Proposed Action on Regulations

Transmittal Sheet **PROPOSED OR REPROPOSED** **Actions on Regulations**	**Date Filed with AELR Committee**	**TO BE COMPLETED BY DSD** Date Filed with Division of State Documents Document Number Date of Publication in MD Register

1. Desired date of publication in Maryland Register: 12/21/2007

2. COMAR Codification

Title	Subtitle	Chapter	Regulation
26	04	07	02 and .04
26	04	10	01-.08
26	20	24	08
26	21	04	01-.12

3. Name of Promulgating Authority

Department of the Environment

4. Name of Regulations Coordinator — **Telephone Number**
Katherine Hart — 410-537-3812

Mailing Address

1800 Washington Boulevard

City	State	Zip Code
Baltimore	MD	21230

Email
khart@mde.state.md.us

5. Name of Person to Call About this Document — **Telephone No.**
Katherine Hart — 410-537-3812

Email Address
khart@mde.state.mde.us

6. Check applicable items:
X- New Regulations
X- Amendments to Existing Regulations
Date when existing text was downloaded from COMAR online: 11/14/07.
_ Repeal of Existing Regulations
_ Recodification
_ Incorporation by Reference of Documents Requiring DSD Approval
_ Reproposal of Substantively Different Text:
: Md. R
(vol.) (issue) (page nos) (date)
Under Maryland Register docket no.: --P.

7. Is there emergency text which is identical to this proposal:
_ Yes **X-** No

8. Incorporation by Reference
_ Check if applicable: Incorporation by Reference (IBR) approval form(s) attached and 18 copies of documents proposed for incorporation submitted to DSD. (Submit 18 paper copies of IBR document to DSD and one copy to AELR.)

9. Public Body - Open Meeting
_ OPTIONAL - If promulgating authority is a public body, check to include a sentence in the Notice of Proposed Action that proposed action was considered at an open meeting held pursuant to State Government Article, §10-506(c), Annotated Code of Maryland.
_ OPTIONAL - If promulgating authority is a public body, check to include a paragraph that final action will be considered at an open meeting.

10. Children's Environmental Health and Protection
X- Check if the system should send a copy of the proposal to the Children's Environmental Health and Protection Advisory Council.

11. Certificate of Authorized Officer
I certify that the attached document is in compliance with the Administrative Procedure Act. I also certify that the attached text has been approved for legality by George Kohutiak, Assistant Attorney General, (telephone #410-537-3044) on 11/16/07. A written copy of the approval is on file at this agency.

Name of Authorized Officer
Shari T. Wilson
Title **Telephone No.**
Secretary of the Environment 410-537-3084
Date
11/16/07

Title 26
DEPARTMENT OF THE ENVIRONMENT

Subtitle 04 REGULATION OF WATER SUPPLY, SEWAGE DISPOSAL, AND SOLID WASTE
26.04.07 Solid Waste Management

Subtitle 04 REGULATION OF WATER SUPPLY, SEWAGE DISPOSAL, AND SOLID WASTE
26.04.10 Management of Coal Combustion Byproducts

Subtitle 20 SURFACE COAL MINING AND RECLAMATION AND RECLAMATION UNDER...
26.20.24 Special Performance Standards

Subtitle 21 MINING
26.21.04 Utilization of Coal Combustion Byproducts in Surface Mine Reclamation

Authority:

Subtitle 04 REGULATION OF WATER SUPPLY, SEWAGE DISPOSAL, AND SOLID WASTE 26.04.07 Solid Waste Management
Authority: Environment Article, §§ 9-204, 9-252, and 9-314, Annotated Code of Maryland

Subtitle 04 REGULATION OF WATER SUPPLY, SEWAGE DISPOSAL, AND SOLID WASTE 26.04.10 Management of Coal Combustion Byproducts
Authority: Environment Article, §§ 2-301, 9-252, 9-302, 9-313, 9-314, 15-503, 15-702, and 15-803, Annotated Code of Maryland

Subtitle 20 SURFACE COAL MINING AND RECLAMATION AND RECLAMATION UNDER FEDERALLY APPROVED PROGRAM 26.20.24 Special Performance Standards
Authority: Environment Article, §15-503 and 15-702, Annotated Code of Maryland

Subtitle 21 MINING 26.21.24 Utilization of Coal Combustion Byproducts in Surface Mine Reclamation
Authority: Environment Article, § 15-803, Annotated Code of Maryland

Notice of Proposed Action

[]

The Secretary of the Environment proposes to:
(1) amend Regulations .02 and .04 under COMAR 26.04.07 Solid Waste Management;

(2) adopt new Regulations .01-.08 under a new chapter, COMAR 26.04.10 Management of Coal Combustion Byproducts;

(3) adopt new Regulation .08 under COMAR 26.20.24 Special Performance Standards; and

(4) adopt new Regulations .01-.12 under a new chapter, COMAR 26.21.04 Utilization of Coal Combustion Byproducts in Surface Mine Reclamation.

Statement of Purpose

The purpose of this action is to provide for the regulation of coal combustion byproducts and to establish requirements pertaining to the generation, storage, handling, processing, disposal, recycling, beneficial use, or other use of coal combustion byproducts; to establish requirements pertaining to the use of coal combustion byproducts in surface coal mining and reclamation activities, and abandoned coal mines; and to establish requirements pertaining to the use of coal combustion byproducts in the reclamation of a noncoal surface mine. The proposed action also clarifies certain solid waste regulations related to the use of pozzolan and coal combustion byproducts.

Comparison to Federal Standards

There is no corresponding federal standard to this proposed action.

Estimate of Economic Impact

I. Summary of Economic Impact.

The economic impact of the proposed action will result in a cost to the Department for new staff needed to review geologic and environmental information, perform engineering evaluations, perform inspections, review monitoring data, and provide related equipment in the estimated amount of $593,000. The staff will be assigned to those units where additional work is anticipated to be required. The cost to the generators of coal combustion byproducts to dispose of the material in a permitted new landfill facility with a leachate control system is estimated to be approximately $9,700,000 for 2 million tons per year. This estimate may vary based on a variety of factors and does not include the cost to the generators to transport the coal combustion byproducts to the landfill facility.

II. Types of Economic Impact.	Revenue (R+/R-) Expenditure (E+/E-)	Magnitude
A. On issuing agency:	(E+)	$593,000
B. On other State agencies:	NONE	
C. On local governments:	NONE	
	Benefit (+) Cost (-)	Magnitude
D. On regulated industries or trade groups:	(-)	$9,700,000 (2 million tons of CCBs/year)
E. On other industries or trade groups:	NONE	
F. Direct and indirect effects on public:	(+)	Indeterminable

III. Assumptions. (Identified by Impact Letter and Number from Section II.)

A. The proposed regulations will require additional staff to review geologic and environmental information for the proposed sites, perform engineering evaluations, review monitoring data, and perform inspections of the landfill facilities disposing of coal combustion byproducts. It is estimated that Department expenditures are expected to increase by $593,000 in FY 2009 and continue thereafter. This estimate reflects the cost of hiring 3 geologists, 3 public health engineers, 3 environmental sanitarians or environmental compliance specialists, 3 clerical support staff, and includes $138,000 for related equipment. It is anticipated that the staff will be added to those units where additional work is required, including the solid waste and coal and noncoal mining units. It might be possible to use outside contractors to provide some of the needed services.

