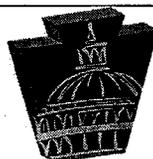


Regulatory Analysis Form

(Completed by Promulgating Agency)



IRRC

Independent Regulatory Review Commission

INDEPENDENT REGULATORY
REVIEW COMMISSION

OCT 28 PM 4: 17

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SECTION I: PROFILE

(1) Agency:

Environmental Protection

(2) Agency Number:

Identification Number: #7-442

IRRC Number: **2808**

(3) Short Title:

Beneficial Use of Coal Ash

(4) PA Code Cite:

25 Pa. Code Chapter 290

(5) Agency Contacts (List Telephone Number, Address, Fax Number and Email Address):

Primary Contact:

Michele Tate, 783-8727; fax: 783-8926; mtate@sate.pa.us; RCSOB 16th Fl., Harrisburg, PA 17105

Secondary Contact:

Kelly Jean Heffner, 787-4686; fax: 783-8926; kheffner@state.pa.us; RCSOB 16th Fl., Harrisburg, PA 17105

(6) Primary Contact for Public Comments (List Telephone Number, Address, Fax Number and Email Address) – Complete if different from #5:

EQB

P.O. Box 8477

Harrisburg, PA 17105-8477

regcomments@state.pa.us

(All Comments will appear on IRRC'S website)

(7) Type of Rulemaking (check applicable box):

- Proposed Regulation
- Final Regulation
- Final Omitted Regulation
- Emergency Certification Regulation
- Certification by the Governor
- Certification by the Attorney General

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(8) Briefly explain the regulation in clear and nontechnical language. (100 words or less)

The proposed rulemaking would incorporate and replace existing §§ 287.661 – 287.666, with modifications regarding the use of coal ash for beneficial use. The amended sections are separated by the following uses of coal ash: as structural fill; a soil substitute or additive; at active coal mining activity sites; at abandoned coal surface mine sites; and other specified beneficial uses, including the manufacture of concrete, extraction or recovery of materials within coal ash, stabilized product, antiskid material, raw material for a commercial product, drainage material or pipe bedding, mine subsidence control, mine fire control and mine sealing. The modifications include expanded and revised operational and reporting requirements. With this rulemaking, the Department is formalizing the content of several existing technical guidance documents.

The proposed rulemaking includes a new provision at § 290.104(c), which requires an annual filing fee for beneficial use of coal ash at mine sites.

The proposed rulemaking in § 290.201 expands the criteria, which were previously contained in guidance documents, that the coal ash must meet to be “certified” for the stated beneficial uses. These explicit criteria replace the previous condition under § 287.663 (a) (2) that approval be based upon “Certification Guidelines” to be developed by the Department through policy documents.

The proposed rulemaking includes new provisions at § 290.202, which relate to information regarding revocation of coal ash certification, and § 290.203, which relate to coal ash samples that exceed the certification requirements.

Subchapter D, §§ 290.301- 290.306, contains expanded requirements for groundwater monitoring, standards, assessment, abatement and recordkeeping.

Subchapter E, §§ 290.401 – 290.414, is a new subchapter that addresses requirements for storage of coal ash in piles and surface impoundments.

(9) Include a schedule for review of the regulation including:

- | | |
|---|----------------------|
| A. The date by which the agency must receive public comments: | <u>November 2009</u> |
| B. The date or dates on which public meetings or hearings will be held: | <u>November 2009</u> |
| C. The expected date of promulgation of the proposed regulation as a final-form regulation: | <u>August 2010</u> |
| D. The expected effective date of the final-form regulation: | <u>August 2010</u> |
| E. The date by which compliance with the final-form regulation will be required: | <u>August 2010</u> |
| F. The date by which required permits, licenses or other approvals must be obtained: | <u>January 2011</u> |

(10) Provide the schedule for continual review of the regulation.

Regulatory Analysis Form

This regulation will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulation effectively fulfills the goals for which it was intended.

SECTION II: STATEMENT OF NEED

(11) State the statutory authority for the regulation. Include specific statutory citation.

This proposed rulemaking is being made under the authority of the following:

The Solid Waste Management Act (SWMA) (35 P.S. §§6018.101 - 6018.1003), which in Section 105(a) (35 P.S. §6018.105(a)) grants the Board the power and the duty to adopt the rules and regulations of the Department to accomplish the purposes and carry out the provisions of the SWMA. Sections 102(4) and 104(6) of SWMA (35 P.S. §§6018.102 and 104), which provide the Department with the power and duty to regulate the storage, collection, transportation, processing, treatment and disposal of solid waste to protect the public health, safety and welfare. Section 508 of SWMA (35 P.S. §6018.508), which provides the Department with the authority to regulate the beneficial use of coal ash, including establishing siting criteria and design and operating standards governing the storage of coal ash prior to beneficial use and the use and certification of coal ash as structural fill, soil substitutes and soil additives.

The Clean Streams Law (CSL) (52 P.S. § 691.1 - 691.1001), which in Section 5 (35 P.S. §691.5(b)) grants the Department the authority to formulate, adopt, promulgate and repeal the rules and regulations that are necessary to implement the provisions of the CSL. Section 402 (35 P.S. §691.402), which grants the Department the authority to adopt rules and regulations that require permits or conditions under which an activity shall be conducted when an activity creates a danger of pollution to waters of the Commonwealth or regulation of an activity is necessary to avoid pollution.

Section 4.2(a) of the Surface Mining Conservation and Reclamation Act (SMCRA), (52 P.S. § 1396.4b (a)), which authorizes the Board to adopt regulations the Department deems necessary to fulfill the purposes and provisions of SMCRA. Section 4(a) of SMCRA (52 P.S. § 1396.4(a)), which authorizes the Department to charge and collect a reasonable filing fee from persons submitting applications for a surface mining permit in order to cover the costs of reviewing and administering such permits. Section 3.2 of the Coal Refuse Disposal Control Act (52 P.S. § 30.53b) (CRDA), which grants the Board the power and duty to adopt regulations to accomplish the purposes of the CRDA.

The Administrative Code of 1929 (71 P.S. §§510-1 - 510-27), which at Section 1917-A (71 P.S. §510-17) authorizes and requires the Department to protect the people of this Commonwealth from unsanitary conditions and other nuisances, including any condition that is declared to be a nuisance by any law administered by the Department. Section 1920-A (71 P.S. 510-20), which grants the Board the power and duty to formulate, adopt, and promulgate such rules and regulations as may be determined by the Board for the proper performance of the work of the Department.

Regulatory Analysis Form

(12) Is the regulation mandated by any federal or state law or court order, or federal regulation? Are there any relevant state or federal court decisions? If yes, cite the specific law, case or regulation as well as, any deadlines for action.

The regulations are not mandated by a federal or state law, court order or federal regulation. There are no relevant state or federal court decisions.

(13) State why the regulation is needed. Explain the compelling public interest that justifies the regulation. Describe who will benefit from the regulation. Quantify the benefits as completely as possible and approximate the number of people who will benefit.

Recently there has been renewed interest by the public, industry, environmental groups and government agencies regarding the safety, beneficial use and proper management of coal ash. In 2008, the Department implemented a public process to update and enhance its guidance governing the certification, beneficial use, and storage of coal ash. In 2006, the National Academy of Sciences produced a report entitled *Managing Coal Combustion Residue in Mines* (National Academies Press: Washington, D.C.). It provided several recommendations related to coal ash sampling and testing, water quality monitoring, and management of coal ash. The Department is proposing to incorporate the key provisions of the Department's guidance and the National Academy's recommendations into regulation in response to public interest and to affirm the Department's commitment to ensure the environmentally sound management of coal ash.

The citizens of the Commonwealth will be better served by the amendments being proposed in this rulemaking, which are summarized as follows:

- Increased coal ash monitoring to ensure coal ash meets certification criteria;
- Increased water quality monitoring for a longer duration to create a robust dataset to facilitate the evaluation and documentation of water quality at sites where coal ash is beneficially used;
- Requirement for minimum number of monitoring wells to characterize the groundwater or other water quality points;
- Requirement for recording a landowner consent for placement of coal ash for beneficial use;
- Improved reporting requirements to track volumes and location of sites where coal ash is beneficially used;
- Consistent operational and monitoring standards for all types of beneficial use;
- A centralized process to certify coal ash for beneficial use at mine sites;
- An annual fee payable to the Department to offset its costs for coal ash and water quality sampling and testing at mine sites where coal ash is beneficially used;
- Requirements for the storage of coal ash including provisions for design and operations.

Most of the coal ash beneficially used in Pennsylvania for mine reclamation is used in areas that have existing ground and surface water contamination due to mine drainage. The use of coal ash at these sites

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is intended to prevent further degradation and, where site conditions are conducive, to provide an overall improvement in groundwater quality. Generally, coal ash is not beneficially used in areas with high quality groundwater, except in special circumstances. For instance, coal ash may be mixed with Portland cement, sand and aggregate to create a grout material and injected into mine voids as a remediation measure for mine subsidence.

(14) If scientific data, studies, references are used to justify this regulation, please submit material with the regulatory package. Please provide full citation and/or links to internet source.

The Department's Mining program has been collecting coal ash quality data and groundwater data in relation to mine sites since the late 1980's. In 2004, the Department produced, in conjunction with Penn State University's Materials Research Institute, the volume entitled *Coal Ash Beneficial Use in Mine Reclamation and Mine Drainage Remediation in Pennsylvania*, which is available at: http://www.dep.state.pa.us/dep/deputate/minres/bmr/beneficial_use/Index.htm (or on CD or printed copy by request). This study was an assessment of the results of beneficial use of coal ash at active and abandoned coal mine sites and demonstration projects.

In 2006, the National Academy of Sciences produced a report entitled *Managing Coal Combustion Residue in Mines* (National Academies Press: Washington, D.C.). This report provides several recommendations related to coal ash sampling and testing, water quality monitoring, and management of coal ash, which have been incorporated into the revised guidance and carried forth into this proposed rulemaking.

A considerable body of scientific research has been developed by various parties over many years regarding the management of coal ash and, specifically, its beneficial use for mine reclamation. The Department continually monitors and reviews that research and resulting reports and has taken all of those efforts under consideration in formulating these proposed regulations.

(15) Describe who and how many will be adversely affected by the regulation. How are they affected?

The proposed rulemaking applies to any person who generates coal ash with the intention of certifying it for beneficial use and those persons using coal ash for beneficial use.

The proposed regulations shift the responsibility of certifying coal ash to the generator of the ash. To certify coal ash, the Department will only accept samples from generators rather than the persons using coal ash for beneficial use. Generators of coal ash will be required to test coal ash for more parameters and on a more frequent basis to maintain certification. Coal Ash certification will be centralized within the Department. Previously, guidance allowed the coal ash to be approved through local District Mining Offices.

Persons using coal ash for beneficial use will be required to track and report volumes of ash from each approved source every year. They will also be required to provide additional information regarding operations, site conditions, water quality and detailed reclamation plans. Additional sampling points, monitoring parameters, sampling frequency, and standards for well construction have been included.

Regulatory Analysis Form

These proposed new and enhanced requirements will increase the cost of the projects where coal ash is beneficially used.

This proposed rulemaking now includes water quality monitoring requirements for all projects that utilize coal ash at a rate of more than 10,000 tons per acre or greater than 100,000 tons overall. Previously, only mine reclamation activities were subject to water quality monitoring.

The proposed regulation will require more planning and monitoring prior to coal ash placement due to the expanded baseline water quality monitoring to 12 months.

Annual fees payable to the Department to cover its costs of sampling coal ash and water quality will increase costs for generators and persons beneficially using coal ash.

SECTION III: COST AND IMPACT ANALYSIS

(17) Provide a specific estimate of the costs and/or savings to the **regulated community** associated with compliance, including any legal, accounting or consulting procedures which may be required. Explain how the dollar estimates were derived.

The Department has already implemented many of the measures that would be required in the regulations. Guidance documents have implemented the increased monitoring requirements, including sampling frequency, additional chemical parameters to be tested, and additional pre-ash placement and post-ash placement monitoring. Thus, most costs that would be associated with the regulations are already part of the Department's program.

The regulated community will be required to complete four water samples per year for each monitoring point. Typically, two to four monitoring points exist for each site resulting in a water monitoring cost of \$2400-\$4800 per year. Four ash dry weight/leachate samples are required every year from the generation site. This results in a cost of approximately \$2000 per source. Compaction tests for use of coal ash as a structural fill and for mine reclamation must be conducted two times per year at a cost of approximately \$150 per test.

These proposed regulations impose an annual assessment of a permit filing fee of \$2000. This fee is required to assure that the Department has funds to conduct comparative sampling of the coal ash and water quality related to individual coal ash beneficial use sites. This fee amount covers the cost of one ash sample (~\$500) and five water samples (~\$300 x 5) per year.

Sampling requirements have increased from the previous regulations, and the filing fee adds these additional costs. These costs are justified in order to assure protection of human health and aquatic life and to ensure operational and performance standards for beneficial use of coal ash.

Regulatory Analysis Form

More than 11 million tons of coal ash has been beneficially used for mine reclamation each of the past several years. The estimated cost of disposing this material at a landfill would be at least \$275 million per year. Costs of placement at mine sites are on the order of \$55 million per year. Use of coal ash at mine sites as opposed to land filling the material is a savings to the industry of at least \$220 million per year.

(18) Provide a specific estimate of the costs and/or savings to **local governments** associated with compliance, including any legal, accounting or consulting procedures which may be required. Explain how the dollar estimates were derived.

The proposed rulemaking has no compliance, legal, accounting, or consulting effects on local governments. Local governments and citizens would benefit from the beneficial use of coal ash by having hazardous areas remediated in their communities. Under this proposed rulemaking, coal ash may be used by municipalities as an antiskid material making local highways less hazardous. Local governments may also benefit through the restoration of natural areas and improved water quality.

(19) Provide a specific estimate of the costs and/or savings to **state government** associated with the implementation of the regulation, including any legal, accounting, or consulting procedures which may be required. Explain how the dollar estimates were derived.

Additional costs incurred by state government are exclusively to the Department of Environmental Protection. Costs include additional staff time for review of beneficial use applications and source certification requests. The proposed rulemaking mandates reviews that will take more time compared to previous reviews to account for additional information requirements, recordkeeping and inspection. This increased staff time will be absorbed by current staff. The Department's sampling and testing costs for coal ash and water quality are covered, for the most part, through the annual permit filing fee.

(20) In the table below, provide an estimate of the fiscal savings and costs associated with implementation and compliance for the regulated community, local government, and state government for the current year and five subsequent years.

	Current FY Year	FY +1 Year	FY +2 Year	FY +3 Year	FY +4 Year	FY +5 Year
SAVINGS:	\$	\$	\$	\$	\$	\$
Regulated Community	0	0	0	0	0	0
Local Government	0	0	0	0	0	0
State Government	0	0	0	0	0	0
Total Savings	0	0	0	0	0	0
COSTS:						
Regulated Community	\$3800.00	\$7600.00	\$7600.00	\$7600.00	\$7600.00	\$7600.00
Local Government	0	0	0	0	0	0

Regulatory Analysis Form

State Government	0	0	0	0	0	0
Total Costs	\$3800.00	\$7600.00	\$7600.00	\$7600.00	\$7600.00	\$7600.00
REVENUE LOSSES:						
Regulated Community	0	0	0	0	0	0
Local Government	0	0	0	0	0	0
State Government	0	0	0	0	0	0
Total Revenue Losses	0	0	0	0	0	0

(20a) Provide the past three year expenditure history for programs affected by the regulation.

Program	FY -3	FY -2	FY -1	Current FY
Environmental Program Mgmt. #161-10382	\$37,049,000	\$36,868,000	\$39,909,000	\$41,800,000
Environmental Program Operations #160-10381	\$87,897,000	\$89,847,000	\$98,582,000	\$102,149,000

(21) Explain how the benefits of the regulation outweigh any cost and adverse effects.

Coal ash beneficially used to reclaim mine sites in an environmentally safe and responsible manner saves the Commonwealth and the Federal government millions of dollars annually that would be needed to conduct mine reclamation. Further, there is a significant short-term and long-term savings in cost avoidance by eliminating and minimizing the potential for acid mine drainage.

The Department has been beneficially using coal ash for mine reclamation for over 20 years. During that time there have been no significant adverse impacts observed that threatened the public's health or the environment. To the contrary, the Department has observed many improvements to the environment as a result of successful projects.

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These proposed regulations respond to environmental and public concerns relating to the beneficial use of coal ash while also minimizing landfill costs to electricity suppliers and industry. Under these regulations certifying coal ash will continue to provide material to remediate thousands of acres of hazardous mine lands at no cost to the Commonwealth, and also will abate the production of acid mine drainage.

(22) Describe the communications with and input from the public and any advisory council/group in the development and drafting of the regulation. List the specific persons and/or groups who were involved.

The Bureaus of Waste Management, Mining and Reclamation, District Mining Operations and Abandoned Mine Reclamation all collaborated to produce these proposed regulations. The Bureau of Mining and Reclamation has specifically met with industry groups in 2008 representing both the corporate energy facilities and the independent power producers, including Reliant Energy, PPL, and ARIPPA, and individually with various plant operators by request. The Department has also provided information to the Pennsylvania Coal Association and the Pennsylvania Anthracite Council. The Department typically maintains discussions with the American Coal Ash Association and has had several meetings with citizens representing the Clean Air Task Force/Environmental Integrity Project. The concepts in these proposed regulations in the form of technical guidance were presented to the Mining and Reclamation Advisory Board and published in the *Pennsylvania Bulletin* in September 2008. Comments received from industry, citizenry and Department staff were used in the development of this proposed rulemaking. Finally, these proposed regulations were presented to the Solid Waste Advisory Committee in March 2009 and the Mining and Reclamation Advisory Board in April 2009.

(23) Include a description of any alternative regulatory provisions which have been considered and rejected and a statement that the least burdensome acceptable alternative has been selected.

Option 1: Cease coal ash beneficial use. This option would dramatically increase the volume of coal ash that is landfilled, thereby decreasing landfill space and creating the need to expand existing landfills or site new landfills within the Commonwealth. This option would also increase electricity production costs that generators would pass on to consumers, and eliminate incentives and opportunities to remediate waste coal piles, reclaim mine lands, and improve water quality.

Option 2: Wait for a federal version of the regulations. Pennsylvania has been regulating the beneficial use of coal ash for 20 years. Through experience and as a result of the public response to proposed guidance revisions, the Department has already determined that updates and revisions to the regulations are appropriate. The federal regulations will take at least two years, perhaps longer, to enact.

The Department does not believe that either option is in the interest of the Commonwealth. The Department believes this rulemaking is in the interest of, and mutually beneficial for, the public, industry, and the environment. Due to public interest and the commitment of the Department to ensure coal ash is properly managed, the Department believes that existing and proposed guidance should be incorporated into regulations at this time. These proposed regulations respond to environmental and public concerns relating to the beneficial use of coal ash while also minimizing landfill costs to electric

Regulatory Analysis Form

suppliers and industry. Under these regulations, certifying coal ash will continue to provide material to remediate thousands of acres of hazardous mine sites at no cost to the Commonwealth.

(24) Are there any provisions that are more stringent than federal standards? If yes, identify the specific provisions and the compelling Pennsylvania interest that demands stronger regulations.

There are no relevant federal requirements with regard the beneficial use of coal ash.

(25) How does this regulation compare with those of other states? How will this affect Pennsylvania's ability to compete with other states?

No other state has enacted regulations that are as comprehensive as Pennsylvania's regulations regarding beneficial use of coal ash. This proposed rulemaking will not adversely affect Pennsylvania's ability to compete with other states. Pennsylvania will continue benefiting from coal mining, the use of coal as a fuel source and the ability to reclaim mine sites with a certified readily available source of material. Because the certification criteria must be satisfied for all sources of coal ash, Pennsylvania is assured that any imported coal ash is of the same quality as coal ash generated out-of-state.

(26) Will the regulation affect any other regulations of the promulgating agency or other state agencies? If yes, explain and provide specific citations.

No.

(27) Submit a statement of legal, accounting or consulting procedures and additional reporting, recordkeeping or other paperwork, including copies of forms or reports, which will be required for implementation of the regulation and an explanation of measures which have been taken to minimize these requirements.

The Department has developed standard forms for applying for beneficial use at a mine site and for requesting certification of coal ash source for beneficial use. The operators and coal ash generators use these forms to report all monitoring.

The person beneficially using the coal ash is expected to retain documentation to show that the coal ash used at the approved site was a source that was certified by the Department.

(28) Please list any special provisions which have been developed to meet the particular needs of affected groups or persons including, but not limited to, minorities, elderly, small businesses, and farmers.

There are no special provisions.

FACE SHEET
FOR FILING DOCUMENTS
WITH THE LEGISLATIVE REFERENCE
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Copy below is hereby approved as to form and legality.
Attorney General

Amy M. Elliott

By: (Deputy Attorney General)

OCT 22 2009
DATE OF APPROVAL

Check if applicable
Copy not approved. Objections attached.

