

**Annex A**

**TITLE 25. ENVIRONMENTAL PROTECTION**

**PART I. DEPARTMENT OF ENVIRONMENTAL PROTECTION**

**Subpart C. PROTECTION OF NATURAL RESOURCES**

**ARTICLE I. LAND RESOURCES**

**CHAPTER 88. ANTHRACITE COAL**

**§ 88.310. Coal refuse disposal: general requirements.**

(a) Coal refuse shall be hauled or conveyed to and placed in designated disposal areas authorized for that purpose. The refuse shall be placed in a controlled manner to ensure the following:

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

(2) Stability of the disposal area.

(3) Leachate and surface runoff from the disposal area will not degrade surface waters or groundwaters or exceed the established effluent limitations.

(b) The disposal area shall be designed using recognized professional standards and approved by the Department. The design shall be certified by a registered professional engineer.

(c) Trees, grasses, shrubs and other organic materials shall be removed for a distance of 50 feet from the current disposal area concurrent with the placement of refuse.

(d) Slope protection shall be provided to minimize surface erosion at the site. The disturbed areas, including diversion ditches that are not ripped, shall be vegetated upon completion of construction.

(e) The coal refuse to be placed in the fill shall be hauled or conveyed 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 long-term static safety factor of 1.5 and seismic safety factor of 1.2.

(f) The final configuration of the disposal shall be suitable for the approved postmining land uses.

(g) Terraces may be utilized to control erosion and enhance stability if approved by the Department.

(h) If the disposal area contains springs, natural or manmade water-courses or wet-weather seeps, an underdrain system consisting of durable rock shall be constructed from the wet areas in a manner that prevents infiltration of the water into the spoil material. The underdrain system shall be designed and constructed using standard geotechnical engineering methods.

- (i) Coal refuse may be returned to underground mine workings, but only in accordance with a disposal program approved by the Department and the Mine Safety and Health Administration.
  - (j) The system to prevent adverse impacts to the surface water and groundwater shall be constructed in accordance with design schematics, test results, descriptions, plans, maps, profiles or cross-sections approved in the permit and shall function to prevent adverse impacts to surface water and groundwater.
  - (k) The system to prevent precipitation from coming in contact with the coal refuse shall be constructed in accordance with design schematics, test results, descriptions, plans, maps, profiles and cross-sections approved in the permit and shall function to prevent precipitation from contacting the coal refuse.
- (1) The system shall be installed **[as phases of the disposal area reach capacity, as specified in the permit, when the operation temporarily ceases for a period in excess of 90 days (unless the Department approves a longer period, not to exceed 1 year) or when the operation permanently ceases.]**:
- (i) As phases reach capacity.**
  - (ii) As specified in the permit.**
  - (iii) When the operation temporarily ceases for a period in excess of 90 days unless the Department approves an operator’s request for a longer period for installation of the system.**
  - (iv) When the operation permanently ceases.**
- (2) The system shall be designed to allow for revegetation of the site in accordance with the standard of success under § 88.330 (relating to revegetation: standards for successful revegetation) and for prevention of erosion.

**§ 88.332. Cessation of operations: temporary.**

**[(a) As soon as it is known that the operation will temporarily cease for more than 30 days, the operator shall submit a notice of intention, in writing, to temporarily cease the operation. The notice shall include a statement of the exact number of acres which will have been affected in the permit area, the extent and kind of reclamation of those areas, and identification of the backfilling, regrading, revegetation, monitoring and water treatment activities that will continue during the temporary cessation. The system for preventing precipitation from contacting the coal refuse shall be installed when the temporary cessation exceeds 90 days. The Department may approve a longer period, not to exceed 1 year, consistent with section 6.1(i) of the Coal Refuse Disposal Control Act (52 P.S. § 30.56a(i)).**

**(b) Temporary cessation of an operation may not exceed 90 days unless the Department approves a longer period for reasons of seasonal shutdown or labor strike.**

(c) Temporary cessation does not relieve the operator of the obligation to comply with any provisions of the permit.]

