

EXHIBIT B

Wyoming Rules and Regulations Currentness

Department of Environmental Quality

Land Quality - Coal

Chapter 2. Permit Application Requirements for Surface Coal Mining Operations

WY Rules and Regulations ENV LQC Ch. 2 s 4

Section 4. Other Baseline Requirements.

(a) A description of the lands to be affected within the permit area, how these lands will be affected, for what purpose these areas will be used during the course of the mining operation, and a time schedule for affecting these lands. This description shall include a description of:

(i) The major past and present uses of the proposed permit area and adjacent lands. Previous uses of affected lands must be ranked on an individual basis according to the overall economic or social value of the land use to the landowner, community, or area in which these lands are found. The Administrator of the Land Quality Division shall bear the responsibility of making the final decision on the ranking of land uses in a particular area. This decision must be based on information concerning the economy, historical use of the area and the needs and desires of the landowner. The Land Quality Advisory Board may be consulted for suggestions or recommendations on the ranking of land uses in a given area. The present land uses shall be listed using the definitions of Chapter 1, and the vegetation communities which comprise each land use shall be presented.

(ii) The capability of the land prior to mining to support a variety of uses, giving consideration to soil and foundation characteristics, topography, vegetative cover, and the land's history of previous mining, if any, and the uses of the land preceding mining; as well as the land use classification under local law, if any, of the proposed permit area and adjacent areas.

(iii) Annual precipitation - the operator shall submit an estimated total annual precipitation for the proposed permit area. Data from the nearest official weather reporting station may be used. Operations more than 50 miles from an official weather station that are permanently staffed may be required to keep precipitation records.

(iv) Average wind direction and velocity - the operator shall submit the average wind direction and velocity recorded at the nearest official weather station or as measured at the site.

(v) Prime farmland information, which shall include, after a preapplication investigation of the proposed permit area, either:

(A) A request for a determination that the land not be considered prime farmland on the basis that either the land has not had a history of intensive agricultural use; or there are no soil map units that have been designated prime farmland by the Natural Resource Conservation Service in accordance with 7 CFR 657 (Federal Register Vol. 43, No. 21) and the Memorandum of Understanding between the Conservation Districts and the Soil Conservation Service, or

(B) Where prime farmland occurs on proposed affected land, an application which shall be submitted in accordance with Chapter 3.

(vi) Studies of fish, wildlife, and their habitats, in the level of detail and for those areas as determined by the Administrator, after consultation with the Wyoming Game and Fish Department in accordance with the Memorandum of Understanding between the two agencies; and Federal agencies having responsibilities for the management or conservation of such environmental values, including:

(A) A list of indigenous vertebrate wildlife species within and adjacent to the permit area by common and scientific names. The area of survey for the possible presence of threatened or endangered species shall be on or within one mile of the permit area.

(B) If critical habitat disruption is likely, the U.S. Fish and Wildlife Service and Wyoming Game and Fish Department shall be contacted by the Administrator. If crucial or important habitat or migration route disruption is likely, the Wyoming Game and Fish Department shall be contacted by the Administrator. Contacting the appropriate agency(ies) is required in order to determine the types and numbers of wildlife likely to be disturbed or displaced.

(vii) A detailed description, prepared or certified by a licensed professional geologist, or other qualified professional (as required by W.S. § 33-41-101 through 121), of the geology within the proposed permit area down to and including any aquifer to be adversely affected by mining below the lowest coal seam to be mined. The description shall include the aerial and structural geology of the permit area and, by extrapolation, adjacent areas, including geologic parameters which influence the required reclamation, and the occurrence, availability, movement, quantity, and quality of potentially affected surface and groundwaters.

(viii) For the proposed permit area and, by extrapolation, adjacent areas, characterization of the geologic strata down to and including the deeper of either the stratum immediately below the lowest coal seam to be mined, or any aquifer below the lowest coal seam to be mined which may be adversely impacted by mining. This information shall include a statement of the results of test borings or core samples which have been collected and analyzed to show:

(A) Location of any groundwater;

(B) Lithologic characteristics and thickness of each stratum and each coal seam;

(C) Physical and chemical properties including the toxic and acid-forming properties of each stratum within the overburden; and

(D) Chemical analyses for acid or toxic-forming substances of the coal seam, including the total sulphur and pyritic sulphur content. The Administrator may waive in whole or in part the requirements of these paragraphs if he makes a written finding that the testing is unnecessary because other equivalent information is available to him in a satisfactory form.

(ix) Maps and cross-sections of the area, certified by a registered professional engineer, licensed professional geologist, or other qualified professional (as required by W.S. § 33-29-139 and 33-41-101 through 121), showing:

(A) Nature, depth and thickness of any coal seams to be mined or above those to be mined, each stratum of the overburden, and the stratum below the lowest coal seam to be mined;

(B) All coal crop lines and the strike and dip of the coal to be mined within the proposed permit area;

(C) Location and extent of existing or previously surface mined or underground mined areas within the proposed permit area and adjacent areas;

(D) Sufficient slope measurements of the proposed permit area measured and recorded at such distances as the Administrator determines to be representative of the premining configuration and reflect geomorphic differences of the land to be mined;

(E) The location of water supply intakes for current users of surface water flowing into, out of and within a hydrologic area defined by the Administrator, and those surface waters which will receive discharges from affected areas in the proposed permit area;

(F) The location of areas on which mining is limited or prohibited within or adjacent to the permit area, pursuant to Chapter 12, Section 1(a)(v), Land Quality Rules and Regulations;

(G) Elevations and locations of test borings and core samplings;

(H) Elevations and locations of monitoring stations used to gather data for water quality and quantity, fish and wildlife, and air quality in preparation of the application; and

(I) Other relevant information required by the Administrator.

(x) Overburden, topsoil, subsoil, mineral seams or other deposits.

(A) Overburden - the operator shall submit a description including the thickness, geological nature (rock type, orientation, etc.), the presence of toxic, acid-forming, or vegetative-retarding substances, or any other factor that will influence the mining or reclamation activities.

(B) Topsoil and subsoil information including a soil survey of the affected lands conducted in accordance with the standards of the National Cooperative Soil Survey of the U.S. Department of Agriculture. If alternative materials are proposed to be used as a supplement to or substitute for topsoil, their suitability shall be demonstrated in accordance with Chapter 4, Section 2(c)(ix).

(I) Topsoil - the operator shall submit a description of the thickness and nature of the topsoil, if any, over the proposed affected lands. A soils survey and soil analyses conducted in accordance with standard methods acceptable to the Administrator, may be required to show variations in topsoil depth and suitability.

(II) Subsoil - the nature, thickness and distribution of the subsoil, if any, shall be described over the proposed affected lands. Detailed analyses of the subsoil may be required, if there is reason to suspect it may be of better quality for revegetation than the topsoil, or if it is to function as a topsoil supplement in reclamation efforts. If the subsoil is suspected of containing substances that might cause pollution or hinder reclamation, analyses will provide a basis for determining how to handle this material during reclamation.

(C) Mineral seams or other deposits - the operator shall submit a description of the mineral seams in the proposed permit area, including, but not limited to, their depth, thickness, orientation (strike and dip), and rock or mineral type. Maps or geologic cross-sections may be used to illustrate the description of the mineral seams.

(xi) Complete information on surface water for the permit area and adjacent areas. This shall include the following:

(A) The operator shall list and describe the name and location for the present surface waters in and adjacent to the proposed permit area. The list shall include, but not be limited to, rivers, creeks, lakes, reservoirs, springs and marshes. Streams shall be classified as ephemeral, intermittent or perennial;

(B) The operator shall submit a description of the immediate drainage area which includes the proposed permit area. Surface water use shall be identified as to domestic, municipal, industrial, agricultural, and wildlife;

(C) Baseline monitoring information of surface water quantity within the permit area which is representative of the surface hydrologic system. Water quantity descriptions shall include, at a minimum, baseline information on seasonal flow rates, and identification of drainage area acreage; and

(D) Water quality data sufficient to identify seasonal variation. All surface water-quality sampling and analyses performed to meet the requirements of this Section shall be conducted according to the methodology in the 20th edition of "Standard Methods for the Examination of Water and Wastewater," or the methodology in 40 CFR Part 136 - "Guidelines Establishing Test Procedures for the Analysis of Pollutants," as amended on January 16, 2001. Contact the Land Quality Division for information on how to obtain a copy of either reference materials. The data shall include at a minimum:

(I) Total dissolved solids (mg/l);

(II) Total suspended solids (mg/l);

(III) pH (standards units);

(IV) Total and dissolved iron (mg/l); and

(V) Total manganese (mg/l).

(E) Baseline alkalinity and acidity information shall be provided if there is a potential for acid drainage from the proposed mining operation.

(xii) Complete information on groundwater which may be affected in the permit area and adjacent areas. This shall include the following:

(A) The operator shall submit an estimate of the depth and quantity of any groundwater existing in the proposed permit area down to and including the strata immediately below the lowest mineral seam to be mined. The operator may be required to conduct test drilling and monitoring in order to determine the exact depth, quantity and quality of groundwater in geological formations affected by the mining operations. Such drilling will require permits from the State Engineer's Office;

(B) The lithology and thickness of all known aquifers;

(C) All water-quality sampling and analyses performed to meet the requirements of this Section shall be conducted according to the methodology in the 20th edition of "Standard Methods for the Examination of Water and Wastewater" or the methodology in 40 CFR Part 136 - "Guidelines Establishing Test Procedures for the Analysis of Pollutants," as amended on January 16, 2001. Contact the Land Quality Division for information on how to obtain a copy of either reference materials. The data shall include at a minimum:

(I) Total dissolved solids (mg/l);

(II) Total and dissolved iron (mg/l);

(III) Total manganese (mg/l); and

(IV) pH (standard units).

(D) According to the parameters and in the detail required by the Administrator, the recharge, storage, and discharge characteristics of the groundwater.

(xiii) Water rights.

(A) The operator shall list by name and owner all known adjudicated and permitted water rights on the proposed permit area and adjacent lands.

(B) The operator shall submit a list by name and owner of all existing water wells on the proposed permit area and adjacent lands, including all wells filed with the State Engineer's Office three miles or less from the proposed permit area. A survey of the premining water levels in the above wells may be required.

(xiv) A description of the surface water and groundwater and related geology in the permit area and general area sufficient to assess the probable hydrologic consequences (PHC). If the determination of the PHC required by Chapter 19, Section 2(a)(i) indicates that adverse impacts on or off the proposed permit area may occur to the hydrologic balance, or that acid-forming or toxic material is present that may result in the contamination of groundwater or surface water supplies, then information supplemental to that required under (a)(xi) and (a)(xii) of this Section shall be provided to evaluate such PHC and to plan remedial and reclamation activities. Such supplemental information may be based upon drilling, aquifer tests, hydrogeologic analysis of the water-bearing strata, flood flows, or analysis of other water-quality or quantity characteristics.

(xv) Information concerning the presence or absence of an alluvial valley floor within the permit area or on adjacent areas in accordance with Chapter 3.

(xvi) The location of existing man-made features to include roads, railroads, reservoirs, public or private rights-of-way and easements, utility lines, pipelines, oil wells, gas wells, and water wells.

(xvii) Boundaries and descriptions of all cultural, historic and archaeological resources listed on, or eligible for listing on, the National Register of Historic Places. In compliance with the Archaeological Resources Protection Act of 1979 (P.L. 96-95), this information shall not be placed on display at the county clerk's office (as required by W.S. § 35-11-406(d)) where such resources occur on lands owned by the United States. This information shall be clearly labeled as "Confidential" and submitted separately from the remainder of the application materials. Requests to disclose confidential information shall be administered under the Department of Environmental Quality, Rules of Practice and Procedure, the Wyoming Public Records Act (W.S. §§ 16-4-201 thru 16-4-205 (2007)) and the Wyoming Environmental Quality Act (2007).

(xviii) A description of any significant artifacts, fossil or other article of cultural, historical, archaeological or paleontological value. Upon recommendation by a qualified archaeologist or a qualified paleontologist, the Administrator may require an evaluation of the proposed permit area prior to the time that a permit or license is issued.

Credits

Date Filed 08/27/2014

Current through April 14, 2017.

WY Rules and Regulations ENV LQC Ch. 2 s 4, WY ADC ENV LQC Ch. 2 s 4

Wyoming Rules and Regulations Currentness
Department of Environmental Quality
Land Quality - Coal
Chapter 2. Permit Application Requirements for Surface Coal Mining Operations

WY Rules and Regulations ENV LQC Ch. 2 s 5

Section 5. Mine Plan.

(a) In addition to that information required by W.S. § 35-11-406(b), each application for a surface coal mining permit shall contain:

(i) A complete operations plan proposed to be conducted during the life of the mine including:

(A) A narrative description of the type and method of mining, the number of acres that will be affected annually, overburden and mineral removal and transport, anticipated annual and total production by tonnage, and the major equipment to be used for all aspects of the operations.

(B) A map showing the estimated orderly progression of mining and reclamation on all proposed affected lands.

(C) The size, sequence and timing of the areas for which it is anticipated that renewed permits for mining will be requested over the estimated total life of the proposed operation.