Copy below is hereby certified to be true and
correct copy of a document issued, prescribed or
promulgated by:

DEPARTMENT OF ENVIRONMENTAL
PROTECTION
ENVIRONMENTAL QUALITY BOARD

(AGENCY)

DOCUMENT/FISCAL NOTE NO. 7-442

DATE OF ADOPTION July 21, 2009

BY *John Hanger*

TITLE JOHN HANGER
CHAIRPERSON

EXECUTIVE OFFICER CHAIRMAN OR SECRETARY

Copy below is hereby approved as to form and legality
Executive or Independent Agencies

BY

Andrew C. Clark

DATE OF APPROVAL
SEP 3 2009

(Deputy General Counsel)
~~(Chief Counsel - Independent Agency)~~
~~(Strike inapplicable title)~~

Check if applicable. No Attorney General Approval
or objection within 30 days after submission.

NOTICE OF PROPOSED RULEMAKING

DEPARTMENT OF ENVIRONMENTAL PROTECTION
ENVIRONMENTAL QUALITY BOARD

Beneficial Use of Coal Ash

25 Pa. Code, Chapters 287 and 290



**Notice of Proposed Rulemaking
Department of Environmental Protection
Environmental Quality Board
(25 Pa. Code, Chapters 287 and 290)
Beneficial Use of Coal Ash**

Preamble

The Environmental Quality Board (Board) proposes to amend Article IX (relating to residual waste management) by adding Chapter 290 (relating to beneficial use of coal ash) to read as set forth in Annex A.

The proposed rulemaking consists of amendments to Chapter 287 (relating to residual waste management – general provisions) and the addition of Chapter 290 (relating to the beneficial use of coal ash). New Chapter 290 contains the standards, procedures and requirements that apply to the beneficial use of coal ash, which are further modified by four defined terms in §287.1 (relating to definitions). Proposed Chapter 290 includes regulations that currently exist in Subchapter H (relating to beneficial use), §§287.661 - 287.666 (relating to beneficial use of coal ash), along with recent additions. Proposed Chapter 290 adopts recommendations from the National Academy of Sciences' 2006 report, *Managing Coal Combustion Residues in Mines* and the Department of Environmental Protection's (Department) amended policies, "Certification Guidelines for the Chemical and Physical Properties of Coal Ash Beneficially Used at Mines," Document Number 563-2112-224 and "Mine Site Approval for the Beneficial Use of Coal Ash," Document Number 563-2112-225. Incorporating appropriate recommendations and policy provisions into regulations clarifies for the Department, regulated community and public the procedures and standards that apply to coal ash and will be enforced by the Department.

This proposal was adopted by the Board at its meeting on July 21, 2009.

A. Effective Date

This proposed rulemaking will be effective upon final-form publication in the *Pennsylvania Bulletin*.

B. Contact Persons

For further information, contact Stephen Socash, Chief, Division of Municipal and Residual Waste, P.O. Box 8472, Rachel Carson State Office Building, Harrisburg, PA 17105-8472, (717) 787-7381, or Susan Seighman, Assistant Counsel, Bureau of Regulatory Counsel, P.O. Box 8464, Rachel Carson State Office Building, Harrisburg, PA 17105-8464, (717) 787-7060. Information regarding submitting comments on this proposal appears in Section J of this preamble. Persons with a disability may use the AT&T Relay Service by calling 1-800-654-5984 (TDD users) or 1-800-654-5988 (voice users). This proposal is available electronically through the Department of Environmental Protection's (Department) Web site at www.depweb.state.pa.us (select Public Participation).

C. Statutory Authority

This proposed rulemaking is being made under the authority of the following:

The Solid Waste Management Act (SWMA) (35 P.S. §§6018.101 - 6018.1003), which in Section 105(a) (35 P.S. §6018.105(a)) grants the Board the power and duty to adopt the rules and regulations of the Department to accomplish the purposes and carry out the provisions of the SWMA. Sections 102(4) and 104(6) of SWMA (35 P.S. §§6018.102 and 104), which provide the Department with the power and duty to regulate the storage, collection, transportation, processing, treatment and disposal of solid waste to protect the public health, safety and welfare. Section 508 of SWMA (35 P.S. §6018.508), which provides the Department with the authority to regulate the beneficial use of coal ash, including establishing siting criteria and design and operating standards governing the storage of coal ash prior to beneficial use and the use and certification of coal ash as structural fill, soil substitutes and soil additives.

The Clean Streams Law (CSL) (52 P.S. § 691.1 - 691.1001), which in Section 5 (35 P.S. §691.5(b)) grants the Department the authority to formulate, adopt, promulgate and repeal the rules and regulations that are necessary to implement the provisions of the CSL. Section 402 (35 P.S. §691.402), which grants the Department the authority to adopt rules and regulations that require permits or conditions under which an activity shall be conducted when an activity creates a danger of pollution to waters of the Commonwealth or regulation of an activity is necessary to avoid pollution.

Section 4.2(a) of the Surface Mining Conservation and Reclamation Act (SMCRA), (52 P.S. § 1396.4b(a)), which authorizes the Board to adopt regulations the Department deems necessary to fulfill the purposes and provisions of SMCRA. Section 4(a) of SMCRA (52 P.S. § 1396.4(a)), which authorizes the Department to charge and collect a reasonable filing fee from persons submitting applications for a surface mining permit in order to cover the costs of reviewing and administering such permits. Section 3.2 of the Coal Refuse Disposal Control Act (52 P.S. § 30.53b) (CRDA), which grants the Board the power and duty to adopt regulations to accomplish the purposes of the CRDA.

The Administrative Code of 1929 (71 P.S. §§510-1 - 510-27), which at Section 1917-A (71 P.S. §510-17) authorizes and requires the Department to protect the people of this Commonwealth from unsanitary conditions and other nuisances, including any condition that is declared to be a nuisance by any law administered by the Department. Section 1920-A (71 P.S. 510-20), which grants the Board the power and duty to formulate, adopt, and promulgate such rules and regulations as may be determined by the Board for the proper performance of the work of the Department.

D. Background and Purpose

This proposed rulemaking incorporates the key provisions of the Department's policies and procedures on the beneficial use of coal ash into the Department's regulations. The key provisions address the general and specific operating requirements for beneficial use, which include certification guidelines for the chemical and physical properties of coal ash beneficially used at

active and abandoned mine sites. These provisions also relate to water quality monitoring and the storage of coal ash in piles and surface impoundments. This proposed rulemaking also adopts recommendations by the National Academy of Sciences in their 2006 report, *Managing Coal Combustion Residues in Mines*.

Pennsylvania has hundreds of thousands of acres of mine lands that need to be reclaimed. These lands contain many dangerous pits and highwalls that have caused the deaths of numerous citizens over the years. The use of coal ash to reclaim these mines eliminates the dangers associated with the open pits and highwalls and restores a safe environment. Reclamation also restores positive drainage to watersheds by allowing rain water to flow on the surface to streams, rather than infiltrating into deep mines into which it discharges as acid mine drainage. Reclamation of these lands cannot be accomplished fully through federal and state funds. Therefore, a program that allows for the beneficial use of coal ash for mine reclamation in an environmentally responsible manner can aid in closing the gap between available and necessary resources.

The Department has been involved successfully with mine reclamation using coal ash for approximately 25 years. Information on several mine reclamation projects is contained in the 2006 report on the collaboration between the Department and the Materials Research Institute at the Pennsylvania State University, entitled *Coal Ash Beneficial Use in Mine Reclamation and Drainage Remediation in Pennsylvania*.

In addition to unreclaimed mines, more than two billion tons of waste coal piles are scattered across the Anthracite and Bituminous Coal Regions of the Commonwealth. These piles can cause several different types and degrees of adverse impacts on the environment. Waste coal piles produce some of the most significant mine drainage in the state, often having a pH less than 3.0 and acidity in the hundreds to thousands of milligrams per liter and are also a troublesome source of sediment that has impacted hundreds of miles of stream. Stormwater runoff from waste coal piles also carries large loads of metals including iron, manganese, zinc, nickel, arsenic and cadmium. Finally, waste coal piles can catch fire and produce noxious fumes.

The use of waste coal to fuel power plants has assisted in the elimination of these waste coal piles and remedied the potentially harmful conditions resulting from the continued existence of the piles. To date, 145 million tons of waste coal has been used to fuel power plants. Annually ten percent of Pennsylvania's power is produced from power plants burning waste coal. The ash that is generated from the waste coal has been used to reclaim thousands of acres of abandoned mines. ARIPPA places a value of \$90 million on the reclamation that has been achieved at abandoned mine sites by the coal and power industries through the burning of waste coal and subsequent reclamation with the coal ash that was generated. Additionally, the Department has observed numerous instances where removal of the piles and reclamation has significantly reduced pollutant loads for metals, such as arsenic, zinc, nickel, iron and manganese.

Prior to this proposed rulemaking, the beneficial use of coal ash, including abandoned and active mine reclamation, was managed through existing residual waste regulations and Department technical guidance. In 2008, the Department proposed amendments to the technical guidance documents "Mine Site Approval for the Beneficial Use of Coal Ash," Document Number 563-2112-225 and "Certification Guidelines for the Chemical and Physical Properties of

Coal Ash Beneficially Used at Mines,” Document Number 563-2112-224. The most frequent comment received during the public comment period on these amendments was that the content of the technical guidance should be placed in regulations rather than Department technical guidance. The Board agrees with the commentators and has included the key provisions of the technical guidance in this proposed rulemaking and further enhanced the existing residual waste regulations related to the beneficial use of coal ash.

This proposed rulemaking includes operating requirements for the beneficial use of coal ash in a general nature and more specifically for use: as structural fill; a soil substitute or soil additive; at active and nonactive coal mine sites; and other beneficial uses, including the manufacture of concrete, extraction or recovery of materials within the coal ash, stabilized product, antiskid material, raw material for a commercial product, drainage material or pipe bedding, and mine subsidence control, mine fire control and mine sealing. The general requirements incorporate the chemical and physical characteristics of the certification process. A chemical analysis must demonstrate that the coal ash does not exceed any of the maximum acceptable leachate levels established under that process. Similarly, the physical characteristics must be met for the intended use. These requirements also provide that a water quality monitoring plan must be developed when more than 10,000 tons of coal ash per acre is to be used on a project or more than 100,000 tons in total on a project.

The specific sections include notification and other operating requirements. At least 60 days prior to beneficial use, the Department must be notified by the person proposing the beneficial use. The Department publishes a summary of each notice in the Pennsylvania Bulletin. Public notice by the person proposing to beneficially use coal ash as structural fill, at a coal mine activity site and at an abandoned mine are included in this proposed rulemaking. Public notice will be accomplished through a series of newspaper advertisements and applies to structural fill and abandoned mine requests above the identified threshold amounts. Public notice at coal mining activity sites is a current requirement under the mining regulations. The Board believes public notification to be an integral part of implementing this program.

The notification process to the Department requires that construction plans be submitted, along with a stability analysis if necessary, as prepared by a professional engineer. Engineering requirements related to lift and compaction rates have been added for mine reclamation and structural fill. The engineering requirements were carried over from the technical guidance documents to ensure that the coal ash will form a stable structure. Insufficient structural stability of coal ash placed more than 50 years ago led to a landslide in Forward Township in 2005. Although regulations were not in effect at the time of placement, this landslide illustrates the need for proper engineering when placed at mine sites or when used as structural fill.

The certification guidelines for certifying coal ash for beneficial use at mine sites have been transferred into the regulations. The guidelines that must be followed to receive a certification set the chemical leaching levels and testing standards for physical characteristics that must be met for beneficial use. Parameters have been added to these guidelines to account for changes in the combustion process and to incorporate the recommendations of the National Academy of Sciences. The bulk chemistry ash analysis contains additional parameters for Ag, Be, Co, TI, V,

Ca, Mg, K, and S. The leaching chemistry analysis has added parameters for Ag, Be, Co, TI, V, NO₂, NO₃, Ca, Mg, K, Na, SO₄, Cl and F.

The proposed rulemaking also includes expanded water quality requirements. Water quality monitoring has been required for many years at permitted coal mining activity sites that use coal ash for reclamation purposes. The Board believes water quality monitoring is appropriate at sites where large quantities of coal ash are placed to ensure that no water quality degradation occurs. The proposed regulations expand water quality monitoring to any site where large quantities of coal ash are beneficially used. It also requires water quality monitoring at all coal ash storage impoundments.

Although contamination of groundwater and surface water has not been observed, coal ash may contain metals at levels above normal soil background levels. To further address this issue, several provisions have been added. A minimum of twelve monthly background samples from each monitoring point is required prior to placement of coal ash. The following chemical parameters have been incorporated for monitoring: Ag, B, Ba, Be, Co, Mo, Sb, TI, V, Na, Cl, Ca, Mg and K. Additionally, monitoring requirements have been included for water elevations and flow, upgradient monitoring points, and at least three downgradient monitoring points. The requirement for a complete water monitoring analysis has been increased from annually to quarterly for five years after placement and annually for years 6 through 10. If water monitoring shows the potential for contamination of groundwater, a groundwater assessment is required to determine whether groundwater degradation has occurred. If degradation of groundwater quality is detected at a site, an abatement plan must be submitted and implemented.

Finally, the proposed rulemaking includes design and operating standards for the storage of coal ash in piles and surface impoundments. Isolation distances are provided to ensure that storage is prohibited within certain areas. These standards aid in protecting groundwater and surface water. Further protection is afforded through the permit requirement imposed upon impoundments under the Department's Dams and Waterways program.

E. Summary of Regulatory Requirements

§ 287.1

The proposed rulemaking adds a definition to § 287.1 (relating to definitions) for "water table" and amends definitions for "coal ash," solid waste" and "structural fill" to provide clarity.

§§ 287.661-287.666

The proposed rulemaking deletes §§ 287.661-287.666 (relating to beneficial use of coal ash) and replaces these sections with proposed Chapter 290, Subchapter B.

Subchapter A. General

Proposed § 290.1

Subsection (a) establishes that this chapter applies to the beneficial use of coal ash.

Subsection (b) specifies that beneficial use of coal ash mixed with residual waste or ash produced by co-firing coal and alternative fuels must be authorized by a residual waste permit and meet the requirements of this chapter.

Subsection (c) specifies that beneficial use of coal ash mixed with construction and demolition waste must be authorized by a municipal waste permit and meet the requirements of this chapter.

Subsection (d) specifies that coal ash mixed with municipal waste, other than construction and demolition waste, shall not be beneficially used by direct placement into the environment. Other beneficial uses may be authorized by a municipal waste permit.

Subsection (e) establishes that beneficial use of coal ash under this chapter does not require a disposal permit.

Subchapter B. Beneficial Use of Coal Ash

Proposed § 290.101

Subsection (a) establishes that use of coal ash that is not consistent with this chapter is considered disposal and requires a disposal permit.

Subsection (b) specifies that maximum leachate levels and sampling and analysis requirements for certification in Subchapter C apply to all beneficial uses of coal ash. For other uses under § 290.106(1)-(3), the Department may waive or modify this requirement.

Subsection (c) specifies that the physical characteristics required for certification for the intended beneficial use of the coal ash in Subchapter C must be met.

Subsection (d) establishes that a water quality monitoring plan is required for any project involving use of more than 10,000 tons of coal ash per acre or more than 100,000 tons. The Board seeks comment on the appropriateness of these threshold quantities for triggering monitoring.

Subsection (e) specifies that coal ash may not be placed within 8 feet of the water table. It allows the Department to approve placement within 8 feet at mining activity sites if it can be demonstrated that groundwater contamination will not occur.

Subsection (f) specifies that coal ash may not be used in ways that may cause water pollution.

Proposed § 290.102

Subsection (a) establishes the notification requirements for coal ash to be used as structural fill. This notification includes a description of the project, including maps, estimated project starting and completion dates, construction plans, estimated volume of coal ash to be utilized, chemical analysis and landowner consent. The landowner consent is a recordable document for projects

involving use of more than 10,000 tons of coal ash per acre. The Board seeks comment on the appropriateness of this threshold quantity for triggering recording.

Subsection (b) establishes that the Department will publish a notice in the Pennsylvania Bulletin of each notification received for use of coal ash as structural fill.

Subsection (c) specifies that notices in local newspapers must be published for coal ash structural fill projects involving use of more than 10,000 tons of coal ash per acre or more than 100,000 tons. The notice shall include name and business address, a brief description of location and scope of the project, and the Departmental office location where the request was sent. The Board seeks comment on the appropriateness of these threshold quantities for triggering monitoring.

Subsection (d) establishes additional requirements for coal ash used as structural fill, including, compaction and layer thickness, runoff minimization and storm water management, surface water diversion, cover, minimum compaction and dust minimization. Specifies coal ash must be either spread and compacted within 24 hours or stored in accordance with Subchapter E. The Board seeks comment on the appropriateness of the pH range, 6.0 – 9.0, for coal ash used as structural fill.

Subsection (e) establishes siting restrictions for structural fill, including distances from streams, water sources, bedrock outcrops, sinkholes and areas draining into sinkholes, floodplains and wetlands.

Subsection (f) establishes annual reports required for projects involving use of more than 10,000 tons of coal ash per acre. The report will include contact information, site location, identity of each source of coal ash and the volume and weight of coal ash from each source. The Board seeks comment on the appropriateness of this threshold quantity for triggering recording.

Proposed § 290.103

Subsection (a) establishes that coal ash may be beneficially used as a soil substitute or soil amendment without a permit if the user complies with this section.

Subsection (b) establishes the notification requirements for coal ash to be used as a soil substitute or soil amendment. This notification includes a description of the project, including maps, estimated project starting and completion dates, construction plans, estimated volume of coal ash to be utilized, chemical analysis of the coal ash and soil at placement site, an analysis showing the coal ash will be beneficial to productivity or soil properties and landowner consent.

Subsection (c) establishes that the Department will respond to the notifier as to whether their proposed use is consistent with this section.

Subsection (d) establishes additional requirements for coal ash used as a soil substitute or soil amendment, including coal ash and soil pH, calcium carbonate equivalency, surface runoff minimization and storm water management, surface water diversion, application rate, protection of

biota and dust minimization. It specifies that coal ash must be either incorporated within 24 hours or stored in accordance with Subchapter E. The Board seeks comment on the appropriateness of the pH range, 6.5 – 8.0, for coal ash used as a soil substitute or soil amendment.

Subsection (e) establishes siting restrictions for coal ash used as a soil substitute or soil amendment, including distances from streams, water sources, occupied dwellings, sinkholes and areas draining into sinkholes and wetlands.

Subsection (f) establishes cumulative contaminant loading rates for coal ash used as a soil substitute or soil amendment.

Proposed § 290.104

Subsection (a) establishes the laws and regulations upon which this section is based.

Subsection (b) establishes the procedures for requesting beneficial use of certified coal ash at a specific mine site.

Subsection (c) establishes the amount of the permit filing fee for permits that will be beneficially using coal ash and where the money will be deposited.

Subsection (d) establishes the requirement for public notice.

Subsection (e) establishes appropriate beneficial uses for coal ash at active coal mine sites.

Subsection (f) establishes operational requirements for beneficial use of coal ash at active coal mines.

Subsection (g) establishes operational requirements for beneficial use of coal ash when used as a soil substitute or soil additive.

Subsection (h) establishes operational requirements for the beneficial use of coal ash at coal refuse disposal sites.

Subsection (i) establishes the requirement for mine site monitoring of coal ash.

Subsection (j) establishes annual reporting requirements pertaining to the amount and sources of ash used at a mine site.

Proposed 290.105

Subsection (a) establishes procedures and requirements for proposals to use coal ash at abandoned coal surface mine sites.

Subsection (b) establishes the elements required to submit a request for a proposal to use coal ash at an abandoned coal surface mine site. This includes a requirement to publish a notice in

local newspapers of the proposed use of coal ash at an abandoned coal surface mine site involving use of more than 10,000 tons of coal ash per acre or more than 100,000 tons in total at any project.

Subsection (c) establishes that the Department may issue contracts for the reclamation of abandoned coal surface mine sites that include the beneficial use of coal ash. Contracts that include the beneficial use of coal ash shall be based on the requirements and conditions established in this section.

Subsection (d) establishes that the Department will publish a notice in the Pennsylvania Bulletin of each approved use of coal ash at abandoned coal surface mine sites.

Subsection (e) establishes additional requirements for coal ash used at abandoned coal surface mine sites including: pH range of the ash; maximum slope of the reclaimed area; compaction and layer thickness; runoff minimization and storm water management; surface water diversion; cover; minimum compaction; dust minimization; minimum distances for ash placement from streams, water sources, sinkholes and areas draining into sinkholes; floodplains; and requirements for the beneficial use of coal ash as a soil substitute or soil additive at abandoned coal surface mine sites.

Subsection (f) establishes the reporting requirements pertaining to the amount and sources of ash used at abandoned coal mine sites.

Proposed § 290.106

Subsection (a) specifies that the section applies to other uses of coal ash not covered under §§ 290.102-290.105.

Subsection (b) identifies specific other uses of coal ash and requirements for storage and use. These other uses of coal ash are use in concrete, extraction or recovery of materials and chemicals from coal ash, use of fly ash as a stabilized product, use of bottom ash or boiler slag as antiskid or surface preparation material, use of coal ash as a raw material for a product with commercial value, use as pipe bedding or drainage material and use for mine subsidence control, mine fire control and mine sealing.

Proposed § 290.107

Subsection (a) allows the Department to request documentation and information to demonstrate compliance with this subchapter.

Subsection (b) establishes that failure to have documentation of compliance with this subchapter may lead to a presumption that the person is disposing of residual waste without a permit.

Subchapter C. Coal Ash Certification

Proposed § 290.201

Subsection (a) establishes the chemical and physical certification standards for coal ash to meet beneficial use requirements. Chemical leaching standards are established. Low permeability standards are established for ashes that will be used as low permeability material. Minimum calcium carbonate equivalence standards are established for ashes that will be used for alkaline addition.

Subsection (b) establishes certification exceptions for ashes that meet primary MCL parameters, but fail to meet a secondary MCL parameter.

Subsection (c) establishes informational requirements to be provided by the ash generator, including sampling and analysis of the ash.

Subsection (d) establishes that the Department will provide written notification to the generator of the Department's decision on whether the generator's coal ash is certified. If the certification requirements are met, the Department will provide the certification identity number.

Subsection (e) establishes coal ash monitoring requirements.

Subsection (f) requires the generator of the coal ash and person beneficially using the coal ash to notify the Department of any changes that may affect the coal ash certification.

Proposed § 290.202

Subsection (a) establishes procedures for revoking coal ash certification for coal ashes that fail to meet certification requirements.

Subsection (b) establishes that a revoked coal ash certification cannot be used at mine sites.

Subsection (c) establishes the procedures for re-certifying a revoked coal ash, including resampling and establishing adequacy of chemical and physical properties.

Proposed § 290.203

This section establishes procedures when exceedances of certification standards occur.

Subchapter D. Water Quality Monitoring

Proposed § 290.301

Subsection (a) establishes that water quality monitoring plans submitted to the Department for approval must contain the location and design of upgradient and downgradient monitoring points, provisions for background sampling prior to placement of coal ash, and quarterly sampling after approval.

Subsection (b) establishes sources of quality assurance/quality control procedures for sampling and in the laboratory.

Subsection (c) establishes sources of analytical methods used for water quality monitoring and that the laboratory must be accredited.

Subsection (d) specifies the non-metal parameters to be determined in water monitoring samples.

Subsection (e) specifies the metal parameters to be determined in water monitoring samples and that water elevation at monitoring point be recorded.

Subsection (f) gives the Department the ability to require additional parameters based on site conditions.

Subsection (g) specifies the minimum frequency and duration of water quality monitoring and allows the Department to require more frequent and a longer duration monitoring if results indicate contamination may be occurring.

Subsection (h) specifies that water quality monitoring data is to be submitted quarterly to the Department.

Subsection (i) establishes that attainment with groundwater remediation standards must be demonstrated if there is water degradation due to placement of coal ash.

Proposed § 290.302

Subsection (a) establishes location and number of upgradient and downgradient groundwater monitoring points and that surface water monitoring points must be approved by the Department.

Subsection (b) establishes that the number, location and depth of monitoring wells must be representative of water quality and located so as not to interfere with site operations. The subsection also specifies the maximum distance from the coal ash placement site.

Subsection (c) establishes that upgradient monitoring points be located where they will not be affected by coal ash placement.

Subsection (d) establishes that downgradient monitoring points be located where they will not be affected by coal ash placement.

Subsection (e) establishes that well drillers must be licensed.

Subsection (f) specifies that well construction materials be decontaminated prior to installation.

Proposed § 290.303

Subsection (a) establishes well standards, including casing, diameter, screening, filter packing, viability above ground, and angular space sealing and must be designed to prevent cross contamination. The section also allows alternative casing designs for wells located in stable formations.

Subsection (b) establishes standards for protective casings around well casings, including strength, length above and below surface of ground, collar and grouting, labeling, protrusion above well casing, locked cap and material of construction.

Proposed § 290.304

Subsection (a) establishes when an assessment plan is to be submitted based on monitoring data or data from public or private water supplies.

Subsection (b) establishes that assessment is not required if resampling shows degradation is not occurring or if degradation is a result of seasonal variation or activities unrelated to coal ash placement.

Subsection (c) establishes the elements of an assessment plan, including monitoring point location, design and construction information, sampling and analytical methods to be used, an implementation schedule, and identification of the abatement standard.

Subsection (d) establishes Department approval and notification of public and private water supplies.

Subsection (e) establishes contents of a report after assessment is completed, including data, analysis, and recommendations.

Subsection (f) establishes procedures if an abatement plan is not required.

Subsection (g) establishes that the Department may require abatement or water supply replacement prior to or concurrent with the assessment.

Proposed § 290.305

Subsection (a) requires that an abatement plan be submitted to the Department when certain conditions exist. An abatement plan is required when an assessment plan shows groundwater or surface water degradation and the analysis under subsection (c) indicates that an abatement standard will not be met. A plan is also required when data from the Department or other person from one or more compliance points indicates an abatement standard has been exceeded.

Subsection (b) establishes the elements of an abatement plan, including identification of the specific methods or techniques to be used to abate degradation and to prevent future degradation, and an implementation schedule.

Subsection (c) establishes standards for abatement.

Subsection (d) allows compliance point for secondary contaminants to be set beyond that for contaminants with statewide health standards.

Subsection (e) establishes a time limit for completion and submittal of abatement plans.

Subsection (f) establishes that the Department may modify inadequate plans.

Subsection (g) establishes a timeframe for implementation of the abatement plan after approval.

Subsection (h) establishes orders that may be issued by the Department if an abatement plan is found to be inadequate after approval or implementation.

Proposed § 290.306

This section establishes recordkeeping requirements for water quality monitoring data.

Subchapter E. Coal Ash Storage

Proposed § 290.401

Subsection (a) establishes that best engineering design and construction practices are to be used for all phases of construction and operation.

Subsection (b) specifies that coal ash storage is not to exceed the design capacity of the storage facility.

Subsection (c) specifies that the Department may require a water quality monitoring system to be installed if coal ash storage has the potential to cause groundwater degradation.

Subsection (d) specifies that the person storing coal ash must periodically inspect the storage facility for evidence of failure and take any necessary immediate corrective actions. Records of inspections and corrective actions are to be maintained for 3 years.

Proposed § 290.402

Subsection (a) specifies a general maximum storage time limit at the site of beneficial use for uses not having a specific time limit in subsection (b) or (c).

Subsection (b) specifies a maximum storage time limit for bottom ash and requires a significant quantity to be utilized annually, stored on a pad or floor, and stored either in an enclosed building or in an area where runoff is collected and treated.

Subsection (c) specifies maximum storage time limits for storage at other areas dependant on the percentage of coal ash being used and manner of storage.

Subsection (d) establishes that storage contrary to subsections (a)-(c) is presumed to be disposal.

Subsection (e) establishes operational record storage retention to overcome the presumption of disposal in subsection (d).

Subsection (f) specifies that this section does not supersede other regulations and requirements that specify shorter storage time limits.

Proposed § 290.403

Subsection (a) specifies minimization of surface water runoff from storage areas and storm water management.

Subsection (b) specifies minimization of surface water run-on to storage areas.

Subsection (c) specifies that coal ash is not to be stored in a manner to cause degradation of groundwater.

Proposed § 290.404

Subsection (a) establishes siting restrictions for coal ash storage, other than in surface impoundments. Restrictions include distances from streams, water sources, bedrock outcrops, sinkholes and areas draining into sinkholes and wetlands.

Subsection (b) establishes siting restrictions for coal ash storage in surface impoundments. Restrictions include distances from floodplains, streams, water sources, bedrock outcrops, occupied dwellings, property lines, sinkholes and areas draining into sinkholes, wetlands, schools, parks, and playgrounds, and areas underlain by limestone or carbonate formations or areas serving as habitat for endangered or threatened flora or fauna.

Proposed § 290.405

Subsection (a) establishes a requirement to prevent dispersion of coal ash from storage piles.

Subsection (b) establishes separation distance from water table for coal ash stored in piles.

Subsection (c) establishes a requirement for berms around storage piles, collection of runoff and leachate, and when necessary, treatment of runoff and leachate.

Subsection (d) establishes that the Department may require groundwater monitoring for coal ash storage piles without liner systems or pads.

Proposed § 290.406

Subsection (a) establishes that this section applies to storage of coal ash on liners or pads.

Subsection (b) establishes performance and design criteria for the liner system or pad and addresses leachate migration and collection, chemical and physical compatibility, integrity of liner or pad, permeability, constructed so there is no contact with groundwater or surface water, constructed of non-waste and non-coal ash materials, inspection during construction and installation, and, if required by the Department, have a monitoring system capable of detecting whether coal ash or leachate has penetrated the liner or pad.

Proposed § 290.407

Subsection (a) establishes that storage piles with a pad or liner system must have leachate and runoff collection and a leachate storage system.

Subsection (b) establishes design requirements for the leachate storage system that must consist of tanks or impoundments. The requirements address sizing, chemical compatibility, strength, cleanouts, and sealing.

Subsection (c) establishes that leachate treatment or disposal be in accordance with the Clean Streams Law.

Proposed § 290.408

Subsection (a) establishes that this section and §§ 290.409-290.413 apply to surface impoundments used to store coal ash prior to beneficial use.

Subsection (b) establishes that this section and §§ 290.409-290.413 apply to surface impoundments used to store only stormwater.

Subsection (c) establishes a definition of stormwater for this section.

Proposed § 290.409

This section establishes that a coal ash surface impoundment must be permitted under the Clean Streams Law and comply with Chapter 105 requirements.

Proposed § 290.410

This section establishes design criteria for coal ash storage impoundments. The criteria include the liner system, subbase location in relation to water table, subbase performance criteria, leachate detection zone, liner performance criteria, protective cover performance criteria, leachate collection system performance criteria, leachate storage system, leachate collection and handling, and design, construction, operation and maintenance.

Proposed § 290.411

Subsection (a) establishes minimum distance to be maintained between the bottom of the liner system's subbase and the water table.

Subsection (b) specifies marking the edge of the liner.

Subsection (c) establishes that a fence or barrier be maintained around the impoundment and the leachate collection and treatment system.

Subsection (d) establishes fugitive air containment control measures for impoundments.

Subsection (e) establishes that water quality monitoring is required for impoundments.

Subsection (f) establishes coal ash removal performance requirements for impoundments and includes removal without damage to the impoundment, liner inspection, providing for the beneficial use of removed coal ash, and ensuring coal ash is not accumulated speculatively.

Proposed § 290.412

Subsection (a) establishes procedures and Department notification if impoundment fails.

Subsection (b) establishes procedures to restore to service impoundments that have failed.

Subsection (c) establishes closure for failed impoundments that cannot be cleaned up in a manner satisfactory to the Department.

Proposed § 290.413

This section establishes that the Department will inspect coal ash storage impoundments.

Proposed § 290.414

This section establishes closure of storage areas, including removal of coal ash and, if required by the Department, regrading and revegetation.

F. Benefits, Costs and Compliance

Benefits

The largest volume proportion of coal ash under the beneficial use program is utilized in abandoned mine placement for reclamation and mixed with coal refuse for reclamation. Coal ash used in this way to reclaim mine lands that would not otherwise be reclaimed saves the Commonwealth and the Federal government millions of dollars each year towards reclamation. Utilizing ash to stabilize coal refuse and neutralize acid mine drainage prevents a future acid mine drainage pollution source that would cost millions of dollars per year in perpetual treatment across the state. For over 20 years, the Department has seen no significant pollution events that would require abatement related to coal ash beneficial use and has documented many successfully reclaimed sites. Among the greatest successes environmentally have been coal refuse reprocessing sites, where waste coal is used by power plants to generate electricity and steam. Un-reclaimed, these piles produce acid mine drainage, catch on fire and billow noxious

fumes, and erode silt into local streams. The alkaline ash generated by the power plants is returned to the waste coal site. The Department has seen dramatic improvements in water quality at these sites, with 90% reduction of some pollutants.

The public will be better served by the following aspects that this proposed rulemaking will enable:

- Increased coal ash monitoring to ensure coal ash meets certification criteria;
- Increased water quality monitoring for a longer duration to create a robust dataset to facilitate the evaluation and documentation of water quality at sites where coal ash is beneficially used;
- Requirement for minimum number of monitoring wells to characterize the groundwater or other water quality points;
- Requirement for recording a landowner consent for placement of coal ash for beneficial use;
- Improved reporting requirements to track volumes and location of sites where coal ash is beneficially used;
- Consistent operational and monitoring standards for all types of beneficial use;
- A centralized process to certify coal ash for beneficial use at mine sites;
- An annual fee payable to the Department to offset its costs for coal ash and water quality sampling and testing at mine sites where coal ash is beneficially used;
- Requirements for the storage of coal ash including provisions for design and operations.

Compliance Costs

The Department has already implemented many of the measures that would be required in the regulations. Guidance documents have implemented the increased monitoring requirements, including sampling frequency, additional chemical parameters to be tested, and additional pre-ash placement and post-ash placement monitoring. Thus, most costs that would be associated with the regulations are already part of the Department's program.

The regulated community will be required to complete four water samples per year for each monitoring point. Typically, two to four monitoring points exist for each site resulting in a water monitoring cost of \$2400-\$4800 per year. Four ash dry weight/leachate samples are required every year from the generation site. This results in a cost of approximately \$2000 per source. Compaction tests for use of coal ash as a structural fill and for mine reclamation must be conducted two times per year at a cost of approximately \$150 per test.

These proposed regulations impose an annual assessment of a permit filing fee of \$2000. This fee is required to assure that the Department has funds to conduct comparative sampling of the coal ash and water quality related to individual coal ash beneficial use sites. This fee amount covers the cost of one ash sample (~\$500) and five water samples (~\$300 x 5) per year.

Sampling requirements have increased from the previous regulations, and the filing fee adds these additional costs. These costs are justified in order to assure protection of human health and aquatic life and to ensure operational and performance standards for beneficial use of coal ash.

More than 11 million tons of coal ash has been beneficially used for mine reclamation each of the past several years. The estimated cost of disposing this material at a landfill would be at least \$275 million per year. Costs of placement at mine sites are on the order of \$55 million per year. Use of coal ash at mine sites as opposed to land filling the material is a savings to the industry of at least \$220 million per year.

Additional costs incurred to state government are exclusively to the Department of Environmental Protection. Costs include additional staff time for review of beneficial use applications and source certification requests. The proposed rulemaking mandates reviews that will take more time compared to previous reviews to account for additional information requirements, recordkeeping and inspection. This increased staff time will be absorbed by current staff. Additional comparative sampling costs are reimbursed, for the most part, through the yearly permit filing fee. This does not include unforeseen samples necessary in cases of potential degradation.

Compliance Assistance Plan

The Department intends to educate and assist the public and regulated community in understanding the newly revised requirements and how to comply with them. Fact sheets explaining the changes will be developed and made available on the Department's Web site.

Paperwork Requirements

The proposed rulemaking continues the current practice of notifying the Department prior to use of coal ash as structural fill, soil substitute or soil additive, at a mining activity site, at an abandoned mine site, as a stabilized product, as drainage material or pipe bedding, or for mine subsidence control, mine fire control and mine sealing. For use as structural fill in § 290.102(f), this shall be by a written notice that includes a description and map of the project, estimated start and end dates for the project, construction plans, estimated volume of coal ash to be used, chemical analysis and landowner consent. For use as a soil substitute or soil additive, the written notice in § 290.103(b) shall include a description of the use and storage, a map of the project, estimated start and end dates for the project, estimated volume of coal ash to be used for the proposed application rate, chemical analysis of the coal ash and soil at the application site, an analysis showing how the application will be beneficial to the productivity or properties of the soil and landowner consent.

For use at a mining activity site in § 290.104(b), a request for mining permit modification shall include the permit filing fee, a description of the use and storage, a map of the project, estimated start and end dates for the project, estimated volume of coal ash to be used, identity of the generator and the certification number, landowner consent and a coal ash monitoring plan. When used at an abandoned mine site, the notice shall either be through a contract with the Department under § 290.105(c), or a written request under § 290.105(b) that includes a description of the use and storage, a map of the project, estimated start and end dates for the project, estimated volume of coal ash to be used, identity of the generator and the certification number, landowner consent and, if required, a coal ash monitoring plan.

For other beneficial uses, § 290.106(b)(6) requires advanced written notice to the Department with an evaluation of pH and chemical analysis when coal ash is used as drainage material or pipe bedding. When used as a stabilized product or for mine subsidence control, mine fire control and mine sealing, § 290.106(b)(3) and (7) only requires advanced written notice to the Department.

Public notice by the person proposing to beneficially use coal ash as structural fill at a coal mine activity site and at an abandoned mine are included in this proposed rulemaking in §§ 290.102(c), 290.104(d) and 290.105(b)(6). Public notice will be accomplished through a series of newspaper advertisements and applies to structural fill and abandoned mine requests above the identified threshold amounts. Public notice at coal mining activity sites is a current requirement under §§ 86.31 and 86.54.

The proposed rulemaking includes annual reporting requirements in § 290.102(f) for persons using more than 10,000 tons of coal ash per acre as structural fill and §§ 290.104(j) and 290.105(f) for coal ash used at mining activity sites or abandoned mine sites. The person beneficially using coal ash will have to submit an annual report that includes contact information and the identity and the volume in cubic yards and the weight in dry tons for each source. For use as structural fill, the location of the site where the coal ash was utilized must be included in the report. For use at a mining activity site, the report shall include the mining permit number and the certification of the coal ash. For use at an abandoned mine site, the report shall include the identity of the reclamation contract with the Department or approval by the Department and the certification of the coal ash.

The Department is required under §§ 290.102(b) and 290.105(d) in the proposed rulemaking to publish a notice in the *Pennsylvania Bulletin* of each notice for use of coal ash as structural fill or at an abandoned mine site. (Note: The Department already is required to publish a notice in the *Pennsylvania Bulletin* under § 86.39(b)(2) for mining activity sites.)

The proposed rulemaking requires generators whose coal ash will be used at a coal mining activity site or an abandoned mine site to submit a request to the Department for certification of their coal ash. The request under § 290.201(c) must include contact information, identification of the beneficial uses for which certification is sought, a description of the generation process, fuel sources, chemical analysis and physical testing of the coal ash, and the physical and chemical characteristics of any material added to the coal ash. The proposed rulemaking also requires § 290.201(e) quarterly submittals by the generators that include chemical analysis are required in the proposed rulemaking and anytime there is a change in fuel source or in operation of the combustion unit and an annual report with coal ash volumes and locations where sent for beneficial use are required for the coal ash to remain certified. Both the generator of the coal ash and the person using it are required in the proposed rulemaking to report changes in information used to certify the coal ash and any evidence that it may no longer meet the certification requirements. The proposed rulemaking in § 290.201(d) requires the Department to notify the generator of their coal ash certification number or the reason it was not certified for beneficial use.

The proposed rulemaking in § 290.301(a) requires a water quality monitoring plan to be submitted by the person proposing to beneficially use or store coal ash for those uses or storage that requires water quality monitoring. The plan shall include the location and design of monitoring points, background samples, and quarterly monitoring. The proposed rulemaking

requires in § 290.301(h) quarterly submittal of the water quality monitoring data to the Department and in § 290.306 to retain water quality monitoring data and evaluations for at least 3 years after water quality monitoring ceases.

The proposed rulemaking requires an assessment plan to be submitted to the Department by the user of coal ash when a triggering event in § 290.304(a) occurs. The assessment plan is to include the number type, design and location of assessment points, sampling and analytical methods to be employed, the evaluation procedures to be utilized, an implementation schedule and the abatement standard that will be met. After implementation of an assessment plan, § 290.304(e) in the proposed rulemaking requires submission of a report to the Department that includes the data collected and its analysis and recommendations on abatement.

The proposed rulemaking requires an abatement plan to be submitted to the Department by the user of coal ash when a triggering event in § 290.305(a) occurs. The plan shall include the methods or techniques to abate water degradation and to prevent further degradation, and a schedule for implementation.

G. Pollution Prevention

The Federal Pollution Prevention Act of 1990 established a national policy that promotes pollution prevention as the preferred means for achieving state environmental protection goals. DEP encourages pollution prevention, which is the reduction or elimination of pollution at its source, through the substitution of environmentally-friendly materials, more efficient use of raw materials, or the incorporation of energy efficiency strategies. Pollution prevention practices can provide greater environmental protection with greater efficiency because they can result in significant cost savings to facilities that permanently achieve or move beyond compliance.

This proposed rulemaking will continue to assure that the citizens and the environment of this Commonwealth experience the advantage of our beneficial coal ash program. The proposed regulations move and expand the environmentally-friendly reuse of coal ash from a policy driven program to a program with a regulatory framework.

The proposed regulations include an enhanced coal ash certification standard. The water monitoring criteria for storage, reclamation and engineering sites that utilize coal ash have been expanded. Groundwater assessment procedures are provided and the requirements of an abatement plan have been outlined. Further, the regulations establish loading rates for coal ash as a soil amendment and engineering criteria for use as structural fill.

H. Sunset Review

This regulation will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulation effectively fulfills the goals for which it was intended.

I. Regulatory Review

In accordance with Section 5(a) of the Regulatory Review Act (71 P.S. §§ 745.5(a)), on

October 28, 2009, the Department submitted a copy of the proposed amendments to the Independent Regulatory Review Commission (IRRC) and the Chairpersons of the House and Senate Environmental Resources and Energy Committees. In addition to submitting the proposed amendments, the Department has provided IRRC and the Committees with a copy of a detailed regulatory analysis form prepared by the Department. A copy of this material is available to the public upon request.

