of a uniform design throughout the operation that can be easily seen and read;

(c) Be made of durable material; and

(d) Conform to local laws and regulations.

(2) Duration of maintenance. Signs and markers shall be maintained for the duration of all operations to which they pertain.

(3) Mine and permit identification signs.

(a) Identification signs shall be displayed at each primary point of access from public roads to areas of surface operations and facilities on permit areas for underground mining activities.

(b) Signs will show the name, business address, and telephone number of the person who conducts underground mining operations and the identification number of the current permit authorizing underground mining operations.

(c) Signs shall be retained and maintained until after the release of all bonds for the permit area. The permittee shall be allowed a reasonable time to repair or replace signs that are vandalized or stolen.

(4) Perimeter markers. The perimeter of a permit area shall be clearly marked before the beginning of underground mining operations.

(5) Buffer zone markers. Buffer zones required by Rule 880-X-10D-.26 shall be clearly marked to prevent disturbance by surface operations and facilities.

(6) (Reserved)

(7) Topsoil markers. Where topsoil or other vegetation supporting material is segregated and stockpiled as required under Rule 880-X-10D-.09, the stockpiled material shall be clearly marked.

Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History:

880-X-10D-.04 Casing And Sealing Of Exposed Underground Openings: General Requirements.

Each exploration hole, or other drill-hole or borehole, shaft, well, or other exposed underground opening shall be cased, lined, or otherwise managed to prevent acid or other toxic drainage from entering ground and surface waters, to minimize disturbance to the prevailing hydrologic balance and to ensure the safety of people, livestock, fish and wildlife, and machinery. Each exploration hole, drill hole or borehole or well that is uncovered or exposed by mining activities within the permit area and which penetrates below the lowest coal seam to be mined under this permit shall be permanently closed, unless approved for water monitoring or otherwise managed in a manner approved by the State Regulatory Authority. Use of a drilled hole or monitoring well as a water well must meet the provisions of Rule 880-X-10D-.23 of this Rule. This Rule does not apply to holes drilled and used for blasting, in the area affected by surface operations.

Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History:

880-X-10D-.05 Casing And Sealing Of Underground Openings: Temporary.

(1) Each mine entry which is temporarily inactive, but has a further projected useful service under the approved permit application, shall be protected by barricades or other covering devices, fenced to prevent access into the entry and posted with signs to identify the hazardous nature of the opening.

(2) Each exploration hole, other drill hole or borehole, shaft, well, and other exposed underground opening which has been identified in the approved permit application for use in disposal of underground development waste, coal processing waste or water to underground workings, or to be used to monitor ground water conditions, shall be temporarily sealed until actual use.

Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History:

880-X-10D-.06 Casing And Sealing Of Underground Openings: Permanent.

When no longer needed for monitoring or other use approved by the State Regulatory Authority upon a finding of no adverse environmental or health and safety effects, or unless approved for transfer as a water well under Rule 880-X-10D-.23, each shaft, drift, adit, tunnel, exploratory hole, entryway or other opening to the surface from underground shall be capped, sealed, backfilled, or otherwise properly managed as required by the State Regulatory Authority in accordance with Rules 880-X-10D-.04 and 880-X-10D-.21 and consistent with 30 CFR 75.1771. Permanent closure measures shall be designed to prevent access to the mine workings by people, livestock, fish and wildlife, machinery and to keep acid or other toxic drainage from entering ground or surface waters.

Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History:

880-X-10D-.07 Topsoil: General Requirements.

(1) Before disturbance of areas affected by surface operations, topsoil and subsoils to be saved under Rule 880-X-10D-.08 shall be separately removed and segregated from other material.

(2) After removal, topsoil shall be immediately redistributed in accordance with Rule 880-X-10D-.10, stockpiled pending redistribution under Rule 880-X-10D-.09, or if the permittee can demonstrate that an alternative procedure will provide equal or more protection for the topsoil, the State Regulatory Authority, may on a case-by-case basis, approve an alternative.

Author:

Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.

History:

880-X-10D-.08 Topsoil: Removal.

(1) Timing. Topsoil shall be removed from areas to be affected by surface operations or major structures, after vegetative cover that would interfere with the use of the topsoil is cleared from portions of those areas that will be disturbed, but before any drilling for blasting, mining, or other surface disturbance that would result in compaction, erosion, or contamination.

(2) Materials to be removed. All topsoil shall be removed in a separate layer from the areas to be disturbed, unless use of substitute or supplemental materials is approved by the State Regulatory Authority. If use of substitute or supplemental materials is approved, all materials to be redistributed shall be removed.

(3) Material to be removed in thin topsoil situations. If the topsoil is less than six inches, a six-inch layer that includes the A horizon and the unconsolidated materials immediately below the A horizon or the A horizon and all unconsolidated material if the total available is less than six inches, shall be removed and the mixture segregated and redistributed as the surface soil layer, unless topsoil substitutes are approved by the State Regulatory Authority pursuant to Paragraph (5) of this Rule.

(4) Subsoil segregation. The B horizon and portions of the C horizon or other underlying layers demonstrated to have qualities for comparable root development shall be segregated and replaced as subsoil, if the State Regulatory Authority determines that either of these is necessary to ensure soil productivity consistent with the approved postmining land use.

(5) Topsoil substitutes and supplements.

(a) Selected overburden materials may be substituted for, or used as supplement to, topsoil, if the permittee can demonstrate that the resulting soil medium is equal to or more suitable for sustaining the vegetation than the existing topsoil and the substitute material is the best available in the permit area to support vegetation.

(b) Substituted or supplemented material shall be removed, segregated, and replaced in compliance with the requirements for topsoil under this Rule.

(6) The State Regulatory Authority may choose not to require the removal of topsoil for minor disturbances which --

(a) Occur at the site of small structures, such as power poles, signs, or fence lines; or

(b) Will not destroy the existing vegetation and will not cause erosion.

(7) The State Regulatory Authority may choose not to require the redistribution of topsoil or topsoil substitutes on the approved postmining embankments of permanent impoundments or of roads if it determines that --

(a) Placement of topsoil or topsoil substitutes on such embankments is inconsistent with the requirement to use the best technology currently available to prevent sedimentation, and

(b) Such embankments will be otherwise stabilized.

Author: Randall C. Johnson
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History: May 20, 1982. **Amended:** November 14, 1989; effective March 7, 1991.

880-X-10D-.09 Topsoil: Storage.

(1) Topsoil and other materials removed in accordance with Rule 880-X-10D-.07 shall be stockpiled only when it is impractical to promptly redistribute such materials on regraded areas.

(2) Stockpiled materials shall be selectively placed on a stable area within the permit area, not disturbed, and protected from erosion, unnecessary compaction, and contaminants which lessen the capability of the materials to support vegetation when redistributed.

(a) Protection measures shall be accomplished either by --

1. Establishing an effective cover of nonnoxious, quick-growing annual and perennial plants;

2. Mulching; or

3. Other methods demonstrated to and approved by the State Regulatory Authority to provide equal protection.

Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History:

880-X-10D-.10 Topsoil: Redistribution.

(1) After final grading and before the replacement of topsoil and other materials segregated in accordance with Rule 880-X-10D-.08, regraded land shall be scarified or otherwise treated as required by the State Regulatory Authority to eliminate slippage surfaces and to promote root penetration. If the person who conducts the underground mining activities shows through appropriate tests that no harm will be caused to the topsoil and vegetation, scarification may be conducted after topsoiling, with approval of the State Regulatory Authority.

(2) Topsoil and other materials shall be redistributed in a manner that --

(a) Achieves an approximate uniform, stable thickness consistent with the postmining land uses, slopes and surface drainage system;

(b) Prevents excess compaction of the topsoil; and

(c) Protects the topsoil from erosion before and after it is seeded and planted.

Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History:

880-X-10D-.11 Topsoil: Nutrients And Soil Amendments.

Nutrients and soil amendments in the amounts determined by soil tests shall be applied to the redistributed surface soil layer so that it supports the postmining land use approved by the State Regulatory Authority and meets the revegetation requirements of Rules 880-X-10D-.52 - 880-X-10D-.57. All soil tests shall be performed using standard methods by a qualified laboratory.

Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History:

880-X-10D-.12 Hydrologic Balance Protection.

(1) General. All underground mining and reclamation activities shall be conducted to minimize disturbance of the hydrologic balance within the permit and adjacent areas, to prevent material damage to the hydrologic balance outside the permit area, and to support approved postmining land uses in accordance with the terms and conditions of the approved permit and the performance standards of this part. The Regulatory Authority may require additional preventative, remedial, or monitoring measures to assure that material damage to the hydrologic balance outside the permit area is prevented. Mining and reclamation practices that minimize water pollution and changes in flow shall be used in preference to water treatment.

(2) Ground-water protection. In order to protect the hydrologic balance underground mining activities shall be conducted according to the plan approved under 880-X-8H-.06(1)(h) and the following:

(a) Ground-water quality shall be protected by handling earth materials and runoff in a manner that minimizes acidic, toxic, or other harmful infiltration to ground-water systems and by managing excavations and other disturbances to prevent or control the discharge of pollutants into the ground water.

(b) Ground-water monitoring.

1. Ground-water monitoring shall be conducted according to the ground-water monitoring plan approved under Section 880-X-8H of this chapter. The Regulatory Authority may require additional monitoring when necessary.

2. Ground-water monitoring data shall be submitted every three months to the Regulatory Authority or more frequently as prescribed by the Regulatory Authority. Monitoring reports shall include analytical results from each sample taken during the reporting period. When the analysis of any ground-water sample indicates noncompliance with the permit conditions, then the operator shall promptly notify the Regulatory Authority and immediately take the actions provided for in 880-X-8K-.11(5) and 880-X-8H-.06(1)(b).

(c) Ground-water monitoring shall proceed through mining and continue during reclamation until bond release. Consistent with the procedures of 880-X-8M-.06, the Regulatory Authority may modify the monitoring requirements including the parameters covered and the sampling frequency if the operator

demonstrates, using the monitoring data obtained under this paragraph, that --

1. The operation has minimized disturbance to the prevailing hydrologic balance in the permit and adjacent areas and prevented material damage to the hydrologic balance outside the permit area; water quantity and quality are suitable to support approved postmining land uses; or

2. Monitoring is no longer necessary to achieve the purposes set forth in the monitoring plan approved under Section 880-X-8H-.06(1)(i) of this chapter.

(d) Equipment, structures, and other devices used in conjunction with monitoring the quality and quantity of ground water onsite and offsite shall be properly installed, maintained, and operated and shall be removed by the operator when no longer needed.

(3) Surface-water protection. In order to protect the hydrologic balance, underground mining activities shall be conducted according to the plan approved under Section 880-X-8H-.06(1)(j), and the following:

(a) Surface-water quality shall be protected by handling earth materials, ground-water discharges, and runoff in a manner that minimizes the formation of acidic or toxic drainage; prevents, to the extent possible using the best technology currently available, additional contribution of suspended solids to streamflow outside the permit area; and otherwise prevent water pollution. If drainage control, restabilization and revegetation of disturbed areas, diversion of runoff, mulching, or other reclamation and remedial practices are not adequate to meet requirements of this section and Section 880-X-10D-.13 the operator shall use and maintain the necessary water-treatment facilities or water quality controls.

(b) Surface water quantity and flow rates shall be protected by handling earth materials and runoff in accordance with the steps outlined in the plan approved under Section 880-X-8H-.06(1)(h) of this chapter.

(4) Surface-water monitoring.

(a) Surface-water monitoring shall be conducted according to the surface-water monitoring plan approved under Section 880-X-8H-.06(1) of this chapter. The Regulatory Authority may require additional monitoring when necessary.

(b) Surface-water monitoring data shall be submitted every three months to the Regulatory Authority or more frequently as prescribed by the Regulatory Authority. Monitoring reports

shall include analytical results from each sample taken during the reporting period. When the analysis of any surface-water sample indicates noncompliance with the permit conditions, the operator shall promptly notify the Regulatory Authority and immediately take the actions provided for in 880-X-8K-.11(5) and 880-X-8H-.06(1)(h). The reporting requirements of this paragraph do not exempt the operator from meeting any National Pollutant Discharge Elimination System (NPDES) reporting requirements.

(c) Surface-water monitoring shall proceed through mining and continue during reclamation until bond release. Consistent with Section 880-X-8M-.06, the Regulatory Authority may modify the monitoring requirements, except those required by the NPDES permitting authority, including the parameters covered and sampling frequency if the operator demonstrates using the monitoring data obtained under this paragraph, that --

1. The operation has minimized disturbance to the hydrologic balance in the permit and adjacent areas and prevented material damage to the hydrologic balance outside the permit area; water quantity and quality are suitable to support approved postmining land uses; and

2. Monitoring is no longer necessary to achieve the purposes set forth in the monitoring plan approved under Section 880-X-8H-.06(1)(j) of this chapter.

(d) Equipment, structures, and other devices used in conjunction with monitoring the quality and quantity of surface water onsite and offsite shall be properly installed, maintained, and operated and shall be removed by the operator when no longer needed.

(5) Acid- and toxic-forming materials.

(a) Drainage from acid- and toxic-forming materials and underground development waste into surface water and ground water shall be avoided by --

1. Identifying and burying and/or treated: when necessary, materials which may adversely affect water quality, or be detrimental to vegetation or to public health and safety if not buried and/or treated, and

2. Storing materials in a manner that will protect surface water and ground water by preventing erosion, the formation of polluted runoff, and the infiltration of polluted water. Storage shall be limited to the period until burial and/or treatment first become feasible, and so long as storage will not result in any risk of water pollution or other environmental damage.

(b) Storage, burial or treatment practices shall be consistent with other material handling and disposal provisions of this chapter.

(6) Transfer of wells. Before final release of bond, exploratory or monitoring wells shall be sealed in a safe and environmental sound manner in accordance with Section 880-X-10D-.04 through 880-X-10D-.06. With the prior approval of the Regulatory Authority, wells may be transferred to another party for further use. However, at a minimum, the conditions of such transfer shall comply with State and local laws and the permittee shall remain responsible for the proper management of the well until bond release in accordance with Section 880-X-10D-.04 through Section 880-X-10D-.06.

(7) Discharges into an underground mine.

(a) Discharges into an underground mine are prohibited, unless specifically approved by the Regulatory Authority after a demonstration that the discharge will --

1. Minimize disturbance to the hydrologic balance on the permit area, prevent material damage outside the permit area and otherwise eliminate public hazards resulting from underground mining activities;

2. Not result in a violation of applicable water quality standards or effluent limitations;

3. Be at a known rate and quality which shall meet the effluent limitations of Section 880-X-10D-.13 for pH and total suspended solids, except that the pH and total suspended solids limitations may be exceeded, if approved by the Regulatory Authority; and

4. Meet with the approval of the Mine Safety and Health Administration.

(b) Discharges shall be limited to the following:

1. Water;

2. Coal-processing waste;

3. Flyzash from a coal-fired facility;

4. Sludge from an acid-mine-drainage treatment facility;

5. Flue-gas desulfurization sludge;

6. Inert materials used for stabilizing underground mines; and

7. Underground mine development wastes.

(c) Water from one underground mine may be diverted into other underground workings according to the requirements of this section.

(8) Gravity discharges from underground mines.

(a) Surface entries and accesses to underground workings shall be located and managed to prevent or control gravity discharge of water from the mine. Gravity discharges of water from an underground mine, other than a drift mine subject to paragraph (8)(b) of this section, may be allowed by the Regulatory Authority if it is demonstrated that the untreated or treated discharge complies with the performance standards of this part and any additional NPDES permit requirements.