D. The cost to the industry is based on an approximation of costs that might be incurred if all coal combustion byproducts generated in Maryland were to be disposed of in permitted solid waste landfills and includes an estimate of the cost of constructing a lined facility. The Department assumes that the annual production of coal combustion byproducts in Maryland is approximately 2 million tons per year, with a projected additional production of at least 2 million tons of flue gas desulfurization sludge per year in the near future. A permitted landfill requires a liner and a leachate collection system. The Department estimates that 2 million cubic yards per year of coal combustion byproducts will require approximately 12 acres of lined landfill area on average, and that, based on recent municipal landfill construction costs per acre for the preparation and lining of a landfill cell, the cost is estimated to be $200,000 per acre. Therefore, the Department estimates that the construction costs for a landfill with a liner for a 12 acre site will be about $2,400,000 per year. The Department also based its cost estimate on the installation of a leachate treatment system for the landfill facility. This cost estimate

varies depending on the size of the facility and the amount of rainfall that occurs in a given year. The Department assumes that a 50 acre uncapped landfill site with 43 inches of rain per year and an infiltration rate of one foot at a cost of 2 cents per gallon will result in an estimated cost of $325,851 per year. The Department also assumes that there are other one-time costs associated with a permitted landfill facility, other than the costs described above. These costs include an estimated: (a) $100,000 per year for facility design and permitting costs for a new facility, (b) $100,000 per year for land acquisition, (c) $5,000,000 million per year in operational costs related to staff, equipment, monitoring, insurance, and postclosure maintenance, and (d) $1,800,000 per year for closure costs related to the installation of a low-permeability cap, drainage layer, and protective soil layer over the landfill areas as they reach capacity. Based on the experience of the Department, the average estimated cost of a cap is $150,000 per acre per year. The Department estimates that the average annualized cost to coal combustion generators, not including transportation costs, would be approximately $4.85 per ton of coal combustion byproducts generated, provided that none of the coal combustion byproducts are used or recycled at a lower cost. The estimated total cost to the generators of coal combustion byproducts is $9,700,000 per year for 2 million tons.

F. The implementation of this proposed action is expected to benefit the public health by improving the quality of the State's groundwater.

Economic Impact on Small Businesses

The proposed action has minimal or no economic impact on small businesses.

Impact on Individuals with Disabilities

The proposed action has no impact on individuals with disabilities.

Opportunity for Public Comment

The Department of the Environment will hold a public hearing on the proposed action on February 5, 2008 at 10:00 a.m. at the Department of the Environment, 1800 Washington Boulevard, First Floor Aqua and Terra Conference Rooms, Baltimore MD 21230. Interested persons are invited to attend and express their views. Written comments may be mailed to: Stephen Pattison, Assistant Secretary, Department of the Environment, 1800 Washington Boulevard, Baltimore MD 21230. Comments may also be submitted via e-mail to: spattison@mde.state.md.us. Comments must be received no later than February 5, 2008 or may be submitted at the public hearing. For more information, call Katherine Hart at (410) 537-3812.

Anyone needing special accommodations at the public hearing should contact the Department's Fair Practices Office at (410) 537-3964. TTY users may contact the Department through the Maryland Relay Service at 1-800-735-2258.

Economic Impact Statement Part C

A. Fiscal Year in which regulations will become effective: FY 2008

B. Does the budget for the fiscal year in which regulations become effective contain funds to implement the regulations?

No

C. If 'yes', state whether general, special (exact name), or federal funds will be used:

D. If 'no', identify the source(s) of funds necessary for implementation of these regulations:
Legislation will be proposed to adopt fees and increase fees to support the implementation of these regulations.

E. If these regulations have no economic impact under Part A, indicate reason briefly:

F. If these regulations have minimal or no economic impact on small businesses under Part B, indicate the reason and attach small business worksheet.
Most of the generators of coal combustion byproducts are large corporations such as Constellation Energy, Mirant, and Allegheny Power. The Department anticipates minimal impacts upon small businesses in Maryland that are subject to these proposed regulations.

G. Small Business Worksheet:

26.04.07.02 (11/14/07)

.02 Definitions.

A. (text unchanged)

B. Terms Defined.

(1) (text unchanged)

(2) (text unchanged)

(3) "Ashes" means the residue from the burning of wood, solid waste, coal, coke, and other combustible materials. [It] "Ashes" does not include [pozzolans as defined in Natural Resources Article, § 7-464, Annotated Code of Maryland]:

(a) Pozzolan as defined in Environment Article, § 15-407, Annotated Code of Maryland, if the pozzolan is used in accordance with Environment Article, § 15-407, Annotated Code of Maryland, and COMAR 26.04.10; or

(b) Coal combustion byproducts as defined in COMAR 26.04.10, if the coal combustion byproducts are used in accordance with COMAR 26.04.10.

(4)—(32) (text unchanged)

26.04.07.04 (11/14/07)

.04 Sanitary Landfills--General.

A. (text unchanged)

(1)—(4) (text unchanged)

B. (text unchanged)

C. Exceptions. Permits issued under these regulations are not required for the following:

(1)—(6) (text unchanged)

(7) [Pozzolan management activities conducted pursuant to Natural Resources Article, § 7-464, Annotated Code of Maryland.] The use of pozzolan, if the use is in accordance with Environment Article, § 15-407, Annotated Code of Maryland, and COMAR 26.04.10.

(8) The use of coal combustion byproducts, as defined in COMAR 26.04.10, if the use is in accordance with COMAR 26.04.10.

BEGIN ALL NEW MATTER

COMAR 26.04.10 Management of Coal Combustion Byproducts

.01 Scope.

A. The purpose of this chapter is to provide for the regulation of coal combustion byproducts, and to establish certain requirements pertaining to the generation, storage, handling, processing, disposal, recycling, beneficial use, or other use of coal combustion byproducts, including the use of coal combustion byproducts in coal and non-coal mining operations.

B. Except as otherwise specifically provided, this chapter applies to persons engaged in the generation, storage, handling, processing, disposal, recycling, beneficial use, or other use of coal combustion byproducts.

C. Compliance with the provisions of this chapter does not relieve a person from the duty to comply with any other applicable federal, state, and local laws, regulations, and ordinances.

.02 Definitions.

A. In this chapter, the following terms have the meanings indicated.

B. Terms Defined.

(1) "Air pollution" has the meaning stated in Environment Article, § 2-101(b), Annotated Code of Maryland.

(2) Beneficial use.

(a) "Beneficial use" means the use of coal combustion byproducts in a manufacturing process to make a product or as a substitute for a raw material or commercial product, which does not contribute to adverse effects to public health or the environment.

(b) "Beneficial use" does not include the use of coal combustion byproducts in a mining operation or in mine reclamation activities.

(3) Coal combustion byproducts.

(a) "Coal combustion byproducts" means the residue generated by or resulting from the burning of coal.

(b) "Coal combustion byproducts" includes flyash, bottom ash, boiler slag, pozzolan, and other solid residuals removed by air pollution control devices from the flue gas and combustion chambers of coal burning furnaces and boilers, including flue gas desulfurization sludge and other solid residuals recovered from flue gas by wet or dry methods.

(4) "Coal combustion byproducts facility" means a facility or site where coal combustion byproducts are generated, stored, handled, processed, recycled, disposed of, or used.

(5) "Department" means the Department of the Environment.

(6) "Dispose" means any action that results in a disposal.

(7) "Disposal" means the discarding or abandonment of coal combustion byproducts so that they are not recycled or used, as determined by the Department.

(8) "Discharge" has the meaning stated in Environment Article, § 9-101, Annotated Code of Maryland.

(9) Facility.