(D) Cross-sections, and/or maps and plans of the area to be mined during the term of the permit, unless required for the permit area by the Administrator or as specified below, certified by a registered professional engineer or professional geologist, showing:

(I) Location of proposed water treatment control and monitoring facilities;

(II) Location of each proposed explosive storage and handling facility;

(III) Location and construction of each proposed waste disposal facility relating to coal processing or pollution control;

(IV) Location of and typical design for surface water and groundwater hydrologic control methods including proposed temporary impoundments, sedimentation ponds, diversions, stream channels, erosion control methods, and water treatment, water storage, water collection and discharge facilities. The location and typical design of permanent impoundments and general location of the above described hydrologic control methods shall be provided for the permit area;

(V) The location, construction and maintenance of coal stockpiles, temporary and excess spoil piles shall be provided for the permit area;

(VI) Location of permanently fixed signs and markers in accordance with and meeting the requirements of Chapter 4, Section 2(o); and

(VII) Location and description of any undisturbed natural barrier which is proposed to be provided to prevent slides and erosion, in accordance with the requirements of Chapter 4, Section 2(s).

(ii) A narrative and a map of the permit area identifying the location of existing structures, a description of their use and maintenance, and an explanation of whether they meet the requirements of Chapter 4 or the plan for removal, if required, or modification to comply with those standards in a manner which protects the environment and public health and safety.

(iii) A description of the measures to be used to maximize the use and conservation of the coal resource as required in Chapter 4, Section 2(v).

(iv) A description of the contingency plans which have been developed to preclude sustained combustion of any materials constituting a fire hazard.

(v) A description, plans, and drawings for each mine facility to be constructed, used, or maintained within the proposed permit area. The plans and drawings shall include a map, appropriate cross-sections, design drawings, and specifications sufficient to demonstrate compliance with section 2(n) of Chapter 4 for each facility.

(vi) A map of the permit area which clearly shows that a railroad spur(s) which provides exclusive service to that particular permit is being included within the permit boundary from the point that it provides such service. This spur(s) shall be covered by a reclamation bond.

(vii) A blasting plan for the area to be mined during the term of the permit, which shall include:

(A) Proposed compliance with limitations on ground vibration and airblast, the basis for those limitations, and methods to be applied in controlling the adverse effects of blasting operations. The applicant should also include:

(I) A blasting plan which depicts the worst-case scenario (i.e., the maximum probable amount of explosives to be detonated in any eight millisecond period).

(II) The identification, direction and distance, in feet to the nearest dwelling, public building, school, church, and community or institutional building from any blasting area during the term of the permit. This paragraph shall not apply if the building is owned by the operator and not leased to another or, if leased, the lessee signs a waiver relieving the operator from meeting the limitations in Chapter 6.

(B) If blasting operations will be conducted within 1,000 feet of any building used as a dwelling, public building, school, church, and community or institutional building outside the permit area, or within 500 feet of an active or abandoned underground mine, an anticipated blast design, prepared and signed by a certified blaster. The design shall contain sketches of the drill patterns, delay periods, and decking and shall indicate the type and amount of explosives to be used, critical dimensions, and the location and general description of structures to be protected, as well as a discussion of design factors to be used which protect the public and meet the applicable airblast, flyrock and ground vibration standards in Chapter 6. This paragraph shall not apply if the building is owned by the operator and not leased to another or, if leased, the lessee signs a waiver relieving the operator from meeting the limitations in Chapter 6.

(C) Description and location of blasting monitoring, warning and site access control equipment and procedures proposed to be used pursuant to Chapter 6, Section 4.

(D) Description of procedures and plans for recording and retaining information required by Chapter 6, Section 5.

(E) A sample copy of the public notices required by Chapter 6, Section 3.

(F) Other information requested by the Administrator which he determines necessary to ensure compliance with Chapter 6.

(viii) A plan for minimizing adverse impacts to fish, wildlife and related environmental values within and adjacent to the permit area during the operation and how enhancement of these resources will be achieved where practicable. Where a plan does not include enhancement measures, the applicant shall affirmatively demonstrate why such measures are not practicable. The plan shall include:

(A) Whether such resources will be enhanced through successful revegetation and other enhancement measures in accordance with Chapter 4, Section 2(r);

(B) A statement of how the applicant will utilize monitoring methods as specified in Appendix B of these rules and regulations, and impact control measures and management techniques to protect or enhance the following, if they are likely to be affected by the proposed operation:

(I) Threatened or endangered species of plants or animals listed by the Secretary under the Endangered Species Act of 1973, as amended (16 U.S.C. Section 1531 et seq.) and their critical habitats;

(II) Species identified through the consultation process described in Section 4(a)(vi); and

(III) Important habitats for fish and wildlife, such as wetlands, riparian areas, rimrocks, areas offering special shelter or protection, reproduction and nursery areas, and wintering areas.

(C) Upon request, the Administrator shall provide the resource information required under paragraph (B) of this Section and that required by Section 4(a)(vi) of this Chapter to the U.S. Department of the Interior, Fish and Wildlife Service regional or field office for their review. This information shall be provided within 10 days of receipt of the request from the Service.

(ix) A plan to ensure the protection of the quantity and quality of, and rights to, surface water and groundwater both within and adjacent to the permit area, which shall include:

(A) A plan and timetable for control and treatment of surface water and groundwater in accordance with Chapter 4, Section 2(e)-(h);

(B) A plan for sediment removal and disposal;

(C) A plan to restore the approximate recharge capacity of the permit area in accordance with Chapter 4, Section 2(h);

(D) A plan to collect, record and report water quantity and quality data according to Chapter 4, Section 2(i); and

(I) Surface water monitoring plan.

(1.) The application shall include a monitoring plan based upon the PHC determination required under subsection 5(a)(x) of this Chapter and the analysis of all baseline hydrologic, geologic, and other information in the permit application. The plan shall provide for the monitoring of parameters that relate to the suitability of the surface water for current and approved postmining land uses and to the objectives for protection of the hydrologic balance as set forth in subsection 5(a)(ix) of this Chapter.

(2.) The plan shall identify the surface water quantity and quality parameters to be monitored, sampling frequency, and site locations. At a minimum, the parameters specified in Section 4(a)(xi)(C) and (D) of this Chapter shall be measured. Results of monitoring shall be available for inspection at the mine and available to the Director's designated authorized representative, and shall be reasonably current. Surface water monitoring shall be conducted quarterly unless an alternate frequency, appropriate to the monitored site, is approved by the Administrator. Results of monitoring shall be submitted in the annual report for each monitoring location.

(3.) The plan shall describe how the data may be used to determine the impacts of the operation upon the hydrologic balance.

(II) Groundwater monitoring plan.

(1.) The application shall include a groundwater monitoring plan based upon the PHC determination required under subsection 5(a)(x) of this Chapter and the analysis of all baseline hydrologic, geologic, and other information in the permit application. The plan shall provide for the monitoring of parameters that relate to the suitability of the groundwater

for current and approved postmining land uses and to the objectives for protection of the hydrologic balance set forth in subsection 5(a)(ix) of this Chapter.

(2.) The plan shall identify the quantity and quality parameters to be monitored, sampling frequency, and site locations. It shall describe how the data may be used to determine the impacts of the operation upon the hydrologic balance. At a minimum, the parameters specified in Section 4(a)(xii)(C) of this Chapter and water levels shall be measured. Groundwater monitoring shall be conducted quarterly unless an alternate frequency, appropriate to the monitored site, is approved by the Administrator. Results of monitoring shall be available for inspection at the mine and available to the Director's designated authorized representative, and shall be reasonably current. Results of monitoring shall be submitted in the annual report for each monitoring location.

(E) A plan to provide alternative sources of water in accordance with W.S. § 35-11-415(b)(xii), where the protection of quantity or quality cannot be ensured as determined under the requirements of (x) below.

(x) Probable hydrologic consequences determination (PHC). A determination of the PHC of the proposed operation on the hydrologic regime and the quantity and quality of surface water and groundwater systems within the permit area and the general area consistent with the information required in Chapter 19, Section 2 of these regulations. The PHC determination shall be based on baseline hydrologic, geologic and other information collected for the permit application and may include data statistically representative of the site. This determination shall specifically address potential adverse hydrologic consequences and describe preventive and remedial measures.

(xi) An evaluation of the impact of the proposed mining activities that may result in contamination, diminution, or interruption of the quality and quantity of groundwater or surface water within the proposed mine permit area or adjacent areas that are used for domestic, agricultural, industrial, or other legitimate purposes. If contamination, diminution, or interruption may result, then the application shall identify the alternative sources of water supply that could be developed to replace the existing sources in accordance with State law.

(xii) A general plan for each coal-processing waste bank. It shall contain a description, map, and cross-section of the structure and its location, preliminary hydrologic information required to assess the hydrologic impact of the bank, and any additional information the Administrator may deem necessary to show compliance with Chapter 4, Section 2(c). Where the applicant proposes to return coal-processing waste to abandoned underground workings, the application shall:

(A) Describe the design, operation and maintenance of any proposed coal-processing waste disposal facility, including flow diagrams and any other necessary drawings and maps, for the approval of the Administrator and the Mine Safety and Health Administration;

(B) Describe the sources and quality of waste to be stowed, area to be backfilled, percent of the mine void to be filled, method of constructing underground retaining walls, influence of the backfilling operation on active underground mine operations, surface area to be supported by the backfill and the anticipated occurrence of surface effects following backfilling;

(C) Describe the source of the hydraulic transport mediums, method of dewatering the placed backfill, retainment of water underground, treatment of water if released to surface streams, and the effect on the hydrologic regime;

(D) Describe each permanent monitoring well to be located in the backfilled area, the stratum underlying the mined coal, and gradient from the backfilled area except where pneumatic backfilling operations are exempted from hydrologic monitoring; and

(E) Be approved by MSHA as well as the Administrator prior to implementation.

(xiii) For surface mining activities to be conducted within 500 feet of an underground mine, measures to be used to comply with Chapter 4, Section 2(t).

(xiv) Plans describing the measures to be taken to obtain permit approval regarding areas where mining would be otherwise limited or prohibited pursuant to Chapter 12, Section 1(a)(v).

(xv) Descriptions, including appropriate maps and cross-sections of any proposed excess spoil disposal site and design of the spoil piles in accordance with the requirements of Chapter 4, Section 2(c). This shall contain the results of a geotechnical investigation of the proposed excess spoil disposal site, including the following:

(A) The character of bedrock and any adverse geologic conditions in the disposal area;

(B) A survey identifying all springs, seepage, and groundwater flow observed or anticipated during wet periods in the area of the disposal site;

(C) Where applicable, an evaluation of the potential effects of subsidence of the subsurface strata due to past and future mining operations;

(D) A stability analysis including, but not limited to, strength parameters, pore pressures and long-term seepage conditions. These data shall be accompanied by a description of all engineering design assumptions and calculations and the alternatives considered in selecting the specific design specifications and methods; and

(E) If, under Chapter 4, Section 2(c)(xi)(F), special structural provisions are required for spoil disposal on overall slopes greater than 20 degrees, information on:

(I) The number, location and depth of borings or test pits which shall be determined with respect to the size of the spoil disposal structure and subsurface conditions; and

(II) The engineering designs, design rationale and design calculations for the special structural provisions, which are based on the information required in paragraph (D) above.

(xvi) Road Systems.

(A) Each applicant shall submit plans and drawings for each road as defined in Chapter 1 to be constructed, used, or maintained within the proposed permit area. The plans and drawings shall:

(I) Include a map, appropriate cross-sections, design drawings and specifications for road widths, gradients, surfacing materials, cuts, fill embankments, culverts, bridges, drainage ditches, drainage structures and low-water crossings;

(II) Contain the drawings and specifications of each proposed road that is located in the channel of an ephemeral stream that has the potential for sufficient flow to cause substantial environmental harm unless a downstream sediment control structure exists within the permit boundaries, any intermittent or any perennial stream, as necessary for approval of the road by the Administrator in accordance with Chapter 4, Section 2(j)(iv)(A);

(III) Contain the drawings and specifications for each proposed ford of intermittent or perennial streams that is used as a temporary route, as necessary for approval of the ford by the Administrator in accordance with Chapter 4, Section 2(j)(vii)(C)(II);

(IV) Contain a description of measures to be taken to obtain approval from the Administrator for alteration or relocation of a natural stream channel under Chapter 4 Section 2(j)(vii)(D)(V);

(V) Contain the drawings and specifications for each low-water crossing of an ephemeral stream channel that has the potential for sufficient flow to cause substantial environmental harm unless a downstream sediment control structure exists within the permit boundaries, any intermittent stream channel or any perennial stream channel so that the Administrator can maximize the protection of the stream in accordance with Chapter 4, Section 2(j)(vii)(D)(VI); and

(VI) Describe the plans to remove and reclaim each road that would not be retained under an approved postmining land use, and the schedule for this removal and reclamation.

(B) The plans and drawings for each primary road (as defined in Chapter 4, Section 2(j)(i)(B)) shall be prepared by, or under the direction of, and certified by a qualified registered professional engineer as meeting the requirements of this Chapter and current, prudent engineering practices.

(xvii) Plans for compliance with the temporary and permanent cessation of operations requirements contained in Chapter 4, Section 2(k) and (u).