**(a) Before temporary cessation status of operations for a period of 30 days or more, an operator shall submit to the Department a notice of intention to temporarily cease operations. The notice shall include:**

**(1) A statement of the exact number of acres affected in the permit area,**

**(2) A description of the extent and kind of reclamation of the areas,**

**(3) Identification of the backfilling, regrading, revegetation, environmental monitoring, and water treatment activities that will continue during the temporary cessation status and,**

**(4) A description of the status of the operation(s) which is the source of the coal refuse,**

**(b) Before temporary cessation status of operations for a period of 90 days or more, an operator shall submit to the Department a notice that may be included in, or subsequent to, the notice required under subsection (a), and includes:**

**(1) Confirmation that the current bond under the permit is sufficient to complete the reclamation of the coal refuse area,**

**(2) The timing of the installation of the phased system to prevent precipitation from contacting the refuse.**

**(c) Temporary cessation status of operations does not relieve the operator of the obligations to comply with the acts as defined in § 86.1, chapters 86-90, or the approved permit, including the obligation to submit an application for permit renewal at least 180 days before the expiration of the existing permit. The Department may enforce these obligations during the temporary cessation status of operations.**

**(d) Temporary cessation status ends with the resumption of coal refuse disposal operations. Any subsequent notices of temporary cessation status following resumption of coal refuse operations must include updated information outlined in subsection (a).**

**(e) Temporary cessation status of the coal refuse area will end when the temporary cessation status for the operation(s) which is the source of the coal refuse ends by permanent cessation or operation(s) resume.**

§ 88.333. Cessation of operations: permanent.

**(a)** Operations that are permanently ceased shall be backfilled or closed or otherwise permanently reclaimed in accordance with this chapter and the permit. All underground openings, equipment, structures or other facilities not required for monitoring, unless approved by the Department as suitable for the postmining land use, shall be removed and the affected land reclaimed.

**(b) Operations that fail to comply with a final adjudicated proceeding as defined under § 86.355(e) as a result of an act or omission which violates the acts, this chapter, Chapter 86, 87, 88 or 89, or a permit condition required by the acts, this chapter or Chapter 86, 87, 88 or 89, or that fail to comply with a Consent Order and Agreement, or a Consent Order while under temporary cessation status will terminate the status. Termination of temporary cessation status will place the mining operation in permanent cessation status and subject to the provisions of subsection (a).**

## CHAPTER 90. COAL REFUSE DISPOSAL

### § 90.31. General requirements.

An application shall contain a description of the coal refuse disposal activities proposed to be conducted during the life of the coal refuse disposal operations within the proposed permit area, including, at a minimum, the following:

- (1) A narrative description of the type and method of coal refuse disposal procedures and proposed engineering techniques and the major equipment to be used during operations.
- (2) A narrative explaining the construction, modification, use, maintenance and removal of the following facilities and structures, unless retention of the facility or structure is necessary for postdisposal land use as specified in § 90.166 (relating to postdisposal land use):
  - (i) Dams, embankments and other impoundments.
  - (ii) Overburden and topsoil handling and storage areas.
  - (iii) Coal removal, handling, storage, cleaning, processing and transportation areas and structures.
  - (iv) Spoil, coal refuse, mine development waste and noncoal waste removal, handling, storage, transportation and disposal areas and structures.
  - (v) Mine facilities.
  - (vi) Water and air pollution control facilities.
  - (vii) Erosion and sediment control facilities.
- (3) A description of the measures to be employed to ensure that all debris, potential acid-forming and potential toxic-forming materials, and materials constituting a fire hazard are disposed of in accordance with this chapter and a description of the contingency plans which have been developed to preclude combustion of the materials.

(4) A description, including appropriate cross sections and maps, of the measures to be used to seal or manage mine openings, and to plug, case, line or manage exploration holes, other boreholes, wells and other openings within the proposed permit area.

(5) A demonstration that the notification requirements of § 86.31(e) (relating to public notices of filing of permit application) have been satisfied.