(a) "Facility" means all contiguous land and structures, other appurtenances, and improvements on the land used for the generation, storage, handling, processing, disposal, recycling, or use of coal combustion byproducts, which are owned, leased, or used by, or under the control of, the owner or operator.

(b) "Facility" includes the entirety of any lot or parcel on which generation, storage, handling, processing, disposal, recycling, or use of coal combustion byproducts occurs or has occurred.

(10) Generator.

(a) "Generator" means a person whose operations, activities, processes, or actions create coal combustion byproducts.

(b) "Generator" does not include a person who only generates coal combustion byproducts by burning coal at a private residence.

(11) "Leachate" means liquid that:

(a) Has percolated through, has drained from, or has been generated by coal combustion byproducts; and

(b) Has extracted dissolved material, miscible material, suspended material, or all of these from the coal combustion byproducts.

(12) "Open dump" means a land disposal site which:

(a) Is not designed or operated in accordance with the requirements for a sanitary landfill under COMAR 26.04.07; or

(b) Is in violation of the Resource Conservation and Recovery Act, Section 4005, and 40 CFR § 257.

(13) "Open dumping" means any action that results in the creation of an open dump.

(14) "Operator" means a person responsible for the overall operation of a coal combustion byproducts facility.

(15) "Owner" means a person who owns a coal combustion byproducts facility or any part of a coal combustion byproducts facility.

(16) "Person" means an individual, corporation, company, association, society, firm, partnership, joint venture, joint stock company, or other entity, or a federal, state, or local

government or governmental unit, or any political subdivision of this State or any agency or instrumentality of one.

(17) "Pozzolan" has the meaning stated in Environment Article, § 15-407, Annotated Code of Maryland.

(18) "Sludge" means any solid, semi-solid, or liquid waste generated by a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility, including sewage sludge but exclusive of the treated effluent from a wastewater treatment plant.

(19) "Solid waste" means any garbage, refuse, sludge, or liquid from industrial, commercial, mining, or agricultural operations or from community activities, including coal combustion byproducts that are not recycled or used, as determined by the Department.

(20) "Solid waste acceptance facility" has the meaning stated in COMAR 26.04.07.02.

(21) "State" means the State of Maryland.

(22) "Storage system" means a storage tank, silo, bunker, impoundment, or other containment structure used for the storage of coal combustion byproducts prior to their disposal, use, or transport.

(23) "Surface impoundment" has the meaning stated in COMAR 26.10.02.04.

(24) "Waters of this State" has the meaning stated in Environment Article, § 9-101, Annotated Code of Maryland.

.03 General Restrictions and Specifically Prohibited Acts.

A. General Restrictions. A person may not engage in the generation, storage, handling, processing, disposal, recycling, beneficial use, or other use of coal combustion byproducts in a manner that is likely to:

(1) Create a nuisance;

(2) Create air pollution;

(3) Cause a discharge of pollutants to waters of this State except in accordance with a valid permit issued by the Department under Environment Article, § 9-323, Annotated Code of Maryland;

(4) Cause a violation of a groundwater quality standard described in COMAR 26.08.02.09C;

(5) Impair the quality of the environment; or

(6) Create other hazards to the public health, safety, welfare, or comfort as may be determined by the Department.

B. Specific Prohibited Acts.

(1) Operating an Open Dump. A person may not:

(a) Dispose of coal combustion byproducts in an open dump; or

(b) Cause, suffer, allow, or permit open dumping of coal combustion byproducts on his or her property.

(2) Accepting Controlled Hazardous Substances. A person may not accept a material that meets the definition of hazardous waste under COMAR 26.13.02 at a coal combustion byproducts facility unless the facility is in compliance with the permit requirements of COMAR 26.13.07.01.

(3) Air Pollution. A person may not engage in the disposal, storage, transportation, processing, handling, or use of coal combustion byproducts without taking reasonable precautions to prevent particulate matter from becoming airborne. These reasonable

precautions shall include, when appropriate as determined by the Department, those precautions described in COMAR 26.11.06.03.C and D.

.04 Disposal.

A. Disposal. A person may not dispose of coal combustion byproducts except in accordance with the provisions of this regulation.

B. A person shall dispose of coal combustion byproducts only in a coal combustion byproducts facility or a solid waste acceptance facility that has been authorized by the Department for the disposal of coal combustion byproducts.

C. A person who desires to dispose of coal combustion byproducts in any new coal combustion byproducts facility constructed after April 1, 2008 shall apply for a permit for an industrial waste landfill under Environment Article, § 9-204, Annotated Code of Maryland, and comply with the requirements for industrial waste landfills in COMAR 26.04.07 to the satisfaction of the Department, including but not limited to:

(1) The general requirements in COMAR 26.04.07.19;

(2) The permit requirements in COMAR 26.04.07.20;

(3) The closure requirements in COMAR 26.04.07.21;

(4) The post-closure monitoring and maintenance requirements in COMAR 26.04.07.22; and

(5) Any other requirements the Department considers necessary to protect public health and the environment or to prevent nuisance conditions.

D. A new coal combustion byproducts facility that will accept coal combustion byproducts for disposal may not be constructed or operated after April 1, 2008 unless a permit for an industrial waste landfill has been issued by the Department authorizing the facility.

E. A coal combustion byproducts facility that the Department has authorized for the disposal of coal combustion byproducts prior to April 1, 2008 may continue to operate under the Department's authorization, except that the Department reserves the right to modify an existing authorization to require additional controls or requirements as it considers necessary to protect public health and the environment or to prevent nuisance conditions.

F. An existing coal combustion byproducts facility that intends or proposes to expand beyond its current authorization or operations shall notify the Department in writing. The Department may impose additional controls or requirements on the expansion of the facility as it considers necessary to protect public health and the environment or to prevent nuisance conditions, including, but not limited to, a requirement that the proposed expansion obtain a

refuse disposal permit for a new industrial waste landfill or other solid waste acceptance facility as the Department considers appropriate, in accordance with applicable regulations.

.05 Storage

A. A person may not store coal combustion byproducts except in accordance with the provisions of this regulation.

B. A person may not store coal combustion byproducts directly on the surface of the ground or in an unlined surface impoundment, pit, pond, or lagoon without the authorization of the Department.

C. A person shall store coal combustion byproducts in a manner that prevents contact with precipitation and waters of this State.

D. A person may not use a storage system for coal combustion byproducts unless the storage system is:

(1) Designed, constructed, and installed to contain coal combustion byproducts and contaminants in the coal combustion byproducts and prevent them from being released to the environment; and

(2) Constructed of impervious materials and provided with a roof or other protections to prevent nuisance, air pollution, and discharges of contaminated stormwater or leachate to waters of this State.

E. A person may not store coal combustion byproducts near or in an area likely to pollute waters of this State.

F. Responsibility for the prompt control, containment, and removal of any released coal combustion byproducts or for placing coal combustion byproducts in a position likely to pollute waters of this State shall be with the person responsible for the release, and with the owner and operator of the coal combustion byproducts facility or storage system where the release occurred. This responsibility shall continue until removal or clean up of any contamination or pollution from the release has been accomplished to the satisfaction of the Department.

G. The Department may impose specific requirements for the storage of coal combustion byproducts upon a determination that storage of coal combustion byproducts has caused or is likely to cause a discharge to waters of the State, a nuisance, or otherwise poses a threat to public health or the environment.

H. The owner and operator of a storage system shall ensure that:

(1) A release of coal combustion byproducts during storage operations due to spilling or overflowing does not occur;

(2) Adequate storage space is available to handle the volume of coal combustion byproducts generated and to be stored; and

(3) Transfer, handling, and storage operations are performed in a manner that shall prevent, contain, and clean up spills of coal combustion byproducts.

