

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

Order

The Environmental Quality Board (Board) by this order amends 25 Pa. Code, Chapter 287 (relating to residual waste management – general provisions) and adds Chapter 290 (relating to beneficial use of coal ash). The regulations pertaining to beneficial use of coal ash in Chapter 287, Subchapter H, are moved to new Chapter 290. Chapter 290 includes requirements for coal ash beneficial use, coal ash certification, water quality monitoring and storage.

This order was adopted by the Board at its meeting of _____ (blank)_____.

A. Effective Date

These amendments will go into effect upon publication in the *Pennsylvania Bulletin* as final rulemaking.

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) 797-3436; 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. 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 final-form rulemaking is available electronically through the DEP Web site (<http://www.dep.state.pa.us>).

C. Statutory Authority

This final-form rulemaking is authorized under the following statutes:

The Solid Waste Management Act (SWMA) (35 P.S. §§6018.101 - 6018.1003), 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) 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) 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), 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) 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)), 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)) 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), grants the Board the power and duty to adopt regulations to accomplish the purposes of the CRDA. Section 5(b) of CRDA (52 P.S. § 30.554(b)) authorizes the Department to charge and collect a reasonable filing fee from persons submitting applications for a coal refuse disposal permit.

The Administrative Code of 1929 (71 P.S. §§510-1 - 510-27), 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) 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 of the Amendments

This final-form rulemaking incorporates the key provisions of the Department's policies and procedures on the beneficial use of coal ash. 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 final-form 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 spoil or deep mines from which it discharges as acid mine drainage.

Reclamation of these lands cannot be accomplished fully through federal and state funds that are currently available for this purpose. Therefore, a program that allows for the beneficial use of coal ash for mine reclamation in an environmentally responsible manner will allow for the continued reclamation of mine sites and protect the public health and safety and the environment.

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 entitled *Coal Ash Beneficial Use in Mine Reclamation and Drainage Remediation in Pennsylvania*, which was a collaborative effort between the Department and the Materials Research Institute at the Pennsylvania State University.

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 severe 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 have 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 at least \$90 million worth of 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 final-form 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 final-form rulemaking and further enhanced the existing residual waste regulations related to the beneficial use of coal ash.

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

- Increased coal ash monitoring to ensure coal ash meets qualification 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 qualify coal ash for beneficial use at mine sites;
- An annual fee payable to the Department to offset some of 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.

Any person who generates coal ash with the intention of qualifying it for beneficial use and any person who utilizes that ash will be required to comply with this final-form regulation. Currently, there are about 50 mine sites across Pennsylvania that are actively using ash under the beneficial use provisions. At any given time, there can be as many as 60 approved ash sources. Sources include large multi-unit pulverized coal power plants and fluidized bed combustion (FBC) power plants that can produce hundreds of thousands of tons of ash per year and small industrial power plants that may produce less than 10,000 tons per year. The FBC plants, which burn waste coal, have traditionally used 100% of their ash for mine reclamation. A stated goal of the 43 coal-fired electricity producers of Pennsylvania is to find more ways to beneficially use the coal ash produced at their facilities.

For each of the past several years, about 11 million tons of coal ash has been used for mine reclamation. To date, approximately 20 surface mine sites have been reclaimed using coal ash. In 2008, approximately 11 projects, other than mine reclamation, used coal ash structural fill to construct roadways, an airport runway in Snyder County and a golf course in York County. Many municipalities in Pennsylvania beneficially use bottom ash as antiskid material in the winter months. Currently, eight facilities qualify under a general permit to beneficially use the coal ash produced at that facility as construction material at sites other than mine sites.

The Bureaus of Waste Management, Mining and Reclamation, District Mining Operations and Abandoned Mine Reclamation all collaborated to produce these final-form regulations. The Bureau of Mining and Reclamation 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 Earthjustice and the Environmental Integrity Project. The concepts in these final-form 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 final-form rulemaking. Finally, these final-

form regulations were presented to the Solid Waste Advisory Committee in May 2010. Draft final regulations were also presented to the Citizens Advisory Council in June 2010.

E. Summary of Regulatory Requirements

§ 287.1

The final-form rulemaking amends definitions for “coal ash,” “solid waste” and “structural fill” to provide clarity.