Under Section 5(g) of the Regulatory Review Act, IRRC may convey any comments, recommendations or objections to the proposed rulemaking within 30 days after the close of the public comment period. The comments, recommendations or objections shall specify the regulatory review criteria that have not been met. The Regulatory Review Act specifies detailed procedures for review of these issues by the Department, the General Assembly and the Governor prior to final publication of the regulations.

J. Public Comments

Written Comments - Interested persons are invited to submit comments, suggestions or objections regarding the proposed rulemaking to the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477 (express mail: Rachel Carson State Office Building, 16th Floor, 400 Market Street, Harrisburg, PA 17101-2301). Comments submitted by facsimile will not be accepted. Comments, suggestions, or objections must be received by the Board by December 22, 2009. Interested persons may also submit a summary of their comments to the Board. The summary may not exceed one page in length and must also be received by December 22, 2009. The one-page summary will be provided to each member of the Board in the agenda packet distributed prior to the meeting at which the final regulation will be considered.

Electronic Comments - Comments may be submitted electronically to the Board at RegComments@state.pa.us and must also be received by the Board by December 22, 2009. A subject heading of the proposal and a return name and address must be included in each transmission. If an acknowledgement of electronic comments is not received by the sender within 2 working days, the comments should be retransmitted to the Board to ensure receipt.

K. Public Hearings

The Board will hold three public hearings for the purpose of accepting comments on this proposed rulemaking. The hearings will be held as follows:

December 7, 2009
1:00 p.m.

Department of Environmental Protection
Southwest Regional Office
Waterfront A and B Conference Rooms
400 Waterfront Drive
Pittsburgh, PA 15222-4745

December 8, 2009
1:00 p.m.

Department of Environmental Protection
Cambria District Office
286 Industrial Park Road

Ebensburg, PA 15931

December 9, 2009

1:00 p.m.

Department of Environmental Protection
Pottsville District Office
5 West Laurel Boulevard
Pottsville, PA 17901-2454

Persons wishing to present testimony at a hearing are requested to contact the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477, (717) 787-4526, at least 1 week in advance of the hearing to reserve a time to present testimony. Oral testimony is limited to 10 minutes for each witness. Witnesses are requested to submit three written copies of their oral testimony to the hearing chairperson at the hearing. Organizations are limited to designating one witness to present testimony on their behalf at each hearing.

Persons in need of accommodations as provided for in the Americans With Disabilities Act of 1990 should contact the Board at (717) 787-4526 or through the Pennsylvania AT&T Relay Service at (800) 654-5984 (TDD) to discuss how the Board may accommodate their needs.

BY:

JOHN HANGER
Chairperson
Environmental Quality Board

ANNEX A

CHAPTER 287. RESIDUAL WASTE MANAGEMENT—
GENERAL PROVISIONS

* * * * *

§ 287.1. Definitions.

The following words and terms, when used in this article, have the following meanings, unless the context clearly indicates otherwise:

* * * * *

Coal ash—Fly ash, bottom ash or boiler slag resulting from the combustion of coal, that is or has been beneficially used, reused or reclaimed for a commercial, industrial or governmental purpose. The term includes such materials that are stored, processed, transported or sold for beneficial use, reuse or reclamation. **[For purposes of this article, the term also includes fly ash, bottom ash or boiler slag resulting from the combustion of coal, that is not and has not been beneficially used, reused or reclaimed for a commercial, industrial or governmental purpose.]**

* * * * *

Solid waste—Waste, including, but not limited to, municipal, residual or hazardous waste, including solid, liquid, semisolid or contained gaseous materials. The term does not include coal ash that is beneficially used under **Chapter 290 [Subchapter H]** (relating to beneficial use **of coal ash**) or drill cuttings.

* * * * *

Structural fill—The engineered use of **[coal ash] material** as a base or foundation for a construction activity that is completed promptly after the placement of the **[coal ash] material**, including the use **[of coal ash]** as **[a]** backfill **[material]** for retaining walls, foundations, ramps or other structures. The term does not include valley fills or the use of **coal ash or** solid waste to fill open pits from coal or noncoal mining.

* * * * *

Water table—**The top of the saturated zone. The term includes the regional groundwater table, perched water tables, seasonal high water table, and the surface of mine pools.**

* * * * *

Subchapter H. BENEFICIAL USE

SCOPE

Sec.

287.601. Scope.

GENERAL PERMITS FOR PROCESSING OR BENEFICIAL USE, OR BOTH, OF RESIDUAL WASTE OTHER THAN CERTAIN USES OF COAL ASH AUTHORIZATION AND LIMITATIONS

287.611. Authorization for general permit.

287.612. Nature of a general permit; substitution for individual applications and permits.

ISSUANCE OF GENERAL PERMITS

287.621. Application for general permit.

287.622. Completeness review.

287.623. Public notice and review period.

287.624. Approval or denial of an application.

287.625. Department initiated general permits.

287.626. Permit renewal.

CONTENT OF GENERAL PERMITS AND WAIVERS

287.631. Contents of general permits.

287.632. Waiver and modification of requirements.

REGISTRATION AND DETERMINATION OF APPLICABILITY

287.641. Inclusion in a general permit.

287.642. Determination of applicability.

287.643. Registration.

287.644. [Reserved].

COMPLIANCE

- 287.651. Investigations and corrective action.
- 287.652. Compliance with permit conditions, regulations and laws.

[BENEFICIAL USE OF COAL ASH]

- 287.661. [Use of coal ash as structural fill.] Reserved.
- 287.662. [Use of coal ash as a soil substitute or soil additive.] Reserved.
- 287.663. [Beneficial use of coal ash at coal mining activity sites as coal mining activities are defined in § 86.1.] Reserved.
- 287.664. [Coal ash beneficial use at abandoned coal and abandoned noncoal surface mine sites.] Reserved.
- 287.665. [Other beneficial uses of coal ash.] Reserved.
- 287.666. [Requests for information.] Reserved.

SCOPE

§ 287.601. Scope.

(a) This subchapter sets forth requirements for the processing and beneficial use of residual waste[, **including coal ash, and sets forth requirements for certain beneficial uses of coal ash**]. Sections 287.611, 287.612, 287.621—287.625, 287.631, 287.632, 287.641—287.644, 287.651 and 287.652 establish procedures and standards for general permits for the beneficial use or processing of residual waste [**other than certain uses of coal ash, and § § 287.661—287.666 (relating to beneficial use of coal ash) establish procedures and standards for certain beneficial uses of coal ash**].

(b) An operation that is approved by or under this subchapter does not require an individual processing or disposal permit under this article. The requirements of Chapter 287, Subchapters A—G and Chapters 288, 289, 291, 293, 295, 297 and 299 are applicable to the extent required in § 287.632 (relating to waiver and modification of requirements).

* * * * *

[BENEFICIAL USE OF COAL ASH]

§ 287.661. [Use of coal ash as structural fill.] Reserved.

[(a) Coal ash may be beneficially used as a structural fill without a permit from the Department under the act if the person or municipality proposing the use complies with this section. Use of coal ash as a structural fill that is not consistent with this section requires a disposal permit from the Department under the act and the regulations promulgated thereunder.

(b) At least 60 days before using coal ash as a structural fill, the person or municipality proposing the use shall submit a written notice to the Department. The notice shall contain, at a minimum:

(1) A description of the nature, purpose and location of the project, including a topographic map showing the project and available soils maps of the area of the project.

(2) The estimated beginning and ending dates for the project.

(3) Construction plans for the structural fill, including a stability analysis when necessary, which shall be prepared by a registered professional engineer in accordance with sound engineering practice and which shall be signed and sealed by the engineer.

(4) An estimate of the volume of coal ash to be used for the project.

(5) A chemical and leaching analysis for the coal ash to be used in the project. If the coal ash was generated at a facility for which the Department has previously approved a chemical and leaching analysis, the person or municipality may submit a copy of the analysis that was approved.

(6) A signed statement by the owner of the land on which the structural fill is to be placed, acknowledging and consenting to the use of coal ash as structural fill.

(c) The Department will publish a summary of each notice in the *Pennsylvania Bulletin*.

(d) After receiving the information required by subsection (b), the Department may inform the person or municipality that provided the information whether the proposed structural fill is consistent with this section.

(e) Coal ash used as a structural fill will not be considered a beneficial use unless the following requirements are met:

(1) The person or municipality has provided to the Department the information required by subsection (b) at least 60 days before using coal ash as a structural fill.

(2) The pH of the coal ash shall be in the range of 6.0 to 9.0, unless otherwise approved by the Department.

(3) The slope of a structural fill may not be greater than 2.5 horizontal to 1.0 vertical. The Department may approve a greater slope based on a demonstration of structural stability.

(4) Coal ash shall be spread uniformly and compacted in layers not exceeding 2 feet in thickness.

(5) Surface runoff from the fill area shall be minimized during filling and construction activity. Collection of surface runoff shall be managed in accordance with The Clean Streams Law and the regulations promulgated thereunder.

(6) Surface water shall be diverted away from the disturbed area during filling and construction activity.

(7) Coal ash shall be covered with 12 inches of soil, unless infiltration is prevented by other cover material.

(8) Coal ash may not be placed in contact with the seasonal high water table.

(9) Coal ash may not be placed within 8 feet of the regional groundwater table.

(10) Coal ash may not be used as a structural fill in a way that causes water pollution.

(f) Structural fills may not be located:

(1) Within 100 feet of an intermittent or perennial stream, unless the structural fill is otherwise protected by a properly engineered diversion or structure that is permitted by the Department under the Dam Safety and Encroachments Act (32 P. S. §§ 693.1—693.27).

(2) Within 300 feet of a water source unless the operator obtains a waiver from the water source's owner, allowing for another distance.

(3) Within 25 feet of a bedrock outcrop, unless the outcrop is properly treated to minimize infiltration into fractured zones.

(4) Within 100 feet of a sinkhole or area draining into a sinkhole.

(5) Within a 100-year floodplain of a water of this Commonwealth, unless a properly engineered dike, levee or other structure that can protect the structural fill from a 100-year flood is permitted by the Department in a manner that is consistent with the Flood Plain Management Act (32 P. S. §§ 679.101—679.601), the Storm Water Management Act (32 P. S. §§ 680.1—680.17) and the Dam Safety and Encroachments Act (32 P. S. §§ 693.1—693.27).

(6) In or within 100 feet of a wetland.]

§ 287.662. [Use of coal ash as a soil substitute or soil additive.] Reserved.

[(a) Coal ash may be beneficially used as a soil substitute or soil additive without a permit from the Department under the act if the person or municipality proposing the use complies with this section.

(b) At least 60 days before using coal ash as a soil substitute or soil additive, the person or municipality proposing the use shall submit a written notice to the Department. The notice shall contain, at a minimum:

(1) A description of the nature, purpose and location of the project, including a topographic map showing the project area and available soils maps of the project area. The description shall include an explanation of how coal ash will be stored prior to use, how the soil will be prepared for the application of coal ash, how coal ash will be spread and, when necessary, how coal ash will be incorporated into the soil.

(2) The estimated beginning and ending dates for the project.

(3) An estimate of the volume of coal ash to be used for the project, the proposed application rate and a justification for the proposed application rate.

(4) A chemical and leaching analysis for the coal ash to be used in the project. If the coal ash was generated at a facility for which the Department has previously approved a chemical and leaching analysis, the person or municipality may submit a copy of the analysis that was approved.

(5) A chemical analysis of the soil on which the coal ash is proposed to be placed.

(6) An analysis showing how the application of coal ash will be beneficial to the productivity or properties of the soil to which it is proposed to be applied. The analysis shall be prepared and signed by an expert in soils science.

(7) A signed statement by the owner of the land on which the coal ash is to be placed, acknowledging and consenting to the use of coal ash as a soil substitute or soil additive.

(c) After receiving the information required by subsection (b), the Department may inform the person or municipality that provided the information whether the proposed use of coal ash as a soil substitute or soil additive is consistent with this section.

(d) Coal ash used as a soil substitute or soil additive may not be considered a beneficial use unless the following requirements are met:

(1) The person or municipality has provided to the Department the information required by subsection (b) at least 60 days before using coal ash as a soil substitute or soil additive.

(2) The pH of the coal ash and the pH of the soil shall be in the range of 6.5 to 8.0 when mixed together in the manner required by the project, as shown by field and laboratory testing. Lime addition may be used to raise pH.

(3) Surface runoff from the project area shall be controlled during the project. Collection of surface runoff shall be controlled in accordance with The Clean Streams Law and the regulations promulgated thereunder.

(4) Diversion ditches, terraces and other runoff control structures shall be utilized to control erosion on the disturbed area of the project.

(5) The person or municipality conducting the activity shall have a Department-approved erosion and sedimentation control plan under Chapter 102 (relating to erosion control).

(6) Coal ash may not be placed in contact with the seasonal high water table.

(7) Coal ash may not be placed within 8 feet of the regional groundwater table.

(8) Coal ash may not be used in a way that causes water pollution.

(9) Coal ash shall be incorporated into the soil within 48 hours of application, unless otherwise approved by the Department. The coal ash shall be incorporated into the top 1-foot layer of surface soil. If 1 foot of surface soil is not present, coal ash may be combined with the surface soil that is present until the layer of combined surface soil and coal ash is 1 foot. The coal ash required for the beneficial use is limited to the amount necessary to enhance soil properties or plant growth.

(10) Coal ash shall be applied at a rate per acre that will protect public health, public safety and the environment.

(11) Coal ash may not be applied to soil being used for agriculture where the soil pH is less than 5.5.

(12) Coal ash may not be applied if resultant chemicals or physical soil conditions would be detrimental to biota.

(e) Coal ash may not be used as a soil substitute or soil additive:

(1) Within 100 feet of an intermittent or perennial stream, or a wetland other than an exceptional value wetland.

(2) Within 300 feet of a water source unless the operator obtains a waiver from the water source's owner, allowing for another distance.

(3) Within 100 feet of a sinkhole or area draining into a sinkhole.

(4) Within 300 feet measured horizontally from an occupied dwelling, unless the current owner thereof has provided a written waiver consenting to the activities closer than 300 feet. The waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the current owner.

(5) In or within 300 feet of an exceptional value wetland.]

§ 287.663. [Beneficial use of coal ash at coal mining activity sites as coal mining activities are defined in § 86.1.] Reserved.

[(a) *Coal ash approval at coal mining activity sites.* Coal ash approval at coal mining activity sites shall, at a minimum, be based on the following:

(1) Coal ash may be used for beneficial use at coal mining activity sites if the use complies with this section, The Clean Streams Law and the regulations promulgated thereunder, the Surface Mining Conservation and Reclamation Act (52 P. S. §§ 1396.1—1396.19a), the Coal Refuse Disposal Control Act (52 P. S. § 30.51—30.66), the applicable provisions of Chapters 86—90, the Coal Ash Certification Guidelines (Certificate Guidelines) developed under this section and other applicable environmental statutes and regulations promulgated thereunder.

(2) The Department will develop Certification Guidelines that identify the acceptable physical and chemical characteristics of coal ash for beneficial uses. A generator of coal ash shall demonstrate that the coal ash quality meets the chemical and physical characteristics identified in the Certification Guidelines for the intended uses. The demonstration shall be reviewed and approved by the Department prior to a beneficial use.

(3) The Department will develop a technical guidance document to facilitate review of beneficial uses of coal ash at coal mining activities.

(b) *Request.* The request for use at coal mining activity sites shall be addressed in the reclamation plan of the mining activities permit and shall contain the following and shall be reviewed and approved by the Department:

(1) A narrative description of the project, including an explanation of how coal ash will be placed, where and how coal ash will be stored prior to placement, identification of the sources of coal ash and an estimate of the cubic yards of coal ash to be used. For the beneficial use of coal ash as a soil substitute or additive, the proposed application rate and justification for the application rate shall also be included.

(2) If the coal ash has not been certified under subsection (a)(2) by the Department, a statement signed by the generator of the coal ash including supporting data which demonstrates that the coal ash quality meets the chemical and physical characteristics identified in the Certification Guidelines for the intended use. If the coal ash has been certified in accordance with subsection (a)(2), information that identifies the generator and the certification number.

(3) A signed statement by the owner of the land on which the coal ash is to be placed, acknowledging and consenting to the placement of coal ash.

(c) *Operating requirements.* The use of coal ash as part of the mining reclamation activity shall be designed to achieve an overall improvement in water quality or shall be designed to prevent the degradation of water quality. Coal ash may be beneficially used for reclamation in the following situations:

(1) The pit or area from which coal is extracted under a surface coal mining permit.

(2) Abandoned coal mining areas located within the surface coal mining permit area.

(3) Coal refuse disposal sites.

(4) Other beneficial uses that are part of the approved reclamation plan of the coal mining activity.

(d) *Additional operating requirements for the placement of coal ash at coal surface mining and coal refuse reprocessing sites.* The following applies to placement of coal ash at coal surface mining and coal refuse reprocessing sites:

(1) Coal ash placed at a coal mining activity site may not exceed the volume of coal, coal refuse, culm or silt removed from the site by the active mining operation on a cubic yard basis unless more coal ash is needed to complete the reclamation plan of the surface mining activity permit.

(2) Placement of coal ash can be accomplished by mixing with spoil material or by spreading in horizontal layers. The reclamation plan of the approved permit shall address the placement of the coal ash.

(3) Groundwater monitoring at coal mining activity sites for the coal ash shall be in accordance with applicable provisions of Chapters 86—90.

(4) For coal refuse pile reprocessing sites where refuse material is presently deposited in large surface piles, the piles may not be rebuilt with coal ash. The placement of coal ash shall be accomplished in a manner which blends into the

general surface configuration, and complements the surface drainage pattern of the surrounding landscape.

(5) For multiple refuse pile reprocessing projects, the Department may allow at an individual refuse pile reprocessing site more coal ash used than coal refuse removed if:

(i) A single operator will control a project involving the coordinated use of multiple coal refuse sites.

(ii) A reclamation plan is approved for each of the sites and identifies the total cubic yards of coal ash that may be placed at each site.

(iii) The total cubic yards of coal ash placed on the sites is less than the total cubic yards of refuse, culm or silt removed from the sites. Only coal ash from the integrated project can be used.

(iv) The integrated project shall be designed to achieve an overall improvement of surface water or groundwater quality at each site, where acid mine drainage is evident. For instances in which there is no acid mine drainage, the project will be so designed to achieve no degradation of the surface or groundwater quality.

(v) The integrated project shall be accomplished in a manner which blends into the general surface configuration and complements the surface drainage pattern of the surrounding landscape.

(6) The coal ash may not be placed within 8 feet of the regional groundwater table unless the Department approves placement within 8 feet based upon a demonstration that groundwater contamination will not occur or that the Department approves this placement as part of a mine drainage abatement project.

(7) The coal ash shall meet the physical and chemical characteristics identified in the Certification Guidelines for the intended use.

(8) The operator shall maintain information concerning the sources and the cubic yards of coal ash used.

(e) *Additional operating requirements for the beneficial use of coal ash as a soil substitute or soil additive.* The following apply to the beneficial use of coal ash as a soil substitute or soil additive:

(1) Coal ash shall be applied at a rate per acre that will protect public health, safety and the environment.

(2) The coal ash that is applied will be part of the approved reclamation plan of the coal mining activity in order to increase the productivity or properties of the soil.

(f) *Additional operating requirements for the beneficial use of coal ash at coal refuse disposal sites.* The following apply to the beneficial use of coal ash at coal refuse disposal sites:

(1) Placement of coal ash as part of coal refuse disposal operations which are permitted under Chapters 86—90 shall be considered beneficial use if the following conditions are met:

(i) The cubic yards of coal ash does not exceed the total cubic yards of coal refuse to be disposed based on uncompacted volumes of materials received at the site, and only amounts necessary to meet subparagraph (iii) may be used.

(ii) The Department may allow cubic yards of coal ash to exceed the cubic yards of coal refuse to be disposed if the approved reclamation plan would require the additional cubic yards of coal ash to improve the quality of leachate generated by the coal refuse.

(iii) The coal ash has physical and chemical characteristics which:

(A) Improve compaction and stability within the fill.

(B) Reduce infiltration of water into coal refuse.

(C) Improve the quality of leachate generated by the coal refuse.

(iv) Groundwater monitoring shall be in accordance with the applicable provisions of Chapters 86—90.

(v) The coal ash may not be placed within 8 feet of the regional groundwater table, unless the Department approves placement within 8 feet based upon a demonstration that groundwater contamination will not occur.]

§ 287.664. [Coal ash beneficial use at abandoned coal and abandoned noncoal surface mine sites.] Reserved.

[(a) *Approval by Department.* Coal ash may be beneficially used at abandoned coal and abandoned noncoal surface mine sites if the reclamation work is approved by the Department or is performed under a contract with the Department. Coal ash approval shall, at a minimum, be based on the following:

(1) Beneficial use of the coal ash shall comply with this section, and the applicable environmental statutes and regulations promulgated thereunder.

(2) The Department will develop Coal Ash Certification Guidelines (Certification Guidelines) that identify the acceptable physical and chemical characteristics for beneficial uses of coal ash. A generator of coal ash shall demonstrate that the coal ash quality meets the chemical and physical characteristics identified in the Certification Guidelines for the intended uses. The demonstration shall be reviewed and approved by the Department prior to a beneficial use.