(xviii) Plans of mine facilities (including overstrip areas) that are to be shared by two or more separately permitted mining operations may be included in one permit application and referenced in the other application(s). Each permittee shall bond the mine facilities unless the permittees sharing it agree to another

arrangement for assuming their respective responsibilities. If such agreement is reached, the application shall include a copy of the agreement between or among the parties setting forth the respective bonding responsibilities of each party for the mine facilities. The agreement shall demonstrate to the satisfaction of the Administrator that all responsibilities under the Act and regulations for the mine facilities will be met.

(xix) A Cultural Resources Management Plan which:

(A) Describes the measures to be used to prevent impacts to public parks or places listed on the National Register of Historic Places or, in cases of valid existing rights or where joint agency approval has been obtained, to minimize impacts to such parks or places;

(B) Provides for the mitigation of adverse effects to historic or archaeological properties eligible for listing on the National Register of Historic Places; and

(C) Ensures that the appropriate treatment measures or mitigation will be undertaken prior to the commencement of any specific mining operation that would affect such parks, places or properties.

(xx) A plan for the management and disposal of noncoal mine waste, including any noncoal wastes generated by a mine mouth electric power plant, coal drier or coal preparation plant within the proposed permit area in accordance with Chapter 4, Section 2(c)(xiii)(C).

Credits

Date Filed 08/27/2014

Current through April 14, 2017.

WY Rules and Regulations ENV LQC Ch. 2 s 5, WY ADC ENV LQC Ch. 2 s 5

Wyoming Rules and Regulations Currentness

Department of Environmental Quality

Land Quality - Coal

Chapter 2. Permit Application Requirements for Surface Coal Mining Operations

WY Rules and Regulations ENV LQC Ch. 2 s 6

Section 6. Reclamation Plan.

(a) The reclamation plan shall include a time schedule for each major step in the reclamation which coordinates the operator's reclamation plan with the mining plan in such a manner so as to facilitate reclamation at the earliest possible time consistent with Chapter 4, Section 2(k) and the orderly development of the mining property.

(b) The reclamation plan shall also describe how the operator will reclaim the affected lands to the proposed postmining land use in accordance with Chapter 4, Section 2(a) which shall include:

(i) A plan for topsoil and subsoil removal, storage, protection, and replacement; and for handling and disposal of all toxic, acid-forming, or otherwise hazardous materials, in accordance with Chapter 4, Section 2(c). This shall include a description with location maps and, where appropriate, typical topographic profiles of the mine facility area, mineral stockpiles, spoil piles, and topsoil and subsoil stockpiles. The location, and where required, the capacity of each stockpile shall be described and shown on a map. The application shall also explain how the topsoil will be replaced on the affected land during reclamation, including a description of the thickness of topsoil to be replaced and procedures that will be followed to protect the topsoil from excessive compaction and wind and water erosion until vegetation has become adequately established.

(ii) A plan for backfilling, grading and contouring of all affected lands in accordance with Chapter 4, Section 2(b). The plan shall include:

(A) A description of the reclaimed land surface with contour maps or cross-sections that show the final surface configuration of the affected lands.

(B) Where terraces or benches are proposed, detailed drawings shall be provided which show dimension and design of the terraces, check dams, any erosion prevention techniques and slopes of the terraces and their interval.

(C) Where permanent water impoundments are proposed, contour maps and cross-sections which show slope conditions around the impoundment and the anticipated high and low postmining water level. The plan shall contain a description of erosion control techniques and such other design criteria and water quality and quantity conditions to comply with Chapter 4, Section 2(g)(ii).

(D) Maps and descriptions necessary to demonstrate that the slopes of the reclaimed land surface do not exceed the approximate premining slopes.

(E) Procedures for assuring stability of the reclaimed land surface.

(iii) A plan to assure revegetation of all affected land in accordance with Chapter 4, Section 2(d). The plan shall include:

(A) The method and schedule of revegetation, including but not limited to species of plants, seeding rates, seeding techniques, mulching requirements and other erosion control techniques, and seeding times to be used in a given area for reclamation purposes.

(B) For crucial habitat and critical habitat, consultation with and approval obtained from the Wyoming Game and Fish Department for tree and shrub species composition and ground cover for minimum stocking and planting arrangements of trees and shrubs. Crucial habitat must be declared as such prior to the submittal of a permit application or any subsequent amendment.

(C) For important habitat, consultation with and recommendations obtained from the Wyoming Game and Fish Department for tree and shrub species composition and ground cover for minimum stocking and planting arrangements.

(D) The tree species, the number per species, and the location of tree plantings.

(E) A separate seed mix(es) shall be developed for each approved postmining land use, considering the dominant postmining topographic features and landowner desires.

(I) The species shall be described in the reclamation plan indicating the composition of seed mixtures and the amount of seed to be distributed on the area on a per acre basis.

(II) The species and varieties shall depend upon the climatic and soil conditions prevailing in the permit area and the proposed postmining landuses.

(III) The species shall be self-renewing;

(IV) Seeding rates shall depend upon seed types, climatic conditions and the techniques to be used in seeding;

(V) The seed mix shall contain introduced species only if:

(1.) Additional herbaceous species are needed; or

(2.) Suitable, native species are unavailable; or

(3.) For cropland or pastureland or;

(4.) Needed to achieve a quick, temporary, stabilizing cover to control erosion; or

(5.) Conducive to achieve a postmining land use approved by the Administrator.

(VI) The operator shall document, unless otherwise authorized by the Administrator, the suitability of introduced species using data from published literature, from experimental test plots, from on-site experience, or from other information sources.

(VII) For grazingland, the seed mix shall contain full shrub and/or subshrub species when these species will support the postmining land uses. To increase postmining species diversity and establish shrub mosaics, shrub mixtures shall be developed and seeded separately from the herbaceous mixtures.

(VIII) For federally owned surface, the federal land managing agency shall be consulted for mulching requirements and seeding requirements for cover crops, temporary and permanent reclamation.

(IX) The proposed postmining location of each seed mix shall be illustrated on a post mining contour map.

(F) Locations and/or conditions where the operator specifically requests approval not to use mulch.

(G) A weed control plan for State of Wyoming Designated Noxious and Designated Prohibited Weeds and, on federal surface, any additional weeds listed by the federal land managing agency.

(H) An explanation of any plans for irrigation.

(I) An explanation of pest and disease control measures, if appropriate;

(J) A plan for monitoring permanent revegetation on reclaimed areas, specifically including quantitative sampling, as required by Chapter 4, Section 2(d)(i)(J).

(iv) A plan for measurement of revegetation success to include:

(A) How a "Reference area" shall be used for cover and production, unless technical standards for cover and production have been approved for a projected postmine community. A "Reference area" is defined in Chapter 1, Section 2.

(B) The methods to be used for measuring the shrub density standard as approved by the Administrator.

(C) The methods to be used for evaluating the shrub density goal as approved by the Administrator, where applicable.

(D) The procedures to be used for measuring species diversity and composition as approved by the Administrator.

(E) If proposed, a technical success standard for a specified vegetation parameter. The technical success standard:

(I) Is derived from a sufficient number of years of baseline data so the standard value can be considered representative over a range of climatic conditions or a relationship between the parameter and climatic variables can be determined. For technical standards for cover and production, a minimum of five years of baseline data is necessary; and

(II) May be extended to an amendment area if the baseline information indicates the standard is applicable in that area.

(F) The procedures to be used as approved by the Administrator for the evaluation of restored postmining vegetation communities which carry the Cropland or Pastureland land use designation.

(G) If reforestation for commercial harvest is the method of revegetation, reforestation shall be deemed to be complete when a reasonable population density as established in the reclamation plan has been achieved, the trees have shown themselves capable of continued growth for a minimum period of five years following planting, and the understory vegetation is adequate to control erosion and is appropriate for the land use goal.

(v) Descriptions, including maps and cross-sections, of the surface water diversion systems which meet the requirements of Chapter 4, Section 2(e). Monitoring of surface and groundwater conditions may be required during the course of the operation based on the existing water conditions and the nature of the proposed operation. If so required, the application shall include a description of the location, construction, maintenance, and removal, where necessary, of such monitoring stations.

(vi) Where a permanent water impoundment is proposed as final reclamation, the application shall include:

(A) Written consent from the surface landowner if different than the mineral owner.

(B) A description of the proposed use of the impoundment.

(C) A statement of the source, quality and quantity of water available for impoundment and a statement regarding its suitability for recreational, irrigation, livestock or wildlife watering. If, upon review of this information, water quality and quantity are not reasonably demonstrated to be suitable for the postmining use, the applicant shall

be so notified in writing and shall be allowed to submit further documentation in support of the proposed impoundment to reasonably satisfy the Administrator. If the applicant is unable to demonstrate to the satisfaction of the Administrator that the water quality and quantity will be suitable for the postmining land use, the applicant shall provide an alternate plan.

(D) The operator may be required to monitor surface and groundwaters in order to determine that upon completion of the operation, the water quality and quantity will be consistent with the approved postmining use.

(E) A description of the construction of the impoundment so as to meet the requirements of Chapter 4, Section 2(g)(ii).

(vii) A plan to assure proper construction and reclamation of any tailings impoundments in accordance with the Act and these regulations.

(viii) A plan for the disposal of mine facilities, erected, used or modified by the applicant in accordance with the requirements of Chapter 4, Section 2(m).

(ix) A description of the measures to be used to seal or manage mine openings in accordance with Chapter 4, Section 2(p), and to cap, plug and seal all exploration holes, bore holes, wells and other openings, excepting developmental drill holes which will be mined through within one year, within the area to be mined during the term of the permit in accordance with Chapter 14. For developmental drilling the application shall contain general descriptions relating to spacing, data collection, and techniques which will be employed, including those which may be needed to comply with the plugging and sealing requirements of [W.S. § 35-11-404](#).

(x) A postmining land use plan, including:

(A) The necessary support and maintenance activities that may be needed to achieve the proposed land use.

(B) Where a land use is proposed different from the premining land use:

(I) A discussion of the utility and capacity of the reclaimed land to support a variety of uses and the relationship of the proposed use to existing land use policies and plans; and

(II) A comparison of the premining and postmining land uses. The premining uses of land to which the postmining land use is compared shall be those uses which the land previously supported, if the land has not been previously mined and has been properly managed.

(1.) The postmining land use for land that has been mined and not reclaimed shall be judged on the basis of the highest and best use that can be achieved and is compatible with surrounding areas without requiring unreasonable disturbance of areas previously unaffected by mining.

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

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

(C) Approval of alternative land uses shall require a demonstration that:

(I) The alternative land use is equal to or greater than the highest previous use;

(II) There is reasonable likelihood for achievement of the use;

(III) The use does not present any actual or probable hazard to public health or safety, or threat of water diminution or pollution; and

(IV) The use will not:

(1.) Be impractical or unreasonable;

(2.) Be inconsistent with applicable land use policies or plans;

(3.) Involve unreasonable delay in implementation; or

(4.) Cause or contribute to violation of Federal, State, or local law.

Credits

Date Filed 08/27/2014

Current through April 14, 2017.

WY Rules and Regulations ENV LQC Ch. 2 s 6, WY ADC ENV LQC Ch. 2 s 6

Wyoming Rules and Regulations Currentness

Department of Environmental Quality

Land Quality - Coal

Chapter 4. Environmental Protection Performance Standards for Surface Coal Mining Operations

WY Rules and Regulations ENV LQC Ch. 4 s 2

Section 2. General Environmental Protection Performance Standards

(a) Land uses.

(i) Reclamation shall restore the land to a condition equal to or greater than the "highest previous use." The land, after reclamation, must be suitable for the previous use which was of the greatest economic or social value to the community area, or must have a use which is of more economic or social value than all of the other previous uses.

(ii) Operators are required to restore wildlife habitat, whenever the Administrator determines that this restoration is possible, on affected land in a manner commensurate with or superior to habitat conditions which existed before the land became affected, unless the land is private and the proposed use is for a residential or agricultural purpose which may preclude its use as wildlife habitat.

(iii) Water impoundments used for recreational purposes shall be constructed in accordance with the statutes and (g) of this Section. Recreational lands, other than water impoundments, represent changes in the land which may or may not be suitable for wildlife habitat.

(b) Backfilling, grading and contouring.

(i) Rough backfilling and grading shall follow coal removal as contemporaneously as possible based upon the mining conditions. The operator shall include within the application for a permit to mine a proposed schedule for backfilling and grading with supporting analysis.

(ii) Backfilled materials shall be replaced in a manner which minimizes water pollution on and off the site and supports the approved postmining land use. Preparation of final graded surfaces shall be conducted in a manner that minimizes erosion and provides a surface for replacement of topsoil that will minimize slippage.

(iii) All affected lands shall be returned to their approximate original contour, except as authorized by a variance or exemption under Chapter 5, Sections 6 and 7, or Chapter 8, or Chapter 9.

(iv) All spoil shall be transported, backfilled, compacted (where necessary to insure stability or to prevent leaching) and graded to eliminate all highwalls, spoil piles, and depressions, except that:

(A) Soil conservation techniques and or small depressions may be employed to retain moisture, minimize erosion, create and enhance wildlife habitat or assist revegetation.

(B) Incomplete elimination of highwalls may be authorized in accordance with Chapter 5, Section 7.

(C) Retention of selected portions of a highwall or other steep feature created during the mining operation may be approved by the Administrator to remain as replacement for natural features that were mined out or are planned to be mined out under the current Mine Plan if the operator demonstrates that the retained highwall will:

(I) Have a static safety factor of 1.3 or greater and be of similar erosive resistance;

(II) Not pose a hazard to people using the area;

(III) Be backfilled to cover the uppermost mineable coal seam to a minimum depth of 4 feet;

(IV) Not exceed the length and height of the premine feature it is replacing;

(V) Be contoured into the surrounding terrain; and

(VI) Enhance or restore important wildlife habitat or hydrologic conditions.

(D) Spoil may be placed on an area outside the mined-out area to restore the approximate original contour by blending the spoil into the surrounding terrain if the following requirements are met.

(I) All vegetative and organic material shall be removed from the area.

(II) The topsoil on the area shall be handled in accordance with Section 2(c) of this Chapter.

(III) The spoil shall be backfilled and graded on the area in accordance with the requirements of this subsection 2(b).

(v) Postmining slopes shall not exceed a slope necessary to achieve a minimum long-term static safety factor of 1.3, to prevent slides and restore stable drainages and hillslopes.

(vi) Thin overburden. Where surface coal mining operations are proposed to be carried out continuously in the same limited pit area for more than one year from the day coal removal operations begin and where the volume of all available spoil and suitable waste materials over the life of the mine is demonstrated to be insufficient to achieve the approximate original contour considering bulking factor and coal removal, surface mining activities shall be

conducted to use all available spoil and suitable waste materials to attain the lowest practicable stable grade, but not more than the angle of repose, and to meet the requirements of paragraphs (ii) and (iv) above.

(vii) Thick overburden. Where the volume of spoil over the life of the mine is demonstrated to be more than sufficient to achieve the approximate original contours considering bulking factor, coal removal and subsidence of backfilled material, excess spoil may be placed outside the pit area in accordance with the requirements of subsection (c).

(viii) Permanent Impoundments: Where permanent impoundments are authorized in accordance with Chapter 2, Section 6(b)(vi), spoil that may result from the impoundment will be handled in accordance with the requirements of this subsection.

(c) Topsoil, subsoil, overburden, spoil, excess spoil, refuse, coal mine waste, acid-forming materials, toxic materials and other wastes.

(i) Topsoil.

(A) All topsoil or approved surface material shall be removed from all areas to be affected in the permit area prior to these areas being affected unless otherwise authorized by the Administrator. The topsoil may be mixed with the subsoil but shall be segregated so as not to become mixed with spoil or waste material, stockpiled in the most advantageous manner and saved for reclamation purposes. The Administrator may authorize topsoil to remain on areas where minor disturbance will occur such as signs, power poles, light traffic, fence lines, monitoring stations or drilling provided that the minor disturbance will not destroy the protective vegetative cover and will not increase erosion.

(B) When topsoil is not promptly redistributed, the topsoil or approved surface material shall be stockpiled on stable areas within the permit area in such a manner so as to minimize wind and water erosion and unnecessary compaction. In order to accomplish this, the operator shall establish, through planting or other acceptable means, a quick growing cover of vegetation on the topsoil stockpiles. The topsoil shall also be protected from acid or toxic materials, and shall be preserved in a usable condition for sustaining vegetation when placed over affected land. Provided however, where long-term disturbance will occur, the Administrator may authorize the temporary distribution of topsoil to enhance stabilization of affected lands within the permit area. Where this is authorized, the Administrator shall find that the topsoil or subsoil capacity and productive capabilities are not diminished, that the topsoil is protected from erosion, and will be available for reclamation.

(C) Reclamation shall follow mining as soon as is feasible so as to minimize the amount of time topsoil must be stockpiled. Where topsoil has been stockpiled for more than one year, the operator may be required to conduct nutrient analyses to determine if soil amendments are necessary.

(D) Topsoil stockpiles shall be marked with a legible sign containing letters not less than six inches high on all approach roads to such stockpiles. Said signs shall contain the word "Topsoil" and shall be placed not more than 150 feet from any and all stockpiles of topsoil. Such signs must be in place at the time stockpiling is begun.

(E) If abundant topsoil is present, and it is not all needed to accomplish the reclamation required in the approved reclamation plan, the Administrator may approve of use of this topsoil by this or another operator in another area for reclamation purposes.

(F) Trees, large rocks and other waste material which may hinder redistribution of topsoil shall be separated from the topsoil before stockpiling.

(ii) Subsoil.

(A) Except as provided in (B), all subsoil determined by field methods or chemical analysis to be suitable as a plant-growth medium shall be removed from all areas to be affected and handled in accordance with the topsoil requirements of this Section.

(B) Upon an adequate demonstration by the operator that all or a portion of the subsoil material is not needed to meet the revegetation and land use requirements of these regulations, the Administrator may authorize all or a portion of the subsoil to not be used for reclamation. The unused subsoil may then be regarded as overburden material and handled in accordance with the requirements of this Section.

(iii) The topsoil (A and E horizons) shall be segregated from the subsoil (B and C horizons) where the Administrator determines that this practice is necessary to achieve the revegetation requirements of these regulations.

(iv) Before redistribution of topsoil or subsoil the regraded land shall be treated, if necessary, to reduce potential for slippage and encourage root penetration.

(v) Topsoil, subsoil, and/or an approved topsoil substitute shall be redistributed in a manner that:

(A) Achieves an approximately uniform, stable thickness consistent with the approved permit and the approved postmining land uses, contours and surface water drainage systems. Soil thickness may also be varied to the extent such variations help meet the specific revegetation goals identified in the permit;

(B) Prevents compaction which would inhibit water infiltration and plant growth;

(C) Protects the topsoil from wind and water erosion before and after it is seeded until vegetation has become adequately established; and

(D) Conserves soil moisture and promotes revegetation.

(vi) All rills and gullies which either preclude achievement of the approved postmining land use or the reestablishment of the vegetative cover, or cause or contribute to a violation of water quality standards for the

receiving stream, shall be regraded or otherwise stabilized. Topsoil shall be replaced and the areas shall be reseeded or replanted.

(vii) Nutrients and soil amendments in the amounts determined necessary by soil test or field trials shall be applied to the replaced topsoil, subsoil or substitute material so that adequate nutrient levels are available to establish the vegetative cover. Fertilizer shall be applied at appropriate seasons and in amounts that will minimize pollution of surface waters or groundwaters.

(viii) The Administrator may not require topsoil or subsoil replacement on structures or within impoundments where replacement of this material is inconsistent with the intended use and the structures are otherwise stable.

(ix) If a sufficient volume of suitable topsoil or subsoil is not available for salvage or redistribution, then selected spoil material may be used as a topsoil or subsoil substitute or supplement. The operator shall demonstrate that the resulting plant growth medium is equal to, or more suitable for sustaining vegetation than the existing topsoil or subsoil and that it is the best available in the permit area to support revegetation. A demonstration of the suitability of the substitutes or supplements shall be based upon analysis of the texture, percent coarse fragments and pH. The Administrator may require other chemical and physical analyses, field site trials, or greenhouse tests if determined to be necessary or desirable to demonstrate the suitability of the topsoil or subsoil substitutes or supplements.

(x) Topsoil and subsoil substitutes.

(A) Topsoil substitute stockpiles shall be segregated from topsoil and overburden piles and shall be identified as substitute material. Identification signs shall be placed not more than 150 feet from all stockpiles of substitute material. Such signs shall be in place at the time stockpiling is begun.

(B) If overburden is to be used in reclamation as a substitute for topsoil, all large rocks and other waste material which may hinder redistribution shall be separated before stockpiling.

(xi) Overburden, spoil, excess spoil, and refuse.

(A) All overburden, spoil material and refuse shall be segregated from the topsoil and subsoil and stockpiled in such a manner to facilitate the earliest reclamation consistent with the approved reclamation plan.

(B) Except where diversions are authorized by these regulations, all overburden, spoil material, and refuse piles must be located to avoid blocking intermittent or perennial drainages and flood plains in order to minimize loss and spread of material due to water erosion. Ephemeral drainages may be blocked if environmentally sound methods for dealing with runoff control and sedimentation are approved by the Administrator.

(I) For temporary stockpiles, material should be replaced in pits as soon as possible consistent with the approved reclamation plan to minimize the amount of time material is stockpiled.

(C) All topsoil shall be removed from areas to be used for piling spoil material prior to the beginning of piling this material.

(D) The operator may be required to have analyses made of spoil material in order to determine if it will be a source of water pollution through reaction with leaching by surface water. If it is determined that this condition may exist, the operator shall describe proposed procedures for eliminating this condition.

(E) All overburden and spoil material that is determined to be toxic, acid-forming or will prevent adequate reestablishment of vegetation on the reclaimed land surface, unless such materials occur naturally on the land surface, must be properly disposed of during the mining operation.

(F) All temporary overburden and spoil piles shall be located, designed and constructed using prudent engineering practices. Slopes shall be stable and temporary piles shall not be located or placed on slopes that exceed 20 degrees unless the Administrator authorizes such placement based upon demonstrations that the pile will have a safety factor of 1.5 or better, and/or other precautionary design factors are provided to mitigate the steepness of the slope.

(G) Excess Spoil. In addition to the requirements provided in subsections (xi)(A) through (xi)(D) above (with the exception of (xi)(B)(I)), excess spoil piles shall be located, designed, constructed and inspected as prescribed below.

(I) Location Requirements:

(1.) All excess spoil shall be placed in approved excess spoil disposal sites located within the permit area. They shall be:

a. Located on moderately sloping and naturally stable areas where placement provides for stability and prevents mass movement.

b. Located in areas which do not contain springs, seeps, natural or man-made drainages (excluding rills and gullies), croplands, or important wildlife habitat.

(2.) Excess spoil may be returned to underground mine workings in accordance with the plan approved by the Administrator and by MSHA.

(II) Design Standards:

(1.) All excess spoil shall be:

a. Designed, graded and contoured so as to blend in with the topography of the surrounding terrain. Excess spoil pile sites shall not be located on an overall slope that exceeds 20 degrees unless keyway cuts (excavations to stable bedrock), rock toe buttresses or other special structural provisions are constructed to ensure fill stability. The

operator must demonstrate to the satisfaction of the Administrator that this material will be stable and can be revegetated as required by this Section.

b. Designed so that all slopes will be stabilized against wind and water erosion. After the grading and contouring of these stockpiles, topsoil or approved subsoil must be distributed over them in preparation for the revegetation procedure. Revegetation must be completed in accordance with requirements of this Chapter. A permanent drainage system must be established consistent with these regulations.

c. Designed using current, prudent professional standards and certified by a qualified registered professional engineer. All piles shall be designed and constructed in accordance with the standards of this subsection. Special structural provisions shall be designed using prudent current engineering practices, in accordance with Chapter 2, Section 5(a)(xv).

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

(3.) The Administrator may specify additional design criteria on a case-by-case basis as necessary to meet the general requirements of this subsection.

(III) Construction Standards:

(1.) Excess spoil shall be placed in a controlled manner to:

a. Prevent pollution from leachate and surface runoff from the fill on surface water or groundwater of the State.

b. Ensure mass stability and prevent mass movement during and after construction and provide for stable drainages and hillslopes.

c. Ensure that the land mass designated as the disposal site is suitable for reclamation and revegetation compatible with the natural surroundings and approved postmining land use.

(2.) The spoil pile shall be transported and placed in horizontal lifts in a controlled manner, concurrently compacted as necessary to ensure mass stability and prevent mass movement, covered, and graded to allow surface and subsurface drainage to be compatible with the natural surroundings and ensure a minimum long-term static safety factor of 1.5. The Administrator may limit the horizontal lifts to four feet or less as necessary to ensure the stability of the fill or to meet other applicable requirements.

(3.) No water impoundments or large depressions shall be constructed on the fill. Soil conservation techniques may be approved if they are needed to minimize erosion, enhance wildlife habitat or assist revegetation, as long as they are not incompatible with the stability of the fill.

(4.) Slope protection shall be provided to minimize surface erosion at the site. Diversion of surface water runoff shall conform with the requirements of subsection (e) of this Section. All disturbed areas, including diversion ditches that are not ripped, shall be vegetated upon completion of construction.

(5.) Terraces may be constructed on the outslope of the fill if required for stability, control of erosion, to conserve soil moisture, or to facilitate the approved postmining land use. The grade of the outslope between terrace benches shall not be steeper than 2h: 1v (50 percent).

(6.) Excess spoil that is toxic, acid-forming or combustible shall be adequately covered with suitable material or treated to prevent pollution of surface and groundwater, to prevent sustained combustion, and to minimize adverse affects on plant growth and the approved postmining land use.

(IV) Inspection of excess spoil piles.

(1.) The fill shall be inspected for stability by a qualified registered professional engineer or other qualified professional specialist under the direction of a professional engineer experienced in the construction of earth and rockfill embankments at least quarterly throughout construction and during the following critical construction periods:

- a. foundation preparation, including the removal of all organic material and topsoil;
- b. placement of diversion systems;
- c. installation of final surface drainage systems; and
- d. final grading and revegetation.

(2.) Regular inspections by the engineer or specialist shall be conducted during placement and compaction of the fill materials. The registered professional engineer shall promptly provide certified reports to the Administrator which demonstrate that the fill has been maintained and constructed as specified in the design contained in the approved mining and reclamation plan. The report shall discuss appearances of instability, structural weakness, and other hazardous conditions. A copy of all inspection reports shall be retained at the mine site.

(xii) Coal mine waste.