.06 Mine Reclamation.

A. A person may not use coal combustion byproducts in a mine reclamation activity or other mining operation except in accordance with this chapter and § B or C of this regulation.

B. Active and Abandoned Coal Mines. Coal combustion byproducts may be used in a surface coal mining and reclamation operation and in an abandoned coal mine only in accordance with the provisions of COMAR 26.20, including but not limited to COMAR 26.20.24.08.

C. Noncoal Surface Mines. Coal combustion byproducts may be used in the reclamation of a noncoal surface mine only in accordance with COMAR 26.21.04.

.07 Variances.

A. An owner, operator, or person proposing to generate, store, handle, process, recycle, dispose of, or use coal combustion byproducts may apply to the Department for a variance from one or more of the provisions of this chapter.

B. The Department may grant a variance if the basis for the variance application is demonstrated to the satisfaction of the Department to:

(1) Provide equal or greater protection to prevent a release or discharge of coal combustion byproducts to the environment as would be provided by compliance with the regulation for which a variance is requested;

(2) Conserve and protect the public health, the natural resources, and the environment of the State; and

(3) Control pollution to at least the same extent as would be obtained by compliance with the regulation for which a variance is requested.

C. A person applying for a variance shall supply information required by the Department, including:

(1) The nature and location of the site or sites at which the coal combustion byproducts will be generated, stored, handled, processed, recycled, disposed of, or used;

(2) The reasons why the applicant requires the variance, including the technological and environmental justification; and

(3) Other relevant information the Department may require in order to make a determination regarding the application for a variance.

D. When practicable, within 60 days of receipt of a complete application for a variance request as determined by the Department, the Department shall make a determination to either grant or deny the variance. If the request for a variance is denied, the Department shall inform the applicant in writing of the basis of the denial.

.08 Reporting.

A. A generator of coal combustion byproducts shall maintain records of, and deliver to the Department by March 1 of each year an annual report that contains, the following:

(1) The name, address and telephone number of the generator of any coal combustion byproducts;

(2) A description of the process that generates the coal combustion byproducts, including the type of coal or other raw material that generates the coal combustion byproducts;

(3) The annual volume of coal combustion byproducts generated during the last 5 years, including an identification of the different types of coal combustion byproducts generated and the volume of each type generated;

(4) Descriptions of any modeling and/or risk assessments conducted relating to the coal combustion byproducts or their use;

(5) All laboratory reports of all characterizations of the coal combustion byproducts;

(6) A statement that authorizes the Department staff to conduct inspections of the processes that generate the coal combustion byproducts;

(7) A statement that authorizes the Department staff to collect samples of the coal combustion byproducts;

(8) A description of how the generator disposed of or used its coal combustion byproducts in the last 5 years, identifying:

(a) The types and volume of coal combustion byproducts disposed of or used;

(b) The different uses by type and volume of coal combustion byproducts; and

(c) The names, addresses, and telephone numbers of the direct recipients of the coal combustion byproducts, the type and volume of coal combustion byproducts provided to each recipient, and if known, how each recipient used the coal combustion byproducts.

(9) A description of how the generator intends to dispose of or use its coal combustion byproducts in the next 5 years, identifying:

(a) The types and volume of coal combustion byproducts intended to be disposed of or used;

(b) The different intended uses by type and volume of coal combustion byproducts; and

(c) The names, addresses, and telephone numbers of the intended recipients of the coal combustion byproducts, the type and volume of coal combustion byproducts intended to be provided to each recipient, and if known, how each recipient intends to use the coal combustion byproducts.

B. An authorized official of the generator shall sign the annual report provided under § A of this regulation and certify as to the accuracy and completeness of the information contained in the annual report.

C. The generator shall maintain all records required by § A of this regulation for a minimum of 5 years and shall make the records available to the Department upon request.

D. If changes in the raw materials or processes used by a generator result in the identification of new pollutants in the coal combustion byproducts, the generator shall submit a report to the Department, identifying the new pollutants and the change in raw materials or processes that resulted in the creation of the new pollutants.

E. Except as otherwise provided by law, the Department may publish on its website or elsewhere or otherwise make available to the public any information that it gathers from the annual reports or records provided under this regulation.

COMAR 26.20.24 Special Performance Standards

.08 Utilization of Coal Combustion Byproducts.

A. Purpose and Scope.

(1) This regulation establishes certain minimum standards pertaining to the use of coal combustion byproducts in surface coal mining and reclamation operations and in abandoned coal mines.

(2) Coal combustion byproducts may not be used in surface coal mining and reclamation operations or in abandoned coal mines, except in accordance with this regulation.

(3) Compliance with this regulation does not relieve a person from the duty to comply with any other applicable federal, state, and local laws, regulations, and ordinances, including but not limited to the general requirements of COMAR 26.20. This regulation is in addition to the general requirements of COMAR 26.20.

B. Definitions.

(1) In this regulation, the following terms have the meanings indicated.

(2) Terms Defined.

(a) "Alkaline coal combustion byproducts (ACCBs)" means coal combustion byproducts which, either naturally or through processing by the addition of lime or other alkaline materials, exhibit a net neutralization potential of 5 tons per 1000 tons CaCO3 equivalent or greater.

(b) Coal combustion byproducts.

(i) "Coal combustion byproducts" means the residue generated by or resulting from the burning of coal.

(ii) "Coal combustion byproducts" includes flyash, bottom ash, boiler slag, pozzolan, and other solid residuals removed by air pollution control devices from the flue gas and combustion chambers of coal burning furnaces and boilers, including flue gas desulfurization sludge and other solid residuals recovered from flue gas by wet or dry methods.

(c) "Department" means the Maryland Department of the Environment.

(d) "Pozzolan" has the meaning stated in Environment Article, § 15-407, Annotated Code of Maryland.

C. Conditions for Utilization. A person may utilize coal combustion byproducts at a permitted surface coal mining and reclamation operation or as part of an abandoned coal mine project only if:

(1) The coal combustion byproducts are:

(a) Not regulated under COMAR 26.13; and

(b) Alkaline coal combustion byproducts.

(2) The person proposing to utilize the ACCBs provides to the Bureau a certified laboratory analysis demonstrating that the coal combustion byproducts proposed to be utilized constitute ACCBs; and

(3) The utilization is approved by the Bureau in writing.

D. Coal Combustion Byproducts Utilization Request.

(1) A person who proposes to utilize coal combustion byproducts in a surface coal mining and reclamation operation or in an abandoned coal mine project shall complete and submit to the Bureau a Coal Combustion Byproducts Utilization Request in the form provided by the Bureau for review and approval by the Bureau.

(2) In a surface coal mining and reclamation operation, the utilization request shall be submitted as part of the permit application and reclamation plan, or modification of an existing permit. The Bureau's review and approval of the utilization request shall be in accordance with the permit and reclamation plan review process.

(3) In an abandoned coal mine project, the utilization request shall be submitted to the Bureau prior to the proposed use and the Bureau shall approve, disapprove, or provide comments on the utilization request within 90 days of submission.