(b) Notwithstanding anything to the contrary in paragraph (8)(a) of this section, the surface entries and accesses of drift mines first used after the implementation of a State, Federal, or Federal Lands Program and located in acid-producing or iron-producing coal seams shall be located in such a manner as to prevent any gravity discharge from the mine.

(9) Drinking, domestic or residential water supply. The permittee must promptly replace any drinking, domestic or residential water supply that is contaminated, diminished or interrupted by underground mining activities conducted after October 24, 1992, if the affected well or spring was in existence before the date the Regulatory Authority received the permit application for the activities causing the loss, contamination or interruption. The baseline hydrologic and the geologic information concerning baseline hydorlogic conditions required in 880-X-8E-.06 and 880-X-8H-.06 will be used to determine the impact of mining activities upon the water supply.
Author: Randall C. Johnson
Statutory Authority: Code of Ala. 1975, §9-16-90.
History: Original Filed November 14, 1989; effective: March 7, 1991. **Amended:** Filed July 27, 1998; effective August 31, 1998; operative January 3, 1999.

880-X-10D-.13 Hydrologic Balance: Water Quality Standards And Effluent Limitations.

(1)(a) All surface drainage from the disturbed area and point source discharges from underground workings shall be passed through a sedimentation pond, a series of sedimentation ponds or other treatment facility before leaving the permit area.

(b) Other treatment facilities shall mean any chemical treatment system, such as flocculation or mechanical

structures such as clarifiers that have a point source discharge and are utilized to prevent additional contributions of suspended solids to stream flow.

(2) Sedimentation ponds and other treatment facilities shall be maintained until the disturbed area has been restored and revegetated. In no case shall the structure be removed sooner than two years after the last augmented seeding.

(3) Exemptions to Rule 880-X-10D-.13(1)(a) may be granted by the State Regulatory Authority when --

(a) The disturbed drainage area within the total disturbed area is small; and

(b) The person who conducts the surface mining activities demonstrates that sedimentation ponds or other treatment facilities are not necessary for drainage from the disturbed areas to meet the effluent limitations set by applicable State and Federal water duality standards for downstream receiving waters.

(4) For purposes of this Rule only, disturbed area shall not include those areas in which only diversion ditches, sedimentation ponds, other treatment facilities, or roads are installed in accordance with this Part and the upstream area is not otherwise disturbed by the person who conducts the surface mining activities.

(5) Point source discharges of water from underground workings and discharges of water from areas disturbed by mining activities shall be made in compliance with all applicable State and Federal water quality effluent limitation guidelines for coal mining.

Author:

Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 84, 90, 92, 97.

History:

880-X-10D-.14 Diversions.

(1) General Requirements.

(a) With the approval of the Regulatory Authority, any flow from mined areas abandoned before May 3, 1978, and any flow from undisturbed areas or reclaimed areas, after meeting the criteria of Section 880-X-10D-.25 for siltation structure removal, may be diverted from disturbed areas by means of temporary or permanent diversions. All diversions shall be designed to minimize adverse impacts to the hydrologic balance within the permit and adjacent areas, to prevent material damage outside the permit area and to assure the safety of the

public. Diversions shall not be used to divert water into underground mines without approval of the Regulatory Authority in accordance with Section 880-X-10D-.12.

(b) The diversion and its appurtenant structures shall be designed, located, constructed, and maintained to --

(i) Be stable;

(ii) Provide protection against flooding and resultant damage to life and property;

(iii) Prevent, to the extent possible using the best technology currently available, additional contributions of suspended solids to streamflow outside the permit area; and

(iv) Comply with all applicable local, State and Federal laws and regulations.

(c) Temporary diversions shall be removed when no longer needed to achieve the purpose for which they were authorized. The land disturbed by the removal process shall be restored in accordance with this part. Before diversions are removed, downstream water-treatment facilities previously protected by the diversion shall be modified or removed, as necessary, to prevent overtopping or failure of the facilities. This requirement shall not relieve the operator from maintaining water-treatment facilities as otherwise required. A permanent diversion or a stream channel reclaimed after the removal of a temporary diversion shall be designed and constructed so as to restore or approximate the premining characteristics of the original stream channel including the natural riparian vegetation to promote the recovery and the enhancement of the aquatic habitat.

(d) The Regulatory Authority may specify additional design criteria for diversions to meet the requirements of this section.

(2) Diversion of perennial and intermittent streams.

(a) Diversion of perennial and intermittent streams within the permit area may be approved by the Regulatory Authority after making the finding relating to stream buffer zones called for in Section 880-X-10D-.26 that the diversions will not adversely affect the water quantity and quality and related environmental resources of the stream.

(b) The design capacity of channels for temporary and permanent stream channel diversions shall be at least equal to the capacity of the unmodified stream channel immediately upstream and downstream from the diversion.

(c) The requirements of paragraph (1)(b)(ii) of this section shall be met when the temporary and permanent diversions for perennial and intermittent streams are designed so that the combination of channel, bank and flood-plain configuration is adequate to pass safely the peak runoff of a 10-year, 6-hour precipitation event for a temporary diversion and a 100-year, 6-hour precipitation event for a permanent diversion.

(d) The design and construction of all stream channel diversions of perennial and intermittent streams shall be certified by a qualified registered professional engineer as meeting the performance standards of this part and any design criteria set by the Regulatory Authority.

(3) Diversion of miscellaneous flows:

(a) Miscellaneous flows, which consist of all flows except for perennial and intermittent streams, may be diverted away from disturbed areas if required or approved by the Regulatory Authority. Miscellaneous flows shall include ground-water discharges and ephemeral streams.

(b) The design, location, construction, maintenance, and removal of diversions of miscellaneous flows shall meet all of the performance standards set forth in paragraph (1) of this section.

(c) The requirements of paragraph (1)(b)(ii) of this section shall be met when the temporary and permanent diversions for miscellaneous flows are designed so that the combination of channel, bank and flood plain configuration is adequate to pass safely the peak runoff of a 2-year, 6-hour precipitation event for a temporary diversion, and a 10 year, 6 hour precipitation event for a permanent diversion.

Author: Randall C. Johnson
Statutory Authority: Code of Ala. 1975, §9-16-91.
History: Original Filed November 14, 1989; effective March 7, 1991.

880-X-10D-.15 (Not Used).
Author:
Statutory Authority:
History:

880-X-10D-.16 Hydrologic Balance: Sediment Control Measures.

(1) Appropriate sediment control measures shall be designed, constructed, and maintained using the best technology currently available to:

(a) Prevent, to the extent possible, additional contributions of sediment to streamflow or to runoff outside the permit area,

(b) Meet the more stringent of applicable State or Federal effluent limitations,

(c) Minimize erosion to the extent possible.

(2) Sediment control measures include practices carried out within and adjacent to the disturbed area and consist with the utilization of proper mining reclamation methods and sediment control practices, singly or in combination. Sediment control methods include, but are not limited to --

(a) Disturbing the smallest practicable area at any one time during the mining operation through progressive backfilling, grading and prompt revegetation as required in Rule 880-X-10D-.52(2);

(b) Stabilizing the backfill material to promote a reduction of the rate and velocity of runoff, in accordance with the requirements of Rule 880-X-10D-.48;

(c) Retaining sediment within disturbed areas;

(d) Diverting runoff away from disturbed areas;

(e) Diverting runoff using protected channels or pipes through disturbed areas so as not to cause additional erosion;

(f) Using straw dikes, riprap, check dams, mulches, vegetative sediment filters, dugout ponds, and other measures that reduce overland flow velocity, or trap sediment; and

(g) Treating with chemicals; and

(h) Treating mine drainage in underground sumps.

Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History:

880-X-10D-.17 Hydrologic Balance: Siltation Structures.

(1) Definitions. For the purposes of this Section only:

(a) (RESERVED)

(b) Disturbed area shall not include those areas --

1. In which the only underground mining activities include diversion ditches, siltation structures, or roads that are designed, constructed and maintained in accordance with this part; and

2. For which the upstream area is not otherwise disturbed by the operator.

(c) Other treatment facilities mean any chemical treatments, such as flocculation or neutralization, or mechanical structures, such as clarifiers or precipitators, that have a point source discharge and are utilized:

(1) To prevent additional contributions of dissolved or suspended soils to streamflow or runoff outside the permit area, or

(2) To comply with all applicable State and Federal water-quality laws and regulations.

(2) General requirements.

(a) Additional contributions of suspended solids sediment to streamflow or runoff outside the permit area shall be prevented to the extent possible using the best technology currently available.

(b) All surface drainage from the disturbed area shall be passed through a siltation structure before leaving the permit area, except as provided in Paragraph (2)(e) or (5) of this Section.

(c) Siltation structures for an area shall be constructed before beginning any underground mining activities in that area, and upon construction shall be certified by a qualified registered professional engineer to be constructed as designed and as approved in the reclamation plan.

(d) Any siltation structure which impounds water shall be designed, constructed and maintained in accordance with 880-X-10D-.20.

(e) Siltation structures shall be maintained until removal is authorized by the Regulatory Authority and the disturbed area has been stabilized and revegetated. In no case shall the structure be removed sooner than 2 years after the last augmented seeding.

(f) When siltation structure is removed, the land on which the siltation structure was located shall be regraded and revegetated in accordance with the reclamation plan and 880-X-10D-.52 through 880-X-10D-.57. Sedimentation ponds approved

by the Alabama Surface Mining Commission for retention as permanent impoundments may be exempted from this requirement.

(3) Sedimentation ponds.

(a) When used, sedimentation ponds shall --

1. Be used individually or in series;

2. Be located as near as possible to the disturbed area and out of perennial streams unless approved by the Regulatory Authority, and

3. Be designed, constructed, and maintained to --

(i) Provide adequate sediment storage volume;

(ii) Provide adequate detention time to allow the effluent from the ponds to meet State and Federal effluent limitations;

(iii) Contain or treat the 10-year, 24-hour precipitation event ("design event") unless a lesser design event is approved by the Alabama Surface Mining Commission based on terrain, climate, other site-specific conditions and on a demonstration by the operator that the effluent limitations of 880-X-10D-.13 will be met;

(iv) Provide a nonclogging dewatering device adequate to maintain the detention time required under Paragraph (3)(a)3.(ii).

(v) Minimize, to the extent possible, short circuiting;

(vi) Provide periodic sediment removal sufficient to maintain adequate volume for the design event;

(vii) Ensure against excessive settlement;

(viii) Be free of sod, large roots, frozen soil, and acid- or toxic-forming coal-processing waste; and

(ix) Be compacted properly.

(b) Spillways. A sedimentation pond shall include either a combination of principal and emergency spillways or a single spillway configured as specified in 880-X-10D-.02(1)(i).

(4) Other treatment facilities.

(a) Other treatment facilities shall be designed to treat the 10-year, 24-hour precipitation event unless a lesser design event is approved by the Alabama Surface Mining Commission based on terrain, climate, other site-specific conditions and a demonstration by the operator that the effluent limitations of 880-X-10D-.13 will be met.

(b) Other treatment facilities shall be designed in accordance with the applicable requirements of Paragraph (3) of this Section.

(5) Exemptions. Exemptions to the requirements of this Section may be granted if --

(a) The disturbed drainage area within the total disturbed area is small; and

(b) The operator demonstrates that siltation structures and alternate sediment control measures are not necessary for drainage from the disturbed area to meet the effluent limitations under 880-X-10D-.13 and the applicable State and Federal water quality standards for the receiving waters.

Author: Randall C. Johnson
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 84, 90, 92, 97.
History: May 20, 1982. **Amended:** September 18, 1990; effective August 2, 1991. **Amended:** Filed July 27, 1998; effective August 31, 1998; operative January 3, 1999.

Ed. Note: On December 4, 1998, the Office of Surface Mining approved this rulemaking adopted by the commission on July 16, 1998. The effective date of this rule will be January 3, 1999.

880-X-10D-.18 Hydrologic Balance: Discharge Structures.

Discharge from sedimentation ponds, permanent and temporary impoundments, coal processing-waste dams and embankments, and diversions shall be controlled, by energy dissipaters, riprap channels, and other devices, where necessary, to reduce erosion, to prevent deepening or enlargement of stream channels, and to minimize disturbance of the hydrologic balance. Discharge structures shall be designed according to standard engineering design procedures.

Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History:

880-X-10D-.19 Hydrologic Balance: Acid-Forming And Toxic-Forming Materials.

Drainage from acid-forming and toxic-forming underground development waste and spoil, if any, into ground and surface water shall be avoided by --

(a) Identifying, burying, or treating, where necessary, waste and spoil which, in the judgment of the State Regulatory Authority, may be detrimental to vegetation or may adversely affect water quality, if not treated or buried;

(b) Preventing water from coming into contact with acid-forming and toxic-forming materials in accordance with Rule 880-X-10D-.50; and

(c) Burying or otherwise treating all acid-forming or toxic-forming underground development waste and spoil after they are first exposed on the mine site within a period required by the State Regulatory Authority. Temporary storage of such materials may be approved by the State Regulatory Authority upon a finding that immediate burial or treatment is not feasible and will not result in any material risk of water pollution or other environmental damage. Materials shall be stored only until burial or treatment becomes feasible. Acid-forming and toxic-forming underground development waste and spoil to be stored shall be placed on impermeable material and protected from erosion and contact with surface water.

Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History:

880-X-10D-.20 Impoundments.

(1) General requirements. The requirements of this Paragraph apply to both temporary and permanent impoundments.

(a) Impoundments meeting the Class B or C criteria for dams in the U.S. Department of Agriculture, Soil Conservation Service Technical Release No. 60 (210-VI-TR60, Oct. 1985), "Earth Dams and Reservoirs," 1985 shall comply with "Minimum Emergency Spillway Hydrologic Criteria" table in TR-60 and the requirements of this section. The technical release is hereby incorporated by reference. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CRF Part 51. Copies may be obtained from the National Technical Information Service (NTIS), 5285

Port Royal Road, Springfield, Virginia 22161, order N. PB 87-157509/AS. Copies can be inspected at the OSM Headquarters Office, Office of Surface Mining Reclamation and Enforcement, Administrative Record, Room 210-SIB, 1951 Constitution Avenue, Washington, DC, or at the Office of the Federal Register, 800 North Capitol Street, NW, Suite 700, Washington, DC.

(b) An impoundment meeting the size or other criteria of 30 CFR 77.216(a) shall comply with the requirements of 30 CFR 77.216 and this section.

(c) Design certification. The design of impoundments shall be certified in accordance with 880-X-8I-.12(1) as designed to meet the requirement of this part using current, prudent, engineering practices and any design criteria established by the Regulatory Authority. The qualified, registered, professional engineer shall be experienced in the design and construction of impoundments.

(d) Stability.

1. An impoundment meeting the Class B or C criteria for dams in TR-60, or the size or other criteria of 30 CFR 77.216(a) shall have a minimum static safety factor of 1.5 for a normal pool with steady state seepage saturation conditions, and a seismic safety factor of at least 1.2.

2. Impoundments not included in paragraph (1)(d)1. of this section, shall have a minimum static safety factor of 1.3 for a normal pool with steady state seepage saturation conditions or meet the requirements of 880-X-8I-.12(3)(c).