The proposed definition of “water table” was moved to Chapter 290, since the term is only used in that chapter.

§§ 287.661-287.666

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

Subchapter A. General

Final-form § 290.1

The definition of “temporary coal ash storage pile” was added to the final-form rulemaking to allow relief from siting restrictions for storage piles that only exist for periods of less than two weeks.

Final-form § 290.2

Subsection (a) establishes that this chapter applies to the beneficial use of coal ash. It also establishes that fly ash, bottom ash or boiler slag that does not meet the beneficial use requirements (including the performance standards) of Chapter 290 is a residual waste.

Subsection (b) specifies that beneficial use of coal ash mixed with residual waste must be authorized by a residual waste permit and meet the requirements of this chapter. The requirements for ash produced by co-firing coal and alternative fuels was moved to subsection (c) and modified to not require a residual waste permit in all cases.

Subsection (c) was added to the final-form regulation to allow ash produced by co-firing an alternative fuel with coal or waste coal as if it were coal ash, provided the alternative fuel is less than 20 percent of the total fuel and contributes less than ten percent to the total quantity of ash. This change was made to encourage use of alternative fuels and may help offset some of the increased cost to industry due to additional analysis and monitoring required in the final-form regulations.

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

Subchapter B. Beneficial Use of Coal Ash

Final-form § 290.101

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

Subsection (b) in the final-form regulation identifies the beneficial use that requires a chemical analysis of the coal ash.

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 structural fill, use at a mining activity site, or use at an abandoned surface coal mine site involving use of more than 10,000 tons of coal ash per acre or more than 100,000 tons in total per site. The final-form regulations allow the Department to require a water quality monitoring plan where lesser amounts of coal ash are to be beneficially used or coal ash is used for other beneficial uses.

Subsection (e) specifies that coal ash may not be placed within 8 feet of the water table. The final-form regulation has been modified to limit placement within 8 feet of the water table when coal ash is used for mine subsidence control, mine fire control and mine sealing.

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

Final-form § 290.102

Subsection (a) establishes the requirements for a written proposal for coal ash to be used as structural fill. The term was modified in the final-form regulations from written notification to written proposal to avoid confusion with public notice requirements. This written proposal 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 100,000 tons in total per site or 10,000 tons of coal ash per acre. The 100,000 tons per project trigger for a written proposal was added in the final-form regulations to be consistent with other sections of this chapter.

Subsection (b) specifies that public 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 in total per site. 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. Notification to the local municipality has been added to the final-form regulation.

Subsection (c) allows the Department to require public notice for projects less than 10,000 tons per acre and less than 100,000 tons per project where there is significant public interest or site conditions warrant notification.

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

Subsection (e) establishes that the Department will respond in writing to the notifier as to whether their final-form use is consistent with this section.

Subsection (f) 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. The final-form regulation has been modified to indicate that the pH must be 7.0 or above for coal ash used as structural fill to be consistent with other sections in Chapter 290. In addition, the upper pH limit for use as structural fill only applies where public access is not restricted during storage or placement. The requirement that the Proctor Test be conducted by a certified lab has been dropped, since the Department was unable to find an organization that certifies labs for that procedure.

Subsection (g) establishes siting restrictions for structural fill, including distances from streams, water sources, bedrock outcrops, sinkholes and areas draining into sinkholes, floodplains and wetlands. A siting restriction of 300 feet from exceptional value waters and high quality waters was added to protect these special protection waters.

Subsection (h) 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 final-form regulations also require this report for projects involving more than 100,000 tons of coal ash in total per site to be consistent with the requirements in other sections.

Subsection (i) was added to the final-form regulation to require the person beneficially using coal ash as structural fill to notify the Department within 72 hours of any evidence that the coal ash may not meet the chemical limits or physical property requirements in § 290.201. This requirement was moved from Subchapter C (relating to certification) to Subchapter B to clarify that it applies to the end user. The time frame was added to clarify that this notification should occur quickly after the evidence is discovered by the end user.

Final-form § 290.103

Proposed Subsection (a), which established that coal ash may be beneficially used as a soil substitute or soil amendment without a permit if the user complies with this section, was deleted in the final-form regulations, since it is addressed in § 290.101(a).