(4) The utilization request shall be signed and certified by a duly authorized official of the person proposing to utilize the coal combustion byproducts and shall include at a minimum the following information:

(a) Name, address, and contact information of the applicant;

(b) Surface coal mine operation permit number, if applicable;

(c) An estimate of coal tonnage produced, if applicable;

(d) Whether the request is a result of a haul-back agreement, and if so, whether the agreement is proposed or finalized;

(e) A letter approving the utilization of the coal combustion byproducts from the landowner(s) of the area where utilization is proposed;

(f) Name, address, and contact information of the source of the coal combustion byproducts;

(g) Type of facility that generated the coal combustion byproducts;

(h) Type of fuel burned to generate the coal combustion byproducts;

(i) Type of coal combustion byproduct (i.e., bottom ash/slag, fly ash, fluidized bed combustion ash, desulfurization sludge, calcium spray dryer sludge, other);

(j) If combined coal combustion byproducts, a description of the types and relative percentages;

(k) A copy of a solids analysis of the coal combustion byproducts performed within the last 60 days, at a minimum providing analysis for the following:

(i) aluminum,

(ii) arsenic,

(iii) barium,

(iv) cadmium,

(v) chromium,

(vi) copper,

(vii) lead,

(viii) manganese,

(ix) mercury,

(x) selenium,

(xi) silver, and

(xii) zinc;

(l) A copy of a Toxicity Characteristics Leaching Procedures (TCLP) leachate analysis of the coal combustion byproducts performed within the last 60 days, at a minimum including analysis for the following:

(i) aluminum,

(ii) arsenic,

(iii) barium,

(iv) cadmium,

(v) chromium,

(vi) copper,

(vii) lead,

(viii) manganese,

(ix) mercury,

(x) selenium,

(xi) silver; and

(xii) zinc;

(m) A copy of an acid–base accounting analyses for the coal combustion byproducts and any materials to be used to increase the net neutralization potential of the coal combustion byproducts, providing the following:

(i) Neutralization potential in tons of CaCO3 equivalents per thousand tons of material,

(ii) Maximum potential acidity in terms of tons per thousand tons of material, and

(iii) Net neutralization potential in tons of CaCO3 equivalents per thousand tons of material;

(n) A copy of water quality analyses for the mine permit drainage control system performed within the last 60 days, providing analysis for the following parameters:

(i) pH,

(ii) specific conductance,

(iii) total dissolved solids,

(iv) total suspended solids,

(v) acidity,

(vi) alkalinity,

(vii) aluminum,

(viii) arsenic,

(ix) barium,

(x) cadmium,

(xi) chromium,

(xii) copper,

(xiii) iron,

(xiv) lead,

(xv) manganese,

(xvi) mercury,

(xvii) selenium,

(xviii) silver,

(xix) sulfate, and

(xx) zinc;

(o) The quantity of coal combustion byproducts to be utilized per month;

(p) A narrative description with map(s), drawings, and cross-sections of the proposed handling plan, including at a minimum details on:

(i) where the coal combustion byproducts will be placed,

(ii) how the coal combustion byproducts will be placed,

(iii) how instability in fills or backfills will be prevented,

(iv) how the approximate original contour of the mine backfill configuration will be achieved, and

(v) how coal combustion byproducts that cannot be immediately utilized will be stored.

(q) A narrative description with drawings and cross-sections, if appropriate, explaining how dust from hauling, unloading, storage, and coal combustion byproducts placement operations will be controlled;

(r) A narrative description with drawings and cross-sections, if appropriate, explaining how contamination of surface and ground water will be prevented, and how surface and ground water will be monitored;

(s) A narrative description of the potential hazards to workers involved in the handling of the coal combustion byproducts, and the plan to protect them if warranted;

(t) A narrative description of the processes and procedures used or to be used to augment the net neutralization potential of the coal combustion byproducts, including a description of the type and quantity of any materials to be used to increase the net neutralization potential of the coal combustion byproducts; and

(u) Such other information as the Bureau or Department requires.

E. Permitted Utilization of Alkaline Coal Combustion Byproducts. Subject to the other provisions of this regulation, ACCBs may be utilized for the purpose of alkaline addition to neutralize potentially acid materials in and around coal mines or in surface coal mine reclamation as:

(1) A layer on the pit floor to reduce the acid producing potential of the coal pavement;

(2) Mixed with overburden material in the backfilling process to add alkalinity;

(3) Part of a Bureau designed or approved reclamation project; or

(4) Otherwise approved by the Bureau.

F. Testing and Monitoring. Prior to utilizing ACCBs in a surface coal mining and reclamation operation or in an abandoned coal mine, and thereafter annually or on such other basis as the Bureau may require, a person using or proposing to use ACCBs shall:

(1) Submit to the Bureau a chemical analysis of the ACCB that includes a Toxicity Characteristic Leaching Procedures (TCLP), an acid-base accounting and any other analysis required by the Bureau; and

(2) Submit to the Bureau a report of the number of tons of ACCBs placed or to be placed at a site each month.

G. A utilization of coal combustion byproducts in a surface coal mining and reclamation operation or in an abandoned coal mine that is not in compliance with the provisions of this regulation as determined by the Department is a disposal of a solid waste and is subject to all applicable laws and regulations governing the disposal of a solid waste, including applicable permit requirements of the Department.

H. The Bureau or the Department may require such additional controls or impose such other conditions on the utilization of coal combustion byproducts under this regulation as it considers necessary for the protection of human health and the environment.

COMAR 26.21.04 Utilization of Coal Combustion Byproducts in Surface Mine Reclamation

.01 Scope.

A. The purpose of this chapter is to establish certain requirements pertaining to the use of coal combustion byproducts in the reclamation of a noncoal surface mine.

B. Except as otherwise specifically provided in this chapter, this chapter applies to persons engaged in the generation, storage, handling, processing, recycling, or use of coal combustion byproducts that are used or are to be used in the reclamation of a noncoal surface mine.

C. Compliance with the provisions of this chapter does not relieve a person from the duty to comply with any other applicable federal, state, and local laws, regulations, and ordinances.

.02 Definitions.

A. In this chapter, the following terms have the meanings indicated.

B. Terms Defined.

(1) Coal combustion byproducts.

(a) "Coal combustion byproducts" means the residue generated by or resulting from the burning of coal.

(b) "Coal combustion byproducts" includes flyash, bottom ash, boiler slag, pozzolan, and other solid residuals removed by air pollution control devices from the flue gas and combustion chambers of coal burning furnaces and boilers.

(c) In this chapter, "Coal combustion byproducts" does not include flue gas desulfurization sludge and other solid residuals recovered from flue gas by wet or dry methods.

(2) "Department" means the Department of the Environment.

(3) "Leachate" means liquid that:

(a) Has percolated through, has drained from, or has been generated by coal combustion byproducts; and

(b) Has extracted dissolved material, miscible material, suspended material, or all of these from the coal combustion byproducts

(4) "Monitoring plan" means the groundwater and surface water monitoring plan described in Regulation .07 of this chapter.

(5) "Monitoring well" means any hole made in the ground to examine ground water.

(6) "Operator" means a person with overall responsibility for the operation of a site.

(7) "Owner" means a person who owns a site or any part of a site.

(8) "Permeability" means the hydraulic conductivity of a media relative to water at standard temperature, unit hydraulic gradient, and a kinematic viscosity of 1.0 centipoise, irrespective of media thickness.

(9) "Permittee" means a person who:

(a) Holds a valid permit to conduct surface mining and reclamation operations under Environment Article, Title 15, Subtitle 8, Annotated Code of Maryland, that includes the use of coal combustion byproducts for mine reclamation;

(b) Holds a valid permit to conduct surface mining and reclamation operations under Environment Article, Title 15, Subtitle 8, Annotated Code of Maryland, and is applying for a permit modification to use coal combustion byproducts for mine reclamation; or

(c) Is applying for a permit to conduct surface mining and reclamation operations under Environment Article, Title 15, Subtitle 8, Annotated Code of Maryland, and proposes to use coal combustion byproducts for mine reclamation.