(e) Freeboard. Impoundments shall have adequate freeboard to resist overtopping by waves and by sudden increases in storage volume. Impoundments meeting the Class B or C criteria for dams in TR-60 shall comply with the freeboard hydrograph criteria in the "Minimum Emergency Spillway Hydrologic Criteria" table in TR-60.

(f) Foundation.

1. Foundations and abutments for an impounding structure shall be stable during all phases of construction and operation and shall be designed based on adequate and accurate information on the foundation conditions. For an impoundment meeting the Class B or C criteria for dams in TR-60, or size or other criteria of 30 CFR 77.216(a), foundation investigation, as well as any necessary laboratory testing of foundation material, shall be performed to determine the design requirements for foundation stability.

2. All vegetative and organic materials shall be removed and foundations excavated and prepared to resist failure. Cutoff trenches shall be installed if necessary to ensure stability.

(g) Slope protection shall be provided to protect against surface erosion at the site and protect against sudden drawdown.

(h) Faces of embankments and surrounding areas shall be vegetated, except that faces where water is impounded may be riprapped or otherwise stabilized in accordance with accepted design practices.

(i) Spillways. An impoundment shall include either a combination of principal and emergency spillways or a single spillway configured as specified in paragraph (1)(i)1. of this section, designed and constructed to safely pass the applicable design precipitation event specified in paragraph (1)(i)2. of this section, except as set forth in paragraph (3)(b) of this section.

1. The Regulatory Authority may approve a single open-channel spillway that is:

(i) Of nonerodible construction and designed to carry sustained flows; or

(ii) Earth- or grass-lined and designed to carry short-term, infrequent flows at non-erosive velocities where sustained flows are not expected.

2. Except as specified in paragraph (3)(b) of this section, the required design precipitation event for an impoundment meeting the spillway requirements of paragraph (1)(i) of this section is:

(i) For an impoundment meeting the Class B or C criteria for dams in TR-60, the emergency spillway hydrograph criteria in the "Minimum Emergency Spillway Hydrologic Criteria" table in TR-60, or greater event as specified by the Regulatory Authority.

(ii) For an impoundment meeting the size or other criteria of 30 CFR 77.216(a), a 100-year 6-hour event, or greater event as specified by the Regulatory Authority.

(iii) For an impoundment not meeting the size or other criteria of 30 CFR 77.216(a), a 25-year 6-hour event, or greater event as specified by the Regulatory Authority.

(j) The vertical portion of any remaining highwall shall be located far enough below the low-water line along the full extent of highwall to provide adequate safety and access for the proposed water users.

(k) Inspections. A qualified registered professional engineer or other qualified professional specialist under the direction of a professional engineer, shall inspect each impoundment as provided in paragraph (1)(k)1. of this section. The professional engineer or specialist shall be experienced in the construction of impoundments.

1. Inspections shall be made regularly during construction, upon completion of construction, and at least yearly until removal of the structure or release of the performance bond.

2. The qualified registered professional engineer shall promptly after each inspection required in paragraph (1)(k)1. of this section provide to the Regulatory Authority a certified report that the impoundment has been constructed and/or maintained as designed and in accordance with the approved plan and this chapter. The report shall include discussion of any appearance of instability, structural weakness or other hazardous condition, depth and elevation of any impounded waters, existing storage capacity, any existing or required monitoring procedures and instrumentation, and any other aspects of the structure affecting stability.

3. A copy of the report shall be retained at or near the minesite.

(l) Impoundments meeting the SCS Class B or C criteria for dams in TR-69, or the size or other criteria of 30 CFR 77.216 must be examined in accordance with 30 CFR 77.216-3. Impoundments not meeting the SCS Class B or C criteria for dams in TR-60, or subject to 30 CFR 77.216, shall be examined at least quarterly. A qualified person designated by the operator shall examine impoundments for appearance of structural weakness and other hazardous conditions.

(m) Emergency procedures. If any examination or inspection discloses that a potential hazard exists, the person who examined the impoundment shall promptly inform the Regulatory Authority of the finding and of the emergency procedures formulated for public protection and remedial action. If adequate procedures cannot be formulated or implemented, the Regulatory Authority shall be notified immediately. The Regulatory Authority shall then notify the appropriate agencies that other emergency procedures are required to protect the public.

(2) Permanent Impoundments. A permanent impoundment of water may be created, if authorized by the Regulatory Authority in the approved permit based upon the following demonstration:

(a) The size and configuration of such impoundment will be adequate for its intended purposes.

(b) The quality of impounded water will be suitable on a permanent basis for its intended use and, after reclamation, will meet applicable State and Federal water quality standards, and discharges from the impoundment will meet applicable effluent limitations and will not degrade the quality of receiving water below applicable State and Federal water quality standards.

(c) The water level will be sufficiently stable and be capable of supporting the intended use.

(d) Final grading will provide for adequate safety and access for proposed water users.

(e) The impoundment will not result in the diminution of the quality and quantity of water utilized by adjacent or surrounding landowners for agricultural, industrial, recreational, or domestic uses.

(f) The impoundment will be suitable for the approved postmining land use.

(3) Temporary impoundments.

(a) The Regulatory Authority may authorize the construction of temporary impoundments as part of a surface coal mining operation.

(b) In lieu of meeting the requirements in paragraph (1)(i)1. of this section, the Regulatory Authority may approve an impoundment that relies primarily on storage to control the runoff from the design precipitation event when it is demonstrated by the operator and certified by a qualified registered professional engineer in accordance with 880-X-8I-. 12(1) that the impoundment will safely control the design precipitation event, the water from which shall be safely removed in accordance with current, prudent, engineering practices. Such an impoundment shall be located where failure would not be expected to cause loss of life or serious property damage, except where:

1. In the case of an impoundment meeting the SCS Class B or C criteria for dams in TR-60, or the size or other criteria of 30 CFR 77.216(a), it is designed to control the precipitation of the probable maximum precipitation

of a 6-hour event, or greater event as specified by the Regulatory Authority; or

2. In the case of an impoundment not included in paragraph (3)(b)1. of this section, it is designed to control the precipitation of a 100-year 6-hour event, or greater event as specified by the Regulatory Authority.

Author: Randall C. Johnson
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 84, 90, 92, 97.
History: May 20, 1982. **Amended:** September 18, 1990; effective August 2, 1991. **Amended:** Filed July 27, 1998; effective August 31, 1998; operative January 3, 1999.

Ed. Note: On December 4, 1998, the Office of Surface Mining approved this rulemaking adopted by the commission on July 16, 1998. The effective date of this rule will be January 3, 1999.

880-X-10D-.21 Hydrologic Balance: Underground Mine Entry And Access Discharges.

(1) Surface entries and accesses to underground workings including adits and slopes, shall be located, designed, constructed, and utilized to prevent or control gravity discharge of water from the mine.

(2) Gravity discharge of water from an underground mine, other than a drift mine subject to Paragraph (3) of this Rule may be allowed by the State Regulatory Authority, if it is demonstrated that --

(a)1. The discharge, without treatment, satisfies the water effluent limitations of Rule 880-X-10D-.13 and all applicable State and Federal water quality standards; and

2. That discharge will result in changes in the prevailing hydrologic balance that are minimal and approved postmining land uses will not be adversely affected; or

(b)1. The discharge is conveyed to a treatment facility in the permit area in accordance with Rule 880-X-10D-.13(1);

2. All water from the underground mine discharged from the treatment facility meets the effluent limitations of Rule 880-X-10D-.13 and all other applicable State and Federal laws and regulations; and

3. Consistent maintenance of the treatment facility will occur throughout the anticipated period of gravity discharge.

(3) Notwithstanding anything to the contrary in Paragraphs (1) and (2) of this Rule, for a drift mine first used after the implementation of the Act and located in acid-producing or iron-producing coal seams, surface entries and accesses shall be located in such a manner as to prevent any gravity discharge from the mine.

Author:

Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.

History:

880-X-10D-.22 Hydrologic Balance: Surface And Ground Water Monitoring.

(1) Ground water.

(a) When underground mining activities may affect groundwater systems which serve as aquifers which significantly ensure the hydrologic balance of water use either on or off permit area, ground water levels and ground water quality shall be periodically monitored. Monitoring shall include measurements and chemical analyses from a sufficient number of wells and/or springs to adequately reflect changes in ground water quantity and quality resulting from those activities. Monitoring shall be adequate to plan for modification of the underground mining activities if necessary to minimize disturbance to the prevailing hydrologic balance and shall be conducted in a manner approved by the State Regulatory Authority.

(b) Monitoring data shall be reported to the State Regulatory Authority on a schedule as determined by the State Regulatory Authority.

(c) As specified and approved by the State Regulatory Authority, the person who conducts the underground mining activities shall conduct additional hydrologic test, including drilling and aquifer tests, and the results shall be submitted to the State Regulatory Authority to demonstrate compliance with Rule 880-X-10D-.21 and this Rule.

(2) Surface water.

(a) Surface water monitoring shall be conducted in accordance with the monitoring program submitted under Rule 880-X-8H-.06(2)(c). The State Regulatory Authority shall determine the nature of data, frequency of collection, and reporting requirements. Monitoring shall --

1. Be adequate to measure accurately and record water quality and quantity of the discharges from the permit area;

2. In all cases in which analytical results of the sample collections indicate the occurrence of noncompliance with a permit condition or applicable standard, the person who conducts the underground mining activities shall notify the State Regulatory Authority within five days in accordance with NPDES procedures utilized by AWIC.

3. Result in quarterly reports to the State Regulatory Authority, to include analytical results from each sample taken during the quarter. Any sample results which indicate a permit violation will be reported immediately to the State Regulatory Authority. In those cases where the discharge for which water monitoring reports are required is also subject to regulation by NPDES permit issued under the Clean Water Act of 1977 (30 U.S.C. Sec. 1251-1378) and where such permit includes provisions for equivalent reporting requirements and requires filing of the water monitoring reports within 90 days or less of sample collection, the following alternative procedure shall be used. The person who conducts the underground mining activities shall submit to the State Regulatory Authority on the same time schedule as required by the NPDES permit or within 90 days following sample collection, whichever is earlier either --

(i) A copy of the completed reporting form filed to meet NPDES permit requirements; or

(ii) A letter identifying the State or Federal government official with whom the reporting form was filed to meet NPDES permit requirements and the date of filing.

(b) Surface water flow and quality, including discharges to surface waters from the permit area, and receiving waters, shall continue to be monitored after both the cessation of use of underground mine workings and after surface disturbed areas have been regraded and stabilized according to this Rule. Data from this monitoring may be used to demonstrate that the quality and quantity of runoff without treatment is consistent with the requirement of this Rule to minimize disturbance to the prevailing hydrologic balance and to attain the approved postmining land use. These data may also provide a basis for approval by the State Regulatory Authority for removal of water quality of flow control systems.

(c) Equipment, structures, and other devices necessary to measure and sample accurately the quality and quantity surface water discharges from the surface disturbed area and from underground mine workings shall be properly installed, maintained, and operated and shall be removed when no longer required.

Author:

Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History:

880-X-10D-.23 (Not Used).
Author:
Statutory Authority:
History:

880-X-10D-.24 (Not Used).
Author:
Statutory Authority:
History:

880-X-10D-.25 Hydrologic Balance: Postmining Rehabilitation Of Sedimentation Ponds, Diversions, Impoundments, And Treatment Facilities.

Before abandoning a permit area or seeking bond release, the operator shall ensure that all temporary structures are removed and reclaimed, and that all permanent sedimentation ponds, diversions, impoundments, and treatment facilities meet the requirements of this chapter for permanent structures, have been maintained properly, and meet the requirements of the approved reclamation plan for permanent structures and impoundments. The operator shall renovate such structures if necessary to meet the requirements of this chapter and to conform to the approved reclamation plan.
Author:
Statutory Authority:
History:

880-X-10D-.26 Hydrologic Balance: Stream Buffer Zones.

(1) No land within 100 feet of a perennial stream or an intermittent stream shall be disturbed by underground mining activities, unless the Regulatory Authority specifically authorizes underground mining activities closer to, or through, such a stream, the Regulatory Authority may authorize such activities only upon finding that --

(a) Underground mining activities will not cause or contribute to the violation of applicable State or Federal water quality standards and will not adversely affect the water quantity and quality or other environmental resources of the stream; and

(b) If there will be a temporary or permanent stream-channel diversion, it will comply with Section 880-X-10D-.14(2).

(2) The area not to be disturbed shall be designated a buffer zone, and the operator shall mark it as specified in Section 880-X-10D-.03.
Author: Randall C. Johnson
Statutory Authority: Code of Ala. 1975, §9-16-91.
History: Original Filed November 14, 1989; effective: March 7, 1991.

880-X-10D-.27 Coal Recovery.

Underground mining activities shall be conducted so as to maximize the utilization and conservation of the coal, while utilizing the best technology currently available to maintain environmental integrity, so that reaffecting the land in the future through surface coal mining operations is minimized.
Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History:

880-X-10D-.28 Use Of Explosives: General Requirements.

(1) Rules 880-X-10D-.28 - 880-X-10D-.32 apply only to surface blasting activities incident to underground mining, including, but not limited to, initial rounds of slopes and shafts.

(2) Each person who conducts underground mining activities shall comply with all applicable State and Federal laws and regulations in the use of explosives.

(3) All blasting operations shall be conducted by experienced, trained, and competent persons who understand the hazards involved. Each person responsible for blasting operations shall possess a valid certification as required by Chapter 880-X-12. A Certified Blaster and at least one other person shall be present during the firing of all blasts.

(4) Blast design.

(a) An anticipated blast design shall be submitted if blasting operations will be conducted within --

1. 1,000 feet from any building used as a dwelling, public building, school, church, or community or institutional building outside the permit area; or

2. 500 feet of an active or abandoned underground mine.

(b) The blast design may be presented as part of a permit application or at a time, before the blast, approved by the Regulatory Authority.

(c) The blast design shall contain sketches of the drill patterns, delay periods, and decking and shall indicate the type and amount of explosives to be used, critical dimensions, and the location and general description of structures to be protected, as well as a discussion of design factors to be used, which protect the public and meet the applicable airblast, flyrock, and ground vibration standards in Rule 880-X-10C-.34.

(d) The blast design shall be prepared and signed by a certified blaster.

(e) The Regulatory Authority may require changes to the design submitted.

Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83,84, 89, 90, 91, 97.
History:

880-X-10D-.29 Use Of Explosives: Preblasting Survey.

(1) At least 30 days before initiation of blasting, the operator shall notify, in writing, all residents or owners of dwellings or other structures located within 1/2 mile of the permit area now to request a preblasting survey.

(2) A resident or owner of a dwelling or structure within 1/2 mile of any part of the permit area may request a preblasting survey. This request shall be made, in writing, directly to the operator or to the Regulatory Authority who shall promptly notify the operator. The operator shall promptly conduct a preblasting survey of the dwelling or structure and promptly prepare a written report of the survey. An updated survey of any additions, modifications, or renovations shall be performed by the operator if requested by the resident or owner.

(3) The survey shall determine the condition of the dwelling or structure and document any preblasting damage and other physical factors that could reasonably be affected by the blasting. Assessments of structures such as pipes, cables, transmission lines, and wells and other water systems shall be limited to surface condition and readily available data. Special attention shall be given to the preblasting condition of wells and other water systems used for human, animal, or agricultural purposes and to the quantity and quality of the water.