Subsection (a) establishes the written proposal requirements for coal ash to be used as a soil substitute or soil amendment. This written proposal 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 (b) establishes that the Department will respond to the notifier in writing as to whether their final-form use is consistent with this section.

Subsection (c) 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.

Subsection (d) 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. A siting restriction of 300 feet from exceptional value waters and high quality waters was added to protect these special protection waters.

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

Subsection (f) adds recordkeeping requirements to the final-form regulations. The items subject to recordkeeping include chemical analysis and quantity of coal ash utilized, which are necessary to determine cumulative loading rates, as well as source of the coal ash and placement location.

Subsection (g) was added to the final-form regulation to require the person beneficially using coal ash as a soil amendment or soil substitute to notify the Department within 72 hours of any evidence that the coal ash may not meet the chemical limits or physical property requirements in § 290.201. This requirement was moved from Subchapter C (relating to certification) to Subchapter B to clarify that it applies to the end user. The time frame was added to clarify that this notification should occur quickly after the evidence is discovered by the end user.

Final-form § 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. This fee was reduced from \$2000 to \$1000 per year after final placement of coal ash at the site. The costs to monitor sites

incurred by the Department after completion of coal ash placement are expected to be less than the costs during active placement.

Subsection (d) establishes a 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. The final-form regulations allow a greater quantity of ash to be beneficially used at a site if the operator can demonstrate that the greater quantity will enhance the reclamation or improve water quality. In addition, the greater quantity may be utilized at a site that is part of a multiple-site project involving multiple coal refuse reprocessing sites. The requirement to run the Proctor Test on each source of coal ash was dropped from the final-form regulations. The requirement that the Proctor Test be conducted by a certified lab was also dropped in the final-form regulations, since the Department was unable to find an organization that certifies labs for that procedure.

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. The final-form regulation allows for a reduced coal ash sampling frequency for end users where the coal ash being utilized is from a single source and the source is close to the placement area.

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

Subsection (k) was added to the final-form regulation to require the person beneficially using the coal ash at a mining activity site to notify the Department within 72 hours of any evidence that the coal ash may not meet the certification requirements in § 290.201. This requirement was moved from Subchapter C (relating to certification) to Subchapter B to clarify that it applies to the end user. The time frame was added to clarify that this notification should occur quickly after the evidence is discovered by the end user.

Final-form § 290.105

The term “abandoned coal surface mine” has been changed to “abandoned mine lands” to provide clarity. “Abandoned mine lands” is defined in § 86.252.

Subsection (a) establishes procedures and requirements for the use of coal ash at abandoned mine lands. The final-form regulation requires the approval to be pursuant to a contract with the Department. The Department does not have the authority to issue approvals without a contract for reclamation of abandoned mine lands.

Subsection (b) establishes the elements required in a contract proposal to use coal ash at abandoned mine lands.

Subsection (c) includes a requirement to publish a public notice in local newspapers of the final-form use of coal ash at abandoned mine lands involving use of more than 10,000 tons of coal ash per acre or more than 100,000 tons in total at any site. The final-form regulations also include notification to the local municipalities.

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

Subsection (e) establishes additional requirements for coal ash used at abandoned mine lands including: 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 mine lands. The pH range was dropped in the final-form regulations as it conflicted with the pH limitation in § 290.201 (relating to coal ash certification).

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

Subsection (g) was added to the final-form regulation to require the person beneficially using coal ash at abandoned mine lands to notify the Department within 72 hours of any evidence that the coal ash may not meet the certification requirements in § 290.201(a). This requirement was moved from Subchapter C (relating to certification) to Subchapter B to clarify that it applies to the end user. The time frame was added to clarify that this notification should occur quickly after the evidence is discovered by the end user.

Final-form § 290.106

Proposed subsection (a), which established that coal ash may be beneficially used as a soil substitute or soil amendment without a permit if the user complies with this section, was deleted in the final-form regulations, since it is addressed in § 290.101(a).

Subsection (a) identifies specific other uses of coal ash and requirements for storage and use. These other uses of coal ash include 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 and use for mine subsidence control, mine fire control and mine sealing. The final-form regulations add use in cement and use of coal ash as fuel to the other beneficial uses.

The use as a stabilized product has been modified in the final-form regulations to indicate that if the stabilized product is used as structural fill or as a soil amendment or soil substitute, it must also

meet the requirements in §§ 290.102 or 209.103, respectively. The use of coal ash as drainage material has been deleted from the final-form regulations, since this involves contact with water and the intent with these regulations final-form regulations is to minimize contact with water.

The use of coal ash for mine subsidence control, mine fire control and mine sealing in the final-form regulations requires the person beneficially using coal ash to demonstrate that its use will not cause groundwater contamination. Since these particular uses may be within 8 feet of the water table, the final-form regulation requires the coal ash to undergo cementitious reaction after placement.

The final-form regulations allow beneficial use of coal ash with a minimum heating value of 5000 BTU per pound as a fuel.

Subsection (b) was added to the final-form regulation to require the person beneficially using coal ash for these other beneficial uses to notify the Department within 72 hours of any evidence that the coal ash may not meet the appropriate chemical standards or physical property requirements in § 290.201(a). This requirement was moved from Subchapter C (relating to certification) to Subchapter B to clarify that it applies to the end user. The time frame was added to clarify that this notification should occur quickly after the evidence is discovered by the end user.

Final-form § 290.107

Subsection (a) requires persons beneficially using coal ash to provide documentation and information to demonstrate compliance with this subchapter upon the Department's request.

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

Subchapter C. Coal Ash Certification

Final-form § 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. The final-form regulations allow addition of cement or lime to meet the standards and require disclosure of their addition in the certification request. Minimum calcium carbonate equivalence standards are established for ashes that will be used for alkaline addition. The final-form regulations have lowered the standard for selenium due to an indication from monitoring data that selenium leachability is higher than predicted based on the modeling used to develop standards for other species. Monitoring data has not indicated that there is environmental harm from sulfate when coal ash is beneficially used; therefore, the sulfate standard has been increased in the final-form regulations. The standard for fluoride has been dropped in the final-form regulations, as the Department has insufficient data to determine what an appropriate fluoride standard should be or if it is even necessary. Fluoride determinations in the coal ash and water quality monitoring remain a

requirement of these regulations and the data generated will allow the Department to address this issue in a future rulemaking, if necessary.

Subsection (b) in the proposed regulations, establishing certification exceptions for ashes that meet primary MCL parameters, but fail to meet a secondary MCL parameter, has been deleted in the final-form rulemaking. The exceptions require a site-specific evaluation and are not appropriate for state-wide certification.

Subsection (b) in the final-form rulemaking establishes informational requirements to be provided by the coal combustion waste generator, including sampling and analysis of the ash. The final-form regulations clarify that it is the generator that can request certification and that only the pollution control devices that can impact the chemical or physical properties of the ash need to be identified in the request. The final-form regulations allow the Department to require a different leaching procedure than the specified EPA Method 1312 if other leaching procedures become available that more accurately predict the leaching behavior of coal ash.

Subsection (c) establishes that the Department will provide written notification to the generator of the Department's decision on whether the generator's coal combustion waste is certified. If the certification requirements are met, the Department will provide a certification identifier. The terminology was changed from "certification identification number" to "certification identifier" in the final-form regulations, since the identifier is alphanumeric.

Subsection (d) establishes coal combustion waste monitoring requirements. The final-form regulations clarify that reanalysis is required when a change in the fuel source exists that could alter the chemical characteristic or physical properties of the coal combustion waste that could adversely impact beneficial use.

Subsection (e) requires the generator of the coal combustion waste to notify the Department of any changes that may affect the coal ash certification. The final-form regulations have moved notification by the person beneficially using the coal ash to the individual beneficial uses in Subchapter B, since Subchapter C applies to generators.

Final-form § 290.202

Subsection (a) establishes procedures for revoking coal ash certification for coal combustion waste that fail to meet certification requirements. The final-form regulations clarify that certification will be revoked if the generator fails to demonstrate that any exceedence was due to laboratory error or an anomalous result.

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

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

Final-form § 290.203

This section establishes procedures when exceedances of certification standards occur. The final-form regulation requires the generator to submit documentation within 30 days to demonstrate that any exceedence was due to laboratory error or an anomalous result.

Subchapter D. Water Quality Monitoring

Final-form § 290.301

Subsection (a) establishes that water quality monitoring plans shall be submitted to the Department for approval. The specific citations to when a plan is required have been replaced by the more general reference to Chapter 290.

Subsection (b) establishes the content of water quality monitoring plans, including 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. The final-form regulations do not allow the Department to reduce the number of monitoring points or the frequency of water quality monitoring.

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

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

Subsection (e) specifies the non-metal parameters to be determined in water monitoring samples. The final-form regulations require measurement of pH in both the field and laboratory.

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

Subsection (g) gives the Department the ability to require additional parameters based on site conditions. The final-form regulations also give the Department the ability to require additional parameters based on characteristics of the coal ash.

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

Subsection (i) specifies the frequency that water quality monitoring data is to be submitted to the Department. The final-form regulations indicate that this data must be submitted quarterly until five years after final placement, when the frequency is reduced to annually for five additional years.

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

Final-form § 290.302

Subsection (a) establishes parameters for the location and number of upgradient and downgradient groundwater monitoring points and that surface water monitoring points must be approved by the Department. The final-form regulations allow the Department to require upstream surface water monitoring where downstream surface water monitoring is required.

Subsection (b) establishes that the number, location and depth of monitoring points 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. The final-form regulations allow the maximum distance to be measured from the coal ash placement site or the mining activity area, since the maximum distance from the placement area could be in the active mining area. It would be difficult to maintain the integrity of a monitoring well in an area where active mining is occurring. The final-form regulations allow the Department to approve monitoring points at greater distances if their locations are better for water quality monitoring purposes.

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.

Final-form § 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. The final-form regulations allow the Department to approve alternatives to the filter packing requirements, since filter packing is not possible where the monitoring well is within a mine void. The final-form regulations have deleted the requirement for the monitoring wells to be clearly visible due to concerns with vandalism.

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. The final-form regulations have deleted the requirement for the monitoring wells to be painted in a highly visible color due to concerns with vandalism.

Final-form § 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. The final-form regulations clarify that the changes in water quality that trigger the requirement for an assessment must be statistically significant degradation, not just any change. The methods for determining whether a change is statistically significant are specified by incorporating 40 CFR § 258.53(g) and (h) by reference.

Subsection (b) in the proposed regulations indicated an 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. In the final-form regulations, the assessment is limited to data and a supporting narrative if it can be demonstrated that the degradation is a result of one of those reasons.

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. The final-form regulations give the Department the ability to require biological assessment of surface water as part of the assessment plan.

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

Subsection (e) establishes report contents, including data, analysis, and recommendations.

Subsection (f) establishes procedures for submission of a revised water quality monitoring plan when 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.

Final-form § 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 indicates groundwater or surface water degradation and the analysis under subsection (c) indicate that an abatement standard will not be met at the compliance points. 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. The final-form regulations also require abatement if a biological assessment of surface water indicates a detrimental effect on biota.

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. In the final-form regulations, the word “permitted” in permitted coal ash placement area was deleted, since only coal ash placement at mining activity sites require a permit. The guidelines used to assess health risk have been clarified in the final-form regulations by referencing the Department’s Land Recycling Program Technical Guidance Manual. Flexibility has been built in by allowing use of other standard procedures commonly used in the environmental field.

Subsection (d) allows a compliance point to be set for secondary contaminants beyond 500 feet on land owned by the owner of the coal ash placement area.

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.

Final-form § 290.306

This section establishes recordkeeping requirements for water quality monitoring data.

Final-form § 290.307

This section is new in the final-form rulemaking. Subsection (a) establishes water quality monitoring requirements and transition times for sites where coal ash has and will continue to be beneficially used or stored that were previously not subject to water quality monitoring.

Subsection (b) establishes water quality monitoring requirements and transition times for sites where coal ash has and will continue to be beneficially used or stored that were previously subject to water quality monitoring.

Subchapter E. Coal Ash Storage

Final-form § 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.

Final-form § 290.402

Subsection (a) specifies general maximum storage time limits. The final-form regulations clarify what is meant by “previous year” by adding that the year commences on January 1st. In the final-form regulations, subsection (c) of the proposed regulations was incorporated into this subsection.

Subsection (b) in the proposed regulations, which specified a maximum storage time limit for bottom ash, was deleted from the final-form regulation.

Subsection (b) in the final-form rulemaking establishes that a person storing coal ash in a manner contrary to subsection (a) is presumed to be operating a disposal facility.

Subsection (c) establishes operational record storage retention to overcome the presumption of disposal in subsection (a) or (b).

Subsection (f) of the proposed regulations was deleted as being unnecessary.

Final-form § 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. The final-form regulation expanded this to include surface water protection.

Final-form § 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. Siting restrictions for exceptional value waters and high quality waters have been added in the final-form regulations, since these are considered special protection waters. These siting restrictions do not apply where coal ash storage is totally enclosed and on an impermeable floor.

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. Siting restrictions for exceptional value

waters and high quality waters have been added, since these are considered special protection waters. The provision for waiver of the siting restriction from public or private water sources by the owner of the water supply in the proposed regulations has been modified to only allow the waiver for private water sources in the final-form regulations. The waiver language for the distance from a school building, park or playground was deleted from the final-form regulations.

Subsection (c) has been added to the final-form regulations to establish siting restrictions for temporary coal ash storage piles (less than 2 weeks in duration). Restrictions include distances from streams and wetlands.

Final-form § 290.405

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

Subsection (b) establishes separation distance from the 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. The final-form regulations do not require berms for temporary coal ash storage piles due to the short existence of these piles.

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

Final-form § 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.

Final-form § 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. The final-form regulations clarify that the leachate and runoff can be directly sent to a treatment system instead of 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 must be in accordance with the Clean Streams Law.

Final-form § 290.408

Subsection (a) establishes that this section and §§ 290.409-290.415 apply to surface impoundments used to store coal ash prior to beneficial use. The citations in the final-form regulations were expanded to include the sections for interim requirements.

Subsection (b) establishes that this section and §§ 290.409-290.415 apply to surface impoundments used to store only stormwater. The citations in the final-form regulations were corrected and expanded to include the sections for interim requirements.

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

Final-form § 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.

Final-form § 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.

Final-form § 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.

Final-form § 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.

Final-form § 290.413

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

Final-form § 290.414

This section establishes closure of storage areas, including removal of coal ash and, if required by the Department, regrading and revegetation. The final-form regulations also require removal of other materials as part of closure.

Final-form § 290.415

This section is new in the final-form regulation and provides one year for storage sites previously meeting the requirements in § 299.153 to meet the new storage requirements, unless they are able to demonstrate that the existing storage is protective.

F. Summary of Comments and Responses on the Proposed Rulemaking

The Board received 285 comments regarding the proposed beneficial use of coal ash regulations during the public hearings and public comment period. The comments were received from over 1100 commentators, including 13 industry organizations, 7 environmental groups, the Pennsylvania Chamber of Business and Industry, and the Independent Regulatory Review Commission (IRRC). The commentators ranged from those who consider the current regulations to be sufficient to those who believe the beneficial use of coal ash should be stopped. Most commentators' opinions fell between these two views and many of their comments led to changes in the final-form regulations.

Many commentators noted that after decades of reclamation projects using ash, there have not been negative impacts to the environment. Therefore, implementation of additional requirements is unnecessary and burdensome to industry and may prevent further beneficial use. As stated in the purpose for this rulemaking, the Board saw that there was a need to codify policy into enforceable regulation. The Board also considered the improvements in water quality monitoring and coal ash characterization suggested by the National Academy of Sciences' study and public interest. The final-form regulations meet the stated purpose. Changes have been made to lessen the impact on industry. In § 290.1(c), ash from co-firing alternative fuels with coal can be managed as coal ash. § 290.104(f) provides flexibility for the management of ash from multiple small waste coal piles and the reclamation of those sites. Finally, the permit filing fee in § 290.104(c) has been reduced after coal ash placement is completed.

Some commentators see any requirement that may be waived or modified as a loophole and want them all eliminated. Others want the Department to have the ability to waive or modify

more of the regulatory requirements. Some ability to waive or modify specific requirements based on site conditions is necessary, as a “one-size fits all” approach will not be appropriate in all situations. However, the commentators raised some valid points that resulted in elimination, modification or the addition of waiver language. Examples include: elimination of the waiver in § 290.404(b)(10) of the siting restriction for distance to a public water supply for a coal ash storage impoundment; change from being able to modify the length of background water quality monitoring to only being able to require a longer period in § 290.301(b)(2); and addition of the ability to waive well filter-packing requirements in § 290.303(a)(4).

Some commentators believe that limiting the amount of coal ash to the amount of coal, coal refuse, culm or silt in proposed § 290.104(f) and water quality monitoring requirements proposed in § 290.301 will cause remediation of small piles to cease due to costs associated with water quality monitoring. The final-form regulations allow a greater quantity of ash to be beneficially used at a site if the site is part of a multiple-site project involving multiple coal refuse reprocessing sites. By allowing a greater quantity to be placed at one location of a multiple-site project, the water quality monitoring requirements can be limited to one site, rather than every small pile in the multi-site project.

Several commentators thought the definition of coal ash should be modified in the regulation to allow ash produced by co-combustion of coal with alternative fuels to be considered to be coal ash. However, changing the definition of coal ash to include ash when alternative fuels are used would broaden its definition beyond the coal ash definition in the Solid Waste Management Act. To accommodate the use of alternative fuels, the final-form regulations make allowances in § 290.2(c) for the beneficial use of coal ash produced from co-firing coal with alternative fuels.

Many commentators said that the eight-foot separation to groundwater should never be waived. While the Department had success with a demonstration project in which coal ash was placed directly into a water-filled surface mine, the National Academy of Sciences recommended that coal ash be kept out of direct contact with water. The Board agrees with this recommendation and has removed the waiver language in the final-form § 290.101(e). The eight-foot separation does not apply when coal ash is used for mine subsidence control, mine fire control or mine sealing in the final-form regulation, since the coal ash is required to undergo cementitious reactions for these uses, which will greatly reduce the leachability of the coal ash.

Several commentators suggested replacing leach testing using EPA Method 1312 (Synthetic Precipitation Leaching Procedure or SPLP) in proposed § 290.201(c)(5)(i) with a more costly (estimated by EPA to be \$10,000 to \$15,000 per sample) leaching procedure developed by Kosson at Vanderbilt University. EPA is currently working on developing this new procedure, which they call the “framework,” into a standard procedure. Difficulties in adopting this “framework” procedure include that it has not been accepted as an approved, standard method; interpretation of the results is unclear; and it is a very costly procedure that would replace an inexpensive procedure that has proven itself to be protective. The Board recognizes that improved leaching procedures based on the “framework” or on other research could produce results that are better at predicting leaching of coal ash than SPLP may be developed into standard methods in the future. The final-form regulations specify use of SPLP unless a different leaching procedure is required by the Department.

There were many comments on what triggers the need for an assessment plan under § 290.304. Some commentators indicated a plan should be required when any increase above background occurs. Others indicated that a plan should be required only after an abatement standard is exceeded. Finally, others indicated that a plan should be required only when statistically-significant degradation occurs. Some changes that may exceed background levels are actually beneficial, such as an increase in alkalinity at a site impacted by acid mine drainage, and should not trigger an assessment. Abatement standards may already be exceeded prior to coal ash placement at mine sites. The final-form regulations indicate that an assessment plan is required when statistically significant degradation occurs. A citation to the methods that may be used to determine what is statistically significant has been added.

Some commentators thought liners should be required for any area where coal ash is placed. Coal ash meeting the strict chemical leaching standards for beneficial use in § 290.201 have not negatively affected ground or surface water resources. Liners are not required in the final-form regulations for sites where coal ash is to be beneficially used.

Many commentators indicated that financial assurance should be required for all sites where coal ash is to be beneficially used and that the financial assurance should be adequate upfront to cover the cost of corrective action. Since by statutory definition, beneficially-used coal ash is not solid waste, the Department's ability to require bonding upfront is limited to permitted mine sites. It also has been the Department's position not to require bonding to cover corrective action when problems are not expected to occur, which is the case with beneficial use. The Department does have the ability where degradation occurs to then require financial assurances to cover the Commonwealth's costs for corrective action in case the responsible party does not take sufficient corrective measures. The requested change was not made in the final-form regulations.

