

FEDERAL REGISTER: 42 FR 46352 (September 15, 1977)

DEPARTMENT OF THE INTERIOR

AGENCY: Bureau of Indian Affairs

25 CFR Part 177

Indian Coal Mining Regulations

ACTION: Proposed rules.

SUMMARY: These proposed regulations implement the Surface Mining Control and Reclamation Act of 1977 (Pub.L. 95-87) insofar as it requires the Secretary of the Interior to incorporate certain of the Act's performance and reclamation standards in all existing and new coal mining leases on Indian lands. The intended effect of this proposed regulation is to bring surface coal mining activity on Indian land into compliance with the environmental safeguard and reclamation requirements imposed by the Act.

DATES: Written comments must be received on or before October 14, 1977. Public hearings dealing generally with proposed regulations designed to implement the Surface Mining Act will be held starting at 1 p.m. on September 20, 1977, and continuing, if necessary, at 9 a.m. on September 21 and 22, 1977. Public hearings will be held at the Department of the Interior Auditorium, 18th and C Streets NW., Washington, D.C.; Kiel Auditorium, 1416 Market Street, St. Louis, Mo.; Public Library Auditorium, 1347 Broadway, Denver, Colo.; and Morris Harvey College, Riggelman Hall, 2300 McCorkle Avenue, Charleston, W.Va. Additional public meetings dealing specifically with regulation of mining on Indian lands will be held on September 23, 1977, at the Phoenix, Ariz., Area Office; on September 26, 1977, at the Albuquerque, N. Mex., Area Office; and on September 28, 1977, at the Navajo Area Office in Window Rock, Ariz.

ADDRESSES: Comments should be sent to: Office of Trust Responsibilities, Bureau of Indian Affairs, Department of the Interior, Washington, D.C. 20240.

FOR FURTHER INFORMATION CONTACT: David C. Harrison, Office of Rights Protection, 202-343-8018.

SUPPLEMENTARY INFORMATION:

The Surface Mining Control and Reclamation Act of 1977, Pub.L. 95-87, requires the Secretary of the Interior to publish environmental protection regulations that are applicable to all coal mining operations.

Proposed initial regulations governing coal mining on non-Indian lands were published in the FEDERAL REGISTER on September 7, 1977 (42 FR 44920). This proposal is designed to implement the Act insofar as it requires the Secretary of the Interior to incorporate certain of the Act's performance and reclamation standards in all existing and new coal mining leases on Indian lands.

On April 5, 1977, proposed rulemaking governing mining on Indian lands was published in the FEDERAL REGISTER (42 FR 18083). The proposal was designed to revise 25 CFR Parts 171, 177, and 183, and to issue a new Part 182. Proposed Subpart B of 25 CFR Part 177 was intended to provide performance and reclamation standards for coal operations on Indian lands. That Subpart B proposal was withdrawn on August 24, 1977 (42 FR 42695), in view of the enactment of the Surface Mining Act and the applicability of certain of its provisions to Indian lands. The following proposal is intended to be a substitute for the earlier Subpart B proposal. [Page 46353]

Section 710(c) of the Surface Mining Act requires that by December 16, 1977, all surface coal mining operations on Indian lands shall comply with reclamation and performance requirements at least as stringent as those imposed by certain provisions in Section 515 of the Act. The following proposal is designed to implement that requirement.

The proposed performance standards set out below are nearly identical to the standards found in proposed 30 CFR Part 715 published in the FEDERAL REGISTER on September 7, 1977 (42 FR 44920). While the proposed

Indian coal standards are little different from those applicable to non-Indian lands, their application recognizes specific procedures and considerations which apply only to Indian lands. The proposed performance standards for Indian lands do not include any of the provisions governing use of explosives found in proposed 30 CFR 715.19. However, this proposal does include the standards for steep-slope mining found in proposed 30 CFR 716.2.

Proposed Sections 177.12 through 177.14 set up enforcement procedures similar to those found in 30 CFR Parts 721-723. However, the enforcement procedures published here differ from those in 30 CFR in their provision for tribal involvement in the process and their preservation of tribal remedies in the enforcement scheme.

Section 710(a) of the Surface Mining Act directs the Secretary of the Interior to study the question of the regulation of surface mining on Indian lands which will achieve the purpose of the Act and recognize the special jurisdictional status of these lands. The study report shall include proposed legislation designed to provide a mechanism which will allow Indian tribes to elect to assume full regulatory authority over the administration and enforcement of regulation of surface coal mining on Indian lands.

Future Indian coal mining regulations promulgated pursuant to the provisions of this Act may be expected to follow and implement the directives of the study report required by section 710(a) of the Surface Mining Control and Reclamation Act.

DRAFTING INFORMATION

These proposed regulations were drafted by members of the Office of Surface Mining Task Force and the Office of the Solicitor, Department of the Interior. The principal authors are identified by name in the preamble to the proposed surface coal mining reclamation and enforcement regulations published on September 7, 1977 (42 FR 44920).

NOTE. - The Department of the Interior has determined that this document does not contain a major proposal requiring preparation of an Economic Impact Statement under Executive Order 11821 and OMB circular A-107.

Dated: September 9, 1977.

LEO M. KRULITZ, Solicitor of the Interior.

PART 177 - PLANS FOR PROSPECTING AND MINING ON INDIAN MINERAL LANDS: RECLAMATION OF NONMINERAL RESOURCES

SUBPART B - COAL OPERATIONS

Section

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AUTHORITY: Secs. 201, 501, Pub.L. 95-87, 91 Stat. 445 (30 U.S.C. 1201) (25 U.S.C. 396d).

SUBPART B - COAL OPERATIONS

SECTION 177.100 - APPLICABILITY.

(a) The performance standards in this subpart shall apply to all coal mining operations on Indian lands on or after December 16, 1977.

(b) The requirements of this subpart shall be incorporated in all existing and new contracts entered into for coal mining on Indian lands.

SECTION 177.101 - DEFINITIONS.

As used throughout the regulations in this subpart, except where otherwise indicated –

Acid drainage means water with a pH of less than 6.0 discharged from active or abandoned mines and from areas affected by coal mining operations.

Acid-forming materials means earth materials that contain sulfide mineral or other materials which, if exposed to air, water, or weathering processes, will cause acids that may create acid drainage.

Act means the Surface Mining Control and Reclamation Act of 1977 (Pub.L. 95-87).

Alluvial valley floors means unconsolidated stream-laid deposits holding streams where water availability is sufficient for subirrigation or flood irrigation agricultural activities but does not include upland areas which are generally overlain by a thin veneer of colluvial deposits composed chiefly of debris from sheet erosion, deposits by unconcentrated runoff or slope wash, together with talus, other mass movement accumulation and windblown deposits.

Approximate original contour means that surface configuration achieved by backfilling and grading of the mined area so that the reclaimed area, including any terracing or access roads, closely resembles the general surface configuration of the land prior to mining and blends into and complements the drainage pattern of the surrounding terrain, with all high walls and spoil piles eliminated; water impoundments may be permitted where the regulatory authority determines that they are in compliance with Section 177.108.

Aquifer means a zone, stratum, or group of strata that can store and transmit water in sufficient quantities for a specific use.

Auger mining means a method of mining coal at a cliff or highwall by drilling holes laterally into an exposed coal seam from the highwall and transporting the coal along an auger bit to the surface.

Coal means combustible carbonaceous rock, classified as anthracite, bituminous, subbituminous, or lignite by A.S.T.M. designation 0-388-66.

Combustible material means organic material that is capable of burning either by fire or through a chemical process (oxidation) accompanied by the evolution of heat.

Compaction means the reduction of pore spaces among the particles of soil or rock, generally done by running heavy equipment over the earth materials.

Director means the Director, Office of Surface Mining Reclamation and Enforcement or his representatives.

Disturbed area means those lands that have been affected by surface coal mining and reclamation operations.

Diversion means a channel constructed for the purpose of transporting water from areas where it is in excess to areas where it can be used or disposed of safely.

Downslope means the land surface between a valley floor and the outcrop of the lowest coalbed being mined along each highwall.

Embankment means an artificial deposit of materials that is raised above the natural surface of the land and used to contain, divert, or store water, support roads or railways or for other similar purposes.

Ground water means subsurface water that fills available openings in rock or soil materials such that they may be considered water-saturated.

Highwall means the face of exposed overburden and coal in an open cut of a surface of underground coal mine.

Hydrologic balance means an accounting of the quality and quantity of inflow to, outflow from, and storage in a hydrologic unit such as a drainage basin, aquifer, soil zone, lake, or reservoir. It encompasses the relationship between precipitation, runoff, evaporation, and the change in ground and surface-water storage and is usually expressed by a hydrologic equation.

Hydrologic regime means the entire state of water movement in a given area. It is a function of the climate, and includes the phenomena by which water first occurs as atmospheric water vapor, passes into a liquid or solid form and falls as precipitation, moves thence along or into the ground surface, and returns to the atmosphere as vapor by means of evaporation and transpiration.

Imminent danger to the health and safety of the public means the existence of any conditions of practice, or any violation of permit or other requirement of the Act in a surface coal mining and reclamation operation, which condition, practice, or violation could reasonably be expected to cause substantial physical harm to persons outside the permit area before such conditions, practice, or violation can be abated. A reasonable expectation of death or serious injury before abatement exists if a rational person, subjected to the same conditions or practices giving rise to the peril, would not expose himself to the danger during the time necessary for abatement. [Page 46354]

Impoundment means a closed basin formed naturally or artificially built, which is dammed or excavated for the retention of water, sediment or waste.

Indian lands means all lands, including mineral interests, within the exterior boundaries of any Federal Indian reservation, notwithstanding the issuance of any patents, and including rights-of-way, and all lands including mineral interests held in trust for or supervised by an Indian tribe.

Indian Tribe means any Indian Tribe, band, group, or community having a governing body recognized by the Secretary.

Intermittent or perennial stream means a stream or part of a stream that flows continuously during all (perennial) or for at least one month (intermittent) of the calendar year as a result of ground-water discharge or surface runoff. The term does not include an ephemeral stream which is one that flows for less than one month of a calendar year and only in direct response to precipitation in the immediate watershed and whose channel bottom is always above the local water table.

Leachate means a liquid that has percolated through soil, rock, or waste and has extracted dissolved or suspended materials.

Office means the Office of Surface Mining Reclamation and Enforcement established under Title II of the Act.

Operator means any person, partnership, or corporation engaged in coal mining who removes or intends to remove more than 250 tons of coal from the earth by coal mining within 12 consecutive calendar months in any one location.

Outslope means the exposed area sloping away from a bench or terrace being constructed as a part of a surface coal mining and reclamation operation.

Overburden means material of any nature, consolidated or unconsolidated, that overlies a coal deposit, excluding topsoil which overlies the coal to be mined.

Permit, except as used in references to permits during the initial regulatory program, means a permit issued by the Secretary to conduct surface coal mining and reclamation operations on Indian lands.

Person means an individual, partnership, association, society, joint stock company, firm, company, corporation, or other business organization.

Premining land use means the highest and best use of the land, which could have been achieved, taking into account the locally accepted best land management practices, prior to any mining.

Productivity means the vegetative yield produced by a unit area for a unit of time.

Recharge capacity means the ability of the soils and underlying materials to allow precipitation and runoff to infiltrate and reach the zone of saturation.

Regulatory authority means the Secretary.

Recurrence interval means the precipitation event expected to occur, in the average, once in a specified interval. For example, the 25-year 24-hour precipitation event would be that 24-hour precipitation event expected to be exceeded on the average once in 25 years. Magnitude of such events are as defined by the National Weather Service and Technical Paper No. 40, "Rainfall Frequency Atlas of the U.S.," May 1961, and subsequent amendments or equivalent regional or rainfall probability information developed therefrom.