(4) A written report of the survey shall be prepared and signed by the person who conducted the survey. The report may include recommendations of any special conditions or proposed adjustments to the blasting procedure which should be incorporated into the blasting plan to prevent damage. Copies of the report shall be provided to the person requesting the survey and to the State Regulatory Authority. If the person requesting the survey disagrees with the results of the survey, he or she may notify, in writing, both the permittee and the State Regulatory Authority of the specific areas of disagreement.

(5) Any surveys requested more than 10 days before the planned initiation of blasting shall be completed by the operator before the initiation of blasting.

Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History:

880-X-10D-.30 Use Of Explosives: Blasting Signs, Warnings And Access Control.

(1) Blasting signs. Blasting signs shall meet the specification of Rule 880-X-10D-.03. The operator shall:

(a) Conspicuously place signs reading "Blasting Area" along the edge of any blasting area that comes within 100 feet of any public road right-of-way, and at the point where any other road provides access to the blasting area; and

(b) At all entrances to the permit area from public roads or highways, place conspicuous signs which state "Warning! Explosives in Use," which clearly list and describe the meaning of the audible blast warning and all-clear signals that are in use, and which explain the marking of blasting areas and charged holes awaiting firing within the permit area.

(2) Warnings. Warning and all-clear signals of different character or pattern that are audible within a range of 1/2 mile from the point of the blast shall be given. Each person within the permit area and each person who resides or regularly works within 1/2 mile of the permit area shall be notified of the meaning of the signals in the blasting schedule.

(3) Access control. Access within the blasting area shall be controlled to prevent presence of livestock or unauthorized persons during blasting and until an authorized representative of the operator has reasonably determined that:

(a) No unusual hazards, such as imminent slides or undetonated charges exist; and

(b) Access to travel within the blasting area can be safely resumed.

Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 84, 90, 92, 97.
History:

880-X-10D-.31 Use Of Explosives: Control Of Adverse Effects.

(1) General requirements. Blasting shall be conducted to prevent injury to persons, damage to public or private property outside the permit area, adverse impacts on any underground mine, and change in the course, channel, or availability of surface or ground-water outside the permit area.

(2) Airblast.

(a) Limits.

1. Air blast shall not exceed the maximum limits listed below at the location of any dwelling, public building, school, church, or community or institutional building outside the permit area, except as provided in Rule 880-X-10D-.31(5).

Lower frequency limit of measuring system, in Hz (+3 dB)	**Maximum level, in dB**
0.1 Hz or lower -- flat response[1].....	134 peak
2 Hz or lower -- flat response.....	133peak
6 Hz or lower -- flat response.....	129 peak
C-weighted -- slow response[1].....	105 peak dBC.

[1]***Only when approved by the Regulatory Authority.***

2. If necessary to prevent damage, the Regulatory Authority shall specify lower maximum allowable airblast levels than those of Paragraph 2(a)1. above for use in the vicinity of a specific blasting operation.

(b) Monitoring.

1. The operator shall conduct periodic monitoring to ensure compliance with the airblast standards. The

Regulatory Authority may require airblast measurement of any or all blasts and may specify the locations at which such measurements are taken.

2. The measuring system shall have an upper-end flat-frequency response of at least 200 Hz.

(3) Flyrock. Flyrock traveling in the air or along the ground shall not be cast from the blasting site --

(a) More than one-half the distance to the nearest dwelling or other occupied structure;

(b) Beyond the area of control required under Rule 880-X-10D-.30(3); or

(c) Beyond the permit boundary.

(4) Ground vibration.

(a) General. In all blasting operations, except as otherwise authorized in Paragraph (e) below, the maximum ground vibration shall not exceed the values approved by the State Regulatory Authority. The maximum ground vibration for protected structures listed in this section shall be established in accordance with either the maximum peak-particle-velocity limits, the scaled distance equation, or the blasting-level chart of this section; or by the Regulatory Authority pursuant to this Rule. All structures in the vicinity of the blasting area, not listed in this section, such as water towers, pipelines and other utilities, tunnels, dams, impoundments, and underground mines, shall be protected from damage by establishment of a maximum allowable limit on the ground vibration, submitted by the operator in the blasting plan and approved by the Regulatory Authority.

(b) Maximum peak particle velocity.

1. The maximum ground vibration shall not exceed the following limits at the location of any dwelling, public building, school, church, or community or institutional building outside the permit area;

Distance (D), from the blasting site, in feet	**Maximum allowable peak particle velocity (Vmax) for ground vibration, in inches/second[1]**	**Scaled distance factor to be applied without seismic monitoring[2]**
0 to 300	1.25	50
301 to 5,000	1.00	55
5,001 and beyond	0.75	65

[1]Ground vibration shall be measured as the particle velocity. Particle velocity shall be recorded in three mutually perpendicular directions. The maximum allowable peak particle velocity shall apply to each of the three measurements.
[2]Applicable to the scaled-distance equation of Rule 880-X-10D-.31(4)(c)1.

2. A seismographic record shall be provided for each blast.

(c) Scale-distance equation.

1. An operator may use the scaled-distance equation, $W = (D/Ds)^2$ to determine the allowable charge weight of explosives to be detonated in any 8-millisecond period, without seismic monitoring; where W = the maximum weight of explosives in pounds; D = the distance, in feet, from the blasting site to the nearest protected structure; and Ds = the scaled-distance factor, which may initially be approved by the Regulatory Authority using the values for scaled-distance factor listed in this section.

2. The development of a modified scaled-distance factor may be authorized by the Regulatory Authority on receipt of a written request by the operator, supported by seismographic records of blasting at the mine site. The modified scale-distance factor shall be determined such that the particle velocity of the predicted ground vibration will not exceed the prescribed maximum allowable peak particle velocity of this section, at 95-percent confidence level.

(d) Blasting-level chart.

1. An operator may use the ground-vibration limits in Figure I to determine the maximum allowable vibration.

2. If the Figure 1 limits are used, a seismographic record including both particle velocity and vibration-frequency levels shall be provided for each blast. The method for the analysis of the predominant frequency contained in the blasting records shall be approved by the Regulatory Authority before application of this alternative blasting criterion.

(e)1. The State Regulatory Authority shall reduce the maximum peak particle velocity allowed, if it determines that a lower standard is required because of density of population or landuse, age or type of structure, geology or hydrology of the area, frequency of blasts, or other factors.

2. Upon the request of a municipality or fifteen (15) citizens of a municipality who are being affected by blasting operations of a surface mine, the State Regulatory Authority shall solicit and consider public comments from those being affected in determining the necessity of more stringent standards. The State Regulatory Authority may require the blaster to decrease the maximum peak particle velocity of ground motion, at the nearest dwelling, public building, school, church, commercial or institutional building to as low as 0.5 inch per second. Seismographic monitoring may be required at the site of the complaint nearest the blast. The final written determination of the State Regulatory Authority, including any proposed standards, or the failure of the State Regulatory Authority to act within a reasonable time, shall be reviewed by the Commission. The commission, if requested by the municipality, twenty-five (25) citizens of the municipalities or any affected licensee, shall hold a public hearing in the manner specified in Chapter 880-X-5. The Commission shall affirm or reverse the written determination or refer it to the State Regulatory Authority for further specific inquiries.

(f) The Regulatory Authority may require an operator to conduct seismic monitoring of any or all blasts or may specify the location at which the measurements are taken and the degree of detail necessary in the measurement.

(5) The maximum airblast and ground vibration standards of this section shall not apply at the following locations:

(a) At structures owned by the permittee and not leased to another person.

(b) At structures owned by the permittee and leased to another person, if a written waiver by the lessee is submitted to the Regulatory Authority before blasting.

Space for Graph

Blast Vibration Frequency H_z

Figure 1. Alternative blasting Level criteria (Source: Modified from figure B-1, Bureau of Mines R18507)

Blast Vibration Frequency H_z

Figure 1. Alternative Blasting Level Criteria
(Source: Modified From Figure B-1, Bureau of Mines R185071)
Author:

Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 84, 90, 92, 97.
History:

880-X-10D-.32 Use Of Explosives: Records Of Blasting Operations.

The Operator shall retain a record of all blasts for at least three years. Copies of these records shall be kept at the mine site and, upon request, made available to the Regulatory Authority and to the public for inspection. Such records shall contain the following data:

(1) Name of the operator conducting the blast.

(2) Location, date, and time of the blast.

(3) Name, signature, and certification number of the blaster conducting the blast.

(4) Identification, direction, and distance, in feet, from the nearest blast hole, to the nearest dwelling, public building, school, church, community or institutional building outside the permit area, except those described in Rule 880-X-10D-.34(5).

(5) Weather conditions, including those which may cause possible adverse blasting effects.

(6) Type of material blasted.

(7) Sketches of the blast pattern including number of holes, burden, spacing, decks, and delay pattern.

(8) Diameter and depth of holes.

(9) Types of explosives used.

(10) Total weight of explosives used per hole.

(11) The maximum weight of explosives detonated in an 8-millisecond period.

(12) Initiation system.

(13) Type and length of stemming.

(14) Mats or other protections used.

(15) Seismographic and airblast records, if required, which shall include:

(a) Type of instrument, sensitivity, and calibration or certification of annual calibration;

(b) Exact location of instrument and the date, time, and distance from the blast;

(c) Name of the person and firm taking the reading;

(d) Name of the person and firm analyzing the seismographic record;

(e) The vibration and/or airblast level recorded.

(16) Reasons and conditions for each unscheduled blast.

Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 84, 90, 92, 97.
History:

880-X-10D-.33 Disposal Of Excess Spoil And Underground Development Waste And Excess Spoil: General Requirements.

(1) Spoil or underground development waste (hereafter referred to as "spoil") not required to achieve the approximate original contour within the area where overburden has been removed shall be transported and placed in a controlled manner in position for concurrent compaction and in such a way to assure mass stability and to prevent mass movement. Spoil shall be placed only in bonded and approved disposal areas within a permit area. The spoil shall be placed in an excess spoil fill in a controlled manner to ensure --

(a) That the adverse effect of leachate and surface runoff from the fill on surface or ground waters will be minimized;

(b) Stability of the fill; and

(c) That the land mass designated as the disposal area is suitable for reclamation and revegetation compatible with the natural surroundings.

(2) The fill and appurtenant structures shall be designed using recognized professional standards, and the design shall be certified by a qualified registered professional engineer, and approved by the State Regulatory Authority.

(3) The spoil shall be transported and placed in a controlled manner in horizontal lifts not exceeding 4 feet in thickness, concurrently compacted as necessary to ensure mass stability and prevent mass movement, covered with an approved material, and

graded to allow surface and subsurface drainage to be compatible with the natural surroundings and attain a long-term static safety factor of 1.5. The Regulatory Authority may approve a design which incorporates placement of excess spoil in horizontal lifts other than 4-feet in thickness when it is demonstrated by the operator and certified by a qualified registered professional engineer that the design will ensure the stability of the fill and will meet all other applicable requirements.

(4) The fill shall be inspected for stability during construction by a qualified registered professional engineer or other qualified professional specialist who is under the direct supervision of the responsible qualified registered professional engineer. Both shall be experienced in the construction of earth and rockfill embankments.

Inspections shall be made at least quarterly throughout construction and during the following critical construction periods: (a) removal of all organic material and topsoil, (b) placement of underdrains and protective filter systems, (c) installation of surfaced drainage systems, (d) placement and compaction of fill materials, and (e) revegetation. The qualified registered professional engineer shall provide to the State Regulatory Authority a certified report within two weeks after each inspection that the fill has been constructed and maintained as specified in the design approved by the State Regulatory Authority. Certification on the underdrain system and protective filters shall be documented by color photographs taken during and after construction, but before the drain system is covered with spoil. If the underdrain system is constructed in phases, each phase shall be certified separately. Photographs shall be adequate in size and number to include enough terrain or other physical features of the site to provide a relative scale to the photographs. A copy of the inspection reports shall be retained at the minesite. Where excess durable rock spoil is placed in single or multiple lifts such that the underdrain system is constructed simultaneously with excess spoil placement by the natural segregation of dumped materials, in accordance with paragraph 18 of this Rule, color photographs shall be taken of the underdrain as the underdrain system is being formed.

(5) All vegetative and organic material shall be removed from the disposal area and the topsoil shall be removed, segregated and stored or replaced under Rules 880-X-10D-.07 - 880-X-10D-.11. If approved by the State Regulatory Authority, organic material may be used as mulch or may be included in the topsoil to control erosion, promote growth of vegetation, or increase the moisture retention of the soil.

(6) Slope protection shall be provided to minimize surface erosion at the site. Diversion design shall conform with the requirements of Rule 880-X-10D-.14. All disturbed areas, including diversion

ditches that are not riprapped, shall be vegetated upon completion of construction.

(7) If the disposal area contains springs, natural or manmade water-courses, or wet-weather seeps, the fill design shall include diversions and underdrains as necessary to control erosion, prevent infiltration into the fill, and ensure stability. Diversions shall comply with Rule 880-X-10D-.14(f).

Underdrains shall consist of durable rock or pipe, be designed and constructed using current, prudent engineering practices and meet any design criteria established by the Regulatory Authority. The underdrain system shall be designed to carry the anticipated seepage of water due to rainfall away from the excess spoil fill and from seeps and springs in the foundation of the disposal area and shall be protected from piping and contamination by an adequate filter. Rock underdrains shall be constructed of durable, nonacid, nontoxic-forming rock (e.g., natural sand and gravel, sandstone, limestone, or other durable rock) that does not slake in water or degrade to soil material, and which is free of coal, clay, or other nondurable material. Perforated pipe underdrains shall be corrosion resistant and shall have characteristics consistent with the long-term life of the fill.

(8) The disposal areas shall be located on the most moderately sloping and naturally stable areas available as approved by the State Regulatory Authority and shall be placed, where possible, upon, or above, a natural terrace, bench, or berm, if such placement provides additional stability and prevents mass movement.

(9) Where the slope in the disposal area exceeds lv:2.8h (36 percent) or such lesser slope as may be designated by the Regulatory Authority based on local conditions, key way cuts (excavations to stable bedrock) or rock toe buttresses shall be constructed to stabilize the fill. Where the toe of the spoil rests on a down slope, stability analyses shall be performed in accordance with Rule 880-X-8F-.16 to determine the size of rock toe buttresses and key way cuts.

(10) The foundation and abutments of the fill shall be stable under all conditions of construction and operation. Sufficient foundation investigations and laboratory testing of foundation materials shall be performed in order to determine the design requirements for stability of the foundation. Analyses of foundation conditions shall include the effect of underground mine workings, if any, upon the stability of the structure.

(11) The final configuration of the fill must be suitable for postmining landuses approved in accordance with Rule 880-X-10D-.64 except that no permanent impoundments shall be allowed on the completed fill. Small depressions may be allowed by the Regulatory Authority if they are needed to retain moisture, minimize erosion,

create and enhance wildlife habitat, or assist vegetation; and if they are not incompatible with stability of the fill.

(12) Terraces may be constructed on the outslope if required for control of erosion or for roads included in the approved postmining landuse plan. Terraces shall meet the following requirements:

(a) The slope of the outslope between terrace benches shall not be steeper than lv:2h (50 percent).

(b) To control surface runoff, each terrace bench shall be graded with a slope toward the embankment. Runoff shall be collected by a ditch along the intersection of each terrace bench and the outslope.

(c) Terrace ditches shall have a slope controlled such that erosive velocities are not produced.

(13)(a) Excess spoil that is acid- or toxic-forming or combustible shall be adequately covered with nonacid, nontoxic and noncombustible material, or treated, to control the impact on surface and ground water in accordance with Rule 880-X-10D-.12, to prevent sustained combustion, and to minimize adverse effects on plant growth and the approved postmining land use.