(A) Coal mine waste shall be disposed only in existing or, if new, in an approved disposal site within a permit area. Coal mine wastes shall not be used in the construction of dams, embankments, or diversion structures. The disposal area shall be designed, constructed and maintained:

(I) In accordance with the excess spoil disposal requirements of (xi)(F) and (xi)(G) above; and

(II) To prevent combustion and not create a public health hazard.

(B) Disposal of coal mine waste in excess spoil piles may be approved if such waste is:

(I) Placed in accordance with the excess spoil requirements of (xi) above;

(II) Demonstrated to be nontoxic and nonacid-forming (or properly treated); and

(III) Demonstrated to be consistent with the design stability of the fill.

(C) In addition to (A) above, coal mine waste piles shall meet the following requirements:

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

(II) Following final grading of the waste pile, the site shall be covered with a minimum of four feet of the best available, nontoxic, nonacid-forming and noncombustible material, in a manner that directs runoff away from the waste pile. The site shall be revegetated in accordance with this Chapter. The Administrator may allow less than four feet of cover material based on physical and chemical analyses which show that the revegetation requirements will be met.

(III) Surface drainage from above the pile and from the crest and face of the pile shall be permanently diverted around the waste in accordance with subsection (e) of this Section.

(IV) All coal mine waste piles shall be inspected in accordance with the excess spoil requirements of (xi) above. More frequent inspections shall be conducted if a danger or harm exists to the public health and safety or the environment. Inspections shall continue until the waste pile has been finally graded and revegetated or until later time as required by the Administrator. If any inspection discloses that a potential hazard exists, the Administrator shall be notified immediately, including notification of any emergency protection and remedial procedures which will be implemented. If adequate procedures cannot be formulated or implemented, the Administrator shall inform the appropriate emergency agencies of the hazard to protect the public from the area.

(V) All coal mine waste piles shall meet the requirements of 30 CFR §§ 77.214 and 77.215.

(D) Dams and embankments constructed to impound coal mine waste shall comply with the following:

(I) Each impounding structure shall be designed, constructed and maintained in accordance with the requirements applicable to temporary impoundments. Such structures may not be retained permanently as part of the approved postmining land use. Approval by the State Engineer's Office is not required.

(II) If the impounding structure meets the criteria of 30 CFR § 77.216(a), the combination of principal and emergency spillways shall be able to safely pass or control runoff from the probable maximum precipitation of a 6-hour precipitation event or a storm duration having a greater peak flow, as may be required by the Administrator.

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

(IV) Be designed so that 90 percent or more of the water stored during the design precipitation event can be removed within ten days and at least 90 percent of the water stored during the design precipitation event shall be removed within the ten day period following the design precipitation event.

(V) Runoff from areas above the disposal facility or runoff from the surface of the facility that may cause instability or erosion of the impounding structure shall be diverted into stabilized diversion channels designed to meet the requirements for diversions, and designed to safely pass the runoff from a 100-year, 6-hour design precipitation event or a storm duration having a greater peak flow.

(E) The Administrator may specify additional design criteria for waste piles or impounding structures on a case-by-case basis as necessary to meet the general performance standards of this subsection.

(F) Coal mine waste fires shall be extinguished by the operator in accordance with a plan approved by the Administrator and the Mine Safety and Health Administration. The plan shall contain, at a minimum, provisions to ensure that only those persons authorized by the operator, and who have an understanding of the procedures to be used, shall be involved in the extinguishing operations. No burning or burned coal mine waste may be removed from a permitted disposal area without a removal plan approved by the Administrator. Consideration shall be given to persons working or living in the vicinity of the structure.

(G) Coal preparation plants shall be included within a permit area. Refer to Chapter 3, Section 6 for requirements applicable to coal preparation plants.

(xiii) Acid-forming and toxic materials, other waste and noncoal mine waste.

(A) All exposed coal seams remaining after mining and any acid-forming, toxic, and combustible materials, or any waste materials that are exposed, used or produced during mining shall be adequately covered, within 30 days of

its exposure with nontoxic, nonacid-forming and noncombustible material, or treated. Compaction followed by burial or treatment shall be provided to prevent pollution of surface and groundwater quality, prevent sustained combustion and to minimize adverse effects on plant growth and postmining land uses. Such materials may be stored in a controlled manner until final burial and/or treatment first becomes feasible as long as storage will not result in any risk of water pollution or other environmental or public health and safety damage. Storage, final burial and treatment shall be done in accordance with all local, State and Federal requirements.

(B) Acid-forming or toxic material, or any other waste material capable of polluting water, shall not be buried or stored in the proximity of a drainage channel or its flood plain so as to cause or pose a threat of water pollution.

(C) Disposal of noncoal mine wastes.

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

(II) Final disposal of noncoal mine wastes. Final disposal of noncoal mine wastes, including any solid wastes generated by a mine mouth power plant, coal drier or coal processing facility shall be in a designated disposal site in the permit area or a State-approved solid waste disposal area. Disposal sites in the permit area shall be designed and constructed to ensure that leachate and drainage from the noncoal mine waste does not degrade surface or underground water. Wastes shall be routinely compacted and covered to prevent combustion and wind-borne waste. When the disposal is completed, a minimum of four (4) feet of suitable cover material shall be placed over the site, slopes stabilized and revegetation accomplished in accordance with Section 2(d) of this Chapter. Operation of the disposal site shall be conducted in accordance with all local, State and Federal requirements.

(III) At no time shall any noncoal mine waste be deposited in a refuse pile or impounding structure, nor shall an excavation for a noncoal mine waste disposal site be located within eight (8) feet of any coal outcrop or coal storage area.

(d) Revegetation.

(i) General Revegetation Performance Standards

(A) The operator shall establish on all affected lands a diverse, permanent vegetative cover of the same seasonal variety native to the area or a mixture of species that will support the approved postmining land use in a manner consistent with the approved reclamation plan. This cover shall be self-renewing, and capable of stabilizing the soil.

(B) Land which did not support vegetation prior to becoming affected because of natural soil conditions need not be revegetated unless subsoil from such affected land will support vegetation. The operator shall demonstrate to

the Administrator's satisfaction that revegetation or reforestation is not possible if he seeks to proceed under the provisions of the subsection.

(C) After backfilling, grading, contouring, and the replacement of topsoil and/or approved substitutes, revegetation shall be commenced in such a manner so as to most efficiently retain moisture and control erosion on all affected lands to be revegetated. In addition, any fertilizer requirements based on previous analysis must be fulfilled.

(D) Mulch or other equivalent procedures which will control erosion and enhance soil moisture conditions shall be used on all retopsoiled areas.

(E) Any tillage and/or drill seeding shall be on the topographic contour, unless for safety reasons it is not practicable, or perpendicular to the prevailing wind on flat areas. Seeding of affected lands shall be conducted during the first normal period for favorable planting conditions after final preparation unless an alternative plan is approved.

(F) Any rills or gullies that would preclude successful establishment of vegetation or achievement of postmining land use shall be removed or stabilized.

(G) The bond for revegetation shall be retained for not less than ten years after the operator has completed seeding, fertilizing, irrigation, or other work to ensure revegetation. The bond responsibility period shall not be affected where normal husbandry practices are being followed as described in Chapter 4, Section 2(d)(i)(M). The success of revegetation shall be determined in accordance with Chapter 4, Section 2(d)(ii).

(H) The Administrator shall not release the entire bond of any operator until such time as revegetation is completed, if revegetation is the method of reclamation as specified in the operator's approved reclamation plan.

(I) Trees shall be returned to a number equal to the premining number. On affected lands, the total number of postmining trees shall be at least equal to the premining total number on those lands. The Reclamation Plan shall specify the tree species, the number per species and the location of tree plantings. The operator may also receive credit for tree species which invade the reclaimed lands if those tree species support the postmining land use and are approved by the Administrator. Planted trees counted to meet the approved stocking rate shall be healthy, and at least 80 percent shall have been planted for at least eight years. All planted trees must have been in place at least two growing seasons. Invaded trees that are counted to meet the approved stocking rate shall be healthy and may be of any age.

(J) Monitoring of permanent revegetation on reclaimed areas before and after grazing shall be conducted at intervals throughout the bond responsibility period in accordance with the plan required by Chapter 2, Section 6(b)(iii)(J). Monitoring results shall be presented in the annual report.

(K) The operator must protect young vegetative growth from being destroyed by livestock by fencing or other approved techniques for a period of at least two years, or until the vegetation is capable of renewing itself with properly managed grazing and without supplemental irrigation or fertilization. The Administrator, operator, and the landowner or land managing agency shall determine when the revegetated area is ready for livestock grazing.

(L) The operator must control and minimize the introduction and/or spread of noxious weeds on all affected lands in accordance with Federal and State requirements throughout the entire bond responsibility period.

(M) The following is a list of normal husbandry practices which, if conducted in a prudent manner, will not restart the minimum ten-year bond responsibility period for re-establishing vegetation.

(I) The operator may interseed species contained in the approved seed mix over established revegetation, but not within 6 years before the end of the bond responsibility period. The operator may add mulch to an interseeded area to facilitate plant establishment. Augmented seeding (reseeded) is not considered normal husbandry practice.

(II) Using approved species, the operator may transplant tree and shrub stock and/or plant containerized or bare root tree or shrub stock into reclamation provided the performance standards of Chapter 4 Section 2(d)(i)(I) for trees, and Chapter 4 Section 2(d)(ii)(B)(II)(2) for shrubs are not compromised.

(III) Grazing of reclamation is a normal husbandry practice.

(IV) For trees and shrubs planted in an approved shelterbelt, the practices of fertilization, irrigation and rototilling may be used as normal husbandry/nursery practices in accordance with standard practices.

(V) Beyond establishment, fertilization is a normal husbandry practice for cropland and pastureland throughout the bond responsibility period. Irrigation is a normal husbandry practice beyond establishment for cropland and pastureland, provided the approved postmine land use is irrigated cropland or irrigated pastureland.

(VI) Mechanical husbandry practices such as selective cutting, mowing, combining, aerating, land imprinting, raking, or harrowing to stimulate permanent vegetation establishment, increase decomposition of organic matter, control weeds, harvest hay, and/or reduce standing dead vegetation and litter are considered normal husbandry practices. Other mechanical practices may be used if approved by the Administrator prior to their application.

(VII) Tillage and replanting are considered normal husbandry practices for croplands.

(VIII) Acceptable weed and pest control techniques representing normal husbandry practices include manual or mechanical removal, controlled burning, biological controls, and herbicide/pesticide applications. The operator may reseed treated areas of less than five acres per year as a component of this husbandry practice without restarting the bond responsibility period.

(IX) Controlled burning may be used to reduce the buildup of litter, weed seeds, and to control undesirable species. The operator may interseed any portion of the treated area, or reseed up to five acres, as a component of this husbandry practice without restarting the bond responsibility period.

(X) Subsidence, settling, and erosional features, such as rills, gullies, or headcuts less than five acres in size may be repaired as a normal husbandry practice. Repairs considered to be normal husbandry practices include hand work, mechanical manipulation, installation of erosion-control matting, silt fences, straw bales, or other similar work. The operator may reseed treated areas of less than five acres as a component of this husbandry practice without restarting the bond responsibility period.

(XI) Removal of pipelines, small culverts, and small sediment control measures, such as traps, riprap, rock or straw bale check dams, small sediment ponds, and silt fences are considered normal husbandry practices. The operator may reseed treated areas of less than five acres as a component of this husbandry practice without restarting the bond responsibility period, provided the structures are reclaimed at least two years prior to the end of the bond responsibility period.

(N) The following actions have been administratively identified as those which qualify as routine land management activities; implementing these actions will not restart the bonding liability period:

(I) Installation and/or removal of power lines and substations;

(II) Installation and/or removal of fences;

(III) Installation and/or removal of any monitoring equipment or features;

(IV) Establishment and/or reclamation of two-track trails; and

(V) Emplacement and/or removal of above-ground pipelines.

(ii) Revegetation Success Standards

(A) Success standards vary by land use. Where standards for cover, production, and shrub density apply, they are quantitative and must be demonstrated to equal or exceed the success standards using methods and statistical analyses approved and published by the Administrator as required by OSM rules (CFR §816.116 (a)(1), August 30, 2006). Statistical analyses must use a 90-percent statistical confidence interval.

(B) Grazingland and Pastureland

(I) Revegetation shall be deemed to be complete when: (1) the vegetation cover of the affected land is shown to be capable of renewing itself under natural conditions prevailing at the site, and the absolute total_ cover is at least equal to the cover on the reference area or technical standard, (2) the annual herbaceous production is at least equal to the annual herbaceous production on the reference area or technical standard, (3) the species diversity and composition are suitable for the approved postmining land use, and (4) the requirements in (1), (2) and (3) are all met during the same two out of four years beginning

no sooner than year seven of the bond responsibility period. Species diversity and composition suitable to the postmine land use must be demonstrated using methods approved by the Administrator. The following reference area type options are available:

(1.) The operator may choose to use control areas for lands where control areas were originally selected for revegetation success evaluation. Control areas will not be approved for new amendments or permits, after (date of rule approval

(2.) The operator shall choose one type of "Reference area" as defined in Chapter 1, Section 2. The "Reference area" shall be approved by the Administrator.

(3.) The Administrator may set or approve quantitative technical success standards for cover and/or production based on data collected from undisturbed portions of the permit area or adjacent areas during a minimum of five independent sampling programs over a minimum of five years. The technical success standards may be approved for a single mine or a group of mines in the same geographical area.

(II) The shrub standard for grazingland shall include the postmining density, composition, and distribution of shrubs, and shall be based upon site-specific evaluation of premining vegetation and wildlife use. Shrub reclamation procedures shall be conducted through the application of best technology currently available as approved in the permit.

(1.) For lands affected between May 3, 1978 and August 6, 1996, a goal of a minimum of one shrub (full shrubs plus subshrubs) per square meter within a mosaic of shrub patches shall be restored using the best practicable technology. These shrub patches shall: cover a minimum of 10 percent of the postmining (affected area) landscape; be no smaller than 0.05 acres; and be arranged in a mosaic that will optimize interspersion and edge effect.

a. Acreage from permit-wide shrub goal mosaics that is in excess of the required acreage may be banked for credit toward shrub standard lands provided (1) the shrub goal requirement for all shrub goal lands is met, and (2) the methods used to evaluate the shrub goal lands meet the methods and statistical analyses required to achieve the shrub standard.

(2.) Except where a lesser density is justified from premining conditions in accordance with Appendix 4A of Chapter 4, at least 20 percent of the eligible lands shall be restored to shrub patches supporting an average density of one shrub per square meter. Patches shall be no less than 0.05 acres each and shall be arranged in a mosaic that will optimize habitat interspersion and edge effect. Criteria and procedures for establishing the standard are specified in Appendix 4A of Chapter 4. This standard shall apply to all lands affected after August 6, 1996. For bond release purposes, the average postmine total density and species specific density(ies) shall be at least 90 percent of the calculated criteria for the applicable standard.

a. The shrub density standard requires a statistical test using a 90% confidence interval to demonstrate achievement of the standard. The standard must be demonstrated for one year, the last year of the bond responsibility period. At least 80% of the shrubs shall have been planted for at least 60% of the ten-year bond responsibility period, and all planted shrubs shall have been in place for at least two years.

b. Approved shrub species and seeding techniques shall be applied to all remaining grazingland.

c. Shrub mosaic patches must pass the standard for shrub density, based on the shrub option chosen from Appendix 4A of Chapter 4. Shrub patches must also be included in the Sample Unit for evaluation of the standards for total absolute vegetative cover and species diversity and composition. Shrub patches are exempt from the production standard. The operator may change the selected shrub option during the bond responsibility period, if baseline data support the new shrub option, and subject to Administrator approval.

d. For areas designated as crucial or critical habitat, consultation and approval by the Wyoming Game and Fish Department shall be required for minimum stocking rates and planting arrangements of shrubs, including species composition. The approved shrub success standards shall be specified in the Reclamation Plan. Habitat shall be designated as crucial prior to the submittal of a permit application or any subsequent amendment. For areas determined to be important habitat, the Wyoming Game and Fish Department shall be consulted for recommended minimum stocking and planting arrangements of shrubs, including species composition, that may exceed the programmatic standard discussed above. Approval of shrub stocking plans by the Wyoming Game and Fish Department is not required for areas designated as important habitat.

(C) Cropland

(I) When the approved postmining land use is cropland, the reclaimed area shall be stabilized and revegetated to control erosion unless cropping shall immediately occur. The bond responsibility period shall begin the first season a crop is planted.

(II) Reclamation shall be deemed complete when productive capability is equivalent to an approved "reference area" (Chapter 1 Section 2) or published county production data collected the same years the crops are harvested. This standard shall be demonstrated for the two out of four years of the bond responsibility period, starting no sooner than year seven.

(1.) When using a reference area comparison, the operator may choose a reference area under operator control or on a nearby property. The comparison may be made using production quadrats or total field harvest. Appropriate statistical tests will be used for quantitative production quadrat comparisons. Total field harvest comparisons do not require a statistical test. The Administrator shall approve the reference area.

(2.) When using county production data, the total field harvest will be used for a comparison. No statistical test will be required for this comparison.

(D) Fish and Wildlife Habitat. The operator shall gain approval from the Administrator and Wyoming Game and Fish for development of permit-specific performance standards for fish and/or wildlife habitat. These standards shall be stated in the reclamation plan. Specific information shall include:

(I) Which vegetation parameters are used in the standard (e.g. cover, shrubstocking, species diversity and composition);

(II) If shrub stocking is required, then the standards Section 2(d)(ii)(B)(II)(2.) of this chapter apply; and

(III) Indicate if the standards require a statistical test, a numerical comparison with no statistical test, or a qualitative comparison.

(E) Postmining Wetlands

(I) Reclamation plans for postmining mitigation wetlands shall be reviewed and approved by the Army Corps of Engineers and the Administrator and incorporated into the Land Quality Division permit. Wetland mitigation shall be considered successful when the Army Corps of Engineers determines that mitigation was successful.

(1.) The operator may create and receive success credit for up to 25 percent additional acreage over the Army Corps of Engineers' required mitigation acreage for each mitigation wetland type.

(2.) The minimum bond responsibility period for areas containing mitigation wetlands is ten years and no request for Phase 3 Incremental Bond release shall be made earlier than the last year of the bond responsibility period. A statement of successful mitigation from the Army Corps of Engineers shall be submitted by the operator to the Administrator as demonstration of successful mitigation. If successful mitigation is approved by the Army Corps of Engineers prior to the last year of the bond responsibility period, then the wetland will be evaluated as part of the surrounding area using the standards applied to that area.

(II) Reclamation plans and success standards for postmining enhancement wetlands shall be reviewed and approved by the Administrator and the Game and Fish Department as a type of wildlife habitat and incorporated into the Land Quality Division permit. The reclamation plan and success standards shall be determined by the postmining land use, and fish and wildlife habitat standards in Section 2(d)(ii)(C) of this chapter apply. The minimum bond liability period for enhancement wetlands is ten years and no demonstration of successful reclamation shall be made earlier than the last year of the bond responsibility period.

(F) Industrial, Commercial, and Residential. When the approved postmining land use is residential or industrial/commercial, the reclaimed area shall be stabilized and revegetated to control erosion unless development shall immediately occur.

(I) Industrial, commercial and residential areas may be released from area and all incremental bond costs as soon as the area is reclaimed to a condition that is ready for the approved land use. The exact criteria will vary with the postmine land use, and shall be specified in the approved Reclamation Plan.

(G) Developed water resource. For lands within the high water line of a developed water resource there are no revegetation reclamation standards.

(H) Recreational. The operator shall gain approval from the Administrator and the appropriate agency for development of permit-specific performance standards. The standards and the reclamation plan shall be included in the permit. If the reclamation plan includes stocking of trees or shrubs approved by Wyoming Game and Fish, then successful tree/shrub establishment must be demonstrated for one year, the last year of the bond responsibility period. At least 80% of the trees/shrubs shall have been planted for at least 60% of the last ten years of the bond responsibility period, and all planted trees/shrubs shall have been in place for at least two years.

(I) Forestry. Standards for the success of reforestation for commercial harvest shall be established in consultation with and approval from forest management agencies, prior to approval of any mining and reclamation plan that proposes reforestation. The quality and quantity of trees, and the cover of the understory vegetation community shall be not less than that required to achieve the postmining landuse and shall be determined in accordance with scientifically acceptable sampling procedures approved by the Administrator. Successful tree establishment must be demonstrated for one year, the last year of the bond responsibility period. At least 80% of the trees shall have been planted for at least 60% of the last ten years of the bond responsibility period, and all planted trees shall have been in place for at least two years.

(J) Special Success Standards.

(I) For areas previously disturbed by mining and not reclaimed to the requirements of these regulations, the areas shall, at a minimum, be revegetated to a ground cover and productivity level existing before redisturbance and shall be adequate to control erosion.

(II) For lands and facilities that were affected prior to May 3, 1978, and continuously used by the mining operation since that date, the areas shall be reclaimed to the performance standards that were in effect in Rule and Regulation at the time of initial disturbance. At a minimum, the area must be revegetated to a ground cover adequate to control erosion.

(e) Diversion systems and drainage control.

(i) Diversion of streams.

(A) All diversions shall be designed to assure public safety, prevent material damage outside the permit area, and minimize adverse impacts to the hydrologic balance.

(B) All diversions and associated structures shall be designed, constructed, maintained and used to ensure stability, prevent, to the extent possible using best technology currently available, additional contribution of suspended solids to streamflow outside the permit area, and comply with all applicable local, State and Federal rules.

(C) Permanent diversions of intermittent and perennial streams shall be designed and constructed so as to be erosionally and geomorphically compatible with the natural drainage system.

(D) The design and construction of all diversions for perennial or intermittent streams shall be certified by a qualified registered professional engineer as meeting the diversion standards of these regulations and the approved permit.

(E) When permanent diversions are constructed or stream channels restored after temporary diversions, the operator shall:

(I) Restore, enhance where practicable, or maintain natural riparian vegetation on the banks and flood plain of the stream;

(II) Establish or restore the stream characteristics, including aquatic habitats to approximate premining stream channel characteristics; and

(III) Establish and restore erosionally stable stream channels and flood plains.

(F) The operator shall renovate all permanent diversions in accordance with the approved reclamation plan prior to abandonment of the permit area.

(G) When no longer needed to achieve the purpose for which they were authorized, all temporary diversions shall be removed and the affected land regraded and revegetated, in accordance with this Chapter. Before diversions are removed, downstream water treatment facilities previously protected by the diversion shall be modified or removed, as necessary, to prevent overtopping or failure of the facilities. This requirement shall not relieve the operator from maintaining water treatment facilities as otherwise required.

(ii) Control of discharge or drainage.

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

(B) Drainage from acid-forming and toxic-forming material into ground and surface water shall be avoided by:

(I) Identifying, burying, and treating where necessary, material which, in the judgment of the Administrator may adversely affect water quality if not treated or buried;

(II) Preventing water from coming into contact with acid-forming and toxic-forming material and other measures as required by the Administrator; and

(III) Complying with the requirements of subsection (c)(xiii) of this Section and such other measures deemed necessary by the Administrator to protect surface water and groundwater.

(C) Surface water shall not be diverted or otherwise discharged into underground mine workings unless specifically authorized by the Administrator per the requirements of Chapter 19, Section 2(a) of these regulations.

(iii) In addition to meeting the standards of this Section, all diversions of groundwater discharge flows shall meet the standards of Section 2(e).

(iv) Diversion systems - Unchannelized surface water and ephemeral streams.

(A) Surface water shall be diverted around the operation for the following purposes:

(I) To control water pollution.

(II) To control unnecessary erosion.

(III) To protect the on-going operation.

(IV) To protect the water rights of downstream users.

(B) Temporary diversion of surface runoff or diversions used for erosion control shall meet the following standards:

(I) In soils or other unconsolidated material, the sides of diversion ditches shall be no steeper than 1½:1.

(II) In rock, the sides of diversion ditches shall not overhang.

(III) In soils or unconsolidated materials, the sides and, in ditches carrying intermittent discharges, the bottom shall be seeded with approved grasses so as to take advantage of the next growing season.

(IV) Rock riprap, concrete, soil cement or other methods shall be used where necessary to prevent unnecessary erosion.

(V) Culverts or bridges shall be installed where necessary to allow access by the surface owner for fire control and other purposes.

(VI) Diversion ditches shall in a nonerosive manner pass the peak runoff from a 2-year, 6-hour precipitation event, or a storm duration that produces the largest peak flow, as specified by the Administrator.

(C) In no case shall diversion ditches discharge upon topsoil storage areas, spoil or other unconsolidated material such as newly reclaimed areas.

(D) Permanent diversion structures shall be designed to be erosionally stable during the passage of the peak runoff from a 100-year, 6-hour precipitation event, or a storm duration that produces the largest peak flow, as specified by the Administrator.

(v) Diversion of intermittent and perennial streams.

(A) In no case shall spoil, topsoil, or other unconsolidated material be pushed into, or placed below the flood level of a perennial or intermittent stream except during the approved construction of the diversion of said stream.

(B) The Wyoming Game and Fish Department shall be consulted prior to the approval of a diversion of a perennial or intermittent stream.

(C) The banks of a diverted perennial or intermittent stream shall be protected by vegetation by planting approved species to take advantage of the next growing season.

(D) The banks and channel of a diverted perennial or intermittent stream shall be protected where necessary by rock, riprap or similar measures to minimize erosion and degradation of water quality. Permanent diversions shall be designed and constructed to be erosionally stable. The design of the permanent diversion shall also be consistent with the role of the fluvial system.

(E) Mining on the flood plain of a perennial or intermittent stream shall not be permitted if it would cause the uncontrolled diversion of the stream during periods of high water.

(F) Waters flowing through or by the mining operation shall meet the standards set by the U.S. Environmental Protection Agency and the Wyoming Water Quality Division in regard to the effect of the operation upon such waters.

(G) If temporary, the channel and flood plain shall be designed to pass, in a nonerosive manner, the 10-year, 6-hour precipitation event, or the capacity of the unmodified stream channel immediately above and below the diversion, whichever capacity is greater, or a duration having a greater peak flow, as specified by the Administrator. Cross-sections of the existing stream above, below and within the disturbed area may be used to determine the flow capacities, channel configuration and shape.

(H) If permanent, the channel and flood plain shall be designed to pass, in a nonerosive manner, the 100-year, 6-hour precipitation event, or a duration having a greater peak flow, as specified by the Administrator. Cross-sections of the existing stream above, below and within the disturbed area may be used to determine the flow capacities, channel configuration and shape.

(f) Sedimentation ponds.

(i) All surface drainage from affected lands excluding sedimentation ponds, diversion ditches, and road disturbances, shall pass through a sedimentation pond(s) before leaving the permit area. Sedimentation control devices shall be constructed prior to disturbance. The Administrator may grant exemptions to the use of sedimentation ponds where, by the use of alternative sediment control measures, the drainage will meet effluent limitation standards or will not degrade receiving waters.

(ii) Where the sedimentation pond(s) results in the mixing of drainage from affected lands with the drainage from undisturbed areas, the permittee shall comply with the applicable effluent limitation standards for all of the mixed drainage where it leaves the permit area.

(iii) Sedimentation ponds shall be designed and constructed to comply with the applicable requirements of subsection 2(g)(iv-vii) of this Chapter. They shall be located as near as possible to the affected lands and out of intermittent or perennial streams; unless approved by the Administrator.

(iv) Sedimentation ponds shall be operated and maintained to comply with the requirements of the Water Quality Division and the State Engineer's Office and satisfy the following requirements:

(A) Chemicals that will harm fish, wildlife, and related environmental values shall not be used for flocculation or other water treatments or if used these ponds will be protected.

(B) Sedimentation ponds shall be designed and maintained to contain adequate sediment storage as determined by acceptable empirical methods.

(C) Sluicing of collected sediments shall be prevented for the design precipitation event.

(D) All areas disturbed by the construction of the sedimentation pond shall be revegetated as soon as practicable to reduce erosion.

(v) The design, construction, and maintenance of a sedimentation pond or other sediment control measures in accordance with this subsection shall not relieve the operator from compliance with applicable effluent limitation standards of the Water Quality Division.

(vi) Sediment ponds shall be maintained until removal is authorized by the Division and the affected lands have been stabilized and initial vegetation established in accordance with the approved reclamation plan and the requirements of this Chapter. In no case shall sediment ponds treating reclaimed lands be removed sooner than two years after the last augmented seeding.

(vii) Sediment control measures for affected lands. Appropriate sediment control measures shall be designed, constructed, and maintained using the best technology currently available to prevent additional contributions of sediment to streamflow or to runoff outside the affected land. Such measures may consist of limiting the extent of disturbed land and stabilizing, diverting, treating or otherwise controlling runoff.

(g) Permanent and temporary water impoundments.

(i) Permanent water impoundments are prohibited unless authorized by the Administrator on the basis that:

(A) The impoundment and its water quality and quantity will support or constitute a postmining use equal to or greater than the highest previous use of the land.

(B) Discharge of water, if any, from the impoundment shall not degrade the quality of receiving waters.

(C) The surface landowner, if different from the mineral owner, has consented to the impoundment.

(ii) Permanent water impoundments. Permanent water impoundments shall be constructed in accordance with the following requirements:

(A) Dams must contain an overflow notch and spillway so as to prevent failure by overfilling and washing. Overflow notches and spillways must be riprapped with rock or concrete to prevent erosion.

(B) The slopes around all water impoundments must be gentle enough so as not to present a safety hazard to humans or livestock and so as to accommodate revegetation. Variations from this procedure may be approved by the Administrator based on the conditions present at the individual locality.

(C) Mineral seams and other sources of possible water contamination within the impoundment area must be covered with overburden or stabilized in such a manner to prevent contamination of the impounded water.

(D) Bentonite or other mire-producing material within the impoundment basin shall be removed or covered with materials which will prevent hazards to man or beast.

(iii) The phrase "major impoundment" shall mean any structure impounding water, sediment or slurry:

(A) To an elevation of 20 feet or more above the upstream toe to the crest of the emergency spillway; or

(B) To an elevation of five feet above the upstream toe of the structure and has a storage volume of 20 acre-feet or more; or

(C) Which will be retained as part of the postmining land use, and:

(I) Has an embankment height greater than 20 feet as measured from the downstream toe of the embankment to the top of the embankment; or

(II) Has an impounding capacity of 20 acre-feet or greater.

(iv) The design, construction and maintenance of permanent and temporary impoundments shall be approved by the State Engineer's Office. In addition, the following design and construction requirements shall be applicable:

(A) The design of impoundments shall be certified by a qualified registered professional engineer as designed to meet the requirements of this part and the applicable requirements of the State Engineer, using current, prudent engineering practices. For major impoundments, the certification also shall be filed with the State Engineer.

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

(C) Faces of embankments and surrounding areas shall be vegetated, except that faces where water is impounded may be riprapped or otherwise stabilized in accordance with accepted design practices, or where appropriate, Water Quality Division rules and regulations.

(D) The embankment, foundation, and abutments for all impoundments shall be designed and constructed to be stable. For any major impoundment or any impoundment which may present a danger to life, property or the environment, the Administrator shall require sufficient foundation investigations and laboratory testing to demonstrate foundation stability, and shall require a minimum static safety factor of 1.5 for the normal pool with steady seepage saturation conditions, and a seismic safety factor of at least 1.2.

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

(F) All impoundments shall be inspected regularly during construction and immediately after construction by a qualified registered professional engineer or qualified professional specialist under the direction of a qualified professional engineer. These individuals shall be experienced in impoundment construction. Immediately following each inspection a report shall be prepared and certified by the engineer describing the construction work observed and its conformance with the approved designs. All inspection reports shall be retained at the mine site and submitted in the annual report to the Administrator.

(G) After completion of construction and until final bond release or removal, all impoundments shall be inspected annually by a qualified registered professional engineer, or by a qualified professional specialist under the direction of the qualified professional engineer. These individuals shall be experienced in impoundment construction. Immediately following each inspection a report shall be prepared and certified by the engineer describing:

(I) Existing and required monitoring procedures and instrumentation;

(II) Depth and elevation of any impounded water;

(III) Existing storage capacity;

(IV) Aspects of the dam that may affect its stability or present any other hazardous condition; and

(V) If the impoundment is being maintained in accordance with the approved design and this Chapter. All annual inspection reports shall be retained at the mine site and annually submitted to the Administrator.

(H) In addition to the post-construction annual inspection requirements contained in paragraph (G) immediately above, all impoundments must be inspected during each of the intervening calendar quarters by a qualified individual designated by the operator. These inspections shall look for appearances of structural weakness and other hazardous conditions.

(I) Those impoundments subject to [30 CFR § 77.216](#) shall also be inspected in accordance with [30 CFR § 77.216-3](#).

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

(K) Impoundments meeting the criteria of [30 CFR § 77.216\(a\)](#) shall comply with the requirements of [30 CFR § 77.216](#). The plan required to be submitted to the District Manager of MSHA under [30 CFR § 77.216](#) shall also be submitted to the Administrator as part of the permit application.

(L) Impoundments shall include either a combination of principal and emergency spillways or a single open channel spillway designed to pass the design precipitation events discussed in subsection (v) below at non-erosive velocities.

(M) In lieu of meeting the requirements in section (L) above, the Administrator may approve a temporary impoundment that relies primarily on storage to control the runoff from the design precipitation event when it is demonstrated by the operator and certified by a qualified registered professional engineer or qualified registered professional land surveyor that the impoundment will safely control the design precipitation event, the water from

which could be safely removed in accordance with current, prudent, engineering practices. Such an impoundment shall be located where failure would not be expected to cause loss of life or serious property damage.

(v) The design precipitation event for the spillways for temporary water impoundments shall be a 25-year, 6-hour precipitation event, or a storm duration having a greater peak flow, as may be required by the Administrator or as specified below:

(A) The design precipitation event for spillways on temporary impoundments which meet the criteria of 30 CFR § 77.216(a) shall be a 100-year, 6-hour precipitation event, or a storm duration having a greater peak flow, as may be required by the Administrator; and

(B) Temporary impoundments which meet the criteria of 30 CFR § 77.216(a) and that are intended to impound coal mine waste shall have sufficient spillway and/or storage capacity to safely pass or control runoff from the probable maximum precipitation of a 6-hour precipitation event, or a storm duration having a greater flow, as may be required by the Administrator.

(vi) The design precipitation event for the spillways for a permanent impoundment shall be a 100-year, 6-hour precipitation event, or a storm duration having a greater peak flow, as may be required by the Administrator.

(vii) Before abandoning an area or seeking bond release, the operator shall ensure that all temporary structures are removed and reclaimed, and that all permanent structures are renovated, if necessary to meet the requirements of this subsection and to conform to the approved reclamation plan.

(viii) Tailings impoundments.

(A) Impoundments to contain mill tailings or slurry tailings shall be constructed in accordance with established engineering principles and shall be approved by the Wyoming State Engineer's Office. A copy of the State Engineer's approval shall be attached to the application.

(B) Reclamation of tailings impoundments shall be accomplished by removal and storage of all topsoil present within the tailings basin. After termination of operations, the topsoil shall be replaced and revegetated in accordance with these rules and regulations. If other methods of reclamation and stabilization against wind and water erosion are found to be necessary because of natural conditions, this must be stated and described subject to the Administrator's approval.

(h) Protection of Groundwater Recharge Capacity - The recharge capacity of the reclaimed lands shall be restored to a condition which:

(i) Supports the approved postmining land use;

(ii) Minimizes disturbances to the prevailing hydrologic balance in the permit area and in adjacent areas; and

(iii) Provides a rate of recharge that approximates the premining recharge rate.

(i) Surface water and groundwater quality and quantity shall be monitored until final bond release to determine the extent of the disturbance to the hydrologic balance. Monitoring shall be adequate to plan for modification of surface mining activities, if necessary, to minimize adverse effects on the water of the State. The operator is responsible for properly installing, operating, maintaining and removing all necessary monitoring equipment. In addition, the operator is responsible for conducting monitoring in accordance with the requirements of Chapter 2, Section 5(a)(ix)(D) and the approved monitoring plan. Noncompliance results for NPDES discharges shall be promptly reported by the operator to the Water Quality Division Administrator. The operator shall promptly report all other noncompliance results to the Land Quality Division Administrator and shall, after consultation with the Administrator, implement appropriate and prompt mitigative measures for those noncompliance situations determined to be mining caused. The monitoring system shall be based on the results of the probable hydrologic consequences assessment and shall include:

(i) A groundwater monitoring program to determine:

(A) Infiltration rates, subsurface flows, and storage characteristics of the reclaimed land and adjacent areas; and

(B) The effects of reclamation on the recharge capacity of the reclaimed lands.

(ii) A surface water monitoring program which includes monitoring of surface water flow and quality from affected lands including those that have been graded and stabilized. Results of the monitoring will be used to demonstrate that the quality and quantity of runoff from affected lands with or without treatment will minimize disturbance to the hydrologic balance. Water quality monitoring results for discharges other than those authorized by Water Quality Division shall be reported whenever results indicate noncompliance with effluent limitation standards or degradation of the quality of receiving water shall be reported immediately. Monitoring results shall be available for inspection at the mine site.

(j) Roads.

(i) Road classification system.

(A) Each road, as defined in Chapter 1, shall be classified as either a primary road or an ancillary road.

(B) A primary road is any road which is:

(I) Used for transporting mineral or spoil;

(II) Frequently used for access or other purposes for a period in excess of six months; or

(III) To be retained for an approved postmining land use.

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

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

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

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

(C) Control or prevent additional contributions of suspended solids to stream flow or runoff outside the permit area;

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

(E) The normal flow of water in streambeds and drainage channels shall not be seriously altered;

(F) Prevent or control damage to public or private property, including the prevention or mitigation of adverse effects on lands listed in Chapter 12, Section 1 (a)(v)(A); and

(G) Use nonacid- and nontoxic-forming substances in road surfacing.

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

(iv) Location.

(A) No part of any road shall be located in the channel of an ephemeral stream that has the potential for sufficient flow to cause substantial environmental harm unless a downstream sediment control structure exists within the permit boundaries, any intermittent stream channel or any perennial stream channel unless specifically approved by the Administrator in accordance with subsections 2(c), 2(e), 2(f), 2(h), 2(i), 2(r)(ii) and 2(w) of this Chapter and Section 2(a)(i) of Chapter 19.

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

(v) Maintenance.

(A) A road shall be maintained to meet the performance standards of this Chapter.

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

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

(A) Closing the road to traffic;

(B) Removing all bridges unless approved as part of the postmining land use and removing all culverts unless approved as part of the postmining land use or approved for burial in place;

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

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

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

(F) Scarifying or ripping the roadbed, replacing topsoil, subsoil or substitute material and revegetating disturbed surfaces in accordance with subsections 2(c)(i) through 2(c)(x) and 2(d) of this Chapter.

(vii) Primary roads.

(A) Certification. The construction or reconstruction of primary roads shall be certified in a report to the Administrator by a registered professional engineer. The report shall indicate that the primary road has been constructed or reconstructed as designed and in accordance with the approved plan. The report shall be available for review at the mine site within 30 days following the completion of construction of each primary road.

(B) Each primary road embankment shall have a minimum static safety factor of 1.3 or meet the requirements established under Chapter 2, Section 5 (a)(xvi)(B).

(C) Location.

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

(II) Fords of intermittent or perennial streams by primary roads are prohibited unless they are specifically approved by the Administrator as temporary routes during periods of road construction.

