

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Mining Programs

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TITLE: Beneficial Use of General Permit (GP) Materials at Active Coal Mines

EFFECTIVE DATE: August 20, 2016

AUTHORITY: The Surface Mining Conservation and Reclamation Act (52 P.S. § 1396.1 *et seq.*); Pennsylvania's Solid Waste Management Act (35 P.S. §§ 6018.101 *et seq.*); Coal Refuse Disposal Control Act (52 P.S. § 30.51 *et seq.*).

POLICY: Proposals to beneficially use Bureau of Waste Management (BWM) authorized GP materials at active coal mines will be reviewed by the Department's Mining Program to ensure compliance with the Commonwealth's Surface Mining Conservation and Reclamation Act (SMCRA), the implementing regulations, and the mining permit.

PURPOSE: This guidance provides clarification and direction to Department staff, coal mine permit holders, and their consultants on the nature and scope of the Mining Program's review of GP materials proposed for beneficial use at active coal mines.

APPLICABILITY: This guidance applies to surface coal mining, coal refuse disposal, coal refuse reprocessing and underground coal mining operations that propose to use solid waste authorized for beneficial use under a Bureau of Waste Management GP.

DISCLAIMER: The policies and procedures outlined in this guidance document are intended to supplement existing requirements. Nothing in the policies or procedures will affect regulatory requirements.

The policies and procedures herein are not an adjudication or a regulation. There is no intent on the part of the Department to give these rules that weight or deference. This document establishes the framework, within which DEP will exercise its administrative discretion in the future. DEP reserves the discretion to deviate from this policy statement if circumstances warrant.

PAGE LENGTH: 6 pages

Introduction

Coal mining permits are issued pursuant to the Surface Mining Conservation and Reclamation Act (SMCRA) and the implementing regulations (25 Pa. Code, Chapters 86-90). This regulatory framework requires that the Department, prior to issuing a coal mining permit, make specific findings concerning the potential for pollution (§ 86.37(a)(3)) and regarding the feasibility of accomplishing the mining and reclamation under the conditions of the permit, the regulations and the statute (§ 86.37(a)(2)).

Consequently, the beneficial use of materials authorized under a general permit (GP) from the Bureau of Waste Management (BWM) for use at active coal mines must be integral and consistent with the mine site's operation and reclamation plans. BWM's authorization of a GP with mine reclamation as a potential beneficial use is, therefore, only the first step in a process that also entails a subsequent review by the Bureau of District Mining Operations (BDMO) that includes the following: (1) a review of the GP material to ensure that it has been properly characterized to allow it to be safely used on a mine site, and (2) a site-specific review to evaluate if the material can be integrated into the mining and reclamation plan at the individual mine site without compromising the BDMOs ability to make the above-referenced findings under the SMCRA regulatory scheme.

Coal Ash – Based GP Materials

GP materials proposed for use at coal mining sites often include large volumes of coal ash as the foundation for the mixture. These coal ash-based materials include the following:

1. Coal ash/residual waste mixtures,
2. Coal ash/construction-demolition waste mixtures,
3. Coal ash produced by the incineration of coal that is co-fired with high volumes of an alternative fuel that is $\geq 20\%$ by weight of the total fuel mixture or contributes $\geq 10\%$ by weight of the total ash quantity.

Coal ash has been successfully incorporated into coal mine reclamation for over 20 years. In that time, the process for evaluating and using coal ash in mine reclamation has been improved by incorporated recommendations from the National Academies of Science, from practical experience and expertise of Mining Program technical staff, and from the scrutiny and input of a variety of stakeholders. In 2012, elements of the coal ash beneficial use program were formalized in 25 Pa. Code, Chapter 290.

Section 290.2 requires that coal ash-based GP materials comply with both Chapter 290 and other relevant sections of the residual waste or municipal waste regulations.

The beneficial use of coal ash-based GP materials for reclamation purposes at a coal mining activity site must be designed to achieve an overall improvement in water quality or prevent degradation of existing water quality.

Consequently, in order to qualify for beneficial use at an active coal mine site, coal ash-based GP materials (the final product mixture proposed for use) are subject to the requirements of Chapter 290, including the full array of chemical and physical characterization standards outlined under § 290.201. Section 290.201 provides the methodology for assessing GP materials that are coal ash mixtures. The derived numbers using this method are presented in the fact sheet, "Coal Ash Monitoring Parameters and Certification Standards" (5600-FS-DEP4305).