(3) The Department will develop a technical guidance document to facilitate review of beneficial uses of coal ash at abandoned mine sites.

(b) *Request.* The request for the use of coal ash at abandoned mine sites shall be addressed in the reclamation plan submitted to the Department and shall contain the following:

(1) A narrative description of the project, including an explanation of how coal ash will be placed, where and how coal ash will be stored prior to placement, identification of the sources of coal ash and an estimate of the cubic yards of coal ash to be used. For the beneficial use of coal ash as a soil substitute or additive, the proposed application rate and justification for the application rate shall also be included.

(2) If the coal ash has not been certified under subsection (a)(2) by the Department, a statement signed by the generator of the coal ash including supporting data which demonstrates that the coal ash quality meets the chemical and physical characteristics identified in the certification guidelines for the intended use. If the coal ash has been certified in accordance with subsection (a)(2) information that identifies the generator and the certification number.

(3) A signed statement by the owner of the land on which the coal ash is to be placed, acknowledging and consenting to the placement of coal ash.

(c) *Operating requirements.* The use of coal ash as part of the reclamation activity shall be designed to achieve an overall improvement in water quality or shall be designed to prevent the degradation of water quality or be designed to treat mine drainage or function as a soil substitute or soil additive.

(1) The cubic yards of coal ash to be used at any reclamation activity at an abandoned mine site will be determined by the Department. Consideration may be given to using up to the total volume needed to accomplish reclamation of the entire affected site, so that the final contours resulting from the project blend with the surrounding topography, promote positive surface water runoff and protect surface and groundwater quality.

(2) The necessity for water quality monitoring will be determined by the Department where the information is needed to evaluate the success of the reclamation project.

(3) The coal ash will not be placed within 8 feet of the regional groundwater table, unless the Department approves placement within 8 feet based upon a demonstration that groundwater contamination will not occur.

(4) For use of coal ash as a soil substitute or soil additive, the coal ash shall be applied at the rate per acre in order to increase the productivity or properties of the soil and to protect public health, safety and the environment.]

§ 287.665. [Other beneficial uses of coal ash.] Reserved.

[(a) This section sets forth beneficial uses of coal ash other than use as a structural fill, soil substitute or soil additive.

(b) The following uses of coal ash are deemed to be beneficial and do not require a permit from the Department under the act as long as the uses are consistent with the requirements of this section:

(1) The use of coal ash in the manufacture of concrete.

(2) The extraction or recovery of one or more materials and compounds contained within the coal ash.

(i) Storage of coal ash before and after extraction or recovery shall be subject to Chapter 299 (relating to storage and transportation of residual waste).

(ii) Disposal of the unrecovered fraction of coal ash shall be subject to the applicable requirements for residual waste.

(3) The use of fly ash as a stabilized product. Other uses of fly ash in which physical or chemical characteristics are altered prior to use or during placement shall be considered a beneficial use under this section if the following are met:

(i) The person or municipality proposing the use has first given advance written notice to the Department.

(ii) The coal ash is not mixed with solid waste, unless otherwise approved in writing by the Department prior to the use.

(iii) The use of the coal ash results in a demonstrated reduction of the potential of the coal ash to leach constituents into the environment.

(4) The use of bottom ash or boiler slag as an antiskid material or road surface preparation material, if the use is consistent with Department of Transportation specifications or other applicable specifications. The use of fly ash as an antiskid material or road surface preparation material is not deemed to be a beneficial use.

(5) The use of coal ash as raw material for a product with commercial value, including the use of bottom ash in construction aggregate. Storage of coal ash prior to processing is subject to § 299.153 (relating to storage and containment of coal ash).

(6) The use of coal ash for mine subsidence control, mine fire control and mine sealing, if the following requirements are met:

(i) The person or municipality proposing the use gives advance written notice to the Department.

(ii) The pH of the coal ash is in a range that will not cause or allow the ash to contribute to water pollution.

(iii) Use of the coal ash in projects funded by or through the Department is consistent with applicable Departmental requirements and contracts.

(7) The use of coal ash as a drainage material or pipe bedding, if the person or municipality proposing the use has first given advance written notice to the Department, and has provided to the Department an evaluation of the pH of the coal ash and a chemical analysis of the coal ash that meets the requirements of § 287.132 (relating to chemical analysis of waste).]

§ 287.666. [Requests for information.] Reserved.

[(a) The Department may request documents and other information from a person or municipality that are necessary to show whether the person or municipality is conducting or proposing to use coal ash in a manner that is consistent with this subchapter.

(b) Failure to have documentation of compliance with this subchapter available after initiation of a claimed beneficial use will give rise to a presumption that the person or municipality is disposing of residual waste without a permit.]

(Editor's Note: This chapter is new and is printed in regular type to enhance readability.)

CHAPTER 290. BENEFICIAL USE OF COAL ASH

Subchap.

Sec.

Subchapter A. GENERAL 290.1

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Subchapter A. GENERAL

Sec.

290.1 Scope.

§ 290.1. Scope.

- (a) This chapter sets forth requirements for beneficial use of coal ash.
- (b) If coal ash is mixed with residual waste or ash produced by co-firing coal or waste coal with an alternative fuel, the beneficial use must be authorized by a permit issued under this article and the requirements of this chapter must be met.
- (c) If coal ash is mixed with construction and demolition waste, the beneficial use must be authorized under a permit issued under Article VIII and the requirements of this chapter must be met.
- (d) Coal ash mixed with municipal waste, other than construction and demolition waste, shall not be beneficially used by direct placement into the environment. Other types of beneficial use of coal ash mixed with municipal waste may be authorized by a permit issued under Article VIII (relating to municipal waste) and any applicable requirements of this chapter must be met.

(e) Beneficial use activities that are subject to and meet the requirements of this chapter are not required to obtain an individual disposal permit under this article.

Subchapter B. BENEFICIAL USE OF COAL ASH

Sec.

- 290.101. General requirements for the beneficial use of coal ash.
- 290.102. Use of coal ash as structural fill.
- 290.103. Use of coal ash as a soil substitute or soil additive.
- 290.104. Beneficial use of coal ash at coal mining activity sites.
- 290.105. Coal ash beneficial use at abandoned coal surface mine sites.
- 290.106. Other beneficial uses of coal ash.
- 290.107. Requests for information.

§ 290.101. General requirements for the beneficial use of coal ash.

(a) Coal ash may be beneficially used without a permit from the Department under the act if the person proposing the use complies with this chapter. Use of coal ash that is not consistent with this chapter is considered disposal and must be authorized under a disposal permit from the Department under the act and the regulations promulgated thereunder.

(b) Chemical analysis must demonstrate that the coal ash does not exceed any of the maximum acceptable leachate levels in § 290.201(a) (relating to coal ash certification). The minimum sampling and analysis procedures must satisfy the requirements in § 290.201(c) (relating to coal ash certification). The Department may waive or modify this requirement for uses under § 290.106(b)(1)-(3) (relating to other beneficial uses of coal ash).

(c) The coal ash must satisfy the physical characteristics for the intended use in § 290.201(a) (relating to coal ash certification).

(d) A water quality monitoring plan in accordance with § 290.301 (relating to water quality monitoring) and, if applicable, Chapters 86—90 must be developed and implemented if either more than 10,000 tons of coal ash per acre is to be used on a project or more than 100,000 tons of coal ash in total will be used at a project. Contiguous projects will be considered a single project for purposes of this section. The Department may require a water quality monitoring plan for projects involving lesser quantities of coal ash where site conditions warrant. The Department may waive or modify this requirement for uses under § 290.106(b)(1)-(6) (relating to other beneficial uses of coal ash).

(e) Coal ash may not be placed within 8 feet of the water table, unless the Department approves placement within 8 feet at a coal mining activity site based upon a demonstration that groundwater contamination will not occur.

(f) Coal ash may not be used in a way that causes water pollution.

§ 290.102. Use of coal ash as structural fill.

(a) At least 60 days before using coal ash as structural fill, the person proposing the use shall submit a written notice to the Department. The notice must contain, at a minimum, the following information:

(1) A description of the nature, purpose and location of the project, including a topographic map showing the project and available soils maps of the area of the project.

(2) The estimated beginning and ending dates for the project.

(3) Construction plans for the structural fill, including a stability analysis when necessary, which shall be prepared by a registered professional engineer in accordance with sound engineering practices and which shall be signed and sealed by the engineer.

(4) An estimate of the volume of coal ash to be used for the project.

(5) A bulk chemical and leaching analysis for the coal ash to be used in the project. If the coal ash was generated at a facility for which the Department has previously approved a chemical and leaching analysis and the analysis is not older than 1 year, the person may submit a copy of the analysis that was approved.

(6) A signed statement by the owner of the land on which the structural fill is to be placed, acknowledging and consenting to the use of coal ash as structural fill.

(7) This statement by the landowner in (6) shall be a recordable document for any project, or set of contiguous projects involving placement of more than 10,000 tons of coal ash per acre. Prior to beneficial use of more than 10,000 tons of coal ash per acre under this section, the statement by the landowner shall be recorded at the office of the recorder of deeds in the county in which the proposed coal ash beneficial use will take place.

(b) The Department will publish a summary of each notice in the *Pennsylvania Bulletin*.

(c) A person proposing to use coal ash as structural fill where more than 10,000 tons of coal ash per acre is to be used on a project or more than 100,000 tons of coal ash in total will be used at a project shall place at the time of filing a request with the Department, an advertisement in a local newspaper of general circulation in the locality of the proposed coal ash beneficial use activities at least once a week for 3 consecutive weeks. Contiguous projects will be considered a single project for purposes of this section. The Department may require public notice for projects involving less than 10,000 tons of coal ash per acre if the Department determines that the proposed beneficial use activities are of significant interest to the public or site conditions warrant. At a minimum, the notice must contain the following information:

(1) The name and business address of the person proposing to beneficially use coal ash.

(2) A brief description of the location and scope of the proposed beneficial use.

(3) The location of the public office where a copy of the request that is being or was sent to the Department is available for public inspection.

(d) For coal ash to be beneficially used as a structural fill, the following additional requirements must be satisfied:

(1) The pH of the coal ash as placed must be in the range of 6.0 to 9.0, unless otherwise approved by the Department. Lime may be added to raise pH.

(2) The slope of a structural fill may not be greater than 2.5 horizontal to 1.0 vertical. The Department may approve a greater slope based on a demonstration of structural stability.

(3) Coal ash shall be spread uniformly and compacted in layers not exceeding 2 feet in thickness. The coal ash shall be spread and compacted within 24 hours of its delivery to the site unless stored in accordance with Subchapter E (relating to coal ash storage).

(4) Surface runoff from the fill area shall be minimized during filling and construction activity. Storm water shall be managed in accordance with The Clean Streams Law (35 P.S. §§ 691.1-691.1001) and the regulations promulgated thereunder.

(5) Surface water shall be diverted away from the disturbed area during filling and construction activity.

(6) Coal ash shall be covered with 12 inches of soil, unless infiltration is prevented by other cover material.

(7) Coal ash must achieve a minimum compaction of 90 % of the maximum dry density as determined by the Modified Proctor Test, or 95 % of the maximum dry density as determined by the Standard Proctor Test. Ash from each source must be tested individually. The Proctor Test must be conducted by a certified laboratory.

(8) The offsite dispersion of dust from coal ash and other materials shall be minimized.

(e) Coal ash used as structural fill may not be located:

(1) Within 100 feet of an intermittent or perennial stream, unless the structural fill is otherwise protected by a properly engineered diversion or structure that is permitted by the Department under the Dam Safety and Encroachments Act (32 P. S. §§ 693.1—693.27).

(2) Within 300 feet of a water supply unless the person obtains, in a form acceptable to the Department, a written waiver from the owner of the water supply, allowing for another distance.

(3) Within 25 feet of a bedrock outcrop, unless the outcrop is properly treated to minimize infiltration into fractured zones or otherwise approved by the Department.

(4) Within 100 feet of a sinkhole or area draining into a sinkhole.

(5) Within a 100-year floodplain of a water of this Commonwealth, unless a properly engineered dike, levee or other structure that can protect the structural fill from a 100-year flood is permitted by the Department in a manner that is consistent with the Flood Plain Management Act (32 P. S. §§ 679.101—679.601), the Storm Water Management Act (32 P. S. §§ 680.1—680.17) and the Dam Safety and Encroachments Act.

(6) In or within 100 feet of a wetland, other than an exceptional value wetland.

(7) In or within 300 feet of an exceptional value wetland.

(f) Prior to January 31, any person that placed more than 10,000 tons of coal ash per acre at any project or contiguous projects in the previous calendar year shall submit a report for the previous calendar year to the Department that includes contact information, the location of the site where the coal ash was utilized, the identity of each source of coal ash, and the volume in cubic yards and the weight in dry tons for each source.

§ 290.103. Use of coal ash as a soil substitute or soil additive.

(a) Coal ash may be beneficially used as a soil substitute or soil additive without a permit from the Department under the act if the person proposing the use complies with this section.

(b) At least 60 days before using coal ash as a soil substitute or soil additive, the person proposing the use shall submit a written notice to the Department. The notice must contain, at a minimum, the following information:

(1) A description of the nature, purpose and location of the project, including a topographic map showing the project area and available soils maps of the project area. The description must include an explanation of how coal ash will be stored prior to use, how the soil will be prepared for the application of coal ash, how coal ash will be spread and, when necessary, how coal ash will be incorporated into the soil.

(2) The estimated beginning and ending dates for the project.

(3) An estimate of the volume of coal ash to be used for the project, the proposed application rate and a justification for the proposed application rate.

(4) A chemical and leaching analysis and pH for the coal ash to be used in the project. If the coal ash was generated at a facility for which the Department has previously approved a chemical and leaching analysis and the analysis is not older than 1 year, the person may submit a copy of the analysis that was approved.

(5) A chemical analysis of the soil on which the coal ash is proposed to be placed.

(6) An analysis showing how the application of coal ash will be beneficial to the productivity or properties of the soil to which it is proposed to be applied. The analysis shall be prepared and signed by an expert in soil science.

(7) A signed statement by the owner of the land on which the coal ash is to be placed, acknowledging and consenting to the use of coal ash as a soil substitute or soil additive.

(c) After receiving the information required by subsection (b), the Department will inform the person that provided the information whether the proposed use of coal ash as a soil substitute or soil additive is consistent with this section.

(d) Coal ash used as a soil substitute or soil additive may not be considered a beneficial use unless the following requirements are met:

(1) The pH of the coal ash and the pH of the soil must be in the range of 6.5 to 8.0 when mixed together in the manner required by the project, as shown by field and laboratory testing. Lime may be added to raise pH.

(2) Chemical analysis demonstrates the coal ash satisfies the minimum calcium carbonate equivalency requirement in § 290.201(a) (relating to coal ash certification).

(3) Surface runoff from the project area shall be controlled during the project. Storm water shall be managed in accordance with The Clean Streams Law (35 P.S. §§ 691.1-691.1001) and the regulations promulgated thereunder.

(4) Coal ash shall be incorporated into the soil within 48 hours of application, unless otherwise approved by the Department. The coal ash shall be incorporated into the top 1-foot layer of surface soil. If 1 foot of surface soil is not present, coal ash may be combined with the surface soil that is present until the layer of combined surface soil and coal ash is 1 foot. The coal ash required for the beneficial use is limited to the amount necessary to enhance soil properties or plant growth.

(5) Coal ash shall be applied at a rate per acre that will protect public health, public safety and the environment.

(6) Coal ash may not be applied to soil being used for agriculture where the soil pH is less than 5.5.

(7) Coal ash may not be applied if resultant chemicals or physical soil conditions would be detrimental to biota.

(8) The offsite dispersion of dust from coal ash and other materials shall be minimized.

(e) Coal ash may not be used as a soil substitute or soil additive:

(1) Within 100 feet of an intermittent or perennial stream, or a wetland other than an exceptional value wetland.

(2) In or within 300 feet of an exceptional value wetland.

(3) Within 300 feet of a water supply unless the person obtains, in a form acceptable to the Department, a written waiver from the owner of the water supply, allowing for another distance.

- (4) Within 100 feet of a sinkhole or area draining into a sinkhole.
- (5) Within 300 feet measured horizontally from an occupied dwelling, unless the current owner has provided a written waiver consenting to the activities closer than 300 feet. The waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the current owner.
- (f) Coal ash must not be used as a soil substitute or soil amendment in amounts that exceed the following maximum cumulative loading rates:

<u>Contaminant</u>	<u>Cumulative Contaminant Loading Rate</u>	
arsenic	36 lbs/acre	(41 kg/hectare)
boron	60 lbs/acre	(67.2 kg/hectare)
cadmium	34 lbs/acre	(38 kg/hectare)
chromium	2672 lbs/acre	(3014 kg/hectare)
copper	1320 lbs/acre	(1490 kg/hectare)
lead	264 lbs/acre	(296 kg/hectare)
mercury	15 lbs/acre	(17 kg/hectare)
molybdenum	16 lbs/acre	(18 kg/hectare)
nickel	370 lbs/acre	(420 kg/hectare)
selenium	88 lbs/acre	(99 kg/hectare)
zinc	2464 lbs/acre	(2780 kg/hectare)

§ 290.104. Beneficial use of coal ash at coal mining activity sites.

(a) *Coal ash approval at coal mining activity sites.* Approval for the beneficial use of coal ash at coal mining activity sites as defined in § 86.1 (relating to definitions) will, at a minimum, be based on the following:

(1) Compliance with this section, The Clean Streams Law (35 P.S. §§ 691.1-691.1001) and the regulations promulgated thereunder, the Surface Mining Conservation and Reclamation Act (52 P. S. §§ 1396.1—1396.19a), the Coal Refuse Disposal Control Act (52 P. S. §§ 30.51—30.66), the applicable provisions of Chapters 86—90 (relating to surface and underground coal mining: general, surface mining of coal, anthracite coal, underground mining of coal and coal preparation facilities, and coal refuse disposal), and other applicable environmental statutes and regulations promulgated thereunder.

(2) Certification under § 290.201 (relating to coal ash certification) by the Department for the intended beneficial uses.

(3) Approval of a request submitted pursuant to subsection (b).

(b) *Request.* A person shall submit to the Department a request to beneficially use the certified coal ash at a specific coal mining activity site as part of the reclamation plan under the mining permit. This request must contain the permit filing fee in subsection (c) and, at a minimum, the following:

(1) A narrative description of the project, including an explanation of how coal ash will be placed, where and how coal ash will be stored prior to placement, identification of the sources of coal ash and an estimate of the cubic yards of coal ash to be used. For the beneficial use of coal ash as a soil substitute or additive, the proposed application rate and justification for the application rate shall also be included.

(2) Information demonstrating that the coal ash has been certified for its intended use in accordance with § 290.201, including the identity of the generator and the certification number.

(3) A signed statement by the owner of the land on which the coal ash is to be placed, acknowledging and consenting to the placement of coal ash. This statement by the landowner shall be a recordable document. Prior to beneficial use of coal ash under this section, the statement by the landowner shall be recorded at the office of the recorder of deeds in the county in which the proposed beneficial use of coal ash will take place.

(4) A monitoring plan that meets the requirements of §§ 290.301 - 290.306.

(c) *Permit filing fee.*

(1) A non-refundable permit filing fee payable to the "Commonwealth of Pennsylvania" for the beneficial use of coal ash at a coal mining activity site is to be paid annually in the amount of \$2,000. This annual filing fee is to be paid until final bond release for the coal mining activity site.

(2) Money received from the permit filing fee for the beneficial use of coal ash will be deposited in the Surface Mining Conservation and Reclamation Fund and will be used by the Department for the cost of reviewing, administering and enforcing the requirements of the authorization for beneficial use of coal ash under the coal mining activity permit.

(3) The Department will review the adequacy of the fees established in this section at least once every three years and provide a written report to the Environmental Quality Board. The report shall identify any disparity between the amount of program income generated by the fees and the costs to administer these programs, and it shall contain recommendations to adjust fees to eliminate the disparity, including recommendations for regulatory amendments to adjust program fees.

(d) *Public notice.* A person proposing to use coal ash at coal mining activity sites shall provide public notice pursuant to §§ 86.31 (relating to public notices of filing of permit applications) or 86.54; (relating to public notice of permit revision).

(e) *Operating requirements.* The beneficial use of coal ash for reclamation purposes at a coal mining activity site shall be designed to achieve an overall improvement in water quality or shall be designed to prevent the degradation of water quality. Coal ash shall only be beneficially used for reclamation at the following locations:

(1) The pit or area from which coal is extracted under a surface coal mining permit.

(2) Abandoned coal mining areas located within the surface coal mining permit area.

(3) Coal refuse disposal sites and coal refuse reprocessing sites.

(4) Other beneficial uses that are part of the approved reclamation plan at the coal mining activity site.

(f) *Additional operating requirements for the placement of coal ash at coal surface mining and coal refuse reprocessing sites.* The following applies to placement of coal ash at coal surface mining and coal refuse reprocessing sites:

(1) The volume of coal ash placed at the site may not exceed the volume of coal, coal refuse, culm or silt removed from the site by the active mining operation on a cubic yard basis unless approved by the Department.

(2) Placement of coal ash shall be accomplished by mixing with spoil material or by spreading in horizontal layers no greater than 2 feet thick unless otherwise approved by the Department. The reclamation plan of the approved mining permit must address the placement of the coal ash.

(3) The coal ash shall be spread and compacted within 24 hours of its delivery to the site unless stored in accordance with Subchapter E (relating to coal ash storage).

(4) Coal ash must achieve a minimum compaction of 90 % of the maximum dry density as determined by the Modified Proctor Test, or 95 % of the maximum dry density as determined by the Standard Proctor Test. Ash from each source must be tested individually. The Proctor Test

must be conducted by a certified laboratory on a semiannual basis unless the Department requires more frequent testing.

(5) For coal refuse reprocessing sites where refuse material is presently deposited in large surface piles, the piles must not be rebuilt with coal ash. The placement of coal ash shall be accomplished in a manner that blends into the general surface configuration, and complements the surface drainage pattern of the surrounding landscape.

(6) For a project involving multiple refuse reprocessing sites, the Department may allow a greater volume of coal ash to be placed at an individual site than the volume of coal refuse removed from that site if the following conditions are met:

(i) A single person shall control a project involving the coordinated use of multiple coal refuse reprocessing sites.

(ii) A reclamation plan is approved for each of the sites and each plan identifies the total cubic yards of coal ash that may be placed at each site.

(iii) The total cubic yards of coal ash placed on the sites is less than the total cubic yards of refuse, culm or silt removed from the sites. Only coal ash from the integrated project can be used.

(iv) The integrated project shall be designed to achieve an overall improvement of surface water or groundwater quality at each site, where acid mine drainage is evident. If acid mine drainage is not evident, the project shall be designed to prevent degradation of the surface or groundwater quality.

(v) The integrated project shall be accomplished in a manner that blends into the general surface configuration and complements the surface drainage pattern of the surrounding landscape.

(7) The person shall maintain information identifying the sources and the volume in cubic yards and the weight in dry tons of coal ash used.

(8) The site shall be monitored in accordance with the requirements of §§ 290.301 - 290.306.

(9) The offsite dispersion of dust from coal ash and other materials shall be minimized.

(g) *Additional operating requirements for the beneficial use of coal ash as a soil substitute or soil additive.* The following apply to the beneficial use of coal ash as a soil substitute or soil additive:

(1) Coal ash shall be applied at a rate per acre that will protect public health, public safety and the environment.

(2) The coal ash that is applied will be part of the approved reclamation plan of the coal mining activity in order to increase the productivity or properties of the soil.

(3) The coal ash is not used in amounts that exceed the maximum cumulative loading rates in § 290.103(f) (relating to use of coal ash as a soil substitute or soil additive).

(4) The offsite dispersion of dust from coal ash and other materials shall be minimized.

(h) *Additional operating requirements for the beneficial use of coal ash at coal refuse disposal sites.* The following apply to the beneficial use of coal ash at coal refuse disposal sites:

(1) Placement of coal ash as part of coal refuse disposal operations permitted under Chapters 86—90 (relating to surface and underground coal mining: general, surface mining of coal, anthracite coal, underground mining of coal and coal preparation facilities, and coal refuse disposal) must meet the following:

(i) The cubic yards of coal ash does not exceed the total cubic yards of coal refuse to be disposed based on uncompacted volumes of materials received at the site.

(ii) The coal ash has physical and chemical characteristics that meet the following requirements:

(A) Improve compaction and stability within the fill.

(B) Reduce infiltration of water into coal refuse.

(C) Improve the quality of leachate generated by the coal refuse.

(2) The offsite dispersion of dust from coal ash and other materials shall be minimized.

(i) *Additional coal ash sampling.* A person using coal ash at a coal mining activity site shall, each quarter that coal ash is being used at the site, sample the ash after it has been placed at the site and such sample shall be analyzed in accordance with section 290.201(c)(5). The results of the analysis shall be submitted quarterly to and in the format required by the Department.

(j) *Annual Report.* Prior to January 31, the permittee of a coal mining activity site where coal ash was placed in the previous calendar year shall submit a report for the previous calendar year to the Department that includes permit number, mining company contact information, the identity of each source of coal ash and its certification number, and the volume in cubic yards and the weight in dry tons for each source of coal ash that was placed at the site.

§ 290.105. Coal ash beneficial use at abandoned coal surface mine sites.

(a) *Department Approval.* Coal ash may be beneficially used at abandoned coal surface mine sites if the reclamation work is approved in writing by the Department. The beneficial use of coal ash at abandoned coal surface mine sites will, at a minimum, be based on the following:

(1) Beneficial use of the coal ash shall comply with this section, and the applicable environmental statutes and regulations promulgated thereunder.

(2) The coal ash is certified under § 290.201 (relating to coal ash certification) by the Department for the intended use.

(b) *Request.* The request for the use of coal ash at abandoned mine sites must contain the following:

(1) A narrative description of the project, including an estimated beginning date and ending date for the project, an explanation of how coal ash will be placed, where and how coal ash will be stored prior to placement, identification of the sources of coal ash and an estimate of the cubic yards of coal ash to be used. For the beneficial use of coal ash as a soil substitute or additive, the proposed application rate and justification for the application rate shall also be included.

(2) Information demonstrating that the coal ash has been certified for its intended use in accordance with § 290.201 (relating to coal ash certification), including the identity of the generator and the certification identity number.

(3) Reclamation plans, including a stability analysis, when necessary, prepared by a registered professional engineer in accordance with sound engineering practice and signed and sealed by the engineer.

(4) A signed statement by the owner of the land on which the coal ash is to be placed, acknowledging and consenting to the placement of coal ash. This statement by the landowner shall be a recordable document. Prior to beneficial use of coal ash under this section, the statement by the

landowner shall be recorded at the office of the recorder of deeds in the county in which the proposed coal ash beneficial use will take place.

(5) If applicable, water quality monitoring plan.

(6) A person proposing to use coal ash for reclamation involving use of more than 10,000 tons of coal ash per acre on a project or more than 100,000 tons of coal ash in total at any project shall place at the time of filing a request with the Department, an advertisement in a local newspaper of general circulation in the locality of the proposed coal ash beneficial use activities at least once a week for 3 consecutive weeks. Contiguous projects will be considered a single project for purposes of this section. The Department may require public notice for projects involving lesser amounts of coal ash if the Department determines that the proposed beneficial use activities are of significant interest to the public or site conditions warrant. At a minimum, the notice must contain the following information:

(i) The name and business address of the person proposing to beneficially use coal ash.

(ii) A brief description of the location and scope of the proposed beneficial use.

(iii) The location of the public office where a copy of the request that is being or was sent to the Department is available for public inspection.

(c) *Approved under contract.* Contracts issued by the Department for the reclamation of abandoned coal surface mine sites may include the beneficial use of coal ash. The beneficial use of coal ash for the reclamation of abandoned coal surface mine sites will, at a minimum, be based on the conditions established in § 290.105(a).

(d) *Department notification.* The Department will publish a summary of each request or contract in the *Pennsylvania Bulletin*.

(e) *Operating requirements.* The use of coal ash as part of the reclamation activity at abandoned coal surface mine sites must satisfy the following additional requirements:

(1) The pH of the coal ash as placed must be in the range of 6.0 to 9.0, unless otherwise approved by the Department. Lime may be added to raise pH.

(2) The slope of the reclaimed area may not be greater than 2.5 horizontal to 1.0 vertical. The Department may approve a greater slope based on a demonstration of stability.

(3) Coal ash shall be spread uniformly and compacted in layers not exceeding 2 feet in thickness. The coal ash shall be spread and compacted within 24 hours of its delivery to the site unless stored in accordance with Subchapter E (relating to coal ash storage).

(4) Surface runoff from the reclamation area shall be minimized during construction activity. Storm water shall be managed in accordance with The Clean Streams Law (35 P.S. §§ 691.1-691.1001) and the regulations promulgated thereunder.

(5) Surface water shall be diverted away from the disturbed area during construction activity.

(6) Coal ash shall be covered with 12 inches of soil, unless infiltration is prevented by other cover material.

(7) Coal ash must achieve a minimum compaction of 90 % of the maximum dry density as determined by the Modified Proctor Test, or 95 % of the maximum dry density as determined by the Standard Proctor Test. Ash from each source must be tested individually. The Proctor Test must be conducted by a certified laboratory.

(8) The offsite dispersion of dust from coal ash and other materials shall be minimized.

(9) Coal ash used for reclamation may not be located:

(i) Within 100 feet of an intermittent or perennial stream, unless the reclamation area is otherwise protected by a properly engineered diversion or structure that is permitted by the Department under the Dam Safety and Encroachments Act (32 P. S. §§ 693.1—693.27) or the ash has been placed as a low permeability material to function as an aquatard as part of an engineered stream channel restoration.

(ii) Within 300 feet of a water supply unless the person obtains, in a form acceptable to the Department, a written waiver from the owner of the water supply, allowing for another distance.

(iii) Within 100 feet of a sinkhole or area draining into a sinkhole.

(iv) Within a 100-year floodplain of a water of this Commonwealth, unless a properly engineered dike, levee or other structure that can protect the reclamation area from a 100-year flood is permitted by the Department in a manner that is consistent with the Flood Plain Management Act (32 P. S. §§ 679.101—679.601), the Storm Water Management Act (32 P. S. §§ 680.1—680.17) and the Dam Safety and Encroachments Act.

(v) In or within 100 feet of a wetland, other than an exceptional value wetland.

(vi) In or within 300 feet of an exceptional value wetland.

(10) The following apply to the beneficial use of coal ash as a soil substitute or soil additive:

(i) Coal ash shall be applied at a rate per acre that will protect public health, public safety and the environment.

(ii) The coal ash that is applied will be part of the approved reclamation plan in order to increase the productivity or properties of the soil.

(iii) The coal ash is not used in amounts that exceed the maximum cumulative loading rates in § 290.103(f) (relating to use of coal ash as a soil substitute or soil additive).

(f) *Annual Report.* Prior to January 31, any person that placed coal ash at an abandoned mine site in the previous calendar year shall submit a report for the previous calendar year to the Department that includes company contact information, the identity of the reclamation contract with the Department or approval by the Department, the identity of each source of coal ash and its certification identity number, and the volume in cubic yards and the weight in dry tons for each source of coal ash that was placed at the site.

§ 290.106. Other beneficial uses of coal ash.

(a) This section sets forth beneficial uses of coal ash other than use as a structural fill, soil substitute or soil additive.

(b) The following uses of coal ash are deemed to be beneficial and do not require a permit from the Department under the act provided the uses are consistent with the requirements of this section:

(1) The use of coal ash in the manufacture of concrete. The coal ash shall be utilized within 24 hours of its delivery to the site unless stored in accordance with Subchapter E (relating to coal ash storage).

(2) The extraction or recovery of one or more materials and compounds contained within the coal ash if the following conditions are met:

(i) Storage of coal ash before and after extraction or recovery shall be subject to Subchapter E (relating to coal ash storage).

(ii) Disposal of the unrecovered fraction of coal ash shall be subject to the applicable requirements for residual waste.

(3) The use of fly ash as a stabilized product. Other uses of fly ash in which physical or chemical characteristics are altered prior to use or during placement will be considered a beneficial use under this section if the following conditions are met:

(i) The person proposing the use has first given advance written notice to the Department.

(ii) The coal ash is not mixed with solid waste, unless otherwise approved, in writing, by the Department prior to the use.

(iii) The use of the coal ash results in a demonstrated reduction of the potential of the coal ash to leach constituents into the environment.

(4) The use of bottom ash or boiler slag as an antiskid material or road surface preparation material, if the use is consistent with Department of Transportation specifications or other applicable specifications. The use of fly ash as an antiskid material or road surface preparation material is not deemed to be a beneficial use.

(5) The use of coal ash as raw material for a product with commercial value, including the use of bottom ash in construction aggregate. Storage of coal ash prior to processing is subject to Subchapter E (relating to coal ash storage).

(6) The use of coal ash as a drainage material or pipe bedding, if the person proposing the use has first given advance written notice to the Department, and has provided to the Department an evaluation of the pH of the coal ash and a chemical analysis of the coal ash.

(7) The use of coal ash for mine subsidence control, mine fire control and mine sealing, if the following requirements are met:

(i) The person proposing the use gives advance written notice to the Department.

(ii) The pH of the coal ash is in a range that will not cause or allow the ash to contribute to water pollution.

(iii) Use of the coal ash in projects funded by or through the Department is consistent with applicable Departmental requirements and contracts.

(iv) The coal ash shall be utilized within 24 hours of its delivery to the site unless stored in accordance with Subchapter E (relating to coal ash storage):

§ 290.107. Requests for information.

(a) The Department may request documents and other information from a person to demonstrate that the person is conducting or proposing to use coal ash in a manner that is compliant with this subchapter.

(b) Failure to have documentation of compliance with this subchapter may lead to a presumption that the person is disposing of residual waste without a permit.

Subchapter C. COAL ASH CERTIFICATION

Sec.

290.201. Coal ash certification.

290.202. Revocation of certification.

290.203. Exceedance of certification requirements.

§ 290.201. Coal ash certification.

(a) Certification standards are as follows:

(1) Maximum acceptable leachate levels for certification:

(i) For metals and other cations, 25 times the waste classification standard for a contaminant.

(ii) For contaminants other than metals and cations, the waste classification standard for a contaminant.

(2) The pH of the coal ash must be above 7.0 for mine backfilling, alkaline addition, or use as low-permeability material.

(3) For coal ash used as an alkaline additive, whether as a placement fill or as an alkaline soil additive, the calcium carbonate equivalency, as determined by the Neutralization Potential Test in the Department's *Overburden Sampling and Testing Manual* (Noll, et al., 1988) or other method approved by the Department, must be a minimum of 100 parts per thousand (10 % by weight).

(4) For coal ash used as a low permeability material, the hydraulic conductivity (permeability) of the coal ash must be 1.0×10^{-6} cm/sec or less based on hydraulic

conductivity testing using ASTM D 5084 (Standard Test Method for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Perimeter) or other method approved by the Department. An additive may be used with the coal ash to meet this hydraulic conductivity. Hydraulic conductivity testing should use compaction and other preparation techniques that will duplicate the expected conditions at the mine site.

(b) Certification may be granted for use of a coal ash not meeting all the appropriate standards in subsection (a) if the following conditions are met:

(1) The coal ash will be used only at a specified mine site(s). The coal ash certification is limited for use only at the specified site.

(2) Only standards based on secondary MCLs (aluminum, chloride, iron, manganese, sulfate, silver and zinc) are exceeded. All other limits shall be met.

(3) The mine site operator can demonstrate that use of the coal ash at these levels will not adversely impact the surface water or groundwater quality and that the use of the coal ash will achieve an overall benefit in groundwater quality.

(c) A request for coal ash certification must contain the following information on a form provided by the Department:

(1) The name and location of the generator of the coal ash.

(2) Designation of the beneficial use or uses for which certification is requested

(3) A description of the coal ash generation process specific to the generator, including the combustion and pollution control processes, the fuel sources utilized, and the expected percentages of coal ash derived from different processes that will be incorporated into the final coal ash stream to be delivered to the beneficial use site.

(4) A description of the physical properties and chemical characteristics of any material mixed with the coal ash, the extent of mixing, and the mixing methods used.

(5) A detailed chemical analysis on at least four (4) representative samples spaced throughout a 2- 6-month sampling period within the last year that fully characterizes the composition of the coal ash. This analysis must include:

(i) Total and leachable concentrations for aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, sulfate, thallium, vanadium and zinc and leachable concentrations for ammonia, chloride, fluoride, nitrate and nitrite using methods found in EPA's "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (EPA Publication No. SW-846) or comparable methods approved by the Department. Leachate concentrations shall be determined using EPA Method 1312, the Synthetic Precipitation Leaching Procedure, or another leaching procedure approved by the Department.

(ii) Information to show that the laboratory making a chemical analysis for the application is in compliance with 27 Pa. C.S. Chapter 41 (relating to environmental laboratory accreditation).

(6) A laboratory analysis for optimum moisture content and dry density (Standard or Modified Proctor Test).

(7) An analysis of permeability reported in cm/sec.

(8) A determination of neutralization potential as determined by the Neutralization Potential Test in the Department's *Overburden Sampling and Testing Manual* (Noll, et al., 1988) or other method approved by the Department.

(9) A detailed description of the sampling methodology used, date the samples were taken, and name and contact information of the person performing the sampling.

(10) Other physical testing results, if required in subsection (a) for the particular beneficial uses being proposed.

(d) The Department will review the certification request and notify the generator in writing of the certification identity number or the reason that the source was not certified for beneficial use.

(e) If the coal ash is certified, a representative of the coal ash source generator shall submit regular monitoring information to demonstrate that the coal ash continues to meet the requirements for certification. This information shall be submitted on dates specified by and on forms provided by the Department. At a minimum, monitoring requirements shall consist of the following:

(1) At least one representative sample analysis of the coal ash submitted every three months.

(2) A representative sample analysis collected whenever there is a change in operation of the combustion unit generating the coal ash or a significant change in the fuel source.

(3) Prior to January 31, a yearly report, that includes the volume in cubic yards and the weight in dry tons of ash produced for beneficial use in the previous calendar year and the locations, such as mine sites, where the ash was delivered.

(f) The coal ash generator and the person beneficially using the coal ash must notify the Department of any changes to the information filed in the certification application or of any evidence that the coal ash may not meet certification requirements.

§ 290.202. Revocation of certification.

(a) The Department will revoke certification for a source of coal ash if any of the following occur:

(1) The generator fails to comply with monitoring requirements as described in § 290.201(e).

(2) The results from the analyses of the coal ash consistently exceed the certification criteria.

(3) There are physical or chemical characteristics that make the coal ash unsuitable for beneficial use.

(b) If certification is revoked, the coal ash cannot be used at a coal mining activity site or an abandoned coal surface mine site in the Commonwealth unless the coal ash generator requests re-certification under subsection (c) and the coal ash is re-certified by the Department.

(c) The generator of coal ash that had its certification revoked may request re-certification. For certification to be reinstated, the generator shall demonstrate to the Department's satisfaction that:

(1) A detailed chemical analysis on three recent monthly representative samples establish that the coal ash meets the certification requirements.

(2) There are no other physical or chemical characteristics that make the coal ash unsuitable for beneficial use.

§ 290.203. Exceedance of certification requirements.

If the coal ash sample analysis results exceed any certification requirement, this source may continue to be used if the person can

demonstrate to the Department's satisfaction that the exceedance was a rare event and is not a typical representation of the coal ash as a whole. This demonstration shall include comparisons with prior coal ash analyses, a new sampling strategy and new sample analyses. The demonstration shall explain the cause of any high value and how this type of event will be avoided in the future.

Subchapter D. WATER QUALITY MONITORING

Sec.

- 290.301. Water quality monitoring.
- 290.302. Number, location and depth of monitoring points.
- 290.303. Standards for wells and casing of wells.
- 290.304. Assessment plan.
- 290.305. Abatement plan.
- 290.306. Recordkeeping.

§ 290.301. Water quality monitoring.

(a) A water quality monitoring plan shall be submitted to the Department for approval prior to placement or storage of coal ash at the sites identified in §§ 290.101(d), 290.104, 290.405(d) or 290.411(e) (relating to general requirements for the beneficial use of coal ash, storage piles – operating requirements and surface impoundments - operating requirements). At a minimum, the plan must include the following information:

- (1) The location and design of downgradient and upgradient monitoring points.
- (2) A minimum of 12 background samples from each monitoring point taken at monthly intervals prior to placement of coal ash, unless a different number or frequency is approved by the Department.
- (3) Samples to be taken quarterly after approval from each monitoring point, unless a different number or frequency is approved by the Department.

(b) The person taking the samples and the laboratory performing the analysis required by subsection (a) shall employ the quality assurance/quality control procedures described in the EPA's "Handbook for Analytical Quality Control in Water and Wastewater Laboratories" (EPA 600/4-79-019) or "Test Methods for Evaluating Solid Waste" (SW-846).

(c) The analytical methodologies used to meet the requirements of subsection (a) must be those in the most recent edition of the EPA's "Test Methods for Evaluating Solid Waste" (SW-846), "Methods for Chemical Analysis of Water and Wastes" (EPA 600/4-79-020), "Standard Methods for Examination of Water

and Wastewater,” prepared and published jointly by the American Public Health Association, American Waterworks Association, and Water Pollution Control Federation or a comparable method approved by the EPA or the Department. The laboratory making any chemical analysis for water quality monitoring must be in compliance with 27 Pa. C.S. Chapter 41 (relating to environmental laboratory accreditation).

(d) All samples shall be analyzed for pH (determined in the field), temperature (determined in the field), specific conductance (at 25° C; determined in the field), alkalinity, acidity, sulfate, chloride, fluoride, nitrate, nitrite, ammonia, and total suspended solids without filtration.

(e) All samples shall be analyzed for total and dissolved aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc. In addition, the static water elevation for monitoring wells and the flow for springs, seeps and mine discharges must be measured.

(f) Additional parameters may be required by the Department based on conditions at the site.

(g) Water quality monitoring shall continue quarterly for a minimum of 5 years after final placement or storage of coal ash at the site, and annually thereafter from the end of year 5 through 10 years after final placement or storage of coal ash at the site. The Department may require more frequent or longer water quality monitoring if the results of water quality monitoring indicate that contamination may be occurring.

(h) Water quality monitoring data shall be submitted quarterly to and in the format required by the Department.

(i) The person required to develop and implement a water quality monitoring plan in accordance with § 290.101(d) (relating to water quality monitoring) shall demonstrate attainment with applicable groundwater or surface water remediation standards as required in the event of groundwater or surface water degradation attributable to the placement of the coal ash. The applicable groundwater remediation standards are identified in §§ 290.304 and 290.305 (relating to assessment plan; and abatement plan).

§ 290.302. Number, location and depth of monitoring points.

(a) The water quality monitoring system shall accurately characterize groundwater flow, groundwater chemistry and flow systems on the site and adjacent area. The system must consist of the following:

(1) At least one monitoring well at a point hydraulically upgradient from the coal ash placement area in the direction of increasing static head that is capable of providing representative data of groundwater not affected by placement of coal ash, except when the coal ash placement area occupies the most upgradient position in the flow system. In that case, sufficient downgradient monitoring points shall be placed to determine the extent of adverse effects on groundwater from the coal ash placement.

(2) At least three groundwater monitoring points hydraulically downgradient in the direction of decreasing static head from the area in which coal ash has been or will be placed. The Department at its discretion may accept two downgradient monitoring points on small sites that can be well represented by two points. The Department may allow one or more springs, seeps and mine discharges to substitute for wells if these points are hydraulically downgradient from the area in which coal ash has been or will be placed and if these points will be as effective or more effective at monitoring the ash placement area than wells. Downgradient monitoring points must be hydrologically connected to the area of ash placement, and must be located and constructed so as to detect any chemical influence of the ash placement area. The downgradient points must be proximate enough to detect contaminants within the life of the placement operation. All monitoring points must be developed and protected in a manner approved by the Department. In addition to groundwater monitoring points the Department may require downstream monitoring where downstream monitoring is likely to show any chemical influence that the ash placement area may have on the hydrologic regime.

(3) Surface water monitoring points approved by the Department.

(b) The upgradient and downgradient monitoring wells shall be:

(1) Sufficient in number, location and depth to be representative of water quality.

(2) Located so as not to interfere with routine operations at the site.

(3) Located within 200 feet of the coal ash placement area, except as necessary to comply with subsection (c), and located at the points of compliance.

(c) In addition to the requirements of subsection (b), upgradient monitoring points shall be located so that they will not be affected by effects on groundwater or surface water from the ash placement area.

(d) In addition to the requirements of subsection (b), downgradient monitoring points shall be located so that they will provide early detection of effects on groundwater or surface water from the coal ash placement area.

(e) Wells drilled under this section shall be drilled by drillers licensed under the Water Well Drillers License Act (32 P. S. §§ 645.1—645.13).

(f) The well materials shall be decontaminated prior to installation.

§ 290.303. Standards for wells and casing of wells.

(a) A monitoring well shall be cased as follows:

(1) The casing shall maintain the integrity of the monitoring well borehole and shall be constructed of material that will not react with the groundwater being monitored.

(2) The minimum casing diameter shall be 4 inches unless otherwise approved by the Department in writing.

(3) The well shall be constructed with a screen that meets the following requirements:

(i) The screen shall be factory-made.

(ii) The screen may not react with the groundwater being monitored.

(iii) The screen shall maximize open area to minimize entrance velocities and allow rapid sample recovery.

(4) The well shall be filter-packed with chemically inert clean quartz sand, silica or glass beads. The material shall be well-rounded and dimensionally stable.

(5) The casing shall be clearly visible and protrude at least 1 foot aboveground, unless the Department has approved flush mount wells.

(6) The annular space above the sampling depth shall be sealed to prevent contamination of samples and the groundwater.

(7) The casing shall be designed and constructed to prevent cross contamination between surface water and groundwater.

(8) Alternative casing designs for wells in stable formations may be approved by the Department.

(b) Monitoring well casings shall be enclosed in a protective casing that must:

(1) Be of sufficient strength to protect the well from damage by heavy equipment and vandalism.

(2) Be installed for at least the upper 10 feet of the monitoring well, as measured from the well cap, with a maximum stick up of 3 feet, unless otherwise approved by the Department in writing.

(3) Be grouted and placed with a concrete collar at least 3 feet deep to hold it firmly in position.

(4) Be numbered for identification with a label capable of withstanding field conditions and painted in a highly visible color.

(5) Protrude above the monitoring well casing.

(6) Have a locked cap.

(7) Be made of steel or other material of equivalent strength.

§ 290.304. Assessment plan.

(a) A person shall prepare and submit to the Department an assessment plan within 60 days after one of the following occurs:

(1) Data obtained from monitoring by the Department or the person indicates a significant change in the quality of groundwater or surface water from background levels determined under § 290.301(a)(2) (relating to water quality monitoring) at any downgradient monitoring point.

(2) Laboratory analysis of one or more public or private water supplies indicates groundwater or surface water contamination that could reasonably be attributed to the coal ash placement.

(b) The person is not required to conduct an assessment under this section if one of the following applies:

(1) Within 10 working days after receipt of sample results indicating groundwater or surface water degradation, the person resamples the affected monitoring points and analysis from resampling shows, to the Department's satisfaction, that groundwater or surface water degradation has not occurred.

(2) Within 20 working days after receipt of sample results indicating groundwater or surface water degradation, the person demonstrates that the degradation was caused entirely by seasonal variations or activities unrelated to coal ash placement.

(c) The assessment plan shall specify the manner in which the person will determine the existence, quality, quantity, areal extent and depth of groundwater or surface water degradation and the rate and direction of migration of

contaminants. An assessment plan shall be prepared and sealed by an expert in the field of hydrogeology who is a licensed professional geologist in the Commonwealth. The plan must contain the following information:

(1) For wells, lysimeters, borings, pits, piezometers, springs, seeps, mine discharges and other assessment structures or devices, the number, location, size, casing type and depth, as appropriate. If the assessment points are wells, they shall be constructed in accordance with §§ 290.302 and 290.303 (relating to number location and depth of monitoring points; and standards for wells and casing of wells).

(2) The sampling and analytical methods for the parameters to be evaluated.

(3) The evaluation procedures, including the use of previously gathered groundwater or surface water quality and quantity information, to determine the concentration, rate and extent of groundwater or surface water degradation from the facility.

(4) An implementation schedule.

(5) Identification of the abatement standard that will be met.

(d) The assessment plan shall be implemented upon approval by the Department in accordance with the approved implementation schedule, and shall be completed in a reasonable time not to exceed 6 months, unless otherwise approved by the Department. If the Department determines that the proposed plan is inadequate, it may modify the plan and approve the plan as modified. If the groundwater or surface water assessment indicates that contamination is leaving the coal ash placement site, the person shall notify, in writing, each owner of a private or public water supply that is located within 1/2-mile downgradient of the coal ash placement area that an assessment has been initiated.

(e) Within 45 days after the completion of the assessment plan, the person shall submit a report containing the new data collected, analysis of the data and recommendations on the necessity for abatement.

(f) If the Department determines after review of the assessment report that implementation of an abatement plan is not required by § 290.305 (relating to abatement plan), the person shall submit a revised water quality monitoring plan to the Department for approval that contains any necessary changes to the plan and an application for permit modification, if applicable. The person shall implement the modifications within 30 days of the Department's approval.

(g) This section does not prevent the Department from requiring or the person from conducting abatement or water supply replacement concurrently with or prior to implementation of the assessment.

§ 290.305. Abatement plan.

(a) The person that is required to conduct water quality monitoring as part of coal ash beneficial use or storage shall prepare and submit to the Department an abatement plan whenever one of the following occurs:

(1) The assessment plan prepared and implemented under § 290.304 (relating to assessment plan) shows the presence of groundwater or surface water degradation for one or more contaminants at one or more monitoring points and the analysis under § 290.304(c) indicates that an abatement standard under subsection (c) will not be met.

(2) Monitoring by the Department or person shows the presence of an abatement standard exceedance from one or more compliance points as indicated in subsection (c) even if a assessment plan has not been completed. The person is not required to implement an abatement plan under this paragraph if the following apply:

(i) Within 10 days after receipt of sample results showing an exceedance of an abatement standard at a point of compliance described in subsection (c), the person resamples the affected monitoring points.

(ii) Analysis from resampling shows to the Department's satisfaction that an exceedance of an abatement standard has not occurred.

(b) An abatement plan shall be prepared and sealed by an expert in the field of hydrogeology who is a licensed professional geologist in the Commonwealth. The plan shall contain the following information:

(1) The specific methods or techniques to be used to abate groundwater or surface water degradation at the facility.

(2) The specific methods or techniques to be used to prevent further groundwater or surface water degradation from the facility.

(3) A schedule for implementation.

(c) If abatement is required in accordance with subsection (a), the person shall demonstrate compliance with one or more of the following standards at the identified compliance points:

(1) For constituents for which statewide health standards exist, the statewide health standard for that constituent at and beyond 500 feet of the perimeter of the permitted coal ash placement area or at and beyond the property boundary, whichever is closer.

(2) The background standard for constituents at and beyond 500 feet of the perimeter of the permitted coal ash placement area or at and beyond the property boundary, whichever is closer. Load-based standards at groundwater discharge points are acceptable if the permit was issued under Chapter 87, Subchapter F or Chapter 88, Subchapter G (relating to surface coal mines: minimum requirements for remaining areas with pollutional discharges; and anthracite surface mining activities and anthracite bank removal and reclamation activities: minimum requirements for remaining areas with pollutional discharges).

(3) For constituents for which no primary MCLs under the Federal and State Safe Drinking Water Acts (42 U.S.C.A. §§ 300f—300j-18; and 35 P. S. §§ 721.1—721.17) exist, the risk-based standard at and beyond 500 feet of the perimeter of the permitted coal ash placement area or at and beyond the property boundary, whichever is closer, if the following conditions are met:

(i) The risk assessment used to establish the standard assumes that human receptors exist at the property boundary.

(ii) The level is derived in a manner consistent with Department guidelines for assessing the health risks of environmental pollutants.

(iii) The level is based on scientifically valid studies conducted in accordance with good laboratory practice standards (40 CFR Part 792 (relating to good laboratory practice standards)) promulgated under the Toxic Substances Control Act (15 U.S.C.A. §§ 2601—2692) or other scientifically valid studies approved by the Department.

(iv) For carcinogens, the level represents a concentration associated with an excess lifetime cancer risk level of 1×10^{-5} at the property boundary.

(d) For measuring compliance with secondary contaminants under subsections (c)(1) or (c)(3), the Department may approve a compliance point beyond 500 feet on land owned by the owner of the coal ash placement area.

(e) The abatement plan shall be completed and submitted to the Department for approval within 90 days of the time the obligation arises under this section unless the date is otherwise modified, in writing, by the Department.

(f) If the Department determines that the proposed plan is inadequate, the Department may modify the plan and approve the plan as modified or require the submission of an approvable modification.

(g) The abatement plan shall be implemented within 60 days of approval by the Department in accordance with the approved implementation schedule.

(h) If, after plan approval or implementation, the Department finds that the plan is incapable of achieving the groundwater or surface water protection contemplated in the approval, the Department may issue one or more of the following:

(1) An order requiring the person to submit proposed modifications to the abatement plan.

(2) An order requiring the person to implement the abatement plan as modified by the Department.

(3) Another order the Department deems necessary to aid in the enforcement of the acts.

§ 290.306. Recordkeeping.

A person subject to the requirements of this subchapter shall retain records of analyses and evaluations of monitoring data and groundwater elevations required under this subchapter for a minimum of 3 years after water quality monitoring ceases and shall make the records available to the Department upon request.

Subchapter E. COAL ASH STORAGE

Sec.

290.401. Design and operation.

290.402. Duration of storage.

290.403. Surface and groundwater protection.

290.404. Areas where coal ash storage is prohibited.

290.405. Storage piles—general requirements.

290.406. Storage piles—storage pad or liner system.

290.407. Storage piles—leachate and runoff control.

290.408. Storage impoundments—scope.

290.409. Storage impoundments—general requirements.

290.410. Storage impoundments—design requirements.

290.411. Storage impoundments—operating requirements.

290.412. Storage impoundments—failure.

290.413. Storage impoundments—inspection.

290.414. Storage areas—closure.

§ 290.401. Design and operation.

(a) A person storing coal ash shall employ best engineering design and construction practices for all phases of construction and operation.

(b) A person may not store coal ash in a manner that exceeds the design capacity of the storage facility.

(c) The Department may require a person to install a water quality monitoring system in accordance with Subchapter D (relating to water quality monitoring) if storage of the coal ash has the potential to cause groundwater degradation.

(d) A person storing coal ash shall routinely inspect the facility, its equipment and the surrounding area for evidence of failure and shall immediately take necessary corrective actions. The person shall maintain records of inspections and corrective actions that were taken for a minimum of 3 years, and make the records available to the Department upon request.

§ 290.402. Duration of storage.

(a) Except as provided in subsection (b) or (c), coal ash may not be stored at the immediate area where it will be put to beneficial use for a longer period of time than necessary to complete the project or 90 days, whichever is less, unless the Department approves a different period in writing.

(b) Bottom ash being stored for use as antiskid material may be stored in areas adjacent to roads or highways for a period of more than 90 days without Department approval if the following conditions are met:

(1) A significant quantity of the bottom ash is used annually for antiskid material.

(2) Bottom ash is stored on an impermeable floor or pad, and it is stored either in an enclosed facility or an area where runoff is collected or treated. The Department may waive or modify, in writing, this requirement if there is no runoff from the storage.

(c) Coal ash may not be stored at another area as follows:

(1) For more than 1 year unless a minimum of 75% of the volume of the ash being stored is processed for beneficial use in the previous year.

(2) For more than 90 days unless it is stored on an impermeable floor or pad and either in an enclosed facility or in an area where runoff is

collected and treated. The Department may waive or modify, in writing, this requirement if there is no runoff from the storage.

(d) The Department will presume that a person storing coal ash contrary to subsections (a)-(c) is operating a waste disposal facility and is subject to the applicable requirements of the act and regulations thereunder for waste disposal.

(e) A person that stores coal ash shall maintain for a minimum of 3 years accurate operational records that are sufficiently detailed to demonstrate to the Department that coal ash is being stored under subsections (a)-(c). The records shall be made available to the Department upon request. The presumption in subsection (d) may be overcome by the operational records required by this subsection.

(f) Nothing in this section supersedes a regulation or other requirement providing for a storage period of less than 1 year.

§ 290.403. Surface and groundwater protection.

(a) Surface water runoff from storage areas shall be minimized. Storm water shall be managed in accordance with The Clean Streams Law (35 P.S. §§ 691.1-691.1001) and the regulations promulgated thereunder.

(b) Surface water run-on to storage areas shall be minimized.

(c) Coal ash may not be stored in a manner that causes groundwater degradation.

§ 290.404. Areas where coal ash storage is prohibited.

(a) Coal ash storage areas, other than storage impoundments, may not be operated as follows, unless otherwise authorized by the Department in writing:

(1) Within 100 feet of an intermittent or perennial stream.

(2) Within 300 feet of a groundwater water source.

(3) Within 1,000 feet upgradient of a surface drinking water source.

(4) Within 25 feet of a bedrock outcrop, unless the outcrop is properly treated to minimize infiltration into fractured zones.

(5) Within 100 feet of a sinkhole or area draining into a sinkhole.

(6) Within 100 feet of a wetland, other than an exceptional value wetland.

(7) In or within 300 feet of an exceptional value wetland.

(b) Coal ash storage impoundments may not be operated as follows:

(1) In the 100-year floodplain of waters of this Commonwealth.

(2) In or within 100 feet of a wetland other than an exceptional value wetland.

(3) In or within 300 feet of an exceptional value wetland.

(4) In an area where the operation would result in the elimination, pollution or destruction of a portion of an intermittent stream or perennial stream.

(5) Within 100 feet of an intermittent stream or perennial stream.

(6) In areas underlain by limestone or carbonate formations, where the formations are greater than 5 feet thick and present at the topmost geologic unit. These areas include areas mapped by the Pennsylvania Geological Survey as underlain by these formations, unless competent geologic studies demonstrate the absence of limestone and carbonate formations under the site.

(7) Within 900 feet measured horizontally from an occupied dwelling, unless the owner of the dwelling has provided a written waiver consenting to the coal ash storage impoundment being closer than 900 feet. A waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner. A closed coal ash storage impoundment that submits an application to reopen and expand shall also be subject to this paragraph.

(8) Within 100 feet of a property line, unless the current owner has provided a written consent to the coal ash storage impoundment being closer than 100 feet. The waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the current owner.

(9) Within ¼ mile upgradient, and within 300 feet downgradient, of a private or public water source, except that the Department may waive or modify these isolation distances if the person demonstrates and the Department finds, in writing, that the following conditions have been met:

(i) The owners of the public or private water sources in the isolation area have consented, in writing, to the location of the proposed the coal ash storage impoundment.

(ii) The person storing coal ash and each water source owner have agreed, in writing, that the person will construct and maintain at the person's expense a permanent alternative water supply of like quantity and quality at no additional cost to the water source owner if the existing source is adversely affected by the coal ash storage impoundment.

(iii) The person storing coal ash has demonstrated that a replacement water source is technically and economically feasible and readily available for every public or private water source in the isolation area.

(10) *School, park or playground.*

(i) Within 900 feet of the following:

(A) A building that is owned by a school district or school and used for instructional purposes.

(B) A park.

(C) A playground.

(ii) The current property owner of a school building, park or playground may waive the 900-foot prohibition by signing a written waiver.

(11) In areas that serve as habitat for fauna or flora listed as "threatened" or "endangered" under the Endangered Species Act of 1973 (7 U.S.C.A. § 136; 16 U.S.C.A. §§ 4601-9, 460k-1, 668dd, 715i, 715a, 1362, 1371, 1372, 1402 and 1531-1543), the Wild Resource Conservation Act (32 P. S. §§ 5301-5314), 30 Pa.C.S. (relating to the Fish and Boat Code) or 34 Pa.C.S. (relating to the Game and Wildlife Code), unless the applicant demonstrates compliance with applicable Federal and State requirements that would allow operations in such areas.

§ 290.405. Storage piles—general requirements.

(a) A person storing coal ash in piles shall prevent the dispersal of coal ash by wind or water erosion.

(b) The coal ash being stored shall be separated from the water table by at least 4 feet without the use of a groundwater pumping system. The Department may waive, in writing, this requirement.

(c) A person storing coal ash in a pile shall design, install and maintain berms around the storage area and other structures or facilities to collect and, when necessary, treat runoff or leachate, or both, from the storage area. The Department may waive, in writing, the berm requirement when other collection methods are in place.

(d) For storage piles without a liner system or storage pad, the Department may require the person to install and implement water quality monitoring in accordance with Subchapter D (relating to water quality monitoring) where site conditions warrant.

§ 290.406 Storage piles—storage pad or liner system.

(a) A person that installs a storage pad or liner system to prevent groundwater degradation shall meet the requirements of this section. This section does not preclude a person from using other means to prevent groundwater degradation, such as enclosure in a building.

(b) The storage pad or liner system must meet the following requirements:

(1) Prevent the migration of leachate through the storage pad or liner system.

(2) May not be adversely affected by the physical or chemical characteristics of coal ash, coal ash constituents or leachate from the coal ash storage piles.

(3) Shall be designed, constructed and maintained to protect the integrity of the pad or liner during the storage of coal ash.

(4) Shall be designed to collect leachate and runoff.

(5) Must be constructed of non-solid waste and non-coal ash material.

(6) Must be no less permeable than 1×10^{-7} cm/sec., as demonstrated by field and laboratory testing.

(7) Shall be inspected for uniformity, damage and imperfections during construction and installation.

(8) The person shall install and operate a monitoring system capable of verifying whether coal ash or leachate has penetrated the pad or liner, if required by the Department.

(9) Coal ash may not be stored where continuous or intermittent contact could occur between the coal ash and groundwater or surface water.

§ 290.407. Storage piles—leachate and runoff control.

(a) A person that installs a storage pad or liner system shall collect leachate and runoff from the coal ash pile and divert it into a leachate storage system.

(b) A leachate storage system must consist of a collection tank or surface impoundment. The tank or impoundment must be:

(1) Sized for the anticipated leachate and runoff flow, including a 30-day reserve capacity.

(2) Chemically compatible with the leachate.

(3) Of sufficient strength to withstand expected loads.

(4) Equipped with cleanouts, if necessary.

(5) Sealed to prevent the loss of leachate and runoff.

(c) Collected leachate shall be treated or disposed in a manner that complies with the act, The Clean Streams Law (35 P.S. §§ 691.1-691.1001), and the regulations promulgated thereunder.

§ 290.408. Storage impoundments—scope.

(a) This section and §§ 290.409-290.413 apply to persons that store coal ash in surface impoundments prior to beneficial use.

(b) This section and §§ 290.408-290.413 do not apply to the storage impoundments that are designed for the express purpose of storing stormwater runoff and that store runoff composed entirely of stormwater. Impoundments that store stormwater runoff must comply with the applicable requirements of The Clean Streams Law (35 P.S. §§ 691.1-691.1001), section 13 of the Stormwater Management Act (32 P. S. § 680.13) and Chapters 92, 102 and 105 (relating to national pollutant discharge elimination system permitting, monitoring and compliance; erosion and sediment control; and dam safety and waterway management).

(c) For purposes of this section, “stormwater” means drainage runoff from the surface of the land resulting from precipitation or snow or ice melt.

§ 290.409. Storage impoundments—general requirements.

A person that operates a storage impoundment to hold coal ash shall meet the following conditions:

(1) Hold a valid permit from the Department for the storage under sections 308 and 402 and other applicable provisions of The Clean Streams Law (35 P.S. §§ 691.1-691.1001), Chapter 91 (relating to general provisions) and other applicable regulations promulgated thereunder, and shall comply with the permit.

(2) Comply with Chapter 105 (relating to dam safety and waterway management).

§ 290.410. Storage impoundments—design requirements.

Impoundments used to store coal ash shall meet the following minimum design criteria:

(1) The liner system for a coal ash storage impoundment shall include the following elements:

(i) The subbase, which is the prepared layer of soil or earthen material upon which the remainder of the liner system is constructed.

(ii) The leachate detection zone, which is a prepared layer placed on top of the subbase and upon which the liner is placed, and in which a leachate detection system is located.

(iii) The composite liner, which is a continuous layer of synthetic material over earthen material, placed on the leachate detection zone. The upper component is no more permeable than 1.0×10^{-7} cm/sec. based on laboratory testing. The composite component is no more permeable than 1.0×10^{-6} cm/sec., based on laboratory testing and field testing.

(iv) The protective cover and leachate collection zone, which is a prepared layer placed over the liner in which a leachate collection system is located.

(2) The bottom of the subbase of the liner system cannot be in contact with the water table without the use of groundwater pumping systems.

(3) The subbase must meet the following performance standards. The subbase must:

(i) Bear the weight of the liner system, coal ash, and equipment operating on the coal ash storage impoundment without causing or allowing a failure of the liner system.

- (ii) Accommodate potential settlement without damage to the liner system.
 - (iii) Be a barrier to the transmission of liquids.
 - (iv) Cover the bottom and sidewalls of the coal ash storage impoundment.
- (4) The leachate detection zone shall meet the following performance standards. The leachate detection zone shall:
- (i) Rapidly detect and collect liquid entering the leachate detection zone, and rapidly transmit the liquid to the leachate treatment system.
 - (ii) Withstand chemical attack from coal ash or leachate.
 - (iii) Withstand anticipated loads, stresses and disturbances from overlying coal ash and equipment operation.
 - (iv) Function without clogging.
 - (v) Prevent the liner from puncturing, cracking, tearing, stretching or otherwise losing its physical integrity.
 - (vi) Cover the bottom and sidewalls of the coal ash storage impoundment.
- (5) The liner shall meet the following standards of performance:
- (i) The liner shall prevent the migration of leachate through the liner to the greatest degree that is technologically possible.
 - (ii) The effectiveness of the liner in preventing the migration of leachate may not be adversely affected by the physical or chemical characteristics of the coal ash or leachate from the coal ash storage impoundment.
 - (iii) The liner shall be resistant to physical failure, chemical failure, and other failure.
 - (iv) The liner shall cover the bottom and sidewalls of the coal ash storage impoundment.
- (6) The protective cover shall meet the following performance standards. The protective cover shall:
- (i) Protect the primary liner from physical damage from stresses and disturbances from overlying coal ash and equipment operation.

(ii) Protect the leachate collection system within the protective cover from stresses and disturbances from overlying coal ash and equipment operation.

(iii) Allow the continuous and free flow of leachate into the leachate collection system within the protective cover.

(iv) The protective cover shall cover the bottom and sidewalls of the coal ash storage impoundment.

(7) The leachate collection system within the protective cover shall meet the following performance standards. The leachate collection system shall:

(i) Ensure that free flowing liquids and leachate will drain continuously from the protective cover to the leachate treatment system.

(ii) Withstand chemical attack from leachate.

(iii) Withstand anticipated loads, stresses and disturbances from overlying coal ash and equipment operation.

(iv) Function without clogging.

(v) Cover the bottom and sidewalls of the coal ash storage impoundment.

(8) An onsite leachate storage system shall be part of each leachate treatment method used by the person. The storage system shall contain impoundments or tanks for storage of leachate. The tanks or impoundments shall have a storage capacity at least equal to the maximum expected production of leachate for a 30-day period. No more than 25% of the total leachate storage capacity may be used for flow equalization on a regular basis. Leachate storage capacity may not be considered to include leachate that may have collected in or on the liner system.

(9) Leachate may be collected and handled by one of the following:

(i) Onsite treatment and discharged into a receiving stream under a permit issued by the Department under The Clean Streams Law (35 P.S. §§ 691.1-691.1001) and regulations thereunder, if the Department approves this method in the permit.

(ii) Direct discharge into a permitted publicly-owned treatment works, following pretreatment, if pretreatment is required by Federal, State or local law or by discharge into another permitted treatment facility.

(iii) Transport to an offsite treatment facility that is operating in compliance with The Clean Streams Law (35 P.S. §§ 691.1-691.1001) and regulations

thereunder, and is otherwise capable of accepting and treating leachate from the coal ash storage impoundment.

(10) Impoundments shall be designed, constructed, operated and maintained in accordance with the following:

(i) An impoundment shall have sufficient freeboard to prevent overtopping, including overtopping caused by the 24-hour precipitation event in inches to be expected once in 25 years. The freeboard may not be less than 2 feet.

(ii) The dike shall have sufficient structural integrity to prevent failure. The liner system of the impoundment may not be considered in determining the structural integrity of the dike.

(iii) The inside slope shall be designed and constructed with sufficient protective cover to prevent wind and water erosion, and to preserve the structural integrity of the dike.

(iv) The dike shall be capable of withstanding anticipated static and dynamic loadings with a minimum safety factor for the most critical failure surface of 1.5 for static loading and 1.2 for dynamic loading.

(v) The outside slopes of the dike may not exceed 25% unless the following requirements are met:

(A) A horizontal terrace with a minimum width of 10 feet is constructed at each 20-foot vertical rise of the slope, or the Department approves in the permit a terrace with different dimensions.

(B) Surface water on the terrace is collected and discharged so that it does not erode or otherwise adversely affect the stability of the dike.

(C) The final slope does not exceed 50%.

(vi) Dikes and berms shall be free of burrowing mammals and plants with root systems capable of displacing earthen materials upon which the structural integrity of the dikes or berms is dependent.

(vii) An impoundment shall be surrounded by structures sufficient to prevent surface runoff from a 25-year, 24-hour precipitation event from entering the impoundment.

§ 290.411. Storage impoundments—operating requirements.

(a) At least 8 feet shall be maintained between the bottom of the subbase of the liner system and the top of the confining layer or the shallowest

level below the bottom of the subbase where groundwater occurs as a result of upward leakage from natural or other preexisting causes. The integrity of the confining layer may not be compromised by excavation.

(b) The edge of the liner shall be clearly marked.

(c) A fence or other suitable barrier shall be maintained around the coal ash storage area, including impoundments, leachate collection and treatment systems sufficient to prevent unauthorized access, unless the Department approves, in the permit, an alternative means of protecting access to the area that afford an equivalent degree of protection.

(d) The person shall implement fugitive air contaminant control measures and otherwise prevent and control air pollution in accordance with the Air Pollution Control Act (35 P. S. § § 4001—4015); Article III (relating to air resources) and § 289.228 (relating to nuisance minimization and control). Minimization and control measures shall include the following:

(1) Ensuring that operation of the coal ash storage impoundment will not cause or contribute to an exceedance of an ambient air quality standard under § 131.3 (relating to ambient air quality standards).

(2) Minimizing the generation of fugitive dust emissions from the coal ash storage impoundment.

(e) The person shall implement water quality monitoring, as required under Subchapter D.

(f) A person that stores coal ash in a coal ash storage impoundment shall remove coal ash from the impoundment as follows:

(1) Without damage to the impoundment.

(2) Inspect the liner to ensure its integrity, and make necessary repairs prior to returning the impoundment to service.

(3) Provide for the beneficial use of the removed coal ash in accordance with this Chapter.

(4) The removal from the impoundment shall be sufficient such that the coal ash is not accumulated speculatively.

§ 290.412. Storage impoundments—failure.

(a) If a coal ash storage impoundment fails, the person storing coal ash shall immediately:

- (1) Stop adding coal ash to the impoundment.
- (2) Contain any discharge that has occurred or is occurring.
- (3) Empty the impoundment in a manner approved by the Department, if leaks cannot be stopped.
- (4) Notify the Department of the failure of the impoundment and the measures taken to remedy the failure.

(b) A coal ash storage impoundment that has been removed from service due to failure may not be restored to service unless the following conditions are met:

- (1) The impoundment has been repaired.
- (2) The repair has been certified to the Department, in writing, by a registered professional engineer.
- (3) The Department has approved, in writing, the restoration of the impoundment to service.

(c) If a storage impoundment fails and the impoundment or surrounding area cannot be cleaned up in a manner that is satisfactory to the Department, the impoundment shall be closed in accordance with this section.

§ 290.413. Storage impoundments—inspections.

The Department will inspect storage impoundments in accordance with the Dam Safety and Encroachments Act (32 P. S. § § 693.5, 693.7, 693.10, 693.11 and 693.17).

§ 290.414. Storage areas—closure.

Upon cessation of coal ash storage, the person storing coal ash shall remove coal ash and materials containing coal ash, and shall provide for the beneficial use or disposal of the coal ash under the act and the regulations promulgated thereunder. The person shall also regrade and revegetate the site as required by the Department.

FEE REPORT FORM

Agency: Bureau of Waste Management
Department of Environmental Protection

Contact: Steve Socash, Chief
Division of Municipal and Residual Waste
Bureau of Waste Management

Phone: 717- 787- 7381

Fee Collections:	Current and Prior Years	Fiscal Year 2010/11 (Anticipated)	Fiscal Year 2011/12 Projected	Fiscal Year 2012/13 Projected
Current – Total	\$0	\$0		
Proposed— Total			\$100,000	\$100,000

FEE TITLE AND RATE:

Title: Beneficial Use of Coal Ash at Mine Sites Fee Schedule

Current Fee Schedule:

There are no current fees for the beneficial use of coal ash.

Proposed Fee Schedule:

The proposed fees would be in accordance with the following schedule and must accompany an application for the beneficial use of coal ash, and each year thereafter. The fees are as follows:

CATEGORY	FEE
Yearly Fee from time of application through active ash placement at the mine site	\$2,000

At least every 3 years, the Department will recommend regulatory changes to the fees in this section to the Environmental Quality Board (EQB) to address any disparity between the program income generated by the fees and program costs. The regulatory amendment will be based upon an evaluation of the beneficial use of coal ash at mine sites program fees income and the Department's costs of administering the beneficial use of coal ash at mine sites program.

Fee Objective:

The fees have been calculated to cover the reasonable costs to the Department to implement and administer the beneficial use of coal ash at mine sites program as authorized under Section 4(a) of SMCRA (52 P.S. §1396.4(a)).

Fee Related Activities and Costs:

Activities supported by the fees associated with the beneficial use of coal ash at mine sites program include the following:

Beneficial use of Coal Ash at Mine Sites
Fee Report Form
Page 2 of 2

- a) On-site sampling of coal ash
- b) Coal ash sample preparation
- c) Coal ash sample analysis
- d) On-site collection of water monitoring samples
- e) Water monitoring sample preparation
- f) Water monitoring sample analysis

Analysis:

Section 4(a) of SMCRA (52 P.S. §1396.4(a)) authorizes the Department to charge and collect a reasonable filing fee from persons submitting applications for a surface mining permit in order to cover the costs of reviewing and administering such permits. These fees are intended to reflect the costs of implementing and administering the beneficial use of coal ash at mine sites program. The beneficial use of coal ash at active mine sites may only be conducted in accordance with a mining permit, and the permit must specifically provide for such use.

The fee amount was calculated as follows. To assure compliance with the waste and mining regulations the Department proposes to sample ash at a mine site an average of two times per year and collect water samples from an average five monitoring points two times per year. The DEP Bureau of Laboratory's cost for analyzing ash is \$450 per sample and their cost for water sample analyses is \$314 per sample. The combined cost of ash sampling and water sampling per mine is \$4,040 per year. The coal mining program is 50% federally funded. Thus the state portion of the sample costs is \$2020, which has been rounded to \$2000 per year.

There are about 50 mine sites that will be impacted by this fee. The estimated cost of the beneficial use of coal ash at mine sites program for the first full fiscal year 2011/2012 is \$100,000 and the projected revenue is \$100,000. Thus the estimated amount collected in revenue covers half the estimated cost of \$200,000 for sample collection with other half being federally funded. The \$2,000 yearly fee for the placement of coal ash at active mine sites is based solely on the cost to prepare and analysis the samples. Field staff time is not accounted for under this proposed fee structure.

Recommendation and Comment:

Approve the proposed draft regulations. A draft of this regulation was presented to the Solid Waste Advisory Committee (SWAC) on March 19th 2009. SWAC reviewed the proposed rulemaking on March 19th 2009 and supported moving the proposed rulemaking forward to the EQB for consideration. A draft of this regulation was also presented to the Mining and Reclamation Advisory Board.



Pennsylvania Department of Environmental Protection

Rachel Carson State Office Building

P.O. Box 2063

Harrisburg, PA 17105-2063

October 28, 2009

Policy Office

717-783-8727

Kim Kaufman, Executive Director
Independent Regulatory Review Commission
14th Floor
333 Market Street
Harrisburg, PA 17101

Re: Proposed Rulemaking: Beneficial Use of Coal Ash
(25 Pa. Code, Chapters 287 and 290)

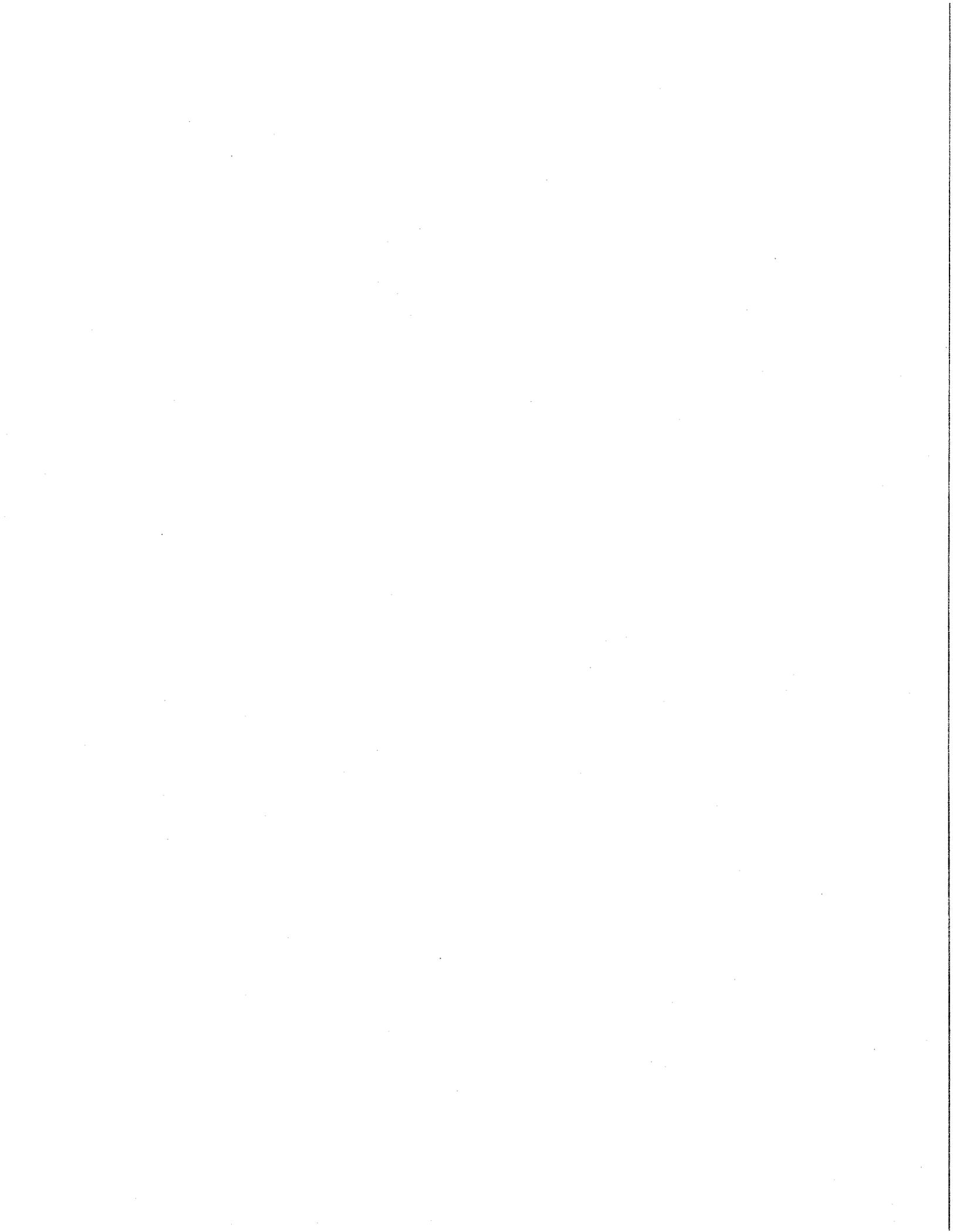
Dear Mr. Kaufman:

Enclosed is a copy of a proposed regulation for review and comment by the Independent Regulatory Review Commission pursuant to Section 5(a) of the Regulatory Review Act. The proposed rulemaking is scheduled for publication in the *Pennsylvania Bulletin* on November 7, 2009, with a 45-day public comment period and three public hearings. The Environmental Quality Board (EQB) adopted this proposal on July 21, 2009.

This proposed rulemaking incorporates key provisions of the Department of Environmental Protection's (Department's) policies and procedures on the beneficial use of coal ash through amendments to Chapter 287 and the introduction of a new Chapter, Chapter 290. Prior to this proposed rulemaking, the beneficial use of coal ash, including abandoned and active mine reclamation, was managed through existing residual waste regulations and Departmental technical guidance. In 2008, the Department proposed amendments to the following technical guidance documents: "Document Number 563-2112-225: Mine Site Approval for the Beneficial Use of Coal Ash," and "Document Number 563-2112-224: Certification Guidelines for the Chemical and Physical Properties of Coal Ash Beneficially Used at Mines." The most prevalent comment received during the public comment period on these technical guidance documents was that the content of each document should be placed in regulations rather than in Department technical guidance. In response, the Department has developed this proposed rulemaking, which includes provisions of the aforementioned technical guidance documents and includes further enhancements to the residual waste regulations related to the beneficial use of coal ash.

Provisions of the proposal address the operating requirements necessary for the beneficial use of coal ash, including certification guidelines for the chemical and physical properties of coal ash, water quality monitoring at sites where coal ash is beneficially used, requirements for the storage of coal ash in piles and surface impoundments, and improvements in reporting requirements to track volumes and locations of sites where coal ash is beneficially reused. The proposed rulemaking also adopts recommendations by the National Academy of Sciences in their 2006 report, *Managing Coal Combustion Residues in Mines*, and includes an annual fee to offset Department costs for coal ash and water quality sampling and testing at mine sites where coal ash is beneficially used.





The Department initiated extensive outreach on this proposed rulemaking. The Department met with industry groups representing both corporate energy facilities and independent power producers, including Reliant Energy, PPL, ARIPPA, and with various plant operators by request. The Department has also provided information on the rulemaking to the Pennsylvania Coal Association and the Pennsylvania Anthracite Council. These proposed regulations were presented to the Solid Waste Advisory Committee in March 2009 and the Mining and Reclamation Advisory Board in April 2009.

The Department will provide the Commission with the assistance required to facilitate a thorough review of this proposal. Section 5(d) of the Regulatory Review Act provides that the Commission may, within 30 days of the close of the comment period, convey its comments, recommendations and objections to the proposed regulation. The Department will consider any comments, recommendation or suggestions made by the Commission, as well as the Committees and public commentators, prior to final adoption of this rulemaking.

Please contact me at the number above if you have any questions or need additional information.

Sincerely,



Michele L. Tate
Regulatory Coordinator

Enclosures



**TRANSMITTAL SHEET FOR REGULATIONS SUBJECT TO
 THE REGULATORY REVIEW ACT**

I.D. NUMBER: 7-442
 SUBJECT: beneficial use of coal ash
 AGENCY: DEPARTMENT OF ENVIRONMENTAL PROTECTION

TYPE OF REGULATION

- Proposed Regulation
- Final Regulation
- Final Regulation with Notice of Proposed Rulemaking Omitted
- 120-day Emergency Certification of the Attorney General
- 120-day Emergency Certification of the Governor
- Delivery of Tolled Regulation
 - a. With Revisions
 - b. Without Revisions

RECEIVED
 2009 OCT 29 PM 4:10
 INDEPENDENT REGULATORY
 REVIEW COMMISSION

FILING OF REGULATION

DATE	SIGNATURE	DESIGNATION
10-28		Majority Chair, HOUSE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY
10-28		Minority Chair, HOUSE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY
10-28		Majority Chair, SENATE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY
10-28		Minority Chair, SENATE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY
10/28/09		INDEPENDENT REGULATORY REVIEW COMMISSION
		ATTORNEY GENERAL (for Final Omitted only)
10-28		LEGISLATIVE REFERENCE BUREAU (for Proposed only)