(b) Coal processing and underground development waste may be disposed of in excess spoil fills, if approved by the State Regulatory Authority and if such waste is --

1. Placed in accordance with Rule 880-X-10D-.36;

2. Demonstrated to be nontoxic-, nonacid-forming; and

3. Demonstrated to be consistent with the design stability of the fill.

(14) Excess spoil may be returned to underground mine workings, but only in accordance with a disposal program approved by the State Regulatory Authority and MSHA upon the basis of a plan submitted in accordance with Rule 880-X-8I-.16.

(15)(a) The Regulatory Authority may approve the disposal of excess spoil through placement on preexisting benches; provided, that all the standards set forth in paragraphs (1) - (14) of this Rule are met except as provided in this paragraph:

1. All spoil shall be placed on the solid portion of the preexisting bench.

2. The fill shall be designed, using prudent engineering practices, to attain a long-term static factor of 1.3 for all portions of the fill.

3. The preexisting bench shall be backfilled and graded to:

(i) Achieve the most moderate slope possible which does not exceed the angle of repose, and

(ii) Eliminate the highwall to the extent practicable.

(b) Disposal of excess spoil from an upper actively bench to a lower preexisting bench by means of gravity transport may be approved by the State Regulatory Authority provided that:

1. The operator demonstrates that the spoil to be disposed of by gravity transport is not necessary for elimination of the highwall and return of the upper bench to approximate original contour;

2. The following conditions and performance standards in addition to the environmental performance standards of this part are met;

(i) Only spoil in excess of that necessary to eliminate the highwall and return the upper bench to the approximate original contour may be placed on the lower solid bench;

(ii) The gravity transport points are determined on a site-specific basis by the operator and approved by the Regulatory Authority as a part of the permit application to minimize hazards to health and safety and to ensure that damage will be minimized should spoil accidentally move downslope of the lower bench;

(iii) The excess spoil is placed only on solid portions of the lower preexisting bench;

(iv) All excess spoil on the lower bench, including that spoil immediately below the gravity transport points and any preexisting spoil that is disturbed, is rehandled and placed in a controlled manner to eliminate as much of the lower highwall as is practicable. Rehandling and placing of excess spoil on the lower solid bench shall consist of placing the excess spoil in horizontal lifts in a controlled manner, concurrently compacted as necessary to ensure mass stability and to prevent mass movement, and graded to allow surface and subsurface drainage to be compatible with the natural surroundings to ensure a long-term static safety factor of 1.3. Spoil placed on the bench prior to the current mining operation that is not disturbed need not be rehandled except to ensure stability of the fill;

(v) A safety berm is constructed on the solid portion of the lower bench prior to gravity transport of the excess spoil. Where there is insufficient material on the lower bench to construct a safety berm, only that amount of spoil necessary for the construction of the berm may be gravity transported to the lower bench prior to construction of the berm; and

(vi) The area of the lower bench used to facilitate the disposal of excess spoil is considered an affected area.

3. Excess spoil shall not be allowed on the downslope below the upper bench except on designated gravity transport courses properly prepared according to Rule 880-X-10D-.07. Upon completion of the fill, no excess spoil shall be allowed to remain on the designated gravity transport course between the two benches and each transport course shall be reclaimed in accordance with the requirements of this part.

(16) Disposal of spoil in head-of-hollow and valley fills shall comply with paragraphs (1) - (14) of this Rule and the following:

(a) The top surface of the completed fill shall be graded such that the final slope after settlement will be toward properly designed drainage channels. Uncontrolled surface runoff from the top surface of the fill shall not be allowed to flow over the outslope of the fill.

(b) Runoff from areas above the fill and runoff from the surface of the fill shall be diverted into stabilized diversion channels designed to meet the requirements of Rule 880-X-10D-.14(f) and, in addition, to safely pass the runoff from a 100-year, 6-hour precipitation event.

(c) A rock-core chimney drain may be used in a head-of-hollow fill, instead of the underdrain and surface diversion system normally required, as long as the fill is not located in an area containing intermittent or perennial streams. A rock-core chimney drain may be used in a valley fill if the fill does not exceed 250,000 cubic yards of material and upstream drainage is diverted around the fill. The alternative rock-core chimney drain system shall be incorporated into the design and construction of the fill as follows:

1. The fill shall have, along with the vertical projection of the main buried stream channel or rill a vertical core of durable rock at least 16 feet thick which shall extend from the toe of the fill to the head of the fill and from the base of the fill to the surface of the fill. A system of lateral rock underdrains shall connect this rock core to each area of potential drainage

or seepage in the disposal area. Rocks used in the rock core and underdrains shall meet the requirements of paragraph (7).

2. A filter system to ensure the proper functioning of the rock core shall be designed and constructed using standard geotechnical engineering methods.

3. The grading may drain surface water away from the outslope of the fill and toward the rock core. The maximum slope of the top of the fill shall be lv:33h (3 percent). Instead of the requirements of Paragraph (11) of this Rule, a drainage pocket may be maintained at the head of the fill during and after construction, to intercept surface runoff and discharge the runoff through or over the rock drain, if stability of the rill is not impaired. In no case shall this pocket or sump have a potential for impounding more than 10,000 cubic feet of water. Terraces on the fill shall be graded with a 3- to 5-percent grade toward the fill and a 1-percent slope toward the rock core.

(17) In lieu of the requirements of Paragraph (16) the Regulatory Authority may approve alternate methods for disposal of hard rock spoil, including full placement by dumping a single lift, on a site specific basis, provided the services of a registered professional engineer experienced in the design and construction of earth and rockfill embankments are utilized and provided the requirements of Paragraphs (1) - (14) are met except as modified in this paragraph. For this Section, hard rock spoil shall be defined as rockfill consisting of at least 80 percent by volume of non-acid, non-toxic forming sandstone, limestone, or other rocks that do not slake in water and will not degrade to soil material.

(a) Spoil is to be transported and placed in a specified and controlled manner which will ensure stability of the fill.

1. The method of spoil placement shall be designed to ensure mass stability and prevent mass movement in accordance with the additional requirements of this Section.

2. Loads of noncemented clay shale and/or clay spoil in the fill shall be mixed with hard rock spoil in a controlled manner to limit on a unit basis concentrations of noncemented clay shale and clay in the fill. Such materials shall comprise no more than 20 percent of the fill volume as determined by tests performed by a registered professional engineer and approved by the Regulatory Authority.

(b) A qualified registered professional engineer certifies that the design will ensure the stability of the fill and meet all other applicable requirements.

(c) The fill shall be designed to attain a minimum long-term static safety factor of 1.5, and an earthquake safety factor of 1.1.

(d) The underdrain system may be constructed simultaneously with excess spoil placement by the natural segregation of dumped materials, provided the resulting underdrain system is capable of carrying anticipated seepage of water due to rainfall away from the excess spoil fill and from seeps and springs in the foundation of the disposal area the other requirements for drainage control are met.

(e) Surface water runoff from areas adjacent to and above the fill is not allowed to flow onto the fill and is diverted into stabilized diversion channels designed to meet the requirements of Rule 880-X-10D-.14(f) and to safely pass the runoff from a 100-year, 6-hour precipitation event.

Author:
Statutory Authority: Code of Ala. 1975, §9-16-71, 72, 73, 74, 75, 76, 80, 84, 90, 92, 97.
History: **Amended:** Filed March 25, 1997; effective April 29, 1997.

880-X-10D-.34 Coal Mine Waste: General Requirements.

(1) General. All coal mine waste shall be placed in new or existing disposal areas within a permit area, which are approved by the Regulatory Authority for this purpose. Coal mine waste shall be hauled or conveyed and placed for final placement in a controlled manner to --

(a) Minimize adverse effects of leachate and surface-water runoff on surface and ground water quality and quantity;

(b) Ensure mass stability and prevent mass movement during and after construction;

(c) Ensure that the final disposal facility is suitable for reclamation and revegetation compatible with the natural surroundings and the approved postmining landuse;

(d) Not create a public hazard; and

(e) Prevent combustion.

(2) Coal mine waste materials from activities located outside a permit area may be disposed of in the permit area only if approved by the Regulatory Authority. Approval shall be based upon a

showing that such disposal will be in accordance with the standards of this section.

(3) Design certification.

(a) The disposal facility shall be designed using current, prudent engineering practices and shall meet any design criteria established by the Regulatory Authority. A qualified registered professional engineer, experienced in the design of similar earth and waste structures, shall certify the design of the disposal facility.

(b) The disposal facility shall be designed to attain a minimum long-term static safety factor of 1.5. The foundation and abutments must be stable under all conditions of construction.

(4) Foundation. Sufficient foundation investigations, as well as any necessary laboratory testing of foundation material, shall be performed in order to determine the design requirements for foundation stability. The analyses of the foundation conditions shall take into consideration the effect of underground mine workings, if any, upon the stability of the disposal facility.

(5) Emergency procedures. If any examination or inspection discloses that a potential hazard exists, the Regulatory Authority shall be informed promptly of the finding and of the emergency procedures formulated for public protection and remedial action. If adequate procedures cannot be formulated or implemented, the Regulatory Authority shall be notified immediately. The Regulatory Authority shall then notify the appropriate agencies that other emergency procedures are required to protect the public.

(6) Underground disposal. Coal mine waste may be disposed of in underground mine workings, but only in accordance with a plan approved by the Regulatory Authority and MSHA under Section 880-X-8I-.16.

Author: Randall C. Johnson
Statutory Authority: Code of Ala. 1975, §9-16-91.
History: Original Filed November 14, 1989; effective March 7, 1991. **Amended:** Filed March 25, 1997; effective April 29, 1997. **Amended:** Filed July 27, 1998; effective August 31, 1998; operative January 3, 1999.

Ed. Note: On December 4, 1998, the Office of Surface Mining approved this rulemaking adopted by the commission on July 16, 1998. The effective date of this rule will be January 3, 1999.

880-X-10D-.35 (Not Used).
Author:
Statutory Authority:

History:

880-X-10D-.36 Coal Mine Waste: Refuse Piles.

Refuse piles shall meet the requirements of Section 880-X-10D-.34, the additional requirements of this section, and the requirements of 30 CFR 77.214 and 30 CFR 77.215 of this title.

(1) Drainage control.

(a) If the disposal area contains springs, natural or manmade water courses, or wet weather seeps, the design shall include diversions and underdrains as necessary to control erosion, prevent water infiltration into the disposal facility and ensure stability.

(b) Uncontrolled surface drainage may not be diverted over the outslope of the refuse pile. Runoff from areas above the refuse pile and runoff from the surface of the refuse pile shall be diverted into stabilized diversion channels designed to meet the requirements of Section 880-X-10D-.14 to safely pass the runoff from a 100-year, 6-hour precipitation event. Runoff diverted from undisturbed areas need not be commingled with runoff from the surface of the refuse pile.

(c) Underdrains shall comply with the requirements of Section 880-X-10D-.33(7).

(2) Surface area stabilization. Slope protection shall be provided to minimize surface erosion at the site. All disturbed areas, including diversion channels that are not riprapped or otherwise protected, shall be revegetated upon completion of construction.

(3) Placement.

(a) Coal mine waste shall be spread in layers no thicker than 24 inches, except that the State Regulatory Authority may approve layers exceeding 24 inches in thickness where engineering data substantiates that a minimum safety factor of 1.5 for the refuse pile will be attained.

(b) All vegetative and organic materials shall be removed from the disposal area prior to placement of coal mine waste. Topsoil shall be removed, segregated and stored or redistributed in accordance with Section 880-X-10D-.07 and Section 880-X-10D-.11. If approved by the Regulatory Authority, organic material may be used as mulch or may be included in the topsoil to control erosion, promote

growth of vegetation or increase the moisture retention of the soil.

(c) The final configuration of the refuse pile shall be suitable for the approved postmining land use. Terraces may be constructed on the outslope of the refuse pile if required for stability, control of erosion, conservation of soil moisture, or facilitation of the approved postmining land use. The grade of the outslope between terrace benches shall not be steeper than 2h:1v (50 percent).

(d) No permanent impoundments shall be allowed on the completed refuse pile. Small depressions may be allowed by the Regulatory Authority if they are needed to retain moisture, minimize erosion, create and enhance wildlife habitat, or assist revegetation, and if they are not incompatible with stability of the refuse pile.

(e) Following final grading of the refuse pile, the coal mine waste shall be covered with a minimum of 4 feet of the best available, nontoxic and noncombustible material, in a manner that does not impede drainage from the underdrains. The Regulatory Authority may allow less than 4 feet of cover material based on physical and chemical analyses which show that the requirements of Section 880-X-10D-.52 through 880-X-10D-.56 and Section 880-X-10D-.47 will be met.

(4) Inspections. A qualified registered professional engineer, or other qualified professional specialist under the direction of the professional engineer, shall inspect the refuse pile during construction. The professional engineer or specialist shall be experienced in the construction of similar earth and waste structures.

(a) Such inspection shall be made at least quarterly throughout construction and during critical construction periods. Critical construction periods shall include at a minimum:

1. Foundation preparation including the removal of all organic material and topsoil;

2. Placement of underdrains and protective filter systems;

3. Installation of final surface drainage systems; and

4. The final graded and revegetated facility. Regular inspections by the engineer or specialist shall also be conducted during placement and compaction of coal

mine waste materials. More frequent inspections shall be conducted if a danger of harm exists to the public health and safety or the environment. Inspections shall continue until the refuse pile has been finally graded and revegetated or until a later time as required by the Regulatory Authority.

(b) The qualified registered professional engineer shall provide a certified report to the Regulatory Authority promptly after each inspection that the refuse pile has been constructed and maintained as designed and in accordance with the approved plan and this chapter. The report shall include appearances of instability, structural weakness, and other hazardous conditions.

(c) The certified report on the drainage system and protective filters shall include color photographs taken during and after construction, but before underdrains are covered with coal mine waste. If the underdrain system is constructed in phases, each phase shall be certified separately. The photographs accompanying each certified report shall be taken in adequate size and number with enough terrain or other physical features of the site shown to provide a relative scale to the photographs and to specifically and clearly identify the site.

(d) A copy of each inspection report shall be retained at or near the minesite.

Author: Randall C. Johnson
Statutory Authority: Code of Ala. 1975, §9-16-91.
History: Original Filed November 14, 1989; effective: March 7, 1991. **Amended:** Filed March 25, 1997; effective April 29, 1997.

880-X-10D-.37 Coal Mine Waste: Impounding Structures.

New and existing impounding structures constructed of coal mine waste or intended to impound coal mine waste shall meet the requirements of Section 880-X-10D-.34.

(1) Coal mine waste shall not be used for construction of impounding structures unless it has been demonstrated to the Regulatory Authority that the stability of such a structure conforms to the requirements of this part and the use of coal mine waste will not have a detrimental effect on downstream water quality or the environment due to acid seepage through the impounding structure. The stability of the structure and the potential impact of acid mine seepage through the impounding structure shall be discussed in detail in the design plan submitted to the Regulatory Authority in accordance with Section 880-X-8I-.12.

(2)(a) Each impounding structure constructed of coal mine waste or intended to impound coal mine waste shall be designed, constructed and maintained in accordance with Section 880-X-10D-.20(1) and (3). Such structures may not be retained permanently as part of the approved postmining land use.