Roads means access and haul roads constructed, used, reconstructed, improved or maintained for use in surface coal mining and reclamation operations, including use by coal-hauling vehicles leading to transfer, processing or storage areas. The term includes any such road used and not graded to approximate original contour within 45 days of construction other than temporary roads used for topsoil removal and coal haulage roads within the pit area. Roads maintained with public funds such as all Federal, State, tribal, and county roads are excluded.

Runoff water means precipitation that flows along the land surface before it enters a defined stream channel and becomes concentrated streamflow.

Secretary means the Secretary of the Interior or his representative.

Sediment means undissolved organic and inorganic material transported or deposited by water.

Settling pond means any natural or artificial structure or depression used to remove sediment from water and store sediment or other debris.

Significant, imminent environmental harm to land, air, or water resources is determined as follows:

- (i) An environmental harm is any adverse impact on land, air, or water resources, including plant and animal life.
- (ii) An environmental harm is imminent if a condition or practice exists which is causing or may reasonably be expected to cause such environmental harm if the condition or practice is not abated within a reasonable time.
- (iii) An environmental harm may be significant even if it is repairable. An environmental harm is significant if that harm is appreciable and not readily repairable.

Slope means average inclination of a surface, measured from the horizontal. Normally expressed as a unit of vertical distance to a given number of units of horizontal distance (e.g., 1 *v* to 5 *h* = 20 percent = 11.6 degrees).

Soil horizons means a soil profile that consists of two or more layers lying one below the other and parallel to the land surface. The layers are known as horizons and are differentiated on the basis of field characteristics and laboratory data. The three major soil horizons are:

(1) *A horizon*. The uppermost layer in the soil profile often called the surface soil. It is the part of the soil in which organic matter is most abundant, and where leaching of soluble or suspended particles is the greatest.

(2) *B horizon*. The layer immediately beneath the A horizon and often called the subsoil. This middle layer commonly contains more clay, iron or aluminum than the A or C horizons.

(3) *C horizon*. The deepest layer of the soil profile. It consists of loose material of weathered rock that is relatively unaffected by biologic activity.

Spoil means overburden that has been removed during surface mining.

Stabilize means any method used to prevent movement of soil, spoil piles or areas of disturbed earth and includes increasing bearing capacity, increasing shear strength, draining, compacting or revegetating.

Surface Coal Mining Operations means: (a) Activities conducted on the surface of lands in connection with a surface coal mine or subject to the requirements of section 516 surface operations and surface impacts incident to an underground coal mine, the products of which enter commerce or the operations of which directly or indirectly affect interstate commerce. Such activities include excavation for the purpose of obtaining coal including such common methods as contour, strip, auger, mountaintop removal, box cut, open pit, and area mining, the uses of explosives and blasting, and in situ distillation or retorting, leaching or other chemical or physical processing, and the cleaning, concentrating, or other processing or preparation, loading of coal for interstate commerce at or near the mine site: *Provided, however*, That such activities do not include the extraction of coal incidental to the extraction of other minerals where coal does not exceed 16 2/3 per centum of the tonnage of minerals removed for purposes of commercial use or sale or coal exploration subject to section 512 of the Act; and (b) the areas upon which such activities occur or where such activities disturb the natural land surface. Such areas shall also include any adjacent land, the user of which is incidental to any such activities, all lands affected by the construction of new roads or the improvement or use of existing roads to gain access to the site of such activities and for haulage, and excavations, workings, impoundments, dams ventilation shafts, entryways, refuse banks, dumps, stockpiles, overburden piles, spoil banks, culm banks, tailings, holes or depressions, repair areas, storage areas, processing areas, shipping areas and other areas upon which are sited structures, facilities, or other property or materials on the surface, resulting from or incident to such activities. [Page 46355]

Surface coal mining and reclamation operations means surface coal mining operations and all activities necessary and incident to the reclamation of such operations. This term included the term "surface coal mining operations."

Surface water means water, either flowing or standing, on the surface of the earth.

Suspended solids means organic or inorganic materials carried or held in suspension in water what will remain on a 0.45 micron filter as differentiated from dissolved solids. Dissolved solids are solids that pass into solution.

Topsoil means the A soil horizon and underlying unconsolidated materials including those portions of the B and C soil horizons that have properties favorable for producing desirable vegetation.

Toxic-forming materials means earth materials or wastes which, if acted upon by air, water or weathering processes may produce chemical or physical conditions in soils or water that are detrimental to biota or uses of water.

Toxic-mine drainage means water that is discharged from active or abandoned mines and from other areas affected by coal mining operations and which contain a substance which through chemical action or physical effects is likely to kill, injure or impair an organism.

Watercourse means a natural stream course that heads in a given drainage basin and has a channel with a well defined bed between visible banks or through a definite depression in the land and has a permanent or periodic supply of water.

Water table means upper surface of a zone of saturation, where the body of ground water is not confined by an overlying impermeable zone.

SECTION 177.102 - GENERAL OBLIGATIONS.

(a) *Authorizations to operate.* A copy of all current permits, licenses, approved plans or other authorizations to operate the mine shall be available for inspection at or near the mine site.

(b) *Mine Maps.* Any person conducting surface coal mining and reclamation operations on and after May 3, 1978, shall submit two copies of accurate maps of the mine and permit area at a scale not to exceed 1:1000, certified by a surveyor or engineer. The maps shall show as of May 3, 1978, the lands from which coal has not yet been removed, lands and structures which have been used or disturbed to facilitate mining. One copy of the mine map shall be submitted to the appropriate agency of the local governing Indian Tribe, and one copy shall be submitted to the Regional Director, OSM, before June 3, 1978.

SECTION 177.103 - SIGNS AND MARKERS.

(a) *Specifications.* All signs required to be posted shall be of a standard design that can be seen and read easily from a distance of 100 feet and they shall be made of durable material. The signs and other markers required by paragraphs (b), (c), and (d) of this section shall be maintained during all operations and until release of all bonds for the permit area. All signs and markers shall be displayed conspicuously within the permit area and conform to local ordinances and codes.

(b) *Mine and permit identification signs.* Signs identifying the mine area shall be displayed at all points of access to the mine property from public highways. Signs shall show the name, business address, and telephone number of the permittee or operator and identification numbers of mining and reclamation permits or other authorizations to operate.

(c) *Perimeter markers.* The perimeter of the mine property shall be clearly marked by durable markers that extend at least 3 feet above the ground. Permit numbers must be permanently affixed to the markers. On mine areas of 10 acres or more, the markers shall be spaced a maximum of 400 feet apart; on mine areas of less than 10 acres, the markers shall be spaced a maximum of 200 feet apart. Within the perimeter of the mine property, identification markers shall be established showing the boundary of coal which has not been removed prior to May 3, 1978. Temporary markers may be used during coal removal operations but the boundary shall be reestablished by permanent markers after final surface configuration in an area is established.

(d) *Buffer zone markers.* Buffer zones as defined in Section 177.108 shall be marked at not more than 200-foot intervals along the interior boundary of the buffer zone. The signs shall read "Buffer Zone - Limited Access" and be placed so as to be seen by all persons employed on the mine property.

(e) *Blasting signs.* If blasting is necessary to conduct surface coal mining operations, signs reading "Blasting Area" shall be displayed conspicuously at the edge of blasting areas along access and haul roads within the mine property. Signs reading "Blasting Area" and explaining the blasting warnings and all clear signals shall be posted at all entrances to the mine property.

(f) *Topsoil markers.* Where topsoil or other vegetation supporting material is segregated and stockpiled according to Section 177.107(c), the stockpiled material shall be marked with signs that read "Topsoil." These signs shall remain in place until the material is removed.

SECTION 177.104 - POSTMINING USE OF LAND.

(a) *General.* All disturbed areas shall promptly be restored (1) to conditions that are capable of supporting the uses which they were capable of supporting before any mining, and (2) to higher or better uses approved under criteria and procedures of paragraph (d) of this section.

(b) *Criteria for establishing premining use of land.* Criteria for establishing the premining use of the land shall be those uses which the lands have previously supported or were capable of supporting within the mine property, areas surrounding the mine property, or areas located in similar terrain and climate within the region that have been managed using methods considered practicable for the region. The appropriateness of postmining land use plans shall not be judged on the basis of lands that (1) were previously mined and not reclaimed to meet the standards of this part, (2) were badly eroded or overgrazed so as to change the vegetation community to one unsuitable for grazing, or (3) are otherwise determined by the regulatory authority to have been poorly managed. However, if the lands within the mine property were previously mined and not reclaimed to the standards of this part, the postmining use of the land shall be evaluated against the highest possible use compatible with surrounding unmined lands. If the premining use of the land was changed within five years of the beginning of mining, the comparison of post mining use to premining use shall include a comparison to the historic use of the land as well as its use immediately preceding mining.

(c) *land-use categories.* Proposed land uses will be considered subject to this section when they change from one to another of the land-use categories identified in this paragraph. The regulatory authority shall consider the following categories, at a minimum, to represent differing land uses. When an alternative postmining use is proposed the permittee or operator shall meet the requirements of paragraph (d) of this section and all other applicable environmental protection performance standards of this part.

(1) *Heavy industry.* Manufacturing facilities, powerplants, airports or similar facilities.

(2) *Light industry and commercial services .* Office buildings, stores, parking facilities, apartment houses, motels, hotels or similar facilities.

(3) *Public services .* Schools, hospitals, churches, libraries, water-treatment facilities, solid-waste disposal facilities, public parks and recreation facilities, major transmission lines, major pipelines, highways, roads, underground and surface utilities, and other servicing structures and appurtenances.

(4) *Residential .* Single- and multiple family housing (other than apartment houses over three stories) with necessary support facilities. Support facilities may include commercial services incorporated in and comprising less than 5 percent of the total area of housing capacity, associated open space, and minor parking and recreation facilities supporting the housing.

(5) *Agricultural. - (i) Cropland.* Land used primarily for the production of cultivated crops for harvest. Land used for facilities in support of farming operations are included.

(ii) *Rangeland .* Land used for grazing by livestock and big game animals on which the climax (natural potential) plant community is dominated by grasses, grasslike plants, forbs and shrubs.

(iii) *Hayland or pasture .* Land used for meadow grasses which are cut and cured for livestock feed.

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(iv) *Forest .* Land used primarily for the production of adapted wood crops.

(6) *Fish and wildlife habitat .* Wetlands, fish and wildlife habitat, and areas managed primarily for fish and wildlife; may include impoundments that have a capacity of less than 20 acre-feet and a surface area at the high-water mark of less than 2 acres.

(7) *Combined uses.* Any appropriate combination of land uses where one land use is designated as the primary land use and one or more other land uses are designated as secondary land uses.

(d) *Criteria for approving alternative postmining use of land.* An alternative postmining land use may be approved by the regulatory authority, after consultation with the land owner or the surface management agency on Federal lands, if the following criteria are met.

(1) The proposed land use is compatible with adjacent land use and, where applicable, with land-use policies and plans. A written statement of the views of local Tribal authorities for land-use policies and plans shall accompany the request for approval.

(2) Available data on the long-term expected need and market show that the proposed land use can be achieved and maintained.

(3) Specific and feasible plans have been prepared which include a time schedule showing how the proposed land use will be achieved within a reasonable time after mining and how the achieved land use will be sustained. The 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.

(4) Completion of the necessary public facilities is assured as evidenced by appropriate letters of commitment to provide them in a manner compatible with the operator's plans.

(5) Specific and feasible plans for financing attainment and maintenance of the postmining land use including letters of commitment if the financing is to be provided by someone other than the permittee or operator.

(6) The plans are designed by a registered professional engineer, or other professional, who is knowledgeable about the proposed land-use category and will ensure that the plans conform to nationally accepted standards to assure adequate land stability, drainage, and vegetation cover, and will provide an appropriate aesthetic design for the postmining use of the site.