(10) "Person" means an individual, corporation, company, association, society, firm, partnership, joint venture, joint stock company, or other entity, or a federal, state or local government or governmental unit, or any political subdivision of this State or any agency or instrumentality of one.

(11) "Pozzolan" has the meaning stated in Environment Article, § 15-407, Annotated Code of Maryland.

(12) "Runoff" means any rainwater, leachate, or other liquid that drains over land from any part of a site.

(13) "Run-on" means any rainwater, leachate, or other liquid that drains over land onto any part of a site.

(14) "Site" means a noncoal surface mine where coal combustion byproducts are used, or are proposed to be used, for reclamation of the surface mine, including areas contiguous to the mine.

(15) "Sludge" means any solid, semi-solid or liquid waste generated by a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility, including sewage sludge but exclusive of the treated effluent from a wastewater treatment plant.

(16) "State" means the State of Maryland.

(17) "TCLP" means Toxicity Characteristic Leaching Procedures.

(18) "Well" means monitoring well as defined in § B(5) of this regulation.

.03 Authorization of Use and General Requirements.

A. Authorization of Use.

(1) Coal combustion byproducts may be used in the reclamation of a permitted noncoal surface mine only when approved by the Department.

(2) The Department shall review and approve the use as part of a permit review or permit modification in accordance with this chapter and in accordance with the applicable provisions of Environment Article, Title 15, Subtitle 8, Annotated Code of Maryland and COMAR 26.21.

B. General Requirements.

(1) Flue gas desulfurization sludge and other solid residuals recovered from flue gas by wet or dry methods that are generated by the combustion of coal may not be used in the reclamation of a noncoal surface mine.

(2) The use of coal combustion byproducts in the reclamation of a noncoal surface mine shall be designed to prevent the degradation of water quality.

(3) Coal combustion byproducts containing a constituent at a level exceeding the TCLP toxicity limits defined in 40 CFR § 261.24 may not be used in the reclamation of a noncoal surface mine.

(4) To minimize leachate generation, coal combustion byproducts used in noncoal surface mine reclamation shall be placed in layers and compacted to at least 95 percent

of its maximum dry density based on ASTM D698 (Standard Proctor), or to a permeability of less than 10-5 cm/sec. Thickness of each layer shall not be greater than 12 inches.

(5) Final grade of a site after reclamation may not exceed approximate pre-mining contours at the site, except where post-mining land use requires minimal variation and is approved by the Department.

(6) Coal combustion byproducts may not be placed in ground or surface waters and may not be placed within 3 feet of the regional groundwater table, unless the Department approves otherwise upon a demonstration that groundwater contamination will not occur.

(7) The area of exposed coal combustion byproducts at a site shall be minimized and may not exceed 5 acres unless approved by the Department.

(8) Coal combustion byproducts at a site shall be immediately placed and compacted and may not be stockpiled.

(9) If placement of coal combustion byproducts is halted for more than 15 days, the coal combustion byproducts shall be covered to prevent infiltration of ground or surface water.

(10) Adequate measures shall be taken to minimize dust at a site as follows:

(a) A person shall control dust by moisture-conditioning the coal combustion byproducts before they leave the coal combustion byproducts generating facility;

(b) A person shall control dust by spreading and compacting the coal combustion byproducts upon arrival at a site;

(c) A person may not store uncompacted coal combustion byproducts at a site;

(d) A water truck shall be available to add water at a site as needed for fugitive dust control; and

(e) The Department may require other measures it considers necessary to protect public health and the environment.

(11) Only coal combustion byproducts obtained from sources approved by the Department may be used at a site.

(12) Coal combustion byproducts may not be placed within 200 feet of any lands not owned by the permittee.

(13) A permittee shall implement an erosion and sediment control plan that satisfies the requirements of Environment Article, Title 4, Subtitle 1, and COMAR 26.09.01.

(14) A permittee shall provide a minimum of two upgradient and two downgradient monitoring wells at a site. The Department may require additional wells based upon site conditions. Wells shall be constructed and installed by a State-licensed well driller in accordance with COMAR 26.04.04. The well screen or slotted casing shall extend from the seasonally high water table downward a minimum of 15 feet.

(15) A permittee shall comply with all other permits and approvals required by the Department.

.04 Application for Use.

A. Prior to using coal combustion byproducts in the reclamation of a noncoal surface mine, a permittee shall submit to the Department for review and approval an application and comprehensive plans for the reclamation project, including, but not limited to, plans for the development and implementation of a leachate control and collection system.

B. The Department shall review and, if acceptable, approve the application and plans prior to the use of the coal combustion byproducts.

C. The plans shall contain the following at a minimum:

(1) A completed and signed application on a form provided by the Department;

(2) A comprehensive physical and chemical description of the coal combustion byproducts to be used for reclamation at the site, including:

(a) Identification of the source of the coal combustion byproducts,

(b) The amounts of coal combustion byproducts proposed to be used in the reclamation, and

(c) The characterization report required by Regulation .05 of this chapter;

(3) A topographic map which is an accurate depiction of the site at the time the application is filed, prepared to a scale not smaller than 1 inch equals 100 feet, which depicts the property boundaries, on-site buildings and structures, and obvious surficial features, including but not limited to:

(a) Current and proposed affected lands,

(b) Springs and seeps,

(c) Streams, whether intermittent or perennial,

(d) Rock outcrops,

(e) Sink holes,

(f) Surface impoundments,

(g) Existing wells within 1250 feet of the boundaries of the site,

(h) 100-year flood plain and any nontidal wetlands,

(i) Forested or other vegetated areas, and

(j) The location of any buried or overhead power transmission lines, utility pipelines, or storage tanks on the site;

(4) A discussion of the geologic formations directly underlying and in close proximity to the site;

(5) Ground water elevation data from the site and a prediction of the maximum expected ground water elevation at the site, including an explanation of how the ground water elevation estimates were derived;

(6) Geologic cross sections of the site in sufficient detail and orientation to clearly identify subsurface conditions;

(7) Representative background groundwater quality data from wells identified by the Department for the parameters set forth in Table I in § A of Regulation .07 or other parameters required by the Department;

(8) Test boring logs, well completion reports, piezometric measurements, chemical or physical soil analyses, or both, and accompanying geotechnical analyses;

(9) A description of how coal combustion byproducts will be placed, including a detailed description of fill construction and phasing;

(10) A map or drawing depicting the initial and final grades of the site after completion of coal combustion byproduct placement;

(11) A discussion of the projected future use of the site;

(12) The volume and type of available cover material to be utilized;

(13) Means of controlling access to the site;

(14) Proposed operating procedures including:

(a) Hours of operation;

(b) Necessary equipment to handle materials delivered to the site;

(c) Means to control dust and wind erosion;

(d) Procedures to be followed upon delivery of the coal combustion byproducts; and

(e) Where and how coal combustion byproducts will be stored prior to placement;

(15) Methods of controlling runoff or run-on to the site and a detailed description of the sediment and erosion control system to be implemented, which shall satisfy the requirements of Environment Article, Title 4, Subtitle 1, and COMAR 26.09.01;

(16) A description of proposed methods of covering and stabilizing completed areas;

(17) A description, including flow diagrams, of the processes generating leachate, including raw materials, intermediate by-products, final products, and process streams;

(18) A description of the design features and systems intended to protect ground water from leachate, including a detailed description of the proposed liner and leachate collection system;

(19) A discussion as to how leachate will be collected, removed from the site, and ultimately disposed of;

(20) A description of quality assurance/quality control protocols;

(21) A monitoring plan as described in Regulation .07 of this chapter; and

(22) Other information as may be required by the Department.

.05 Initial and Ongoing Characterization.

A. A person who uses or intends to use, or gives, sells, or otherwise provides for use, coal combustion byproducts for noncoal surface mine reclamation shall develop and implement a sampling plan, using a methodology acceptable to the Department for the initial characterization of the coal combustion byproducts.

B. The sampling plan shall include the following:

(1) A list of the pollutants to be analyzed and their detection limits (Practical Quantitation Limits - PQL), which shall include, at a minimum, the following:

ELEMENTS AND INDICATOR PARAMETERS	PQL(mg/kg)

Total Aluminum	40
Total Antimony	1
Total Arsenic	1
Total Barium	1
Total Beryllium	1
Total Boron	20
Total Cadmium	1
Total Chromium	1
Total Calcium	1
Total Cobalt	1
Total Copper	2
Total Iron	500
Total Lead	1
Total Magnesium	100
Total Lithium	1
Total Manganese	1
Total Mercury	0.2
Total Molybdenum	10
Total Nickel	5
Total Potassium	100
Total Selenium	4
Total Silver	1
Total Sodium	100
Total Thallium	50.0
Total Vanadium	4
Total Zinc	10
Sulfate	10

(2) A description of analytical methods to be used in the characterization, which shall be subject to the approval of the Department, and

(3) Other information as may be required by the Department.

C. Coal combustion byproducts shall be characterized in accordance with the sampling plan developed under § A of this regulation at least one time per calendar year.

D. Laboratory results from the initial and ongoing characterizations of the coal combustion byproducts shall be submitted to the Department and to any recipients of the coal combustion byproducts.

E. If there is a change in the raw materials or processes that generate the coal combustion byproducts, the generator of the coal combustion byproducts shall characterize the byproducts in accordance with the sampling plan and submit the results to the Department. All subsequent characterizations shall include any additional pollutants found in the coal combustion byproducts.

.06 Leachate Control and Collection.

A. The use of coal combustion byproducts in the reclamation of a noncoal surface mine requires the installation of a liner and leachate control and collection system that meets the following minimum requirements:

(1) A liner system shall be designed, constructed, and installed to facilitate collection of leachate generated from the coal combustion byproducts to prevent migration of pollutants to the adjacent subsurface soil, ground water, or surface water. The subbase referenced below shall be constructed of natural earthen materials which are excavated from on the site or which are imported from another location, or of a synthetic or manufactured membrane material. The liner system shall be:

(a) Constructed of materials that have sufficient strength and thickness to prevent failure due to pressure gradients, physical contact with the coal combustion byproducts or leachate, climatic conditions, the stress of installation, and the stress of daily operation.

(b) Constructed of one or more unreinforced synthetic membranes with a combined minimum thickness of 50 mil, or a single reinforced synthetic membrane with a minimum thickness of 30 mil, which has a permeability less than or equal to 1 x 10-10 centimeters/second, placed over a prepared subbase with a minimum thickness of 2 feet and a permeability less than or equal to 1 x 10-5 centimeters/second, unless the Department authorizes the installation of a liner system with specifications different than those listed in this paragraph only upon a successful demonstration by the permittee that the alternate system is capable of collecting and managing the leachate generated at the site, and that the liner system provides an equivalent level of protection to public health and the environment;

(c) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, uplift, puncture, cutting or activities at the site;

(d) Installed to cover all surrounding earth likely to be in contact with the coal combustion byproducts or leachate;

(e) Installed with a minimum slope of 2 percent to facilitate movement of leachate towards the leachate collection system and prevent leachate from ponding on the fill floor; and

(f) Located entirely above the composite high water table and bedrock, with a minimum buffer distance of 3 feet between the bedrock elevation and the maximum expected ground water elevation, and the bottom of the liner system including the thickness of the prepared subbase.

(2) A leachate collection and removal system, located immediately above the liner shall be designed, constructed, maintained, and operated to collect and remove leachate generated from the coal combustion byproducts. The leachate collection and removal system shall be:

(a) Constructed of materials that are chemically resistant to the coal combustion byproducts and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying coal combustion byproducts, cover and other materials, and by any equipment used at the site;

(b) Designed and operated to function without clogging; and

(c) Designed and operated to ensure that the leachate depth over the liner does not exceed 12 inches.

B. Based on site conditions, the size and design of the project, and other considerations as determined by the Department, the Department may require other liner and leachate control and collection requirements it considers necessary to protect public health and the environment.

.07 Monitoring.

A. A person who proposes to use coal combustion byproducts in the reclamation of a noncoal surface mine shall submit a monitoring plan to the Department for review and approval.

B. The monitoring plan shall be prepared in accordance with the following requirements and include at least the following information:

(1) A description of a system for monitoring the quality of the waters of the State around and beneath the site, including:

(a) A description of the number, location and types of monitoring wells and sampling stations,

(b) The methods of construction of the monitoring wells, and

(c) A monitoring well location map.

(2) A schedule for the frequency of the analyses;

(3) A description of sampling and analyses procedures;

(4) A list of pollutants to be monitored and monitoring parameters;

(5) A schedule of reporting periods; and

(6) Such other information as the Department may require.

C. Monitoring and Reporting Requirements.

(1) A permittee shall submit to the Department a report on water quality on at least a quarterly basis, or at such other times as outlined in the approved monitoring plan, containing summary and interpretative discussion of all analyses of the chemical quality of groundwater from all of the monitoring wells and all of the surface water monitoring points specified in the approved monitoring plan.

(2) The quarterly report on water quality shall be submitted to the Department within 30 days of the close of each quarter unless an alternative schedule is specified in the approved monitoring plan.

(3) Sampling shall occur monthly unless an alternative schedule is included in the approved monitoring plan.

(4) A permittee shall arrange for a qualified groundwater scientist to sample, or to oversee qualified environmental technicians who sample the wells.

(5) The parameters to be measured and their Practical Quantitation Limits (PQL) are listed in Table I in this regulation. The Department may require and approve an alternative or additional list of parameters or an alternative PQL for any parameter.

(6) The sampling, sample handling, analyses and reporting of analytical parameters shall be performed in accordance with the approved monitoring plan.

(7) A permittee shall arrange for a qualified independent laboratory certified for water quality analysis by the Department of Health and Mental Hygiene or which is otherwise acceptable to the Department to perform the analyses.

(8) A permittee shall arrange for a qualified groundwater scientist or professional to evaluate the results and advise the permittee of any changes in water quality or any exceedance of a State or federal drinking water or groundwater quality standard.

(9) A permittee shall include a complete copy of the laboratory data, and the qualified groundwater scientist or professional's interpretive findings in each report.

(10) If analytical results from samples collected from any sources associated with a site or surrounding properties exceed a State or federal drinking water or groundwater quality standard for the first time, a permittee shall notify the Department within 24 hours of receipt of the analytical data detecting the occurrence. Thereafter, if there is a significant increase above a State or federal drinking water or groundwater quality standard, a permittee shall notify the Department within 24 hours of receipt of the analytical data detecting this occurrence.

(11) Upon detection of the exceedance of a State or federal drinking water or groundwater quality standard for the first time, a permittee shall immediately resample each monitoring point in which the standard was exceeded to verify the initial detection. This resampling shall occur as soon as possible, and no later than 30 days following notification of a permittee of the exceedance of the standard by the analytical laboratory performing the analysis of the sample which indicated the exceedance.