(b) Each impounding structure constructed of coal mine waste or intended to impound coal mine waste that meets the criteria of §77.216(a) of this title, shall have sufficient spillway capacity to safely pass, adequate storage capacity to safely contain, or a combination of storage capacity and spillway capacity to safely control, the probable maximum precipitation of a 6-hour precipitation event, or greater event as specified by the Alabama Surface Mining Commission.

(3) Spillways and outlet works shall be designed to provide adequate protection against erosion and corrosion. Inlets shall be protected against blockage.

(4) Drainage control. Runoff from areas above the disposal facility or runoff from the surface of the facility that may cause instability or erosion of the impounding structure shall be diverted into stabilized diversion channels designed to meet the requirements of Section 880-X-10D-.14 and designed to safely pass the runoff from a 100-year, 6-hour design precipitation event.

(5) Impounding structures constructed of or impounding coal mine waste shall be designed so that at least 90 percent of the water stored during the design precipitation event can be removed within a 10-day period.

(6) For an impounding structure constructed of or impounding coal minewaste, at least 90 percent of the water stored during the design precipitation event shall be removed within the 10-day period following the design precipitation event.

Author: Randall C. Johnson
Statutory Authority: Code of Ala. 1975, §9-16-91.
History: Original Filed November 14, 1989; effective March 7, 1991.

880-X-10D-.38 (Not Used).
Author:
Statutory Authority:
History:

880-X-10D-.39 Coal Mine Waste: Burning And Burned Waste Utilization.

(1) Coal mine waste fires shall be extinguished by the person who conducts the surface mining activities, in accordance with a plan approved by the Regulatory Authority and the Mine Safety and Health Administration. The plan shall contain, at a minimum, provisions to ensure that only those persons authorized by the operator, and who have an understanding of the procedures to be used, shall be involved in the extinguishing operations.

(2) No burning or burned coal mine waste shall be removed from a permitted disposal area without a removal plan approved by the Regulatory Authority. Consideration shall be given to potential hazards to persons working or living in the vicinity of the structure.
Author: Randall C. Johnson
Statutory Authority: Code of Ala. 1975, §9-16-91.
History: Original Filed November 14, 1989; effective: March 7, 1991.

880-X-10D-.40 (Not Used).
Author:
Statutory Authority:
History:

880-X-10D-.41 Disposal Of Noncoal Mine Wastes.

(1) Noncoal mine wastes including, but not limited to grease, lubricants, paints, flammable liquids, garbage, abandoned mining machinery, lumber and other combustible materials generated during mining activities shall be placed and stored in a controlled manner in a designated portion of the permit area. Placement and storage shall ensure that leachate and surface runoff do not degrade surface or ground water, that fires are prevented, and that the area remains stable and suitable for reclamation and revegetation.

(2) Final disposal of noncoal mine wastes shall be in a designated disposal site in the permit area or a State-approved solid waste disposal area. Disposal sites in the permit area shall be designed and constructed to ensure that leachate and drainage from the noncoal mine waste area does not degrade surface or underground water. Wastes shall be routinely compacted and covered to prevent combustion and wind-borne waste. When the disposal is completed, a minimum of 2 feet of soil cover shall be placed over the site,

slopes stabilized, and revegetation accomplished in accordance with Section 880-X-10D-.52 through 10D-.56. Operation of the disposal site shall be conducted in accordance with all local, State and Federal requirements.

(3) At no time shall any noncoal mine waste be deposited in a refuse pile or impounding structure, nor shall an excavation for a noncoal mine waste disposal site be located within 8 feet of any coal outcrop or coal storage area.
Author: Randall C. Johnson
Statutory Authority: Code of Ala. 1975, §9-16-91.
History: Original Filed November 14, 1989; effective March 7, 1991.

880-X-10D-.42 (Not Used).
Author:
Statutory Authority:
History:

880-X-10D-.43 (Not Used).
Author:
Statutory Authority:
History:

880-X-10D-.44 (Not Used).
Author:
Statutory Authority:
History:

880-X-10D-.45 Protection Of Fish, Wildlife And Related Environmental Values.

(1) The operator shall, to the extent possible using the best technology currently available, minimize disturbances and adverse impacts on fish, wildlife, and related environmental values and shall achieve enhancement of such resources where practicable.

(2) Endangered and threatened species. No underground mining activity shall be conducted which will likely jeopardize the continued existence of endangered or threatened species listed by the Secretary or which will likely result in the destruction or adverse modification of designated critical habitats of such species in violation of the Endangered Species Act as amended (16 U.S.C. 1531 et seq.). The operator shall promptly report to the Regulatory Authority any State or Federally listed endangered or

threatened species within the permit area of which the operator becomes aware. Upon notification, the Regulatory Authority shall consult with appropriate State and Federal fish and wildlife agencies and, after consultation, shall identify whether, and under what conditions, the operator may proceed.

(3) Bald and golden eagles. No underground mining activity shall be conducted in a manner which would result in the unlawful taking of a bald or golden eagle, its nest, or any of its eggs. The operator shall promptly report to the Regulatory Authority any golden or bald eagle nest within the permit area of which the operator becomes aware. Upon notification, the Regulatory Authority shall consult with the U.S. Fish and Wildlife Service and also, where appropriate, the State fish and wildlife agency and, after consultation, shall identify whether, and under what conditions, the operator may proceed.

(4) Nothing in this chapter shall authorize the taking of an endangered or threatened species or a bald or golden eagle, its nest, or any of its eggs in violation of the Endangered Species Act of 1973, as amended, 16 U.S.C. 1531 et seq., or the Bald Eagle Protection Act, as amended, 16 U.S.C. 666 et seq.

(5) Each operator shall, to the extent possible using the best technology currently available --

(a) Ensure that electric powerlines and other transmission facilities used for, or incidental to, underground mining activities on the permit area are designed and constructed to minimize electrocution hazards to raptors, except where the Regulatory Authority determines that such requirements are unnecessary;

(b) Locate and operate haul and access roads so as to avoid or minimize impacts on important fish and wildlife species or other species protected by State or Federal law;

(c) Design fences, overland conveyors, and other potential barriers to permit passage for large mammals, except where the Regulatory Authority determines that such requirements are unnecessary; and

(d) Fence, cover, or use other appropriate methods to exclude wildlife from ponds which contain hazardous concentrations of toxic-forming materials.

(6) Wetlands and habitats of unusually high value for fish and wildlife. The operator conducting underground mining activities shall avoid disturbances to, enhance where practicable, restore, or replace, wetlands, and riparian vegetation along rivers and streams and bordering ponds and lakes. Underground mining activities shall avoid disturbances to, enhance where practicable,

or restore, habitats of unusually high value for fish and wildlife.

(7) Where fish and wildlife habitat is to be a postmining land use, the plant species to be used on reclaimed areas shall be selected on the basis of the following criteria:

(a) Their proven nutritional value for fish or wildlife.

(b) Their use as cover for fish or wildlife.

(c) Their ability to support and enhance fish or wildlife habitat after the release of performance bonds. The selected plants shall be grouped and distributed in a manner which optimizes edge effect, cover, and other benefits to fish and wildlife.

(8) Where cropland is to be the postmining land use, and where appropriate for wildlife and crop management practices, the operator shall intersperse the fields with trees, hedges, or fence rows throughout the harvested area to break up large blocks of monoculture and to diversify habitat types for birds and other animals.

(9) Where residential, public service, or industrial uses are to be the postmining land use, and where consistent with the approved postmining land use, the operator shall intersperse reclaimed lands with greenbelts utilizing species of grass, shrubs, and trees useful as food and cover for wildlife.
Author: Randall C. Johnson
Statutory Authority: Code of Ala. 1975, §9-16-91.
History: Original Filed November 14, 1989; effective March 7, 1991.

880-X-10D-.46 Slides And Other Damage.

At any time a slide occurs which may have a potential adverse affect on public property, health, safety, or the environment, the person who conducts the underground mining activities shall notify the State Regulatory Authority by the fastest available means and comply with any remedial measures required by the State Regulatory Authority.
Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History:

880-X-10D-.47 Contemporaneous Reclamation.

Reclamation efforts, including, but not limited to, backfilling, grading, topsoil replacement and revegetation of all areas affected by surface operations, shall occur as contemporaneously as practicable with mining operations.
Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History:

880-X-10D-.48 Backfilling And Grading: General Requirements.

(1) Disturbed areas shall be backfilled and graded to

(a) Achieve the approximate original contour, except as provided in paragraph (11) of this section;

(b) Eliminate all highwall, spoil piles, and depressions, except as provided in paragraph (8) (small depressions) and in paragraph (11)(b) (previously mined highwalls) of this section.

(c) Achieve a postmining slope that does not exceed either the angle of repose or such lesser slope as is necessary to achieve a minimum long-term static safety factor of 1.3 and to prevent slides;

(d) Minimize erosion and water pollution both on and off the site; and

(e) Support the approved postmining land use.

(2) Spoil, except as provided in paragraph (12) of this section, and except excess spoil disposed of in accordance with Section 880-X-10D-.33, shall be returned to the mined-out surface area.

(3) Spoil and waste materials shall be compacted where advisable to ensure stability or to prevent leaching of toxic materials.

(4) Spoil may be placed on the area outside the mined-out surface area in nonsteep slope areas to restore the approximate original contour by blending the spoil into the surrounding terrain if the following requirements are met:

(a) All vegetative and organic materials shall be removed from the area.

(b) The topsoil on the area shall be removed, segregated, stored, and redistributed in accordance with 880-X-10D-.07 through .11.

(c) The spoil shall be backfilled and graded on the area in accordance with the requirements of this section.

(5) Disposal of coal processing waste and underground development waste in the mined-out surface area shall be in accordance with Section 880-X-10D-.34 through .40 except that a long-term static safety factor of 1.3 shall be achieved.

(6) Exposed coal seams, acid- and toxic-forming materials, and combustible materials exposed, used, or produced during mining shall be adequately covered with non-toxic and noncombustible materials, or treated to control the impact on surface and ground water in accordance with Section 880-X-10D-.19 to prevent sustained combustion, and to minimize adverse effects on plant growth and the approved postmining land use.

(7) Cut-and-fill terraces may be allowed by the Regulatory Authority where --

(a) Needed to conserve soil moisture, ensure stability, and control erosion on final-graded slopes, if the terraces are compatible with the approved postmining land use; or

(b) Specialized grading, foundation conditions, or roads are required for the approved postmining land use, in which case the final grading may include a terrace of adequate width to ensure the safety, stability, and erosion control necessary to implement the postmining landuse plan.

(8) Small depressions may be constructed if they are needed to retain moisture, minimize erosion, create and enhance wildlife habitat, or assist vegetation.

(9) Permanent impoundments may be approved if they meet the requirements of Section 880-X-10D-.17 and 880-X-10D-.20 and if they are suitable for the approved postmining land use.

(10) Preparation of final graded surfaces shall be conducted in a manner that minimizes erosion and provides a surface for replacement of topsoil that will minimize slippage.

(11) The postmining slope may vary from the approximate original contour when approval is obtained from the Regulatory Authority for --

(a) A variance from approximate original contour requirements in accordance with Section 880-X-8J-.07 or

(b) Incomplete elimination of highwalls in previously mined areas in accordance with Section 880-X-10D-.49.

(12) Regrading of settled and revegetated fills to achieve approximate original contour at the conclusion of underground mining activities shall not be required if the conditions of Paragraph (12)(a) or (12)(b) of this section are met.

(a)1. Settled and revegetated fills shall be composed of spoil or non-acid or non-toxic forming underground development waste.

2. The spoil or underground development waste shall not be located so as to be detrimental to the environment, to the health and safety of the public, or to the approved postmining land use.

3. Stability of the spoil or underground development waste shall be demonstrated through standard geotechnical analysis to be consistent with backfilling and grading requirements for material on the solid bench (1.3 static safety factor) or excess spoil requirements for material not placed on a solid bench (1.5 static safety factor).

4. The surface of the spoil or underground development waste shall be vegetated according to Section 880-X-10D-.52 and 880-X-10D-.56 and surface runoff shall be controlled in accordance with Section 880-X-10D-.13.

(b) If it is determined by the Regulatory Authority that disturbance of the existing spoil or underground development waste would increase environmental harm or adversely affect the health and safety of the public, the Regulatory Authority may allow the existing spoil or underground development waste pile to remain in place. The Regulatory Authority may require stabilization of such spoil or underground development waste in accordance with the requirements of paragraphs (12)(a)1. through (12)(a)4. of this section.

Author: Randall C. Johnson
Statutory Authority: Code of Ala. 1975, §9-16-91.
History: Original Filed November 14, 1989; effective March 7, 1991.

880-X-10D-.49 Backfilling And Grading: Previously Mined Areas.

(1) Remining operations on previously mined areas that contain a preexisting highwall shall comply with the requirements of Section 880-X-10D-.48 and 880-X-10I-.04 of this chapter, except as provided in this section.

(2) The requirements of Section 880-X-10D-.53(1)(a) and (1)(b) requiring the elimination of highwalls shall not apply to remining operations where the volume of all reasonably available spoil is demonstrated in writing to the Regulatory Authority to be insufficient to completely backfill the reaffected or enlarged highwall. The highwall shall be eliminated to the maximum extent technically practical in accordance with the following criteria:

(a) All spoil generated by the remining operations and any other reasonably available spoil shall be used to backfill the area. Reasonably available spoil in the immediate vicinity of the remining operation shall be included within the permit area.

(b) The backfill shall be graded to a slope which is compatible with the approved postmining land use and which provides adequate drainage and long-term stability.

(c) Any highwall remnant shall be stable and not pose a hazard to the public health and safety or to the environment. The operator shall demonstrate, to the satisfaction of the Regulatory Authority, that the highwall remnant is stable.

(d) Spoil placed on the outslope during previous mining operations shall not be disturbed if such disturbances will cause instability of the remaining spoil or otherwise increase the hazard to the public health and safety or to the environment.

Author: Randall C. Johnson
Statutory Authority: Code of Ala. 1975, §9-16-91.
History: Original Filed November 14, 1989; effective March 7, 1991.

880-X-10D-.50 Backfilling And Grading: Acid- And Toxic-Forming Materials.

(1) Covering or treating.

(a) A person who conducts underground mining activities shall treat, or cover with a minimum of 4 feet of the best available non-toxic and noncombustible material, all exposed coal seams remaining after mining, and all acid-forming materials, toxic-forming materials, combustible materials, or any other materials identified by the State Regulatory Authority, as exposed, used, or produced during mining.

(b) A lesser depth than the four feet provided for by (1)(a) of this Rule may be allowed by the State Regulatory Authority upon the underground miner's demonstration that revegetation and all other requirements of this Rule can be established in accordance with the postmining land use.

(c) If necessary, these materials shall be treated to neutralize toxicity, prevent water pollution, prevent sustained combustion, and minimize adverse effects on plant growth and land uses.

(d) Where necessary to protect against upward migration of salts, exposure by erosion, formation of acid or toxic seeps, to provide an adequate depth for plant growth, or otherwise to meet local conditions, the State Regulatory Authority shall specify thicker amounts of cover using non-toxic material, or special compaction and isolation from ground water contact.

(e) Acid-forming or toxic-forming material shall not be buried or stored in proximity to a drainage course so as to cause or pose a threat of water pollution.

(2) Stabilization. Backfilled material shall be selectively hauled or conveyed, and compacted wherever necessary to prevent leaching of acid-forming and toxic-forming materials into surface or ground waters and wherever necessary to insure stability of the backfilled materials. The method and design specifications of compacting material shall be approved by the State Regulatory Authority before acid-forming and toxic-forming materials are covered.

Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History:

880-X-10D-.51 Regrading Or Stabilizing Rills And Gullies.

When rills or gullies deeper than 9 inches form in areas that have been regraded and topsoiled, the rills and gullies shall be filled, graded, or otherwise stabilized and the area reseeded or replanted according to Rules 880-X-10D-.52 -880-X-10D-.57. The State Regulatory Authority shall specify that rills or gullies of lesser size be stabilized and the area reseeded or replanted if the rills or gullies are disruptive to the approved postmining land use or may result in additional erosion and sedimentation.

Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History:

880-X-10D-.52 Revegetation: General Requirements.

(1) The permittee shall establish on regraded areas and on all other disturbed areas except water areas and surface areas of roads that are approved as part of the postmining land use, a

vegetative cover that is in accordance with the approved permit and reclamation plan and that is --

(a) Diverse, effective, and permanent;

(b) Comprised of species native to the area, or of introduced species where desirable and necessary to achieve the approved postmining land use and approved by the Regulatory Authority;

(c) At least equal in extent of cover to the natural vegetation of the area; and

(d) Capable of stabilizing the soil surface from erosion.

(2) The reestablished plant species shall --

(a) Be compatible with the approved postmining land use;

(b) Have the same seasonal characteristics of growth as the original vegetation;

(c) Be capable of self-regeneration and plant succession;

(d) Be compatible with the plant and animal species of the area; and

(e) Meet the requirements of applicable State and Federal seed, poisonous and noxious plant, and introduced species laws or regulations.

(3) The Regulatory Authority may grant exception to the requirements of Paragraphs (2)(b) and (2)(c) of this Rule when the species are necessary to achieve a quick-growing, temporary, stabilizing cover, and measures to establish permanent vegetation are included in the approved permit and reclamation plan.

(4) When the Regulatory Authority approves a cropland postmining land use, the Regulatory Authority may grant exception to the requirements of Paragraphs (1)(a), (1)(c), (2)(b), and (2)(c) of this Rule. The requirements of Subchapter 10G apply to areas identified as prime farmland.
Author: Randall C. Johnson
Statutory Authority: Code of Ala. 1975, §§9-16-91,.
History: Original Filed November 14, 1989; effective March 7, 1991.

880-X-10D-.53 (Not Used).
Author:
Statutory Authority:
History:

880-X-10D-.54 Revegetation: Revegetation Timing And Soil Stabilization Practices.

The permittee shall plant disturbed areas during the first normal period for favorable planting conditions after replacement of the plant growth medium. The normal period for favorable planting is that planting time generally accepted locally for the type of plant materials selected.

Suitable mulch and other soil stabilizing practices shall be used on all areas that have been regraded and covered by topsoil or topsoil substitutes. However, the State Regulatory Authority may waive this requirement if seasonal, soil or slope factors result in a condition where mulch and other soil stabilizing practices are not necessary to control erosion and to promptly establish an effective vegetative cover.
Author: Randall C. Johnson
Statutory Authority: Code of Ala. 1975, §9-16-91.
History: Original filed November 14, 1989; effective March 7, 1991.

880-X-10D-.55 (Not Used).
Author:
Statutory Authority:
History:

880-X-10D-.56 Revegetation: Standards For Success.

(1) Success of Revegetation shall be judged on the effectiveness of the vegetation for the approved post-mining landuse, the extent of cover compared to the cover occurring in natural vegetation of the area, and the general requirements of Section 880-X-10D-.52.

(a) The permittee shall have the burden of demonstrating that revegetation has succeeded in meeting the standards of this subchapter. For any application for Phase III bond release, the permittee shall submit data demonstrating that the revegetation has met the standards for success contained in this Rule. Sampling techniques used shall conform to the outline in the ASMC Technical Manual #1, "Statistical Analysis and Sampling Techniques for Determining Revegetation Success on Surface Mined Lands in Alabama". Revegetation shall be deemed successful if it is demonstrated to equal the approved success standard, using a 90% statistical confidence interval (i.e., one-sided test with a 0.10 alpha error).

(b) At a minimum, vegetation parameters identified in Paragraph (2) for grazing land, pasture land, or crop land, shall equal or exceed the required success standards during the growing seasons of any two years of the responsibility period except the first. Vegetation parameters for other landuses shall equal or exceed the applicable success standards during the growing seasons of the final year of the liability periods.

(c) Herbaceous ground cover shall not be less than that required to support the approved postmining landuse.

(d) Trees and shrubs that will be used in determining the success of stocking and the adequacy of the plant arrangement shall have utility for the approved postmining landuse. Trees and shrubs counted in determining such success shall be healthy and have been in place for not less than two growing seasons. At the time of bond release, at least 80 percent of the trees and shrubs used to determine such success shall have been in place for three years. The requirements of this section apply to trees and shrubs that have been seeded or transplanted and can be met when records of woody vegetation planted show that no woody plants were planted during the last two growing seasons of the responsibility period and, if any replanting of woody plants took place during the responsibility period, the total number planted during the last 3 years of that period is less than 20 percent of the total number of woody plants required. Any replanting must be by means of transplants to allow for adequate accounting of plant stocking. This final accounting may include volunteer trees and shrubs of approved species. Volunteer trees and shrubs of approved species shall be deemed equivalent to planted specimens two years of age or older and can be counted towards success. Suckers on shrubby vegetation can be counted as volunteer plants when it is evident the shrub community is vigorous and expanding.

(2) Standards for success are as follows:

(a) For areas reclaimed to an approved post mining landuse of grazing or pasture land, ground cover shall equal or exceed 80% of the affected soil surface area. Production shall equal or exceed 90% of the average yields on the nearby unmined lands as established by the Alabama Agricultural Experiment Station and its entities or the U. S. Department of Agriculture Soil Conservation Service in the Field Office Technical Guide for the county in which the surface mining operation is located.

(b) For areas on which the approved post-mining landuse is cropland, production shall equal or exceed 90% of the average yields for unmined lands of the same soil type as established by the Alabama Agricultural Experiment Station and its

entities or the United States Department of Agriculture Soil Conservation Service in the Field Office Technical Guide for the county in which the surface mining operation is located.

(c) For areas on which the approved post-mining landuse is forest land, successful vegetation shall be determined on the basis of tree stocking and ground cover. Stocking shall equal or exceed 450 countable trees per acre. A countable tree shall be:

(i) Of the species approved in the reclamation plan; and

(ii) Be healthy;

(iii) Have utility for the approved postmining landuse, and

Ground cover shall equal or exceed 70%, except that, on a case-by-case basis, ASMC may approve a lower ground cover standard in the permit review process upon a demonstration by the applicant that 70% ground cover would cause excessive competition for the tree species used and that alternative erosion control measures will be used which give equal or better results. Firebreaks may be exempted from revegetation requirements if approved by ASMC.

(d) For areas to be developed for industrial, commercial or residential post-mining landuses less than two years after regrading is completed, vegetative ground cover shall not be less than that required to control erosion.

(e) For areas developed for post-mining landuse of recreation or wildlife habitat, vegetation success shall be judged on the basis of ground cover and stocking rates as specified in the approved reclamation plan. To avoid competition, herbaceous ground cover on areas planted with woody vegetation or planed to food plots shall be limited to that necessary to adequately control erosion. Food plots shall not be more than 1/4 acre in size nor exceed 20% of the total disturbed area and shall be located in areas which are least susceptible to erosion. Herbaceous ground cover on areas not planted with woody vegetation or as food plots shall equal or exceed 80%. The reclamation plan shall specify species, planting arrangements, stocking, locations and success standards applicable to the post-mining landuse and shall be reviewed and approved by the Alabama Surface Mining Commission in consultation with the Alabama Department of Conservation and Natural Resources.

(f) For areas previously disturbed by mining that were not reclaimed to the requirements of this section and that are remined or otherwise redisturbed by surface coal mining operations, at a minimum, the vegetative ground cover shall

not be less than the ground cover existing before redisturbance and shall be adequate to control erosion.

(g) For areas to be returned to a postmine landuse of undeveloped land, stocking rates of woody plants shall be specified in the approved reclamation plan in consultation with the Alabama Forestry Commission. Success of herbaceous vegetation shall not be less than that required to control erosion and attain a ground cover that equals or exceeds 80% of the affected soil surface area except in areas where woody vegetation is stocked. In areas where woody vegetation is stocked, herbaceous groundcover should be limited to that necessary to control erosion and support the land use. Seed mixes and seeding rates shall be specified in the approved reclamation plan.

(3)(a) The period of extended responsibility for successful revegetation shall be for five (5) full years, except as provided in paragraph (3)(b) of this section, and shall begin after the last year of augmented seeding, fertilizing, irrigation or other work.

(b) Two full years for lands eligible for remaining included in permits issued before September 30, 2004, or any renewals thereof. To the extent that the success standards are established by paragraph (2)(f) of this section, the lands shall equal or exceed the standards during the growing season of the last year of the responsibility period.

Author: Randall C. Johnson
Statutory Authority: Code of Ala. 1975, §9-16-91.
History: Original filed November 14, 1989. **Amended:** September 18, 1990. **Amended:** September 12, 1991; effective June 10, 1992. **Amended:** Filed July 27, 1998; effective August 31, 1998; operative January 3, 1999. **Amended:** Filed June 27, 2012; effective August 1, 2012; operative March 21, 2013.

Ed. Note: On December 4, 1998, the Office of Surface Mining approved this rulemaking adopted by the commission on July 16, 1998. The effective date of this rule will be January 3, 1999. On February 20, 2013, the Office of Surface Mining approved this rulemaking adopted by the commission on June 21, 2012. The effective date of this rule will be March 21, 2013.

880-X-10D-.57 (Not Used).
Author:
Statutory Authority:
History:

880-X-10D-.58 Subsidence Control.

(1) Measures to prevent or minimize damage.

(a) The permittee must either adopt measures consistent with known technology that prevent subsidence from causing material damage to the extent technologically and economically feasible, maximize mine stability, and maintain the value and reasonably foreseeable use of surface lands or adopt mining technology that provides for planned subsidence in a predictable and controlled manner.

(b) If a permittee employs mining technology that provides for planned subsidence in a predictable and controlled manner, the permittee must take necessary and prudent measures, consistent with the mining method employed, to minimize material damage to the extent technologically and economically feasible to non-commercial buildings and occupied residential dwellings and structures related thereto except that measures required to minimize material damage to such structures are not required if:

1. The permittee has the written consent of their owners, or

2. Unless the anticipated damage would constitute a threat to health or safety, the costs of such measures exceed the anticipated costs of repair, or

3. The surface owner denies the permittee access to the surface; provided, the permittee provides proof of written notice to the surface owner of the consequences under this rule of denying access.

(c) Nothing in this part prohibits the standards method of room-and pillar mining.

(2) The operator shall comply with all provisions of the approved subsidence control plan prepared pursuant to 880-X-8I-.10.

(3) Repair of damage.

(a) Repair of damage to surface lands. The permittee must correct any material damage resulting from subsidence caused to surface lands, to the extent technologically and economically feasible, by restoring the land to a condition capable of maintaining the value and reasonably foreseeable used that it was capable of supporting before subsidence damage.

(b) Repair or compensation for damage to non-commercial buildings and dwellings and related structures. The permittee must promptly repair, or compensate the owner for, material damage resulting from subsidence caused to any non-commercial building or occupied residential dwelling or structure related thereto that existed at the time of mining. If repair option is selected, the permittee must fully rehabilitate, restore or replace the damaged structure. If compensation is selected, the permittee must compensate the owner of the damaged structure for the full amount of the decrease in value resulting from the subsidence-related damage. The permittee may provide compensation by the purchase, before mining, of a non-cancelable premium-prepaid insurance policy. The requirements of this paragraph apply only to subsidence-related damage caused by underground mining activities conducted after October 24, 1992.

(c) Repair or compensation for damage to other structures. The permittee must, to the extent required under applicable provisions of State law, either correct material damage resulting from subsidence caused to any structures or facilities not protected by paragraph (3)(b) of this section by repairing the damage or compensate the owner of the structures or facilities for the full amount of the decrease in value resulting from the subsidence. Repair of damage includes rehabilitation, restoration, or replacement of damaged structures or facilities. Compensation may be accomplished by the purchase before mining of a non-cancelable premium-prepaid insurance policy.

(d) Rebuttable presumption of causation by subsidence.

1. Rebuttable presumption of causation for damage within angle of draw. If damage to any non-commercial building or occupied residential dwelling or structure related thereto occurs as a result of earth movement within an area determined by projecting a specified angle of draw from the outermost boundary of any underground mine workings to the surface of the land, a rebuttable presumption exists that the permittee caused the damage. The presumption will normally apply to a 30-degree angle of draw. A State Regulatory Authority may amend its program to apply the presumption to a different angle of draw if the Regulatory Authority shows in writing that the angle has a more reasonable basis than the 30-degree angle of draw, based on geotechnical analysis of the factors affecting potential surface impacts of underground coal mining operation in the State.

2. Approval of site-specific angle of draw. A permittee or permit applicant may request that the presumption apply to an angle of draw different from that established in the regulatory program. The Regulatory Authority may

approve application of the presumption to a site-specific angle of draw different than that contained in the State or Federal program based on a site-specific analysis submitted by an applicant. To establish a site-specific angle of draw, an applicant must demonstrate and the Regulatory Authority must determine in writing that the proposed angle of draw has a more reasonable basis than the standard set forth in the State or Federal program, based on a site-specific geotechnical analysis of the potential surface impact of the mining operation.

3. No presumption where access for pre-subsidence survey is denied. If the permittee was denied access to the land or property for the purpose of conducting the pre-subsidence survey in accordance with 880-X-8I-.10(1), no rebuttable presumption will exist.

4. Rebuttal of presumption. The presumption will be rebutted if, for example, the evidence establishes that: The damage predated the mining in question; the damage was proximately caused by some other factor or factors and was not proximately caused by subsidence; or the damage occurred outside the surface area within which subsidence was actually caused by the mining in question.

5. Information to be considered in determination of causation. In any determination whether damage to protected structures was caused by subsidence from underground mining, all relevant and reasonably available information will be considered by the Regulatory Authority.

(e) Adjustment of bond amount for subsidence damage. When subsidence-related material damage to land, structures or facilities protected under paragraphs (3)(a) through (3)(c) of this section occurs, or when contamination, diminution, or interruption to a water supply protected under 880-X-10D-.12(9) occurs, the Regulatory Authority must require the permittee to obtain additional performance bond in the amount of the estimated cost of the repairs if the permittee will be repairing, or in the amount of the decrease in value if the permittee will be compensating the owner, or in the amount of the estimated cost to replace the protected water supply if the permittee will be replacing the water supply, until the repair, compensation, or replacement is completed. If repair, compensation, or replacement is completed within 90 days of the occurrence of damage, no additional bond is required. The Regulatory Authority may extend the 90-day time frame, but not to exceed one year, if the permittee demonstrates and the Regulatory Authority finds in writing that subsidence is not complete, that not all probable subsidence-related material damage has occurred to lands or protected structures, or that not all reasonably anticipated changes have occurred affecting

the protected water supply, and that therefore it would be unreasonable to complete within 90 days the repair of the subsidence-related material damage to lands or protected structures, or the replacement of protected water supply.