(7) The proposed use or uses will not present actual or probable hazard to public health or safety nor will they pose any actual or probable threat of water flow diminution or pollution.

(8) The use or uses will not involve unreasonable delays in reclamation.

(9) Necessary approval of measures to prevent or mitigate adverse effects on fish and wildlife has been obtained from the regulatory authority and appropriate Tribal and Federal fish and wildlife management agencies.

(10) Proposals to change from premining land uses of rangeland, fish and wildlife habitat, hayland, or pasture to a postmining cropland use, where the cropland would require continuous maintenance such as seeding, plowing, cultivation, fertilization, or other similar practices to be practicable or to comply with applicable Federal and Tribal laws, shall be reviewed by the regulatory authority to assure that -

(i) There is a firm written commitment by the permittee or by the land owner or land manager to provide sufficient crop management after release of applicable performance bonds to assure that the proposed postmining cropland use remains practical and reasonable, and will not pose an actual or probable threat of water diminution or pollution;

(ii) There is sufficient water available and committed to maintain crop production;

(iii) The quality and quantity of topsoil has been shown to be sufficient to support the proposed use over a period of years;

(iv) The proposed cropland use will be maintained after release of applicable bonds and is not proposed only as a temporary alternative to re-establishing the premining use of the land.

(11) The regulatory authority has provided by public notice not less than 45 days nor more than 60 days for interested citizens and local, Tribal and Federal agencies to review and comment on the proposed land use.

SECTION 177.105 - BACKFILLING AND GRADING.

In order to achieve the approximate original contour, the permittee or operator shall, except as provided in paragraphs (d), (e), and (g) of this section, transport, backfill, compact unless otherwise approved by the regulatory authority, and grade all spoil material to eliminate all highwalls, spoil piles, and depressions. Cut-and-fill terraces may be used only in those situations expressly identified in this section. Land above the highwall may be disturbed only in the amount necessary to comply with this section and Section 177.108. The postmining graded slope must be determined by the premining average of natural slopes in the area as defined in paragraph (a) of this section.

(a) *Slope measurements.* (1) To determine the average natural slope of the area before mining, 10 slopes, or more as specified by the regulatory authority in accordance with site conditions, must be surveyed, measured, and recorded. Each measurement shall consist of an angle of inclination along the prevailing slope extending 100 linear feet above and below the coal outcrop; or, where this is impractical, at locations specified by the regulatory authority. Where the area has been previously mined, the measurements shall extend at least 100 feet beyond the limits of mining disturbances as determined by the regulatory authority to be representative of the premining configuration of the land.

(2) After the disturbed area has been graded and the topsoil replaced, the final graded slopes shall be measured at the beginning and end of lines established on the prevailing slope at locations representative of premining slope

conditions and approved by the regulatory authority. These measurements must not be made so as to allow unacceptably steep slopes to be constructed.

(b) *Moderate slopes.* Where natural slopes are determined according to paragraph (a) of this section to average less than 20 degrees, or such lesser slope as the regulatory authority requires, the final graded slopes shall not exceed either the average maximum natural slope or any lesser slope as specified by the regulatory authority based on consideration of soil, climate, or other characteristics of the surrounding area.

(c) *Steep slopes.* (1) While natural slopes are determined according to paragraph (a) of this section to average 20 degrees or more, or such lesser slope as the regulatory authority defines as "steep slope," the final graded slopes shall not exceed either the average maximum natural slope or any lesser slope as specified by the regulatory authority based on consideration of soil, climate, or other characteristics of the surrounding area.

(2) In order to conserve soil moisture and to control erosion on final graded slopes, cut-and-fill terraces along mine benches may be allowed if the terraces are compatible with the postmining land use approved under Section 177.104, will prevent erosion, and are appropriate substitutes for construction of lower grades on the reclaimed lands. The terraces shall meet the following requirements:

(i) The width of the individual terrace bench shall not exceed 20 feet.

(ii) The vertical distance between terraces shall be as specified by the regulatory authority to prevent excessive erosion and to provide long-term stability.

(iii) The slope of the terrace face shall not exceed 1 v :2h (50 percent).

(iv) The terrace shall have adequate slopes to divert drainage away from the face of the terrace and into drainage systems that are stabilized by vegetation or other stabilization methods that will require minimal maintenance after mining.

(v) Culverts and underground rock drains shall not be used on the terrace unless approved by the regulatory authority.

(3) All operations on natural slopes of 20 degrees or more as stated in paragraph (c)(1) of this section shall meet the provisions of Section 177.111.

(d) *Mountaintop removal.* Where surface mining operations will remove entire coal seams in the upper part of a mountain, ridge, or hill by removing all of the overburden, final graded top plateau slopes on the mined area shall be less than 1v:5h so as to create a level plateau or gently rolling configuration and the out slopes of the plateau shall not exceed 1v:2h, except where engineering data substantiates and the regulatory authority finds that a minimum static safety factor 1.5 will be attained. Although the area need not be restored to approximate original contour, all high-walls spoil piles, and depressions except as provided in paragraph (e) of this section shall be eliminated. [Page 46357]

(e) *Depressions.* The requirement of this section to achieve approximate original contour does not prohibit construction of small depressions if they are approved by the regulatory authority to minimize erosion, conserve soil moisture or promote revegetation. However, the depressions shall be compatible with the approved postmining land use and shall not be inappropriate substitutes for construction of lower grades on the reclaimed lands. Depressions approved under this section shall have a holding capacity of less than 1 cubic yard of water or, if it is necessary that they be larger, shall not restrict normal access to the area.

(f) *Definition of thin and thick restored overburden.* The thin overburden provisions of paragraph (g) of this section apply where the final thickness is less than 0.8 of the initial thickness. The thick overburden provisions of paragraph (h) of this section apply where the final thickness is greater than 1.2 of the initial thickness. Initial thickness is the sum of the overburden thickness and coal thickness. Final thickness is the product of the overburden thickness times the bulking factor to be determined for each mine area.

(g) *Thin overburden.* In surface coal mining operations carried out continuously in the same limited pit area for more than 1 year from the day coal removal operations begin and where the volume of all available spoil and suitable waste materials is demonstrated to be insufficient to achieve approximate original contour, surface coal mining operations shall be conducted to meet the following standards:

(1) Transport, backfill, and grade, using all available spoil and suitable waste materials from the entire mine area, to attain the lowest practicable grade, which may not exceed the angle of repose, and to provide adequate drainage and long-term stability of the regarded areas.

(2) Eliminate highwalls by reshaping to stable slopes not exceeding 1 v:2h (50 percent), or such lesser slopes as the regulatory authority may specify to reduce erosion, maintain the hydrologic balance, or allow the approved postmining land use.

(3) Transport, backfill, grade, and revegetate to achieve an ecologically sound land use compatible with the prevailing land use in unmined areas surrounding the permit area.

(4) Transport, backfill and grade to ensure that impoundments are constructed only where it has been demonstrated to the regulatory authority's satisfaction that all requirements of Section 177.108 have been met and that impoundments have been approved by the regulatory authority as meeting the requirements of this part and all other applicable Federal and Tribal regulations.

(h) *Thick overburden.* In surface coal mining operations where the volume of spoil is demonstrated to be more than sufficient to achieve the approximate original contour surface coal mining operations shall be conducted to meet the following standards:

(1) Transport, backfill, and grade all spoil and wastes not required in the surface mining areas to achieve approximate original contour to the lowest practicable grade.

(2) Deposit, backfill, and grade excess spoil and wastes only within the permit area and dispose of such materials in conformance with Section 177.106.

(3) Transport, backfill, and grade excess spoil and wastes to maintain the hydrologic balances in accordance with Section 177.108 and to provide long-term stability.

(4) Transport, backfill, grade, and revegetate wastes and excess spoil to achieve an ecologically sound land use compatible with the prevailing land uses in unmined areas surrounding the permit area.

(5) Eliminate all highwalls and depressions except as stated in paragraph (e) of this section by filling with spoil and suitable waste materials.

(i) *Regrading to remove rills and gullies.* When rills or gullies deeper than 6 inches form in areas that have been regraded and the topsoil replaced but vegetation has not yet been established, the permittee shall fill, compact, or otherwise stabilize the rills and gullies and reseed or replant the areas according to Section 177.110.

(j) *Covering coal and acid-forming, toxic-forming, combustible, and other waste materials; stabilizing backfilled materials; and using waste material for fill - (1) Cover.* - All undisturbed coal seams and any acid-forming, toxic forming, combustible materials or any other waste materials as identified by the regulatory authority that are exposed, used, or produced during mining shall be treated to neutralize potential toxicity and permanently covered with a minimum of 5 feet of nontoxic and noncombustible material, in order to prevent water pollution, adverse effects on plant growth and land uses, and sustained combustion.

(2) *Stabilization.* Backfilled materials shall be compacted wherever necessary to prevent leaching of toxic materials into surface or subsurface waters in accordance with Section 177.108(g) and whenever necessary to ensure the stability of the backfilled materials. The equipment to be used, the method of compacting material and the design specifications shall be approved by the regulatory authority before the toxic materials are covered.

(3) *Use of waste materials as fill.* Before waste materials from a coal preparation or conversion facility or from other activities conducted outside the permit area such as municipal wastes are used for fill material, it must be demonstrated to the regulatory authority by means of chemical and physical analyses that use of these materials will not adversely affect water quality, water flow, and vegetation; will not present hazards to public health and safety; and will not cause instability in the back-filled area.

(k) *Grading along the contour.* All final grading, preparation of overburden before replacement of topsoil, and placement of topsoil in accordance with Section 177.107, shall be done along the contour to minimize subsequent erosion and instability. If grading along the contour would be hazardous to equipment operators, grading in a direction other than generally parallel to the contour may be approved by the regulatory authority.

SECTION 177.106 - DISPOSAL OF SPOIL AND WASTE MATERIAL IN AREAS OTHER THAN THE MINE WORKINGS OR EXCAVATIONS.

(a) *Disposal of spoil and wastes in other than valley or head-of-hollow fills.* Spoil and waste material not required to achieve the approximate original contour may be transported to and placed in a controlled (engineered) manner in disposal areas other than the mine workings or excavations only if all the following conditions, in addition to the other requirements of this part, are met:

- (1) The disposal areas shall be within the permit area, and they must be approved by the regulatory authority.
- (2) The disposal areas shall be located on the most moderate sloping and naturally stable areas available as approved by the regulatory authority.
- (3) Where the slope in the disposal area exceeds 1 v:5.5h (18 percent), or where otherwise required by the regulatory authority, structures such as keyway cuts (excavations to stable bedrock) or rock toe buttresses shall be used to stabilize the fill.
- (4) The disposal area does not contain springs, natural water courses or wet weather seeps unless lateral drains are constructed from the wet areas to the main underdrains in such a manner that filtration of the water into the spoil pile will be prevented.
- (5) The spoil and wastes shall be placed, compacted, covered, and graded to allow surface and subsurface drainage to be compatible with the natural surroundings, and to ensure long-term stability. The final configuration of the land must be suitable for land uses approved in accordance with Section 177.104.
- (6) The fill shall be designed using recognized professional standards and approved by a registered professional engineer.
- (7) All organic material shall be removed from the disposal area and the topsoil must be removed and segregated before the surplus material is placed in the disposal area. However, if approved by the regulatory authority, organic material may be used as mulch or may be included in the topsoil.
- (8) The fill shall not interrupt or encroach upon active drainage channels in a way that will impound water or cause an increase in suspended solids in the surface drainage outside the permit area over that existing before surface coal mining and reclamation operations.
- (9) The fill shall be inspected for stability by a registered engineer or qualified professional specialist at least quarterly and during critical construction periods to assure removal of all organic material and topsoil, placement of underdrainage systems, and proper construction of terraces according to the approved plan. The registered engineer shall provide a certified report, after each inspection that the fill has been constructed as specified by the design approved by the regulatory authority. [Page46358]

(b) *Disposal of spoil in valley or head-of-hollow fills.* Waste material must not be disposed of in valley or head-of-hollow fills. Spoil to be disposed of in natural valleys must be placed in accordance with the following requirements.

- (1) The disposal areas shall be within the permit area, and they must be approved by the regulatory authority and be appropriately bonded.
- (2) The disposal site shall be near the ridge top of valley selected to increase the stability of the fill and to reduce the drainage area above the fill.
- (3) A system of underdrains constructed of durable rock shall be installed along the natural drainageways of the disposal area. The drainage system shall extend from the toe to the head of the fill and contain lateral drains to each area of potential drainage or seepage. In constructing the underdrains, a maximum of 10 percent of the rock must be less than 12 inches in size; however, no rock can be larger than 25 percent of the width of the drain. The minimum size of the main underdrain shall be:

Total amount of fill material	predominant type of fill material	Minimum size of drain in feet	
		Width	Height
Less than 1 million yd n3	Sandstone	10	4
Do	Shale	16	8
More than 1 million yd n3	Sandstone	16	8
Do	Shale	16	16

- (3) Spoil shall be placed and compacted to designed densities in lifts that are less than 4 feet thick.

(4) Terraces shall be constructed to stabilize the face of the fill. The height of each terrace shall not exceed 50 feet and the width shall not be less than 20 feet.

(5) The tops of the fill and each terrace shall be graded no steeper than 1v:20h (5 percent) to drain surface water to the sides of the fill where stabilized surface channels shall be established off the fill to carry drainage away from the fill. Drainage shall not be directed over the face of the fill unless approved by the regulatory authority.

(6) All surface drainage from the undisturbed area above the fill shall be diverted away from the fill area into protected channels.

(7) The outslope of the fill shall not exceed 1 v:2h (50 percent). The regulatory authority may require a flatter slope because of the physical, climatological, and other characteristics of the site.

(8) The fill shall be inspected for stability by a registered engineer or qualified professional specialist at least quarterly and during critical construction periods to assure removal of all organic material and topsoil, placement of underdrainage systems, and proper construction of terraces according to the approved plan. The registered engineer shall provide a certified report, after each inspection, that the fill has been constructed and maintained as specified by the design approved by the regulatory authority.

SECTION 177.107 - TOPSOIL HANDLING.

To prevent topsoil from being contaminated by spoil and waste materials, the permittee or operator shall remove the topsoil as a separate operation from areas to be mined. Topsoil shall be immediately redistributed according to the requirements of paragraph (b) of this section on areas graded to the approved postmining configuration. If sufficient graded areas are not immediately available because of climatic conditions or size of the area on which topsoil can be distributed, the topsoil shall be segregated, stockpiled, and protected from wind and water erosion or contaminants which lessen its capability to support vegetation.

(a) *Topsoil removal.* (1) All topsoil to be salvaged shall be removed before drilling for blasting, blasting, or mining to prevent loss and contamination of the topsoil with undesirable materials. All topsoil shall be removed unless otherwise approved by the regulatory authority to provide for use of alternative soil horizon or to avoid retention of excessive B horizon material. Where the removal of topsoil results in erosion that may cause air or water pollution, the regulatory authority shall limit the size of the area from which topsoil may be removed at any one time and specify methods of treatment to control erosion of exposed overburden.

(2) Where the A horizon of the topsoil is identified by surveys and soil core (or equivalent) analyses to be of sufficient depth to permit separate removal and to be of high quality in terms of plant-growth medium or native-seed source, the regulatory authority shall require that the entire A-horizon be removed separately and segregated from the other soil horizons and replaced as the surface soil layer.

(3) Overburden may be used instead of, or as a supplement to, topsoil only where the available topsoil is of inadequate quantity or quality to sustain vegetation, and if all the following requirements are met:

(i) The permittee demonstrates that the overburden is more suitable for vegetation by the results of chemical and physical analyses, which shall include determinations of pH, percent organic matter, nitrogen, phosphorous, potassium texture class, water holding capacity, potential acidity or other analyses as required by the regulatory authority, and by the results of any field-site trials or greenhouse results required by the regulatory authority.

(ii) The chemical and physical analyses and the field-site trials are accompanied by a certification from qualified soil scientist.

(iii) The alternative overburden is removed, segregated, stockpiled, and replaced in conformance with this section.

(b) *Topsoil redistribution.* (1) After final grading and before the topsoil is replaced, regraded land shall be scarified or otherwise treated to eliminate slippage surfaces.

(2) Topsoil shall be redistributed in a manner that: (i) Achieves a uniform thickness throughout the regraded area.

(ii) Prevents excess compaction of the spoil and topsoil; and (iii) Protects the topsoil from wind and water erosion before it is seeded or planted.

(3) Water erosion shall be minimized by spreading soil or finishing grading of soil along the contour, unless this action would be hazardous to equipment operators. Grading in a direction other than generally parallel to the contour shall be approved by the regulatory authority before final grading.

(c) *Topsoil storage.* If the permit allows storage of topsoil, the stockpiled topsoil shall be placed within the permit area where it will not be disturbed or be exposed to excessive water, wind erosion or contaminants which lessen its capability to support vegetation before it can be redistributed on terrain graded to final contour. If stockpiles are to be in place for more than 30 days, they shall be selectively placed and protected from wind and water erosion, unnecessary compaction, and contamination by undesirable materials either by a vegetation cover as defined in Section 177.110(g) or by other methods that have been demonstrated to provide equal protection such as snow fences, chemical binders, and mulching. The regulatory authority may require more stringent standards if a high potential exists for loss of topsoil through erosion, and shall prohibit moving the topsoil once it is placed in a storage area until it is moved to a regraded area for redistribution.

(d) *Nutrients and soil amendments.* Nutrients and soil amendments in the amounts and analyses as determined by soil tests shall be applied to the topsoil to produce soil that will support the reclamation requirements of Section 177.110.

SECTION 177.108 - PROTECTION OF THE HYDROLOGIC SYSTEM.

The permittee shall plan and conduct coal mining and reclamation operations to minimize disturbance of and to prevent long-term changes in the prevailing hydrologic balance, on or off site. Changes in water quality and quantity, in the depth to ground water, or in the location of surface-water drainage channels will be limited to changes that do not violate applicable Federal and Tribal regulations and do not adversely affect the post-mining use of the disturbed lands. The permittee shall conduct all operations in such a way as to minimize water pollution and, where necessary, use treatment methods to control water pollution. Practices that will minimize pollution include but are limited to stabilizing disturbed areas through shaping and grading, diverting runoff, achieving quick growing stands of temporary vegetation, lining drainage channels with rock or vegetation, mulching topsoil, sealing off acid-forming and toxic-forming materials, and selectively placing waste materials in backfill areas. If pollution can be controlled only by treatment, the permittee shall operate and maintain the necessary water-treatment facilities. However, the permittee shall emphasize mining and reclamation practices that will prevent or minimize water pollution in preference to water treatment facilities. [Page 46359]

(a) *Water-quality standards and effluent limitations.* All drainage from the disturbed area, including areas revegetated and not released from bond, shall be discharged through a settling pond, or a series of settling ponds. The regulatory authority may grant exemptions from this requirement only when the disturbed drainage area within the disturbed area is small and settling ponds are not necessary to meet water-quality standards and effluent limitations. Discharges from the entire permit area must meet all applicable Federal and Tribal water-quality standards and the following numerical effluent limitations:

Effluent characteristic	Maximum allowable n1	Average of daily values for 30 consecutive discharge days n1
Iron, total	7.0	3.5
Manganese, total	4.0	2.0
Total suspended solids.	70.0	35.0
Hydrogen-ion concentration.	Within the range 6.0 to 9.0	

n1 Based on a representative sampling schedule.

(1) Any overflow or other discharge of surface water from the permit area that would result from an event larger than a 25-year 24-hour frequency event will not be subject to these effluent standards.

(2) The permittee shall install, operate, and maintain adequate facilities to treat any water discharge that violates the standards and limitations of this paragraph or other applicable standards. If the pH of discharged waters normally is less than 6.0, and the mine normally produces more than 500 tons of coal per operating day, an automatic lime feeder or other neutralization device approved by the regulatory authority shall be installed, operated, and maintained.

(b) *Surface-water monitoring.* (1) Equipment necessary to measure the quality and quantity of surface-water discharges from the permit area and to identify the effects of surface mining and reclamation operations on the surface

water shall be installed, maintained, and operated, and shall be removed when no longer required. Total iron, total manganese, total suspended solids, pH, and flow must be measured on a daily basis whenever a discharge occurs unless it can be demonstrated to the satisfaction of the regulatory authority that different analyses are required. The regulatory authority may require additional analyses.

(2) Daily samples shall, for all discharges that occur for more than 1 hour (continuous or intermittent flow), be comprised of at least four samples representative of actual conditions, composited for a daily analysis. Chemical analysis must be performed as specified in 40 CFR Part 136. The results of these measurements shall be submitted to the regulatory authority on a monthly basis, but within 60 days of collection. However, if the discharge is subject to regulation by a Federal permit issued in compliance with section 301 of the Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1311), a copy of the completed reporting form supplied to meet the permit requirements may be submitted to the regulatory authority to satisfy the monitoring and reporting requirements of this paragraph, if the reported data meets the requirements of this paragraph. Violations of permit conditions must be reported to the regulatory authority immediately after receipt of analytical results by the permittee.

(c) *Diversion and conveyance of overland flow from disturbed areas.* In order to prevent acid and other toxic mine drainage from polluting surface and ground water and to minimize erosion, overland flow shall be diverted away from disturbed areas by means of temporary or permanent diversion structures, and the following requirements shall be met:

(1) Temporary diversion structures are those used during mining and reclamation. When no longer needed to protect disturbed areas, the structures shall be removed and the area reclaimed. They shall be constructed to safely pass the peak runoff from a precipitation event with a 10-year recurrence interval, or a larger event as specified by the regulatory authority.

(2) Permanent diversion structures are those remaining after mining and reclamation and approved for retention by the regulatory authority and other appropriate Tribal and Federal agencies. To protect fills and property and avoid danger to public health and safety, permanent diversion structures shall be constructed to safely pass the peak runoff from a precipitation event with a 100-year recurrence interval or a larger event as specified by the regulatory authority. Permanent diversions shall be constructed with gently sloping banks that are stabilized by vegetation. Asphalt, concrete, or other similar linings shall not be used unless specifically required to prevent seepage or to provide stability and are approved by the regulatory authority.

(3) Diversions shall be designed, constructed, and maintained in a manner that does not increase the total suspended solids leaving the permit area on a seasonal basis above those levels that existed before mining and in excess of requirements set by applicable Federal and Tribal law.

(4) Discharges from diversions that pass entirely through undisturbed areas shall meet applicable water-quality standards for the receiving streams. Discharges from diversions that pass through disturbed areas must comply with paragraph (a) of this section.

(5) Surface water shall not be diverted into underground mine workings unless it is demonstrated to the satisfaction of the regulatory authority that such diversion will abate water pollution or otherwise eliminate public hazards resulting from underground mining.

(d) *Stream channel diversions.* (1) Flow from perennial, intermittent, and ephemeral streams within the permit area may be diverted only when the diversions are approved by the regulatory authority and they are in compliance with Tribal and Federal law and approved regulations. When streamflow is allowed to be diverted, the new stream channel shall be designed and constructed to meet the following requirements:

(i) The average stream gradient shall be maintained and the channel designed to remain stable after mining and reclamation operations are completed.

(ii) Channel, bank, and flood-plain configurations shall be adequate to safely pass the peak runoff of a precipitation event with a 10-year recurrent interval for temporary diversions and a 100-year recurrence interval for permanent diversions; or larger events as specified by the regulatory authority.

(iii) Channel banks shall be protected from erosion by measures such as seeding, planting and applying riprap.

(iv) Fish and wildlife habitat and water and vegetation of significant value for wildlife food or shelter shall be protected in consultation with appropriate fish and wildlife management agencies.

(v) Diversions shall be designed, constructed, and maintained in a manner that does not increase the total suspended solids leaving the permit area on a seasonal basis above those levels that existed before mining. Applicable Tribal and Federal water quality standards shall be met.

(2) All temporary diversion structures shall be removed before release of applicable bonds unless the regulatory authority approves the retention of those structures.

(3) *Buffer zone.* No land shall be disturbed within 100 feet of an intermittent or perennial stream not approved for mining unless authorized by the regulatory authority. The area not to be disturbed shall be designated a buffer zone and marked with signs as specified in Section 177.103.

(e) *Settling ponds.* Settling ponds shall be constructed in appropriate locations in each drainage area prior to any mining in that drainage area in order to control sedimentation or otherwise treat water in accordance with paragraph (a) of this section. These ponds may be used individually or in a series, and they shall meet the following criteria:

(1) The minimum storage volume shall equal the sum of: (i) The volume of runoff to be controlled from the drainage area above the settling pond that results from a 10-year 24-hour precipitation event;

(ii) 0.2 acre-feet of storage for each acre of disturbed area within the upstream drainage area; and

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(iii) Additional storage as necessary to meet the effluent standards of paragraph (a) of this section.

(2) An appropriate combination of principal and emergency spillways shall be provided to safely discharge the peak runoff from a precipitation event with a 25-year recurrence interval, or larger event as specified by the regulatory authority.

(3) All settling ponds shall be examined for structural weakness, erosion and other hazardous conditions in accordance with inspection requirements contained in 30 CFR 77.216.3.

(4) All settling ponds shall be removed and the disturbed areas regraded, revegetated, and stabilized before release of applicable bonds unless the regulatory authority approves retention of the ponds.

(5) Sediment shall be removed from settling ponds when the volume of sediment accumulates to 50 percent of the sediment storage volume required in paragraph (e)(1) of this section. The sediment shall be disposed of in a way that prevents it from entering surface water, contaminating subsurface water, and causing adverse effects due to its chemical and physical characteristics on infiltration, vegetation, or water quality. Sediment that has been removed from settling ponds and that meets the requirements for topsoil may be redistributed over graded areas in accordance with Section 177.107.

(6) Discharges from settling ponds shall meet the water-quality and effluent requirements of paragraph (a) of this section.

(7) If a settling pond includes an embankment that is more than 20 feet in height, as measured from the upstream toe of the embankment to the crest of the emergency spillway, or has a storage volume of 20 acre-feet or more, the following additional requirements shall be met:

(i) An appropriate combination of principal and emergency spillways shall be provided to safely discharge the runoff from the design storm as specified by the regulatory authority. This design storm shall not have a recurrence frequency of less than 50 years.

(ii) Ponds shall be designed and constructed with a safety factor of at least 1.5 for embankment slope stability.

(iii) The minimum top width of the embankment shall not be less than the quotient of $5/H+35$ where H is the height of the embankment as measured from the upstream toe to the top of the embankment.

(iv) Ponds shall have appropriate barriers to control seepage along conduits that extend through the embankment.

(8) All ponds shall be designed and constructed under the supervision of, and inspected and certified after construction for compliance with design requirements, by a registered professional engineer.

(f) *Discharge structures.* Discharges from settling ponds and diversions shall be controlled using available technology, such as energy dissipators, surge ponds, and other devices to reduce erosion and prevent deepening and enlargement of stream channels.

(g) *Acid and toxic materials.* Drainage from acid forming and toxic forming mine materials into ground and surface water must be prevented by:

(1) Identifying and burying in the permit area spoil and waste materials that can be toxic or otherwise harmful to vegetation and can adversely affect water quality. The material shall be buried with a minimum of 5 feet of nontoxic material or using other procedures in accordance with Section 177.105. Material shall not be buried or stored within 100 feet of any perennial or intermittent stream, or used in construction of dams, embankments or roads or where they will pollute surface and ground water.

(2) Burying all material within 30 days, or less if specified by the regulatory authority. If necessary to store the material, piles shall be stored on impermeable material and protected from erosion and contact with surface water.

(3) Casing, sealing, or otherwise managing boreholes, shafts, wells, and auger or other horizontal holes to prevent pollution of surface or ground water, and to prevent mixing of ground waters of significantly different quality (unless mixing is approved by the regulatory authority). All boreholes that are within the permit area but are outside the surface coal mining area or which extend beneath the coal to be mined and into aquifers, shall be plugged permanently in a manner approved by the regulatory authority.

(4) Taking such other actions as required by the regulatory authority.

(h) *Recharge capacity of reclaimed lands.* The disturbed area shall be reclaimed to restore approximate premining infiltration rates and to restore the ability of the reclaimed area to transmit water to the ground-water system. All available measures shall be used to ensure that the recharge capacity of the reclaimed land will support the approved postmining use of the land.

(i) *Restoration of ground-water systems.* Backfilled materials shall be selectively placed to reestablish ground-water systems to approximate premining conditions.

(j) *Alluvial valley floors west of the 100th meridian west longitude.* (1) Essential elements of the hydrologic functions of alluvial valley floors shall be preserved throughout the mining and reclamation process by maintaining or establishing:

(i) The gradient of streams;

(ii) Aquifers, aquicludes, capillary zones, and perched water zones;

(iii) Quantity and quality of surface and ground water;

(iv) Depth to, and seasonal fluctuations of, ground water where ground water supports a subirrigated vegetation system;

(v) Configuration and stability of the land surface in the flood plain as they allow or facilitate irrigation with flood waters and maintain erosional equilibria; and

(vi) Soil profiles, including physical and chemical characteristics of the substrate (or plant-growth medium) which provide moisture holding capacity and thereby provide for sustained vegetation growth through the dry months.

(2) Surface mining and reclamation operations conducted in or adjacent to alluvial valley floors located west of the 100th meridian west longitude shall not interrupt, discontinue, or preclude farming on these alluvial valley floors unless the premining lands use of such alluvial valley floors has been undeveloped rangeland with no regular cropping of hay or unless the area of the affected alluvial valley floor is of small acreage and provides negligible support for one or more farmer's production. This subparagraph (2) does not apply to those surface coal mining operations that:

(i) Were in production in the year preceding August 3, 1977, were located in or adjacent to an alluvial valley floor, and produced coal in commercial quantities in the period identified in this paragraph; or

(ii) Had specific permit approval by the Bureau of Indian Affairs before August 3, 1977, to conduct surface coal mining operations for an area within the affected alluvial valley floor.

(3) Before new surface mining and reclamation operations which may be authorized under subparagraph (2) of this paragraph are commenced, the permittee shall submit and the regulatory authority shall approve detailed surveys and baseline data to establish standards against which the requirements of subparagraph (1) of this paragraph can be measured. The surveys and data shall include:

(i) A map at a scale determined by the regulatory authority showing the location of the alluvial valley floor.

(ii) Baseline data covering a full water year for each of the hydrologic elements identified in subparagraph (1) of this paragraph.

(iii) Such other data as the regulatory authority may require.

(k) *Ground-water monitoring.* Ground-water levels and quality of the ground water shall be monitored as approved by the regulatory authority, to determine the effects of surface coal mining operations on ground water. When mining is done below the water table, the water levels shall be monitored in representative ground-water wells within the area which may be influenced by the mining or in such other wells that can adequately reflect changes in water levels. Where existing wells are inadequate to measure long-term changes, the permittee may be required by the regulatory authority to drill and complete wells to measure water quantity and quality in the permit area. When

determined necessary by the regulatory authority, the permittee also may be required to drill and complete wells to measure water levels on and off site subject to surface owner consent. These wells must monitor all aquifers that may be affected by mining. [Page 46361]

(1) *Hydrologic impacts of roads.* - (1) *General.* Access and haul roads and associated bridges, culverts, ditches, and road rights-of-way shall be constructed, maintained and reclaimed so as to control diminution or degradation of water quantity and quality. The land over which roads are constructed for surface coal mining and reclamation operations shall be reclaimed in accordance with this part, unless retention of a road is approved under Section 177.104, as being an integral and contributing part of the postmining use of the land.

(2) *Construction.* (i) All roads, insofar as possible, shall be located on benches, ridges, or flatter and more stable slopes to minimize erosion. Stream fords are prohibited unless they are specifically approved by the regulatory authority as temporary routes across dry streams unrelated to coal haulage. Roads shall not be located in stream beds; nor shall they be located within the 100-year flood plain of any stream unless it can be demonstrated that the roads will not restrict the flow of the base flood (a flood that has a 1 percent or greater chance of occurring in any year), nor increase erosion or cause significant sedimentation or flooding. However, nothing in this paragraph will be construed as prohibiting relocation of stream channels in accordance with paragraph (d) of this section.

(ii) In order to minimize erosion and subsequent hydrologic disturbances, roads shall be constructed in compliance with the following grade restrictions, or other grade determined by the regulatory authority to be necessary to control erosion:

(A) The overall sustained grade shall not exceed 1 v :10h (10 percent).

(B) The maximum grade greater than 10 percent shall not exceed 1 v :6.5h (15 percent) for more than 300 feet.

(C) There shall not be more than 300 feet of maximum grade within each 1,000 feet.

(iii) All access and haul roads shall be adequately drained using structures such as, but not limited to, ditches, water barriers, cross drains, and ditch-relief drains. For access and haul roads that are to be maintained for more than 1 year, water-control structures shall be designed with a discharge capacity capable of passing the peak flow from a 25-year 24-hour precipitation event. Drainage pipes and culverts shall be constructed to avoid plugging or collapse and erosion at inlets and outlets. Drainage ditches shall be provided at the toe of all cut slopes formed by the construction of roads. Trash racks and debris basins shall be installed in the drainage ditches wherever debris from the drainage area could impair the functions of the structures. Ditch relief and cross drains shall be spaced according to grade. Drainage from access and haul roads shall meet the water-quality requirements of this section.

(iv) Access and haul roads shall be surfaced with durable material. Toxic or acid-forming substances shall not be used in the surface material. Vegetation may be cleared only for the essential width necessary for road and associated ditch construction and to serve traffic needs.

(3) *Maintenance.* (i) Access and haul roads shall be routinely maintained by measures such as, but not limited to, wetting, scraping, or surfacing.

(ii) Ditches, culverts, drains, trash racks, debris basins, and other structures serving to drain access and haul roads shall not be restricted or blocked in any manner that impedes drainage or adversely affects the intended purpose of the structure.

(m) *Hydrologic impacts of other transport facilities.* Railroad loops, spurs, siding or other transport facilities shall be constructed, maintained and reclaimed so as to control diminution or degradation of water quantity or quality.

SECTION 177.109 - DAMS CONSTRUCTED OF REFUSE MATERIALS GENERAL.

(a) No mine or processing refuse materials shall be used in existing or new dams without the approval of the regulatory authority. The permittee or operator shall design, locate, construct, operate, maintain, modify, abandon, and remove all dams (used either temporarily or permanently) when constructed of mine refuse materials, tailings, coal processing wastes, or other liquid or solid wastes in accordance with the requirements of this section.

(b) *Definitions - Refuse materials.* Coal mine waste materials excavated or removed during surface coal mining and reclamation operations or separated from mined coal. The material may be a mixture of coal, slack coal, or waste coal; organic material; shale, claystone, sandstone, siltstone, or limestone, or related materials.

Safety factor. The ratio of the available shear strength to the developed shear stress on a potential surface of sliding determined by accepted engineering practice.

(c) *Dams constructed of refuse materials.* (1) Refuse shall not be used in the construction of dams unless demonstrated to have no adverse effect on stability.

(2) Plans for dams or impoundments shall be approved by the regulatory authority before construction and shall contain the minimum plan requirements established by the Mining Enforcement and Safety Administration pursuant to 30 CFR 77.216.2.

(3) Dams and impoundments subject to this paragraph shall meet the following requirements:

(i) Design of impoundments shall be based on the flood from the probable maximum precipitation event unless the permittee shows that the failure of the impounding structure would not cause loss of life or severe property or environmental damage, in which case a design based on a minimum flood event of 100-year frequency may be approved by the regulatory authority. An intermediate sized design flood may be required depending on site condition.

(ii) The design freeboard distance between the lowest point on an impounding structure and the maximum water elevation shall be at least 3 feet to avoid overtopping by wind and wave action.

(iii) Impounding structures shall have minimum stability factors as follows:

	Case	Leading condition	Minimum safety factor
I		End of construction	1.3
II		Partial pool with steady seepage saturation.	1.5
III		Steady seepage from spillway or decant crest.	1.5
IV		Earthquake (cases II and III with seismic loading).	1.0

(iv) The dam, foundation, and abutments shall be stable under all conditions of construction and operation of the impoundment. Sufficient foundation investigations and laboratory testing shall be performed to determine the factors of safety of the dam for all loading conditions in subparagraph (3)(iii) of this paragraph and for all increments of construction.

(v) Seepage through the dam, foundation, and abutments shall be controlled to prevent excessive uplift pressures, internal erosion, sloughing, removal of material by solution, or erosion of material by loss into cracks, joints, and cavities. This may require the use of impervious blankets, pervious drainage zones or blankets, toe drains, or relief wells.

(vi) Allowances shall be made for settlement of the dams and the foundation so that the required freeboard will not be diminished.

(vii) Impoundments created by dams of refuse materials shall be subject to a minimum drawdown criteria that allows the facility to be evacuated by spillways or decants of 90 percent of the volume of water stored during the design precipitation event within 10 days.

(viii) Closed-circuit coal waste shall not be used in dams constructed of refuse materials unless demonstrated to maintain or enhance dam stability.

(ix) During construction of dams subject to this paragraph, the structures shall be periodically inspected by a registered professional engineer to ensure construction according to appropriate designs and upon completion of construction, the structure shall be certified as having been designed in accordance with accepted professional policies by a registered professional engineer.

(x) A permanent identification marker, at least 6 feet high and showing the dam number assigned pursuant to 30 CFR 77.215-1, and the name of the person operating or controlling the dam shall be located on or immediately adjacent to each dam within 30 days of certification of design pursuant to this section.

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(4) All dams shall be routinely inspected by a registered professional engineer in accordance with MESA regulations pursuant to 30 CFR 77.216-3.

(5) All dams shall be routinely maintained. Vegetative growth shall be cut where necessary to facilitate inspection and repairs, ditches and spillways cleaned, any combustible materials present on the surface removed, and any other appropriate maintenance procedures follows.

(6) All dams subject to this section shall be recertified annually as having been constructed and modified in accordance with current prevalent engineering practices to minimize the possibility of failures. Any changes in the geometry of the impounding structure shall be included in the annual recertification report. The certification will include a report on existing and required monitoring procedures and instrumentation, the average and maximum depths and elevations of any impounded waters over the past year, existing storage capacity of impounding structures, any fires occurring in the material over the past year, and any other aspects of the structures affecting their stability.

(7) Any enlargements, reductions in size, reconstruction or other modification of dams shall be approved by the regulatory authority.

(8) All refuse dams shall be removed and the disturbed areas regarded, revegetated, and stabilized prior to the release of bond unless the regulatory authority approves retention of such dams as being compatible with an approved postmining land use (Section 177.104).

SECTION 177.110 - REVEGETATION.

(a) *General.* (1) The permittee shall establish on all land that has been disturbed, a diverse, effective, and permanent vegetative cover of species native to the area of disturbed land or species that will support the planned postmining uses of the land approved according to Section 177.104.

(2) Revegetation shall be carried out in a manner that encourages a prompt vegetation cover and recovery of productivity levels compatible with approved land uses. The vegetation cover shall be capable of stabilizing the soil surface with respect to erosion. All disturbed lands shall, regardless of the approved postmining land use, be seeded or planted to achieve a vegetation cover of the same seasonal varieties when it consists of disturbed land. If both the pre- and postmining land use is intensive agriculture, planting of crops normally grown will meet the requirement. Vegetation cover will be considered of the same seasonal varieties when it consists of a mixture of species of equal or superior utility for the intended land use when compared with the utility of naturally occurring vegetation during each season of the year.

(b) *Use of introduced species.* Introduced species may be substituted for native species only if appropriate field trials have demonstrated that the introduced species will be of equal or superior utility for the approved postmining land use, or is necessary to achieve a quick, temporary and stabilizing cover. Introduced species shall meet applicable Tribal and Federal seed or introduced species statutes, and may not include poisonous or potentially toxic species incompatible with the approved postmining land use.

(c) *Timing of revegetation.* Seeding and planting of land that has been regraded and the topsoil replaced shall be conducted during the first normal period for favorable planting conditions after final grading. The normal period for favorable planting shall be that planting time generally accepted locally to meet specific site conditions and climate. Any disturbed areas, except water areas and surface areas of haul roads, which have been graded shall be planted with a temporary cover of small grains, grasses, or legumes at a commensurate level with that needed to establish adequate cover to control erosion. When rills or gullies, that would preclude the successful establishment of vegetation or the achievement of the postmining land use form in regraded topsoil and overburden materials as specified in Section 177.105, additional regrading or other stabilization practices will be required before seeding and planting.

(d) *Mulching.* Mulch means vegetation residues or other suitable materials that aid in soil stabilization and soil moisture conservation, thus providing climate conditions suitable for germination and growth, and do not interfere with the postmining use of the land. Mulches shall be anchored to the soil surface where appropriate to ensure effective protection of the soil and vegetation. The minimum amounts of mulch to be applied per acre are: for straw or hay, 2,000 pounds; for wood fiber, 1,000 pounds; for bark materials, 30 cubic yards. If the permittee can demonstrate that other wood products, composted waste, or other materials are more suitable for achieving successful revegetation and erosion control, the regulatory authority may authorize substitution of such other materials. Mulch shall be used on all regraded and topsoiled areas to control erosion, to promote germination of seeds, and to increase the moisture retention of the soil. Annual grains such as oats, rye, and wheat may be used instead of mulch when it is shown to the satisfaction of the regulatory authority that the substituted grains will provide adequate stability and that they will later be replaced by species approved for the postmining land use.

(e) *Method of revegetation.* (1) The permittee shall use technical publications or the results of laboratory and field tests approved by the regulatory authority to determine the varieties, species, seeding rates, and soil amendment practices essential for establishment and self regeneration of vegetation. The revegetation procedures shall be designed to require only that degree of fertilization and maintenance procedures required to meet the standards of this section for the approved postmining use of the land.

(2) Where hayland, pasture, or rangeland is to be the postmining land use, the land shall be revegetated to the satisfaction of the regulatory authority. The species of grasses, legumes, or forbs for seeding or planting shall be selected by the permittee to provide a diverse, effective, and permanent vegetation cover with the seasonal variety, succession, and regeneration capabilities native to the area. Livestock grazing will not be allowed on reclaimed land until the seedlings are established and can sustain managed grazing. The regulatory authority, in consultation with the surface owner and permittee, shall determine when the revegetated area is ready for livestock grazing. When hoofed wildlife populations are large enough to cause damage, grazing by such wildlife must be controlled by appropriate methods until the seedlings are well established and can sustain normal grazing. The regulatory authority shall determine when the revegetated area is ready for wildlife grazing.

(3) Where an agricultural use that will require using tillage equipment such as plows, cultivators, and tractors is to be the postmining land use, the permittee shall use adequate erosion and sediment control practices approved by the regulatory authority.

(4) Where forest is to be the postmining land use, the permittee shall plant trees adapted for local site conditions and climate in combination with an herbaceous cover of grains, grasses, legumes, or forbs that provide a diverse, effective, and permanent vegetation cover with the seasonal variety, succession, and regeneration capabilities native to the area.

(5) Where wildlife habitat is to be included in the postmining land use, the permittee shall consult with appropriate Tribal and Federal wildlife management agencies and, upon the approval of the regulatory authority, shall select species to be seeded or planted. The permittee shall select those species that will fulfill the needs of wildlife, including food, water, cover, and space, and shall space and distribute plant groupings and water resources to fulfill the requirements of wildlife.

(6) Where development of residential, recreational, industrial, or public service uses is to be the postmining land use, the lands must be revegetated initially according to paragraph (a) of this section. Final revegetation requirements must be approved by the regulatory authority.

(f) *Standards for measuring success of revegetation.* (1) The revegetation standards in the following table are minimum requirements for revegetation of disturbed areas. [Page 46363]

STANDARDS FOR REVEGETATION

[Herbaceous species=grass, legumes, and nonleguminous forbs; woody plants=woody shrubs, trees, and vines; ground cover=area covered by the combined aerial parts of plants and litter that are produced naturally on site, expressed as a percentage of the total area of measurement]

A. Areas planted only in herbaceous species (percent ground cover of herbaceous species at the end of the growing season)

Average annual precipitation, in inches	1yr	5yrs	10yrs
Up to 10	6	8	10
10.1 to 16	10	20	30
16.1 to 26	20	30	40
More than 26	50	70	NA

B. Areas planted to mixtures of herbaceous and woody species (percent ground cover of herbaceous species and number of plants per acre of woody species at the end of the growing season)

Average annual precipitation, in inches	1yr	5yrs	10yrs
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	Percent ground cover	Number of woody plants per acre	Percent ground cover	Number of woody plants per acre	Percent ground cover	Number of woody plants per acre
Up to 10	6	2,500	5	2,000	4	1,500
10.1 to 16	7	800	10	800	15	1,000
16.1 to 26	20	400	25	400	30	400
More than 26	40	600	50	n1 400	NA	NA

n1 On steep slopes, the minimum number of woody plants must be increased to 600 per acre.

(2)(i) When revegetation requirements are based on returning the permit lands to premining land uses of hayland, pasture, wildlife habitat, or rangeland, the regulatory authority may also require the permittee to set aside and fence enclosures of land not to be disturbed by mining activity or domestic livestock. These enclosures, which must be representative of geology, soils slope, aspect, and vegetation in the permit area, will be used to estimate normal vegetation productivity, plant cover, species, plant succession, and plant self-regeneration. The regulatory agency shall approve the estimating techniques used to judge the degree of success achieved in the revegetated areas. These enclosures and estimations may be required before revegetation procedures are approved.

(ii) When enclosures are required, the degree of progress and success in revegetating shall, at a minimum, meet the standards in the following table. More stringent standards may be established by the regulatory authority based on natural conditions in the area. The permittee and the regulatory authority shall use those standards as guides to indicate potentials for ultimate revegetation success and to determine whether remedial measures are necessary to improve chances for success.