**(6) A description of the operation(s) which is proposed to be the source(s) of the coal refuse to be disposed of at the coal refuse disposal facility and the type(s) of refuse to be disposed.**

**§ 90.50. Design criteria: groundwater and surface water protection system.**

(a) The application shall include a description of the system that will be installed to prevent adverse impacts to groundwater and surface water. The description shall include maps, plans and other information necessary to evaluate the design of the system.

(b) The application shall include a description of the system that will be installed to prevent precipitation from coming into contact with the coal refuse. The description shall include maps, plans and other information necessary to evaluate the design of the system. The coal refuse disposal operation shall be designed in phases to minimize the amount of time the entire coal refuse area is exposed to precipitation prior to the installation of the system to prevent precipitation from contacting the coal refuse. The application shall describe the design of the system for preventing precipitation from contacting coal refuse and how the system will be installed in accordance with the following:

(1) During routine coal refuse disposal as phases of the coal refuse disposal area reach capacity.

(2) **As specified in the permit.**

~~[(2)]~~ (3) During periods of temporary cessation as directed under § 90.167(d) (relating to cessation of operations: temporary).

~~[(3)]~~ (4) When the operation permanently ceases.

(c) The Department's technical guidance Document Number 563-2112-656[, titled *Liners—Impoundments, Stockpiles, and Coal Refuse Disposal Areas*] **(relating to liners and caps for coal refuse disposal areas)**, shall be used as guidance for designing coal refuse disposal sites incorporating earthen, admixed or synthetic liners or caps for preventing adverse impacts to groundwater and surface water and for preventing precipitation from contacting coal refuse.

(d) The application shall include a description of the measures to be taken to ensure the long-term functionality of the systems described in subsections (a) and (b). The description shall address the site's susceptibility to mine subsidence and the potential impacts of mine subsidence on the systems described in subsections (a) and (b). The description shall also address the potential for deterioration of components of the systems described in subsections (a) and (b) due

to other physical or chemical processes including but not limited to attack from sulfate-laden or acidic groundwater and/or leachate.

**§ 90.122. Coal refuse disposal.**

(a) Coal refuse shall be transported and placed in designated disposal areas approved by the Department for this purpose. These areas shall be within the permit area. The coal refuse disposal area shall be designed, constructed and maintained to ensure:

(1) The leachate and surface runoff from the permit area will not degrade surface water or groundwater or exceed the effluent limitations of § 90.102 (relating to hydrologic balance: water quality standards, effluent limitations and best management practices).

(2) Prevention of combustion.

(3) Prevention of public health hazards.

(4) Stability of the fill.

(5) The land mass designated as the coal refuse disposal area is suitable for reclamation and revegetation compatible with the natural surroundings.

(b) The fill shall be designed using recognized professional standards, certified by a qualified registered professional engineer, and approved by the Department.

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

(d) The coal refuse disposal fill shall be designed to attain a minimum long-term static factor of safety of 1.5 and a minimum seismic factor of safety of 1.2, based upon data obtained from subsurface exploration, geotechnical testing, foundation design, fill design and accepted engineering analyses.

(e) When the average slope of coal refuse disposal area exceeds 1v:2.8h-36%, or lesser slopes as may be designated by the Department based on local conditions, key way cuts, or excavation into stable bedrock or bedrock toe buttresses shall be constructed to stabilize the fill. When the toe of the fill rests on a downslope, stability analysis shall be performed in accordance with § 90.39 (relating to ponds, impoundments, banks, dams, embankments, piles and fills) to determine the size of rock toe buttresses and key way cuts.

(f) If the disposal area contains springs, natural or manmade watercourses, or wet-weather seeps, the Department may approve an underdrain/subdrainage system, consisting of durable rock or other materials, designed and placed in a manner that prevents infiltration of the water into the fill material and ensures continued free drainage from the wet areas.

(g) The disposal area shall be provided with a system to prevent adverse impacts to the surface water and groundwater. The system shall be constructed in accordance with design schematics,

test results, descriptions, plans, maps, profiles or cross-sections approved in the permit and shall function to prevent adverse impacts to surface water and groundwater.

(h) **[When a phase of the coal refuse disposal area reaches capacity, the] The operator shall install a system to prevent precipitation from coming in contact with the coal refuse. [in the completed phase.] The system shall be constructed in accordance with the design schematics, test results, descriptions, plans, maps, profiles or cross-sections approved in the permit, and designed to allow for revegetation of the site in accordance with the standard of success under § 90.159 (relating to revegetation: standards for successful revegetation) and for the prevention of erosion:**

**(1) The system shall be constructed in accordance with design schematics, test results, descriptions, plans, maps, profiles or cross-sections approved in the permit.**

**(2) During normal coal refuse disposal, the system is not required to prevent precipitation from coming in contact with the coal refuse being placed in phases of the operation that have not reached capacity.**

**(3) The system shall be designed to allow for revegetation of the site in accordance with the standard of success under § 90.159 (relating to revegetation: standards for successful revegetation) and for the prevention of erosion.**

**(4) If the operator temporarily ceases operation of the coal refuse disposal area for a period in excess of 90 days (unless the Department, for reasons of labor strike or business necessity, approves a longer period not to exceed 1 year), or when the operation permanently ceases, the operator shall install the system for preventing precipitation from contacting the coal refuse.]**

**(1) As phases reach capacity.**

**(2) As specified in the permit.**

**(3) If the operator temporarily ceases operation of the coal refuse disposal area for a period in excess of 90 days, unless the Department approves an operator's request for a longer period for the installation of the system.**

**(4) When the operation permanently ceases.**

(i) An underdrain/subdrainage system for the fill shall be designed in accordance with the following:

(1) It shall include an underdrain system which will ensure continued free drainage of anticipated seepage from precipitation and from spring or wet-weather seeps, and meet the following:

(i) Anticipated discharges from springs and seeps due to precipitation shall be based on records or field investigation or both, to determine seasonal variation. The design of the underdrain system shall be based on maximum anticipated discharges.

(ii) Granular material used for the drainage system shall be nondegradable, nonacid-forming or nontoxic-forming rock free of clay, and consist of durable particles such as natural sands and gravels, sandstone, limestone or other durable rock which will not flake in water.

(2) The underdrain system shall be designed to be installed along the natural drainage system; extend from toe to head of fill; and contain lateral drains to each area of potential drainage or seepage.

(3) A filter system to ensure the proper functioning of the rock underdrain system shall be designed and constructed using standard geotechnical engineering methods.

(j) The final configuration of the fill shall be suitable for the post disposal land use approved under § 90.165 (relating to prime farmland: revegetation), except that no depression or impoundment may be allowed on the completed fill. New coal refuse disposal piles and area of piles active since May 17, 1973, shall blend into the local surroundings. Unless otherwise approved by the Department, the fill may not be designed to exceed the approximate elevation of the surrounding ridgeline.

(k) The maximum overall completed slope of the coal refuse disposal pile measured from toe of the fill to crest of upper terrace may not exceed 33% or 18 degrees.

(l) The top surface of the completed fill shall be graded so that the final slope after settlement will be no steeper than 1v:20h—5.0% toward properly designed drainage channels in natural ground along the periphery of the fill. Surface runoff from the top surface of the fill may not be allowed to flow over the outslope of the fill.

(m) Terraces **[may] must** be utilized to control erosion[,] **and** enhance stability, **[or] and may be utilized** for roads included in postmining land use.

(1) The slope of the outslope between terraces may not exceed 1v:2h-50%. The vertical distance between terraces may not exceed 50 feet.

(2) To control surface runoff, each terrace bench will be a minimum of 20 feet wide, shall be graded to a slope of 1v:20h—5.0% toward the embankment. Runoff shall be collected by a ditch along the intersection of each terrace bank and the toe of the next higher outslope.

(3) Terrace ditches shall have a maximum 5.0% slope toward the channels specified in subsection [(n)] **(o)** unless steeper slopes are necessary in conjunction with approved roads.

(n) **[Surface water runoff from the areas adjacent to and above the fill may not be allowed to flow onto the fill and shall be diverted into stabilized channels which are designed to pass safely the peak runoff from a 100-year precipitation event. Diversion design shall comply with § 90.104 (relating to hydrologic balance: diversions).] Surface water runoff from areas adjacent to and above the fill shall be diverted away from the fill in stabilized channels which are designed to safely pass the peak runoff from a 100-year precipitation event. Diversion channels shall also comply with § 90.104 (a), (c) – (g), and (h) (relating to hydrologic balance: diversions).**

(o) **[Surface water runoff from the fill shall be diverted off the fill to properly designated channels which will pass safely the peak runoff from a 100-year precipitation event. Diversion design shall comply with § 90.104 and § 90.105 (relating to stream channel diversions).] Surface water runoff from the fill shall be collected in properly designed channels toward properly designed channels constructed in natural ground or engineered fill of inert material along the periphery of the fill. The channels must safely pass the peak runoff from a 100-year precipitation event.**



(p) Slope protection shall be provided to minimize surface erosion at the site. Disturbed areas, including diversion ditches that are not riprapped, shall be vegetated upon completion of construction.

(q) Coal refuse shall be hauled or conveyed and placed in a controlled manner and concurrently compacted as approved by the Department in lifts no greater than 2 feet, or less, as required or approved by the Department, as the design to:

- (1) Achieve the densities designed to ensure mass stability.
- (2) Prevent mass movement.
- (3) Avoid contamination of the rock underdrain.
- (4) Prevent formation of voids.

(r) Vegetative and organic materials shall be removed from the area where coal refuse is disposed of, and for a distance of 50 feet from the perimeter of the area where coal refuse is disposed, the topsoil shall be removed, segregated and stored or replaced as provided in § § 90.96—90.100. If approved by the Department, organic material may be used a mulch or may be included in the topsoil to control erosion, promote growth of vegetation or increase the moisture retention of the soil.

**§ 90.167. Cessation of operations: temporary.**

**[(a) As soon as it is known that the operation will temporarily cease for more than 30 days, the operator shall submit a notice of intention, in writing, to temporarily cease the operation. The notice shall include a statement of the exact number of acres that will have been affected in the permit area, the extent and kind of reclamation of those areas, and identification of the disposal, regrading, revegetation, monitoring and water treatment activities which will continue during the temporary cessation.**

**(b) Temporary cessation of an operation may not exceed 90 days unless the Department approves a longer period for reasons of seasonal shutdown or labor strike.**

**(c) Temporary cessation does not relieve the operator of the obligation to comply with any provisions of the permit.**

**(d) The operator shall install the system for preventing precipitation from contacting the coal refuse when the temporary cessation exceeds 90 days. The Department may approve a longer period, not to exceed 1 year, for reasons of a labor strike or business necessity.]**

**(a) Before temporary cessation status of operations for a period of 30 days or more, an operator shall submit to the Department a notice of intention to temporarily cease operations. The notice shall include:**

**(1) A statement of the exact number of acres affected in the permit area,**

**(2) A description of the extent and kind of reclamation of the areas,**

- (3) Identification of the backfilling, regrading, revegetation, environmental monitoring, and water treatment activities that will continue during the temporary cessation status and,**
- (4) A description of the status of the operation(s) which is the source of the coal refuse,**
- (b) Before temporary cessation status of operations for a period of 90 days or more, an operator shall submit to the Department a notice that may be included in, or subsequent to, the notice required under subsection (a), and includes:**

  - (1) Confirmation that the current bond under the permit is sufficient to complete the reclamation of the coal refuse area,**
  - (2) The timing of the installation of the phased system to prevent precipitation from contacting the refuse.**
- (c) Temporary cessation status of operations does not relieve the operator of the obligations to comply with the acts as defined in § 86.1, chapters 86-90, or the approved permit, including the obligation to submit an application for permit renewal at least 180 days before the expiration of the existing permit. The Department may enforce these obligations during the temporary cessation status of operations.**
- (d) Temporary cessation status ends with the resumption of coal refuse disposal operations. Any subsequent notices of temporary cessation status following the resumption of coal refuse operations must include updated information outlined in subsection (a).**
- (e) Temporary cessation status of the coal refuse area will end when the temporary cessation status for the operation(s) which is the source of the coal refuse ends by permanent cessation or operation(s) resume.**

§ 90.168. Cessation of operations: permanent.