(4) Underground mining activities shall not be conducted beneath or adjacent to--

(a) Public buildings and facilities;

(b) Churches, schools, and hospitals; or

(c) Impoundments with a storage capacity of 20 acre-feet or more or bodies of water with a volume of 20 acre-feet or more, unless the subsidence control plan demonstrates that subsidence will not cause material damage to, or reduce the reasonably foreseeable use of, such features or facilities. If the Regulatory Authority determines that it is necessary in order to minimize the potential for material damage to the features for facilities described above or to any aquifer or body of water that serves as a significant water source for any public water supply system, it may limit the percentage of coal extracted under or adjacent thereto.

(5) If subsidence causes material damage to any of the features or facilities covered by Paragraph (4) of this Section, the Regulatory Authority may suspend mining under adjacent to such features or facilities until the subsidence control plan is modified to ensure prevention of further material damage to such features or facilities.

(6) The Regulatory Authority shall suspend underground mining activities under urbanized areas, cities, towns, and communities, and adjacent to industrial or commercial buildings, major impoundments, or perennial streams, if imminent danger is found to inhabitants of the urbanized areas, cities, towns, or communities.

(7) Within a schedule approved by the Regulatory Authority, the operator shall submit a detailed plan of the underground workings. The detailed plan shall include maps and descriptions, as appropriate, of significant features of the underground mine, including the size, configuration, and approximate location of pillars and entries, extraction ratios, measures taken to prevent or minimize subsidence and related damage, areas of full extraction, and other information required by the Regulatory Authority. Upon request of the operator, information submitted with the detailed plans may be held as confidential, in accordance with the requirements of 880-X-8K-.05(4).

Author: Randall C. Johnson

Statutory Authority: Code of Ala. 1975, §9-16-91.

History: Original filed November 14, 1989; effective March 7, 1991. **Amended:** Filed July 27, 1998; effective August 31, 1998; operative January 3, 1999.

Ed. Note: On December 4, 1998, the Office of Surface Mining approved this rulemaking adopted by the commission on July 16, 1998. The effective date of this rule will be January 3, 1999.

880-X-10D-.59 Subsidence Control: Public Notice.

At least six (6) months prior to mining, or within that period if approved by the Regulatory Authority, the underground mine operator shall mail a notification to all owners and occupants of surface property and structures above the underground workings. The notification shall include, at a minimum, identification of specific areas in which mining will take place, dates that specific areas will be undermined, and the location or locations where the operator's subsidence control plan may be examined.
Author: Randall C. Johnson
Statutory Authority: Code of Ala. 1975, §9-16-91.
History: Original filed November 14, 1989; effective March 7, 1991.

880-X-10D-.60 (Not Used).
Author:
Statutory Authority:
History:

880-X-10D-.61 (Not Used).
Author:
Statutory Authority:
History:

880-X-10D-.62 Cessation Of Operations: Temporary.

(1) Each person who conducts underground mining activities shall effectively support and maintain all surface access openings to underground operations, and secure surface facilities in areas in which there are no current operations, but operations are to be resumed under an approved permit. Temporary abandonment shall not relieve a person of his or her obligation to comply with any provisions of the approved permit.

(2) Before temporary cessation of mining and reclamation operations for a period of 30 days or more, or as soon as it is known that a temporary cessation will extend beyond 30 days, each person who conducts underground mining activities shall submit to the State Regulatory Authority a notice of intention to cease or

abandon operations. This notice shall include a statement of the exact number of surface acres and the horizontal and vertical extent of sub-surface strata which have been disturbed in the permit area prior to cessation or abandonment, the extent and kind of reclamation of surface area which will have been accomplished and identification of the backfilling, regrading, revegetation, environmental monitoring, underground opening closures and water treatment activities that will continue during the temporary cessation.

(3) Interruption of operations due to events of force majeure, including labor strikes, shall not be considered a temporary cessation as outlined in this Rule.

Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 92, 97.
History:

880-X-10D-.63 Cessation Of Operations: Permanent.

(1) The person who conducts underground mining activities shall close or backfill or otherwise permanently reclaim all disturbed areas, in accordance with this Rule and according to the permit approved by the State Regulatory Authority.

(2) All surface equipment, structures, or other facilities not required for continued underground mining activities and monitoring, unless approved as suitable for the postmining land use or environmental monitoring, shall be removed and the affected lands reclaimed.

(3) The permittee shall notify the State Regulatory Authority of cessation of mining activities within 30 days of cessation of operations.

Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History:

880-X-10D-.64 Postmining Land Use.

(1) General. Surface land areas affected by mining activities shall be restored in a timely manner --

(a) To conditions that are capable of supporting the use which they were capable of supporting before any mining; or

(b) To higher or better uses achievable under criteria and procedures of this Rule.

(2)(a) Previously mined land. The premining uses of land to which the postmining land use is compared shall be those uses which the land previously supported, if the land had not been previously mined and had been properly managed.

(b) If the premining land use cannot be determined, the postmining land use for the land that has been previously mined and not reclaimed shall be judged on the basis of the land use of surrounding unmined lands and shall be an equal or better use which is compatible with that of the surrounding unmined lands.

(3) The postmining land use for land that has received improper management shall be judged on the basis of the premining use of surrounding lands that have received proper management.

(4) If the premining use of the land was changed within five years of the beginning of mining, the comparison of postmining use to premining use shall include a comparison with the historic use of the land as well as its use immediately preceding mining.

(5) Prior to the release of lands from the permit area in accordance with Rule 880-X-9D-.03(3) the permit area shall be restored in a timely manner, either to conditions capable of supporting the uses they were capable of supporting before any mining or to conditions capable of supporting approved alternative land uses. Alternative land uses may be approved by the State Regulatory Authority after consultation with the landowner or the land management agency having jurisdiction over the lands, if the following criteria are met.

(a) The proposed postmining land use is compatible with adjacent land use and, where applicable, with existing local, State, or Federal land use policies and plans. A written statement of views of the authorities with statutory responsibilities for land use policies and plans is submitted to the State Regulatory Authority within 60 days of notice by the State Regulatory Authority and before underground mining activities begin. Any required approval, including any necessary zoning, or other changes required for land use by local, State or Federal land management agencies, is obtained and remains valid throughout the underground mining activities.

(b) Specific plans are prepared and submitted to the State Regulatory Authority which show the feasibility of the postmining land use as related to projected land use trends and markets and that include a schedule showing how the proposed use will be developed and achieved within a reasonable time after mining and will be sustained. The State Regulatory Authority may require appropriate demonstrations to show that the planned procedures are feasible, reasonable, and

integrated with mining and reclamation, and that the plans will result in successful reclamation.

(c) Provision of any necessary public facilities is ensured as evidenced by letters of commitment from parties other than the person who conducts surface mining activities, as appropriate, to provide the public facilities in a manner compatible with the plans submitted in accordance with Rule 880-X-8I-.11.

(d) Plans for the postmining land use are designed under the general supervision of a qualified registered profession will ensure that the plans conform to applicable accepted standards for adequate land stability, drainage, vegetative cover, and aesthetic design appropriate for the postmining use of the site.

(e) The proposed use will neither present actual or probable hazard to public health or safety nor will it pose any actual or probable threat of water flow diminution or pollution.

(f) The use will not involve unreasonable delays in reclamation.

(g) Necessary approval of measures to prevent or mitigate adverse affects on fish, wildlife, and related environmental values and threatened or endangered plants and animals is obtained from the State Regulatory Authority and appropriate State and Federal fish and wildlife management agencies have been provided a 60 day period in which to review the plan.

Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History:

880-X-10D-.65 Roads: General.

(1) Road classification system.

(a) Each road, as defined in 880-X-2A-.06, shall be classified as either a primary road or an ancillary road.

(b) A primary road is any road which is --

1. Used for transporting coal or spoil;

2. Frequently used for access or other purposes for a period in excess of six months; or

3. To be retained for an approval postmining land use.

(c) An ancillary road is any road not classified as a primary road.

(2) Performance standards. Each road shall be located, designed, constructed, reconstructed, used, maintained, and reclaimed so as to:

(a) Control or prevent erosion, siltation, and the air pollution attendant to erosion, including road dust and dust occurring on other exposed surfaces, by measures such as vegetating, watering, using chemical or other dust suppressants, or otherwise stabilizing all exposed surfaces in accordance with current, prudent engineering practices;

(b) Control or prevent damage to fish, wildlife, or other habitat and related environmental values;

(c) Control or prevent additional contributions of suspended solids to streamflow or runoff outside the permit area;

(d) Neither cause nor contribute to, directly or indirectly, the violation of State or Federal water quality standard applicable to receiving waters;

(e) Refrain from seriously altering the normal flow of water in streambeds or drainage channels;

(f) Prevent or control damage to public or private property, including the prevention or mitigation of adverse effects on lands within the boundaries of units of the National Park System, the National Wildlife Refuge System, the National System of Trails, the National Wilderness Preservation System, the Wild and Scenic Rivers System, including designated study rivers, and National Recreation Areas designated by Act of Congress; and

(g) Use nonacid- or nontoxic-forming substances in road surfacing.

(3) Design and construction limits and establishment of design criteria. To ensure environmental protection appropriate for their planned duration and use, including consideration of the type and size of equipment used, the design and construction or reconstruction of roads shall incorporate appropriate limits for grade, width, surface materials, surface drainage control, culvert placement, and culvert size, in accordance with current, prudent engineering practices.

(4) Location.

(a) No part of any road shall be located in the channel of an intermittent or perennial stream unless specifically approved by the Alabama Surface Mining Commission in accordance with

applicable 880-X-10D-.12 through 880-X-10D-.14 and 880-X-10D-.26.

(b) Roads shall be located to minimize downstream sedimentation and flooding.

(5) Maintenance.

(a) A road shall be maintained to meet the performance standards of this part and any additional criteria specified by the Alabama Surface Mining Commission;

(b) A road damaged by a catastrophic event, such as a flood or earthquake, shall be repaired as soon as is practicable after the damage has occurred.

(6) Reclamation. A road not to be retained under an approved postmining land use shall be reclaimed in accordance with the approved reclamation plan as soon as practicable after it is no longer needed for mining and reclamation operations. This reclamation shall include:

(a) Closing the road to traffic;

(b) Removing all bridges and culverts unless approved as part of the postmining land use;

(c) Removing or otherwise disposing of road-surfacing materials that are incompatible with the postmining land use and revegetation requirements;

(d) Reshaping cut and fill slopes as necessary to be compatible with the postmining land use and to complement the natural drainage pattern of the surrounding terrain;

(e) Protecting the natural drainage patterns by installing dikes or cross drains as necessary to control surface runoff and erosion; and

(f) Scarifying or ripping the roadbed, replacing topsoil or substitute material and revegetating disturbed surfaces in accordance with 880-X-10D-.08 through 880-X-10D-.11 and 880-X-10D-.52 through 880-X-10D-.56.

Author: Randall C. Johnson
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History: May 20, 1982. **Amended:** September 18, 1990; effective August 2, 1991.

880-X-10D-.66 Primary Roads.

Primary roads shall meet the requirements of 880-X-10D-.65 and the additional requirements of this section.

(1) Certification. The construction or reconstruction of primary roads shall be certified in a report to the Alabama Surface Mining Commission by a qualified registered professional engineer, with experience in the design and construction of roads. The report shall indicate that the primary road has been constructed or reconstructed as designed and in accordance with the approved plan.

(2) Safety Factor. Each primary road embankment shall have a minimum static factor of 1.3.

(3) Location.

(a) To minimize erosion, a primary road shall be located, insofar as is practicable, on the most stable available surface.

(b) Fords of perennial or intermittent streams by primary roads are prohibited unless they are specifically approved by the Alabama Surface Mining Commission as temporary routes during periods of road construction.

(4) Drainage control. In accordance with the approved plan --

(a) Each primary road shall be constructed or reconstructed, and maintained to have adequate drainage control, using structures such as, but not limited to bridges, ditches, cross drains, and ditch relief drains. The drainage control system shall be designed to safely pass the peak runoff from a 10-year, 6-hour precipitation event.

(b) Drainage pipes and culverts shall be installed as designed, and maintained in a free and operating condition and to prevent or control erosion at inlets and outlets;

(c) Drainage ditches shall be constructed and maintained to prevent uncontrolled drainage over the road surface and embankment;

(d) Culverts shall be installed and maintained to sustain the vertical soil pressure, the passive resistance of the foundation, and the weight of vehicles using the road;

(e) Natural stream channels shall not be altered or relocated without the prior approval of the Alabama Surface Mining Commission in accordance with applicable 880-X-10D-.12 through 880-X-10D-.14 and 880-X-10D-.26; and

(f) Except as provided in paragraph (3)(b) of this section, structures for perennial or intermittent stream channel crossings shall be made using bridges, culverts, low-water crossings, or other structures designed, constructed, and maintained using current, prudent engineering practices. The Alabama Surface Mining Commission shall ensure that low-water crossings are designed, constructed, and maintained to prevent erosion of the structure or streambed and additional contributions of suspended solids to streamflow.

(5) Surfacing. Primary roads shall be surfaced with material approved by the Alabama Surface Mining Commission as being sufficiently durable for the anticipated volume of traffic and the weight and speed of vehicles using the road.

Author: Randall C. Johnson
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History: May 20, 1982. **Amended:** September 18, 1990; effective August 2, 1991.

880-X-10D-.67 (Not Used).
Author:
Statutory Authority:
History:

880-X-10D-.68 (Not Used).
Author:
Statutory Authority:
History:

880-X-10D-.69 (Not Used).
Author:
Statutory Authority:
History:

880-X-10D-.70 Other Transportation Facilities.

Railroad loops, spurs, sidings, surface conveyor systems, chutes, aerial tramways, or other transportation facilities, shall be designed, constructed or reconstructed and maintained, and the area restored to --

(a) Prevent, to the extent possible using the best technology currently available --

1. Damage to fish, wildlife, and related environmental values; and

2. Additional contributions of suspended solids to streamflow or runoff outside the permit area. Any such contributions shall not be in excess of limitations of State and Federal laws and regulations;

(b) Control and minimize diminution or degradation of water quality and quantity;

(c) Control and minimize erosion and siltation;

(d) Ensure public safety and health; and

(e) Prevent damage to public or private property.

Author:
Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.
History:

880-X-10D-.71 Support Facilities And Utility Installations.

(1) Support facilities required for, or used incidentally to, the operation of the underground mine, including, but not limited to, mine buildings, coal loading facilities at or near the mine-site, coal and equipment storage facilities, fan buildings, hoist buildings, preparation plants, sheds, shops, and other buildings shall be designed, constructed or reconstructed, and located to prevent or control erosion and siltation, water pollution, and damage to public or private property. Support facilities shall be designed, constructed or reconstructed, maintained, and used in a manner which prevents, to the extent possible using the best technology currently available --

(a) Damage to fish, wildlife, and related environmental values; and

(b) Additional contributions of suspended solids to streamflow or runoff outside the permit area. Any such contributions shall not be in excess of limitations of State and Federal laws and regulations.

(2) All underground mining activities shall be conducted in a manner which minimizes damage, destruction, or disruption of services provided by oil, gas, and water wells; oil, gas, and coal-slurry pipelines; railroads; electric and telephone lines and water and sewage lines which pass over, under, or through the permit area, unless otherwise approved by the owner of those facilities and the State Regulatory Authority.

Author:

Statutory Authority: Code of Ala. 1975, §§9-16-71, 72, 73, 74, 75, 76, 80, 81, 82, 83, 84, 89, 90, 91, 97.

History: