

§817.81

(4) 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 water infiltration into the fill, and ensure stability.

(e) All disturbed areas, including diversion channels that are not ripped or otherwise protected, shall be revegetated upon completion of construction.

(f) Permanent impoundments may not be constructed on preexisting benches backfilled with excess spoil under this regulation.

(g) Final configuration of the backfill must be compatible with the natural drainage patterns and the surrounding area, and support the approved postmining land use.

(h) Disposal of excess spoil from an upper actively mined bench to a lower preexisting bench by means of gravity transport may be approved by the regulatory authority provided that—

(1) The gravity transport courses are determined on a site-specific basis by the operator as part of the permit application and approved by the regulatory authority to minimize hazards to health and safety and to ensure that damage will be minimized between the benches, outside the set course, and downslope of the lower bench should excess spoil accidentally move;

(2) All gravity transported excess spoil, including that excess spoil immediately below the gravity transport courses and any preexisting spoil that is disturbed, is rehandled and placed 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 and to ensure a minimum long-term static safety factor of 1.3. Excess spoil on the bench prior to the current mining operation that is not disturbed need not be rehandled except where necessary to ensure stability of the fill;

(3) 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 ex-

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cess spoil necessary for the construction of the berm may be gravity transported to the lower bench prior to construction of the berm;

(4) Excess spoil shall not be allowed on the downslope below the upper bench except on designated gravity transport courses properly prepared according to §817.22. 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.

[48 FR 32929, July 19, 1983, as amended at 48 FR 44781, Sept. 30, 1983; 56 FR 65636, Dec. 17, 1991]

§817.81 Coal mine waste: General requirements.

(a) *General.* All coal mine waste disposed of in an area other than the mine workings or excavations 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—

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

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

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

(4) Not create a public hazard; and

(5) Prevent combustion.

(b) 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.

(c) *Design certification.* (1) 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.

(2) 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.

(d) *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.

(e) *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.

(f) *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 § 784.25 of this chapter.

[48 FR 44030, Sept. 26, 1983, as amended at 56 FR 65636, Dec. 17, 1991]

§ 817.83 Coal mine waste: Refuse piles.

Refuse piles shall meet the requirements of § 817.81, the additional requirements of this section, and the requirements of §§ 77.214 and 77.215 of this title.

(a) *Drainage control.* (1) If the disposal area contains springs, natural or man-made 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.

(2) 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 § 817.43 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.

(3) Underdrains shall comply with the requirements of § 817.71(f)(3).

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

(c) *Placement.* (1) 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 § 817.22. 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.

(2) 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).

(3) 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.

(4) 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