- (a)** Operations that are permanently ceased shall be backfilled or closed or otherwise permanently reclaimed in accordance with this chapter and the permit. All underground openings, equipment, structures or other facilities not required for monitoring, unless approved by the Department as suitable for the postmining land use, shall be removed and the affected land reclaimed.
- (b) Operations that fail to comply with a final adjudicated proceeding as defined under § 86.355(e) as a result of an act or omission which violates the acts, this chapter,**

**Chapter 86, 87, 88 or 89, or a permit condition required by the acts, this chapter or Chapter 86, 87, 88 or 89, or that fail to comply with a Consent Order and Agreement, or a Consent Order while under temporary cessation status will terminate the status. Termination of temporary cessation status will place the mining operation in permanent cessation status and subject to the provisions of subsection (a).**

**§ 90.202. General requirements.**

(a) A preferred site shall be used for coal refuse disposal unless the applicant demonstrates to the Department that an alternate site is more suitable based upon engineering, geology, economics, transportation systems, and social factors and is not adverse to the public interest.

(b) The applicant is required to determine whether the search area contains a preferred site.

(1) For a new coal refuse disposal area that will support an existing coal **[preparation facility] mining activity**, the applicant shall examine the geographic area within a 1-mile radius of the existing coal **[preparation facility] mining activity**.

(2) For a proposed coal refuse disposal area that will support a proposed coal preparation facility, the applicant shall examine a 25-square mile geographic area encompassing the proposed coal preparation facility. In defining the 25-square mile area, consideration shall be given to environmental, technical, transportation, economic and social factors where applicable.

(c) If there are no preferred sites located within the search area, the applicant shall conduct a comparative analysis of the potential coal refuse disposal sites in accordance with § 90.204(b) (relating to proposing an alternate site).

(d) The Department will not approve a site proposed by the applicant for coal refuse disposal activities when the Department finds that the adverse environmental impacts of using the site for coal refuse disposal activities would clearly outweigh the public benefits.

(e) Except on preferred sites, the Department will not approve coal refuse disposal on or within any of the following areas:

(1) Prime farmlands.

(2) An exceptional value watershed as defined under Chapter 93 (relating to water quality standards).

(3) Sites known to contain threatened or endangered animals listed exclusively under the Commonwealth's protection programs.

(4) An area that is hydrologically connected to and contributes at least 5% of the drainage to wetlands designated as exceptional value under Chapter 105 (relating to dam safety and waterway management) unless a larger percentage contribution is authorized by the Department after consultation with the Fish and Boat Commission.

(5) A watershed less than 4 square miles in area upstream of the intake of a public water supply.

(6) A watershed less than 4 square miles in area upstream of the upstream limit of a public recreational impoundment.

(7) Sites known to contain Federally listed threatened or endangered plants or animals. At preferred sites known to contain Federally listed threatened or endangered species, approval will be granted only when the Department concludes and the United States Fish and Wildlife Service concurs that the proposed activity is not likely to adversely affect Federally listed threatened or endangered species or result in the take of Federally listed threatened or endangered species in violation of section 9 of the Endangered Species Act of 1973 (16 U.S.C.A. § 1538).

(f) As part of the site selection process, an applicant may request approval for more than one site. The Department will evaluate each site proposed for coal refuse disposal and, if the Department finds that a proposed site meets the requirements of this subchapter, it will designate it as an approved site. The applicant will then have the option of choosing a selected site from among the approved sites and submitting an application for coal refuse disposal for that site.