Since many of the requirements in these regulations are new, some commentators requested "grandfathering" existing requirements or a timeline for complying with new requirements. Interim requirements have been added in §§ 290.307 and 290.415 for water quality monitoring and storage requirements. Many of the new requirements in these regulations, such as coal ash certification, have already been implemented under Departmental policies, and transition provisions in these areas are unnecessary.

The Independent Regulatory Review Commission requested an explanation as to why the time frames in § 290.301 are appropriate and how the requirements will work with other DEP regulations. There are three timeframes for water quality monitoring in § 290.301: background sampling, sampling during coal ash placement, and sampling during post-placement.

Twelve months of background samples allows for the collection of a complete year of data, which will reflect seasonal variations. This approach allows for comparison with future monitoring results. This approach has worked well for establishing baseline conditions in the Remining Program (Chapter 87, Subchapter F and Chapter 88, Subchapter G).

Quarterly sampling during active placement is designed to capture seasonal variations, while limiting the cost of sampling. This has been the Bureau of Mining and Reclamation's standard

monitoring approach for other aspects of Pennsylvania's mining program and has worked effectively.

Regarding the 10 years of post-placement monitoring, comments received ranged from there should be no regulations (and presumably no monitoring) to suggesting that 30 years should be required. The length of post-placement monitoring is based on Department observations and experience with groundwater systems in coal-bearing rocks and coal mine settings.

G. Benefits, Costs and Compliance

Benefits

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 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.

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 final-form regulations impose an annual assessment of a permit filing fee of \$2000 during coal ash placement and \$1000 post placement. 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.

Compliance Assistance Plan

The public will be informed through Department publications, the Internet, and other mass media.

Paperwork 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. Annual reports are required for use as structural fill, abandoned coal surface mine sites and at mining activity sites.

H. 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 regulation has incorporated the following pollution prevention provisions and incentives:

The rulemaking will not modify the pollution prevention approach by the regulated community and maintains the multi-media pollution prevention approach of existing requirements in 25 Pa. Code.

I. 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.

J. Regulatory Review

Under 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 notice of proposed rulemaking, published at 39 *Pa.B.* 6429, to the Independent Regulatory Review Commission (IRRC) and the Chairpersons of the House and Senate Environmental Resources and Energy Committees for review and comment.

Under section 5(c) of the Regulatory Review Act, IRRC and the Committees were provided with copies of the comments received during the public comment period, as well as other documents when requested. In preparing these final-form regulations, the Department has considered all comments from IRRC, the Committees and the public.

Under section 5.1(j.2) of the Regulatory Review Act, on (blank) , these final-form regulations were deemed approved by the House and Senate Committees. Under section 5.1(e) of the Regulatory Review Act, IRRC met on (blank) and approved the final-form regulations.

K. Findings of the Board

The Board finds that:

(1) Public notice of proposed rulemaking was given under sections 201 and 202 of the act of July 31, 1968 (P.L. 769, No. 240) (45 P.S. §§ 1201 and 1202) and regulations promulgated thereunder at *1 Pennsylvania Code* §§ 7.1 and 7.2.

(2) A public comment period was provided as required by law, and all comments were considered.

(3) These regulations do not enlarge the purpose of the proposal published at 39 *Pennsylvania Bulletin* 6429 (Saturday, November 7, 2009).

(4) These regulations are necessary and appropriate for administration and enforcement of the authorizing acts identified in Section C of this order.

L. Order of the Board

The Board, acting under the authorizing statutes, orders that:

- (a) The regulations of the Department of Environmental Protection, *25 Pennsylvania Code*, Chapters 287 and 290, are amended to read as set forth in Annex A.
- (b) The Chairperson of the Board shall submit this order and Annex A to the Office of General Counsel and the Office of Attorney General for review and approval as to legality and form, as required by law.
- (c) The Chairperson of the Board shall submit this order and Annex A to the Independent Regulatory Review Commission and the Senate and House Environmental Resources and Energy Committees as required by the Regulatory Review Act.
- (d) The Chairperson of the Board shall certify this order and Annex A and deposit them with the Legislative Reference Bureau, as required by law.
- (e) This order shall take effect immediately.

BY:

JOHN HANGER
Chairperson
Environmental Quality Board