STANDARDS FOR REVEGETATION WHEN ENCLOSURES ARE REQUIRED

[Ground covered by the combined aerial parts of plants and litter that are produced naturally on site, expressed as a percentage of the total area of measurement; biomass yield=the total yield of living plants above ground in an area at the end of the growing season]

	Average annual precipitation, in inches	End of growing season -		
		1yr	5yr	10yr
A. Number of adapted species in revegetated areas				
Up to 10	3	12	15	
10.1 to 16	6	14	20	
16.1 to 26	6	20	25	
More than 26	8	25	30	
B. Ground cover of perennial plants expressed as a percent of the ground cover in the enclosures				
Up to 10	90	80	85	
10.1 to 16	70	80	85	
16.1 to 26	70	80	90	
More than 26	80	90	NA	
C. Biomass yield of perennial plants expressed as a percent of the biomass yield in the enclosures				
Up to 10	90	80	80	
10.1 to 16	70	80	85	
16.1 to 26	70	80	90	
More than 26	80	90	NA	

(g) *Seeding of stockpiled topsoil.* Topsoil stockpiled in compliance with Section 177.107 must (if not to be redistributed within 30 days) be seeded or planted with an effective cover of nonnoxious, quick growing annual and/or perennial plants or protected by other approved measures as specified in Section 177.107.

SECTION 177.111 - STEEP-SLOPE MINING.

(a) The permittee conducting surface coal mining and reclamation operations on natural slopes that exceed 20 degrees, or on lesser slopes that require measures to protect the area from disturbance, as determined by the

regulatory authority after consideration of soils, climate, the method of operation, and other regional characteristics, shall meet the following performance standards. The standards of this section do not apply where mining is done on a flat or gently rolling terrain with an occasional steep slope through which the mining proceeds and leaves a plain or predominantly flat area; or where the mining removes entire coal seams running through the upper fraction of a mountain, ridge, or hill by removing all of the overburden and creating a level plateau or gently rolling contour.

(1) Overburden or waste materials or debris, including that from clearing and grubbing, and abandoned or disabled equipment, shall not be placed or permitted to remain on the downslope. Material in excess of that required to meet the provisions of Section 177.105 must be disposed of in accordance with the requirements of Section 177.106.

(2) First-cut overburden shall be stored within the permit area. The storage piles must be designed and constructed to minimize erosion and to maximize stability. Any material temporarily stored for more than 30 days must be protected by an effective cover of nonnoxious, quick-growing annual and/or perennial plants or other approved means as specified in Section 177.110.

(3) Where the backfilled slope is 50 feet or more in length, terraces when approved by the regulatory authority, shall be sloped to safely and quickly discharge runoff water to stable drainage channels located off the fill area and must be constructed to meet the requirements of Secs. 177.105(c) and 177.108.

(4) Woody materials that can cause instability must not be mixed into the backfill.

SECTION 177.112 - INSPECTIONS.

(a) *Extent.* The authorized representatives of the Secretary shall conduct inspections of surface coal mining operations subject to regulations under the Act.

(1) On the basis of information provided by a Tribe or any person which gives rise to a reasonable belief that the provisions of the Act, regulations, or permit condition required by the Act are being violated, or that a condition or practice exists which creates an imminent danger to the health or safety of the public, or is causing, or can reasonably be expected to cause significant, imminent environmental harm to land, air, or water resources; and
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(2) On a random basis of at least one complete inspection each 6 months. A complete inspection is an onsite review of the entire area disturbed or effected by mining.

(b) *Right of entry.* (1) Authorized representatives of the Secretary, without advance notice and upon presentation of appropriate credentials and without a search warrant, shall have the right of entry to, upon, or through any surface coal mining and reclamation operations or any premises in which any records to be maintained are located.

(2) The authorized representatives may at reasonable times, and without delay, have access to and copy any records, inspect any monitoring equipment or method of operation required under this Act, the regulations, or the permit.

(c) *Inspections based on citizen requests.* - (1) *Citizen reports.* (i) Any person who suspects or knows of a violation of the Act, regulations, or permit conditions required by the Act or of any imminent hazard may report this information in writing to the Office of Surface Mining Reclamation and Enforcement office nearest to the surface coal mining operation to which the information relates or to any other Office of Surface Mining Reclamation and Enforcement office. Written complaints must be signed and include a phone number where the complaining party can be contacted. The complaint or other information shall be considered as having a reasonable basis if it alleges facts which, if proven to be true, would be sufficient to show a violation of the Act, regulations, or permit. Unless the Office has reason to believe that the information is incorrect, or determines that even if true it would not constitute a violation, the Office shall conduct an inspection.

(ii) The identity of any person supplying information to the Office relating to possible violations or imminent hazards shall remain confidential within the Office unless the person supplying the information consents in writing to disclosure.

(2) *Right to accompany the authorized representative of the Secretary.* (i) If a Federal inspection is conducted as a result of information provided to the Office, the person who provided the information shall be notified when the inspection is to occur and the person will be allowed to accompany the authorized representative during the inspection.

(ii) Any person accompanying an authorized representative of the Secretary has a right of entry to, upon and

through the mining and reclamation operations about which he supplied information only if he is in the presence of and is under the control, direction, and supervision of the authorized representative while on the mine property.

(3) *Notification of results of investigation.* Within 10 days of the inspection or, if no inspection, within 10 days of the complaint, the Office shall notify the person in writing of the following -

(i) The results of the investigation, including a description of any inspection which occurred and any enforcement action taken; copies of Federal inspection reports, notices of violation, and cessation orders may be forwarded to the person in satisfaction of this requirement.

(ii) If no inspection was conducted, an explanation of the reason for not inspecting.

(iii) A statement as to the person's right to informal review of the actions or inactions of the Office.

(iv) *Review of action of local offices.* A person who does not agree with the action taken by the Office on his report may request the Regional Director to review the complaint and actions taken. The Regional Director shall advise the person in writing of the results of the review.

(d) *Failure to give notice and lack of reasonable belief.* No notice of violation or cessation order may be vacated by reason of failure to give notice required by the Act prior to the inspection or by reason of a subsequent determination that prior to the inspection the Office did not have information sufficient to create a reasonable belief that a violation had occurred.

(e) *Tribal involvement.* (1) Whenever an authorized representative of the Secretary decides to conduct an inspection of any coal mining operation or any premises in which any records to be maintained are located, the appropriate representative of the local governing Indian Tribe shall be notified and invited to accompany the Secretary's representative on such an inspection.

(2) An Indian Tribe, or its authorized representatives, shall be entitled to all the protections of paragraph (c) of this section.

SECTION 177.113 - ENFORCEMENT PROCEDURES.

(a) *Imminent hazards.* (1) If an authorized representative of the Secretary finds conditions, or practices, or violations of applicable performance standards, which create an imminent danger to the health or safety of the public the authorized representative shall immediately order a cessation of surface coal mining and reclamation operations or the portion thereof relevant to the condition, practice, or violation.

(2) If an authorized representative of the Secretary finds conditions or practices or violations of applicable performance standards, which can reasonably be expected to cause significant, imminent environmental harm to land, air, or water resources, the authorized representative shall immediately order a cessation of surface coal mining and reclamation operations or the portion thereof relevant to the condition, practice, or violation.

(3) An authorized representative of the Secretary shall impose affirmative obligations on an operator which the authorized representative deems necessary to abate the condition, practice or violation if:

(i) A cessation order is issued under subparagraph (1) or (2) of this paragraph; and

(ii) The cessation of mining or reclamation activities will not completely abate the imminent danger to public health or safety or the significant, imminent environmental harm or eliminate the practices or conditions that contributed to the imminent danger or significant, imminent environmental harm.

(4) When imposing affirmative obligations under this subsection, the authorized representative shall require abatement of the danger or harm in the most expeditious manner physically possible. The affirmative obligation shall include a time by which abatement shall be accomplished and may include among other things, the use of existing or additional personnel and equipment.

(5) An authorized representative of the Secretary may terminate a cessation order issued under subparagraph (1) or (2) of this paragraph by written order when the authorized representative of the Secretary determines that the conditions or practices or violations which caused the danger to life or the environment have been eliminated.

(b) *Non-imminent hazard violations.* (1) If an authorized representative of the Secretary finds a violation which is not an imminent hazard, the authorized representative shall issue a notice of violation fixing a reasonable time for abatement.

(2) An authorized representative may extend the time to abate a violation by written notice if the failure to abate within the time set was not caused by the permittee's or operator's lack of diligence.

(3) The total time for abatement as originally fixed and subsequently extended shall not exceed 90 days.

(c) *Failure to abate.* An authorized representative of the Secretary shall order cessation of surface coal mining and reclamation operations, or the portion relevant to the violation, when the authorized representative has issued a notice of violation under paragraph (b) of this section determines that the permittee or operator has failed to abate the violation within the time originally fixed or subsequently extended. In a cessation order issued under this subsection, the authorized representative shall impose affirmative obligations to abate the violation in the manner provided in paragraph (a) of this section.

(d) *Service of notice.* Notices and orders issued under this part shall be given to the permittee or operator or his designated agent. If no designated agent is at the mine site, service will be made upon any person who appears to be in charge of the mining or reclamation operation. The person receiving service shall be responsible for any immediate compliance actions required by the notice or order. Service is complete on delivery at the mine. However, a copy of each notice or order shall be mailed to the permittee or operator within 5 days. [Page 46365]

(e) *Review of the minesite of cessation orders.* (1) Within 30 days after the permittee or operator has received any cessation order issued under this part, the District Manager or his delegate shall conduct an informal hearing at the minesite or within such reasonable proximity to the mine that it may be visited during the conduct of the hearing. No hearing will be required where the condition, practice or violation in question has been abated or the operator waives the hearing.

(2) Any request made to the Office of Surface Mining Reclamation and Enforcement for a substantial modification or vacation of a cessation order shall be deemed a request for an informal hearing under this section.

(3) Notice of the time, place and subject matter of the hearing shall be given to the operator or permittee, any citizen who filed a report which led to the cessation order to be reviewed, and appropriate officials of the local governing Indian Tribe. Notice of the hearing also shall be posted at the appropriate district or field office and at the mine site and, to the extent possible, shall be given by newspaper in the area of the mine.

(4) The requirements of section 554 of Title 5 of the United States Code shall not govern the conduct of the hearings required by this section. The District Manager or his delegate may accept oral or written arguments, presentations of evidence, or any other relevant information from any person attending.

(5) The District Manager or his delegate shall within 15 days of the close of the informal hearing affirm, modify or vacate the order. The decision shall be in writing and shall be sent to the permittee or operator, any citizen who filed a report which led to the cessation order reviewed and the appropriate agency of the local governing Indian Tribe.

(6) Informal review under this subsection shall not affect the rights of any person to request formal review as provided in section 525(a)(1) of the Act. A request for informal review shall not affect the 30 day time period for filing a request for formal review.

(f) *Inability to comply.* (1) Neither a notice of violation nor a cessation order issued under this part may be vacated because of inability to comply.

(2) A permittee or operator may not be deemed to have shown good cause for not suspending or revoking a permit by showing inability to comply.

(3) Unless caused by a lack of diligence, inability to comply may be considered in mitigation of the amount of a Civil penalty under Section 177.114 and of the duration of the suspension or revocation of the permit under paragraph (g) of this section.

(g) *Pattern of violations.* (1) The regulations of this section set forth the procedures governing the suspension or revocation of permits based on a pattern of violations arising during Federal inspections during the initial regulatory program.

(2) *Definitions.* As used in this section:

(i) "*Violations of the same or related requirements of the Act, regulations or permit conditions*" means noncompliance with any single section of this part.

(ii) "*Violations of different requirements of the Act, regulations or permit conditions*" means noncompliance with different sections of this part.

(iii) "*Unwarranted failure to comply*" means the failure of a permittee to prevent the occurrence of any violation of his permit or any requirement of the Act or these regulations due to indifference, lack of diligence, lack of reasonable care, or the failure to abate any violation of such permit, the Act or regulations due to indifference, lack of diligence, or lack of reasonable care.

(iv) "*Willful violation*" means an intentional action or omission which violates the Act, regulations or permit conditions required under the Act.

(3) *Order to show cause.* (i) If a Regional Director of the Office determines that a pattern of violations exists or has existed and that such violations are caused by the unwarranted failure of the permittee or were willfully caused, the Regional Director shall issue an order to the permittee to show cause why the permit should not be suspended or revoked.