(12) If the exceedence continues beyond the 30 day resampling period, a permittee shall submit a noncompliance report to the Department within 5 days. The Department may require a permittee to submit a clean up and containment plan or take such other action as it considers necessary to address the exceedence.

(13) All data for each well shall be summarized and presented in time series format. The data for each well shall be presented on a chart so that the water quality data for each parameter for each well can be observed simultaneously.

(14) All "J" values shall be reported. "J" values are analytical results that are below the PQL but can be estimated.

(15) Each report on water quality shall include a time series analysis of the data. The historical data from each well shall be presented in a tabular form in each report. The discussion shall emphasize historical trends in the data.

(16) Each report shall include a status report of the amount of coal combustion byproducts placed to date and within the last quarter, the status of reclamation within the permit area, and a summary of any complaints received within the last quarter.

(17) Each report shall include a TCLP analysis analyzing the chemical characteristics of the coal combustion byproducts.

(18) The Department may require that a permittee conduct surface water monitoring if streams, springs or other surface water features are identified.

(19) Based on site conditions, the size and design of the project, and other considerations as determined by the Department, the Department may require other groundwater and surface water monitoring requirements it considers necessary to protect public health and the environment.

TABLE I

MONITORING PARAMETERS

ELEMENTS AND INDICATOR PARAMETERS	PQL (ppm)
Total Antimony	0.0020
Total Arsenic	0.0500
Total Barium	0.0100
Total Beryllium	0.0020
Total Cadmium	0.0040
Total Chromium	0.0100
Total Calcium	0.08
Total Cobalt	0.0100
Total Copper	0.0100
Total Iron	0.0050
Total Lead	0.0020
Total Nickel	0.0110
Total Magnesium	0.004
Total Manganese	0.0100
Total Mercury	0.0002
Total Potassium	0.39
Total Selenium	0.0500
Total Silver	0.0100
Total Sodium	0.2
Total Thallium	0.0020
Total Vanadium	0.0100
Total Zinc	0.0100
PH 0.1	(SU)
Alkalinity	1
Hardness	0.5
Chloride	0.39
Specific conductance	1
Nitrate	0.06
Chemical oxygen demand	1
Turbidity	0.11 (NTU)
Ammonia	1
Sulfate	0.38
Total dissolved solids	10

.08 Closure.

A. As each section of the mine reclamation using coal combustion byproducts is completed, the section shall be closed using the following minimum design features, unless otherwise approved by the Department:

(1) Low Permeability Layer. A low permeability cap shall be emplaced over the filled area. The cap material shall consist of synthetic material with a minimum thickness of 20 mil and a maximum permeability of 1 x 10-10 centimeters/second, or a minimum of 1 foot of clay or other natural fine-grained material having an in-place permeability less than or equal to 1 x 10-7 centimeters/second. The cap shall be installed with a minimum slope of 4 percent to facilitate drainage of percolate. The cap shall be placed on a bedding that is free of rocks, roots, and other injurious materials.

(2) Drainage Layer. A drainage layer with a minimum thickness of 6 inches shall be emplaced immediately above the low permeability cap. Acceptable drainage layer material shall include clean sand or other natural coarse grained material with an in-place permeability greater than 1 x 10-3 centimeters/second adequate to remove water from above the low-permeability layer sufficiently quickly that the overlying protective layers remain stable. The drainage layer shall be free of materials which may puncture or otherwise jeopardize the integrity of the low permeability cap. Commercially available filter fabrics, when used in conjunction with synthetic drainage blankets, may serve instead of the fine material, provided that the Department reviews and approves the selected materials and design configuration.

(3) Soil Cover. Final earthen cover shall be placed over the drainage layer. Minimum cover thickness shall be 2 feet. Minimum cover slope shall be 4 percent to facilitate surface drainage from the site. The cover material shall contain sufficient organic material and nutrients to sustain a vegetative cover over time. Topsoil, or topsoil created using sewage sludge, and less select soils as authorized by COMAR 26.04.06, shall constitute acceptable final cover.

(4) Vegetative Stabilization. Within 30 days after the final earthen cover has been installed, the area shall be vegetatively stabilized using a perennial cover species as specified in the mining and reclamation plan.

B. Based on site conditions, the size and design of the project, and other considerations as determined by the Department, the Department may require other closure requirements it considers necessary to protect public health and the environment.

.09 Post-closure Monitoring and Maintenance.

A. A permittee shall conduct post-closure monitoring and maintenance of a permitted site as specified in this regulation for a period of time not less than 5 years after the complete installation of the closure cap under Regulation .08 of this chapter. This time period may be extended by the Department if the Department determines an extension is necessary under § F of this regulation.

B. A permittee shall conduct all leachate management activities necessary to insure that no discharge of leachate to the groundwater or unauthorized discharge to surface water occurs during the post-closure period.

C. Inspections. A permittee or a permittee's authorized representative shall inspect a closed site at least twice per year. The inspection shall include:

(1) Observation of the cover at the site;

(2) Notation of any drainage irregularities or signs of erosion of the cover;

(3) Notation of any surface expressions of leachate at the site; and

(4) Checking the status of the monitoring wells.

D. Maintenance. A permittee shall correct irregularities or problems noted during an inspection within 30 days of their observance unless otherwise directed by the Department.

E. Reporting and Record keeping. A permittee shall record and report to the Department within 60 days of an inspection the results of the inspection. A permittee of a site shall maintain copies of the results of inspections on file at an accessible location for a period of 5 years following closure of the site.

F. Environmental Monitoring.

(1) A permittee shall conduct groundwater and surface water monitoring in accordance with the monitoring plan under Regulation .07 of this chapter for a period of at least 5 years following closure of a site.

(2) The time period specified under § F(1) may be extended by the Department:

(a) If results of monitoring indicate that a possible impact on water quality caused by the surface mine reclamation is or may be occurring;

(b) If the groundwater flow regime and disposition of the monitoring system is such that the monitoring system may not yet have detected any changes if they have occurred;

(c) If significant maintenance situations occur at a site during the 5 year period after closure; or

(d) for other good cause.

G. If post-reclamation land use includes development of a site, a permittee shall submit to the Department for review and approval an operations plan for disturbance of the closure cap and to verify the integrity of the liner and leachate collection system.

H. The Department may retain the full surface mine bond required under Environment Article, § 15-823, Annotated Code of Maryland, until the Department is satisfied that no offsite impacts from the coal combustion byproducts will occur.

.10 Drinking Water Supply.

A. Based upon monitoring data, if a drinking water supply is impacted at a site during active operation or during post-closure up to the time of bond release, a permittee shall:

(1) Notify the Department within 24 hours of the impact to the water supply, identifying the contaminants and contamination levels;

(2) Immediately provide a temporary potable water supply until a permanent replacement can be restored; and

(3) Replace at no cost to affected property owners a permanent potable water supply that meets the minimum yield requirements established in COMAR 26.04.04.

.11 Coordinated Review.

The Department shall coordinate the review of an application for the use of coal combustion byproducts in noncoal surface mine reclamation with all relevant Department administrations. The Department may seek comment and advice from other agencies as it deems appropriate.

.12 Unauthorized Use of Coal Combustion Byproducts.

A use of coal combustion byproducts in a noncoal surface mine reclamation operation that is not in compliance with the provisions of this chapter as determined by the Department is a disposal of a solid waste and is subject to all applicable laws and regulations governing the disposal of a solid waste, including applicable permit requirements of the Department.

END ALL NEW MATTER

SHARI T. WILSON

Secretary of the Environment