(D) Drainage control. In accordance with the approved plan:

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

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

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

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

(V) Natural stream channels shall not be altered or relocated without the prior approval of the Administrator in accordance with applicable Sections 2(c), 2(e), 2(f), 2(h), 2(i), 2(r)(ii) and 2(w) of this Chapter and Section 2(a)(i) of Chapter 19; and

(VI) Except as provided in (vii)(C)(II) of this section, structures for channel crossings of ephemeral streams that have the potential for sufficient flow to cause substantial environmental harm unless a downstream sediment control structure exists within the permit boundaries, any intermittent stream or any perennial stream shall be made using bridges, culverts, low-water crossings or other structures designed, constructed, and maintained using current, prudent engineering practices. The Administrator shall ensure that low-water crossings are designed, constructed and maintained to prevent erosion of the structure or streambed and additional contributions of suspended solids to streamflow.

(E) Surfacing: Primary roads shall be surfaced with material approved by the Administrator as being sufficiently durable for the anticipated volume of traffic and weight and speed of vehicles using the road.

(viii) Exemptions concerning roads.

(A) If approval is obtained from the surface landowner to leave a road unreclaimed, an operator may request in writing to the Land Quality Division that a road be permitted to remain unreclaimed. The operator must furnish proof of the surface landowner's approval. Final decision of road reclamation will be made by the Land Quality Division Administrator.

(B) In the event that the surface landowner, a city or town, another agency of the State of Wyoming or an agency of the United States government has requested that a road not be reclaimed, no bond shall be required of the applicant for the reclamation of the road and reclamation of the road shall not be required; provided, however, that the Administrator receives a copy of the written request from the surface owner, city or town, or agency of the State or Federal Government, for retention of the road.

(k) Time schedule.

(i) Reclamation must begin as soon as possible after mining commences and must continue concurrently until such time that the mining operation is terminated and all of the affected land is reclaimed. If conditions are such that final reclamation procedures cannot begin until the mining operation is completed, this must be explained in the reclamation plan. A detailed time schedule for the mining and reclamation progression must be included in the reclamation plan. This time schedule shall:

(A) Apply to reclamation of all lands to be affected in the permit area;

(B) Designate times for backfilling, grading, contouring and reseedling;

(C) Be coordinated with a map indicating the areas of progressive mining and reclamation;

(D) Establish reclamation concurrently with mining operations, whenever possible. If not possible, the schedule shall provide for the earliest possible reclamation consistent with the orderly and economic development of the property; and

(E) If the Administrator approves a schedule where reclamation follows the completion of mining, describe the conditions which will constitute completion or termination of mineral production.

(l) Unanticipated conditions.

(i) An operator encountering unanticipated conditions shall notify the Administrator as soon as possible and in no event more than five days after making the discovery.

(ii) An unanticipated condition is any condition encountered in a mining operation and not mentioned by the operator in his mining or reclamation plan which may seriously affect the procedures, timing,

or outcome of mining or reclamation. Such unanticipated conditions include but are not limited to the following:

(A) The uncovering during mining operations of any acid-forming, radioactive, inflammable, or toxic materials which must be burned, impounded, or otherwise disposed of in order to eliminate pollution or safety hazards.

(B) The discovery during mining operations of a significant flow of groundwater in any stratigraphic horizon.

(C) The occurrence of slides, faults, or unstable soil and overburden materials which may cause sliding or caving in a pit which could cause problems or delays with mining or reclamation.

(D) The occurrence of uncontrolled underground caving or subsidence which reaches the surface, causing problems with reclamation and safety hazards.

(E) A discovery of significant archaeological or paleontological importance.

(F) For permits that are issued to conduct a surface coal mining operation on lands eligible for remining an unanticipated event or condition is one which arises after permit issuance, is related to prior mining and was not addressed in the permit application.

(iii) In the case of the uncovering of hazardous materials, the operator shall take immediate steps to notify the Administrator and comply with any required measures to eliminate the pollution or safety hazard. Under all conditions the operator must take appropriate measures to correct, eliminate, or adapt to an unanticipated condition before mining resumes in the immediate vicinity of that condition.

(m) Disposal of mine facilities.

(i) All mine facilities constructed, used or improved by the operator must be removed or dismantled and shall be reclaimed in accordance with the requirements of this Chapter when no longer needed for the operation unless it can be demonstrated to the Administrator's satisfaction that the buildings or structures will be of beneficial use in accomplishing the proposed use of the land after reclamation or for environmental monitoring.

(ii) If the operator does not wish to remove certain mine facilities, the operator must obtain the written consent of the surface landowner to leave the mine facilities intact. The operator must make a request in writing, providing written proof of the above to the Land Quality Division, that the mine facilities be permitted to remain intact.

(n) Mine Facilities.

(i) Mine facilities shall be operated in accordance with the permit issued for the mine or coal preparation operation to which it is incident or from which its operation results.

(ii) In addition to the other provisions of this Chapter, mine facilities shall be located, maintained, and used in a manner that:

(A) Prevents or controls erosion and siltation, water pollution, and damage to public or private property;

(B) To the extent possible using the best technology currently available;

(1.) Minimizes damage to fish, wildlife, and related environmental values; and

(2.) Minimizes additional contributions of suspended solids to streamflow or runoff outside the permit area. Any such contributions shall not be in excess of limitations of State or Federal law.

(o) Signs and markers. Uniform and durable signs and markers of an adequate size shall be posted by the operator at those points applicable to the areas or activities to which they pertain. Such signs and markers shall include mine and permit identification signs, perimeter markers, buffer zone markers, blasting signs and soil markers. The operator shall place and maintain all signs and markers prior to commencement and until the completion of the activities to which they pertain, which, for mine and permit identification signs, shall be at the time the bond is released.

(p) Drilled holes and other exposed underground openings: Plugging, sealing and capping of all drilled holes except those used solely for blasting or developmental drill holes which will be mined through within one year shall meet the requirements of Chapter 14. Developmental drilling shall meet the plugging and sealing requirements of [W.S. § 35-11-404](#), where necessary. Temporary sealing and use of protective devices may be approved by the Administrator if the hole will be used for returning coal-processing waste or water to underground workings or monitoring groundwater conditions, and shall be used, at a minimum, for developmental drilling. Other exposed underground openings shall be properly managed as required by the Administrator to prevent access to mine workings and to keep acid or other toxic drainage from entering ground or surface water.

(i) With the prior approval of the Administrator and the State Engineer, wells may be transferred to another party for further use. The permittee shall remain responsible for the proper management of the well until final bond release.

(q) Air resources protection. All exposed surface areas shall be protected and stabilized to effectively control erosion and air pollution attendant to erosion.

(r) Fish and wildlife performance standards.

(i) An operator shall, to the extent possible using the best technology currently available and consistent with the approved postmining land use, minimize disturbance and adverse impacts on fish, wildlife, and related

environmental values, and achieve enhancement of such resources where practicable, which activities shall include:

(A) Properly construct, locate and operate roads and powerlines, including proper design of powerlines to avoid electrocution of raptors.

(B) Prevent access to areas such as roadways or ponds with hazardous materials, to avoid damage to wildlife without limiting access to known important routes.

(C) Afford protection, restore and enhance where practicable important habitats to fish and wildlife. This shall include, but is not limited to, wetlands and riparian vegetation along rivers and streams and bordering ponds and lakes.

(D) Select plant species with shrubs well represented, which will enhance the nutritional and cover aspects of fish and wildlife habitat, where such habitat is identified as part of the postmining use, and distribute the reestablished habitat in a manner which includes a diversity and interspersion of habitats, optimizes edge effect, cover and other benefits for fish and wildlife, and is consistent with Section 2(d)(x)(E).

(E) Promptly report to the regulatory authority any species or critical habitat of such species listed as threatened or endangered, or any golden or bald eagle nest in or adjacent to the permit area, which was not reported or investigated in the permit application. Upon notification the Administrator shall consult with the Wyoming Game and Fish Department and the U.S. Fish and Wildlife Service and, after consultation, shall identify whether and under what conditions the operator may proceed.

(F) Where the postmining land use is for cropland, to the extent not inconsistent with this intended use, operators shall restore habitat types to break up large blocks of monocultures.

(ii) Stream buffer zone.

(A) No land within 100 feet of a perennial or intermittent stream shall be affected unless the Administrator specifically authorizes such activities closer to or through such a stream upon a finding that:

(I) Surface mining activities will not cause or contribute to the violation of applicable state or federal water quality standards, and will not adversely affect the water quantity and quality or other environmental resources of the stream; and

(II) If there will be a temporary or permanent stream-channel diversion, it will comply with all stream diversion requirements.

(B) The area not to be affected shall be designated a buffer zone, marked in the field and on the mine plan map.

(iii) No surface mining activity shall be conducted which is likely to jeopardize the continued existence of endangered or threatened species listed by the State or the Secretary of the Interior or which will result in the destruction or adverse modification of designated critical habitats of such species in violation of the Endangered Species Act (16 U.S.C. 1531 et seq.). No surface mining activity shall be conducted in a manner which would result in the unlawful taking of a bald or golden eagle, its nest, or any of its eggs. The Administrator shall consult with the State and Federal Fish and Wildlife Agencies to identify whether and under what conditions the operation may continue under this provision.

(iv) The operator shall perform periodic surveys, in the level of detail and for those areas as determined by the Administrator, in accordance with Appendix B of these rules and regulations.

(s) Slides and other damage. Where instability may exist in backfill materials, an undisturbed natural barrier shall be provided to prevent slides and erosion, beginning at the elevation of the lowest coal seam to be mined and extending from the outslope for such distance as may be determined by the Administrator.

(t) Only those operations designed to protect disturbed surface areas and which result in improved resource recovery, abatement of water pollution, or elimination of hazards to the public shall be conducted within 500 feet of an active or abandoned underground mine. Approval for such operation shall be obtained from MSHA for operations proposed to be conducted within 500 feet of an active underground mine. The Administrator shall specifically approve operations proposed to be conducted within 500 feet of an abandoned underground mine.

(u) Cessation of operations. When it is known that a temporary cessation of operations will extend beyond 30 days, the operator shall submit to the Administrator that information required in an annual report.

(v) The operator shall conduct operations so as to maximize the utilization and conservation of the solid fuel resource being recovered so that re-affecting the land in the future can be minimized.

(w) The operator shall conduct all operations in such a manner as to minimize disturbance of the hydrologic balance within the permit and adjacent areas, to prevent material damage to the hydrologic balance outside the permit area, to assure the protection or replacement of water rights, and to support approved postmining land uses in accordance with the terms and conditions of the approved permit and the performance standards of this Chapter. The Administrator may require additional preventative, remedial, or monitoring measures to assure that material damage to the hydrologic balance outside the permit area is prevented. Mining and reclamation practices that minimize water pollution and changes in flow shall be used in preference to water treatment.

(x) Utility installations which are not part of the surface coal mining operation. All operations shall be conducted in a manner which minimizes damage, destruction, or disruption of services provided by oil, gas, and water wells; oil, gas, and coal-slurry pipelines; railroads; electric and telephone lines; and water and sewage lines which pass over, under or through the permit area, unless otherwise approved by the Administrator or owner of the utility installation.

Credits

Date Filed 12/17/2012

Current through April 14, 2017.

WY Rules and Regulations ENV LQC Ch. 4 s 2, WY ADC ENV LQC Ch. 4 s 2

End of Document

© 2017 Thomson Reuters. No claim to original U.S. Government Works.

Wyoming Rules and Regulations Currentness

Department of Environmental Quality

Land Quality - Coal

Chapter 19. Required Studies for Surface Coal Mining Permit Applications and Assistance for Such Studies

WY Rules and Regulations ENV LQC Ch. 19 s 2

Section 2. Required Studies.

(a) In addition to other information required by the Act and these regulations, all surface coal mining permit applications shall contain:

(i) A determination of the projected result of proposed surface coal mining and reclamation operations, both on and off the mine site, which may reasonably be expected to change the quantity or quality of the surface and groundwater; the surface and groundwater flow, timing and availability, the surface and groundwater quality under seasonal flow conditions, including dissolved and suspended solids; the effect of acid-forming and toxic material on surface and groundwaters; the stream channel conditions; and the aquatic habitat in the permit area and other affected areas. This information shall be in sufficient detail to enable the Administrator to determine the probable cumulative hydrologic impacts on surface and groundwater systems including the impacts resulting from the proposed operation and their interaction with the impacts of all anticipated mining upon all affected hydrologic systems. Anticipated mining shall be projected over the life of the operation, and shall include all other existing coal mining operations, any proposed coal mining operation for which a permit application has been filed and all proposed operations required to meet diligent development requirements for leased federal coal where mine development and geological information is available. The assessment of the probable cumulative hydrologic impacts shall be sufficient to make the determination of W.S. § 35-11-406(n)(iii).

(ii) Unless determined in writing by the Administrator to be unnecessary, a statement of the physical and chemical analyses of test borings or core samplings from the permit area of the coal seam, overburden, and stratum lying immediately under the coal seam to be mined, including logs of the drill holes and thickness and sulfur content of any coal seam.

Credits

Date Filed 04/15/1998

Current through April 14, 2017.

WY Rules and Regulations ENV LQC Ch. 19 s 2, WY ADC ENV LQC Ch. 19 s 2