(ii) The Regional Director may determine that a pattern of violations exists, or has existed, after considering the circumstances, including:

(a) The number of willful violations or violations caused by unwarranted failure to comply with the same or related requirements of the Act, regulations or permit conditions during 2 or more Federal inspections.

(b) The number of willful violations or violations caused by unwarranted failure to comply with different requirements of the Act, regulations or permit conditions.

(c) The extent to which the violations were isolated departures from lawful conduct.

(iii) The Regional Director shall deem a pattern to exist if the number of willful violations or violations caused by unwarranted failure to comply with the Act, regulations or permit conditions is at a rate of 50 percent above the national norm during two months of any four month period. The national norm will be determined by comparing the number of willful and unwarranted violations issued per inspection day to permittees in the initial regulatory period. The norm will be determined semi-annually and the norm for the preceding half year will be utilized in determining whether a pattern exists. The national norm may be computed by a sampling or other statistically-valid method when the data exists for the computation.

(4) *Suspension or revocation of permit.* (i) The order to show cause shall be issued and a public hearing, if requested, shall be conducted under the procedures of 43 CFR Part 4.

(ii) If the Secretary finds that a pattern of violations exists or has existed, the permit shall be either suspended or revoked and the permittee directed to complete necessary reclamation operations.

(h) *Other remedies preserved.* No provision in this section shall be interpreted as replacing or superseding any other remedies of the Indian mineral owner as set forth in the contract or otherwise available at law.

SECTION 177.114 - CIVIL PENALTIES.

(a) *Scope.* This section covers the assessment of civil penalties for violations of a permit condition, or any provision of the regulations in this subpart. This section governs when a civil penalty is assessed and how the amount is determined and sets forth applicable procedures. This section applies to cessation orders and notices of violation issued to permittees or operators under Section 177.113 during a Federal inspection.

(b) *When assessment made.* (1) The Office will review each notice of violation and cessation order issued in accordance with the assessment procedures described in this section to determine whether a civil penalty will be assessed, the amount of the penalty and whether each day of a continuing violation will be deemed a separate violation for purposes of the total penalty assessed.

(2) The Office shall assess a civil penalty for each violation contained in a cessation order. If a cessation order is issued for a condition or practice which is not a violation, no civil penalty shall be assessed.

(3) In determining whether to assess a civil penalty the Office shall consider:

(i) The permittee or operator's history of previous violations at the particular coal mining operation;

(ii) The seriousness of the violation;

(iii) Whether the permittee or operator is negligent; and

(iv) The demonstrated good faith of the permittee or operator in attempting to achieve rapid compliance after notification of the violation. The Office shall make this determination by use of a point system described in paragraph (c) of this section.

(c) *When to assess after a notice of violation - (1) General.* - The Office determines whether to assess a penalty following the issuance of a notice of violation by a point system that takes into account the four criteria in paragraph (b)(3) of this section. Points are assigned based on each of the four criteria. If the total is more than 30 points, a penalty is assessed.

(2) *History of previous violations.* The Office shall assign one point for each past violation and five points for each past cessation order issued as a result of a violation up to a maximum of 30 points. Each violation which underlies a cessation order shall be counted separately from the cessation order itself. Violations and cessation orders which shall be counted are those, resulting from a Federal inspection, that have not been vacated or dismissed at the time of the assessment being computed and that occurred or were issued within the year preceding the violation under consideration. The Office shall count each violation without regard to whether it led to a civil penalty assessment. [Page 46366]

(3) *Seriousness.* The Office shall assign up to 30 points based on the seriousness of the violation according to the following schedules.

(i) *Probability of occurrence.* The probability of the occurrence of the event against which a standard is directed may account for a maximum of 15 penalty points. The Office shall use the following definitions and schedules.

(A) Probability of occurrence:

Points

None or insignificant	0-5
Unlikely	5-10
Likely	10-15
Occurred	15

(ii) *Extent of potential or actual damage.* The extent of the potential or actual damage in terms of area and impact on the public or environment may account for a maximum of 15 penalty points based on the following -

(A) If the damage or impact against which the standard violated is designed to protect would remain within the permit area (or in the case of a deep mine, the area of surface structures), the Office shall assign zero to seven points depending on the duration and extent of the damage or impact.

(B) If the damage or impact, against which the standard violated is designed to protect, would extend outside the permit area (or in the case of a deep mine, the area of surface structures), the Office shall assign eight to fifteen points depending on the duration and extent of the damage or impact.

(C) The Office shall assign up to 15 points for seriousness for any failure to keep records, to give notice or to conduct any measuring or monitoring required by the regulations or a permit based upon the extent to which enforcement is obstructed. If the method of assigning points for seriousness under subdivision (i) and (ii) of this subparagraph produces more points, the higher points shall be assigned.

(4) *Negligence.* (i) The Office shall assign up to 25 points based on the negligence of the permittee or operator, either through act or omission, in causing or failing to correct the condition or practice which is a violation. A violation which occurs through no negligence shall not be assigned penalty points for negligence. A violation which is caused by negligence shall be assigned 12 points or less depending on the degree of negligence. A violation which occurs through a greater degree of fault than negligence shall be assigned 13 through 25 penalty points depending on the degree of fault.

(ii) In determining the degree of negligence involved in a violation and the number of penalty points to be assigned, the following definitions apply -

(A) *No negligence* means an inadvertent violation of the regulations or permit conditions which was unavoidable by the exercise of reasonable care.

(B) *Negligence* means the failure of a permittee or operator to prevent the occurrence of any violation of his permit or any requirement of the regulations due to indifference, lack of diligence, or lack of reasonable care, or the failure to correct any violation of such permit or the Act or the regulations due to indifference, lack of diligence or lack of reasonable care.

(C) Examples of greater degree of fault than negligence are reckless, knowing or intentional conduct.

(iii) In calculating points to be assigned for negligence, the actions of all persons working on the mine site shall be attributed to the permittee or operator.

(5) *Good faith in attempting to achieve compliance.* (i) The Office shall subtract or add points based on the degree of good faith of the permittee or operator in attempting to achieve rapid compliance after notification of the

violation. The points shall be assigned according to the following schedule –

Degree Of Good Faith:	Points
Rapid	-10
Normal	0
Lack of good faith	10

(ii) In determining the permittee's or operator's degree of good faith in attempting to achieve rapid compliance, the following definitions apply -

(A) *Rapid compliance* means that the permittee or operator took extraordinary measures to abate the violation in the shortest possible time and that abatement was achieved more rapidly than reasonably required.

(B) *Normal compliance* means the permittee or operator abated the violation within the time given for abatement.

(C) *Lack of good faith* means the permittee or operator did not show diligence in attempting to abate the violation and the violation was not timely abated.

(iii) If the consideration of this criteria is impractical because the length of the abatement period, the assessment may be made without considering this criteria. Any such assessment may be reconsidered upon the permittee or operator's request after abatement is completed.

(d) *Determination of amount of penalty.* The Office shall determine the amount of any civil penalty by converting the total number of points assigned under paragraph (c) of this section to a dollar amount according to the following schedule:

25 and below	\$500.
26	\$600.
27	\$700.
28	\$800.
29	\$900.
30	\$1,000.
31	\$1,100.
32	\$1,200.
33	\$1,300.
34	\$1,400.
35	\$1,500.
36	\$1,600.
37	\$1,700.
38	\$1,800.
39	\$1,900.
40	\$2,000.
41	\$2,100.
42	\$2,200.
43	\$2,300.
44	\$2,400.
45	\$2,500.
46	\$2,600.
47	\$2,700.
48	\$2,800.
49	\$2,900.
50	\$3,000.
51	\$3,100.
52	\$3,200.
53	\$3,300.
54	\$3,400.
55	\$3,500.
56	\$3,600.

57	\$3,700.
58	\$3,800.
59	\$3,900.
60	\$4,000.
61	\$4,100.
62	\$4,200.
63	\$4,300.
64	\$4,400.
65	\$4,500.
66	\$4,600.
67	\$4,700.
68	\$4,800.
69	\$4,900.
70 and above	\$5,000.

(e) *Assessment of separate violations for each day.* (1) If a cessation order is issued for failure to abate a violation within the time set in a prior notice of violation or cessation order, the Office shall assess separately each day the violation underlying the cessation order remains unabated. The daily penalty shall be the amount assessed for the violation or \$7 50.00, whichever is greater. The daily assessment of a penalty shall not be made for any period that the obligation to abate is suspended.

(2) The Office may assess separately each day of any continuing violation. In making this determination, the Office shall consider the factors listed in paragraph (c) of this section and any economic benefit to the permittee or operator which resulted from a failure to comply.

(3) The Office shall separately assess a minimum of two days for any continuing violation which is assigned more than 70 points under subsection (c).

(f) *Procedures for assessment of civil penalties.* (1) Within 10 days of service of a notice or order, the permittee or operator may submit information in writing pertaining to the violation involved to the District Office with jurisdiction over the mine and to the inspector who issued the notice or order. The Office shall consider any information so submitted in determining the facts surrounding the violation and the amount of the penalty.

(2) The Office shall serve the permittee or operator, by certified mail return receipt requested, within 30 days of the issuance of the notice or order, with a copy of the proposed assessment and of the worksheets showing the computation.

(g) *Procedure for conference.* (1) If a written request from the permittee or operator is received within 15 days from receipt of a proposed assessment, the Office shall arrange for a conference to review the assessment. The permittee or operator may submit additional material for consideration during the conference. [Page 46367]

The Office may contact the permittee or operator to discuss the assessment prior to the conference if necessary to expedite the review.

(2) The Office shall consider all relevant information on the violation in question presented by the permittee or operator and may recalculate either up or down or vacate the proposed penalty. No information as to which the permittee or operator claims confidentiality shall be considered as a basis for reduction of a proposed assessment. When new facts warrant the imposition of a higher penalty, it shall be proposed in the manner provided in paragraph (f) of this section. Every change in a proposed assessment shall be fully documented in the file including a written explanation of the reason the penalty has changed.

(3) Notice of the time and place of the conference shall be posted at the Office of Surface Mining Reclamation and Enforcement field office with jurisdiction over the mine at least five days prior to the conference. Any person shall have a right to attend the conference.

(4) If the issues are resolved, the agreement shall be in writing and signed by both parties. If payment is not received within 10 days, the Office may -

- (i) Enter the agreed upon amount as a final order of the Secretary; or
- (ii) Rescind the agreement and reinstate the original proposed assessment.

(5) A reduction of a proposed civil penalty assessment of more than 25 percent and more than \$5 00 agreed to during a conference shall be approved by the Regional Director or his designee before it is final and binding on the Secretary.

(h) *Request for hearing.* (1) Within 30 days from receipt of the proposed assessment, the permittee or operator may request a hearing before the Office of Hearings and Appeals by filing a petition and tendering full payment of the proposed assessment to be held in escrow.

(2) The timely filing of a request for a conference under paragraph (g) of this section suspends the running of the 30day period for requesting a hearing. The suspension shall continue until the completion of the conference, which shall be held within 60 days from the date of the request for the conference. The permittee or operator shall have 15 days after completion of the conference to request a public hearing.

(3) The Office of Hearing and Appeals conducts the hearings and issues orders or otherwise terminates the petition pursuant to its procedures in 43 CFR Part 4. The Office of Hearings and Appeals may determine whether a violation occurred. When determining the amount of the penalty the Office of Hearings and Appeals shall use the point system and conversion table contained in this part.

(i) *Availability of records.* All records and files created or used in the assessment process under this part shall be available for public inspection.

(j) *Notice to tribe.* Appropriate officials of the local governing Indian tribe shall be notified of any hearings or conferences conducted pursuant to this section, and shall be invited to attend.

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