For the majority of mine-site applications, coal ash-based GP materials that meet the standards at § 290.201 are deemed to also satisfy the potential pollution standard at § 86.37(a)(3). However, the BDMO must ensure that the proposed mine reclamation material has been adequately characterized and tested using techniques and methods that mimic the mine environment. In some cases, BDMO may need to require additional testing of materials to address site-specific and/or material-specific concerns. This may be driven by mine-site conditions or, more likely, by the type and/or volume of waste incorporated with the coal ash. [For example, pyrite-bearing materials (such as drill cuttings or waste rock) that have been characterized using the Synthetic Precipitation Leaching Procedure (SPLP) may need to be further assessed to evaluate potential acidity generated by pyrite oxidation. In such cases, the BDMO would apply the standard for low sulfur, a limit of <0.5%].

Coal ash-based GP materials that do not satisfy the standards at § 290.201 should not be approved for beneficial use at active coal mines. The Bureau of Mining Programs will provide technical assistance to the BDMO as needed.

Other GP Materials

GP materials that do not include coal ash or are beneficially used for purposes not typical of coal ash will be evaluated on a case-by-case basis. These GP materials may be subject to additional testing and/or characterization to ensure they are physically and chemically stable in the mine site environment, that they have the mechanical attributes to serve the intended use, and that they serve to enhance mine site reclamation. The Bureau of Mining Programs will provide technical assistance to the BDMO regarding the assessment of these materials.

In all cases, the chemical and engineering properties of the proposed GP materials must be evaluated in the context of a specific mine site's reclamation plan to ensure that use of the proposed material supports and enhances timely mine site reclamation (including the achievement of approximate original contour), does not result in pollution, and is consistent with post-mining land uses.

Application Procedures for Use of GP Materials

The BDMO's review will consider (1) the availability of suitable existing reclamation material on site and whether there is a need to import additional material; and, (2) the engineering properties of the proposed GP material and whether those properties are consistent with the reclamation plan and the intended use of the GP material. The following procedures apply to the review of applications for the beneficial use of GP materials at active mine sites:

- The generator or processor of the waste material applies for authorization to beneficially use the waste material under a GP issued by BWM or coverage issued by the Regional Office under a BWM-approved GP. If an existing GP is available, the applicant must file an application for and obtain a determination of applicability (DOA) or file a registration to operate with the Regional Office or BWM Central Office. If an existing GP is not available, the applicant may apply for a new GP through BWM Central Office. After receiving approval from the BWM or Regional Office on a new GP, DOA, or registration, the mine site permit holder requests approval from the local BDMO office to use the material at a particular mine site. (A concurrent review between BWM and the BDMO may be suitable under some circumstances.) This request is submitted as a reclamation plan revision and is considered a major permit revision. (Adding a new source of the GP material is a minor permit revision to the mining permit provided that the mine site is

already approved to use the material and the proposed beneficial use is consistent with the original approval.)

- As part of the reclamation plan revision submittal, the coal mine permit holder must demonstrate that the GP material enhances reclamation at the mine site and will not cause pollution. The submittal must include the following:
 1. A copy of the approved BWM GP
 2. Description of the intended on-site use(s) of the GP material and a justification regarding the need for the material
 3. Results of chemical and mechanical testing (at least 4 representative samples as is the standard for coal ash given in § 290.201(b)(5))
 4. Detailed material usage plan including volumes to be used, delivery and handling specifications, and operational information specific to the mine site
 5. Water monitoring plan and background samples
 6. Revised operations and reclamation plans
 7. Sampling plan of material used on site
- The BDMO will send a copy of the chemical and mechanical testing results to the BMP to maintain in a database.
- Monitoring requirements for use of coal ash-based GP materials will follow the requirements of Chapter 290.
- Landowner consent is needed for any GP materials mixed with coal ash. 25 Pa. Code § 290.104(b)(3) (relating to beneficial use at coal mining activity sites).

Public Notice

For a new waste GP, DOA, or registration, the applicant must follow the public notice requirements for those authorizations. In addition to notices required under the waste management program, most initial proposals to beneficially use GP material at a mine site are revisions to the reclamation plan of the mining permit, typically a major permit revision, which require public notice, pursuant to 25 Pa. Code §§ 86.31 and 86.54, and including a description of how the GP material will be used. Additional sources of GP material are typically considered a minor permit revision that does not require public notice. The Department notifies local municipalities of new coal mining permits and major revisions; the notification to the local municipality will specify that GP material beneficial use is proposed.

Sampling and Monitoring

The monitoring requirements for the beneficial use of GP materials will generally be similar to those for coal ash as specified in Chapter 290, including minimum number of samples over a specified period (*e.g.*, at least one representative sample every 3 months, as required by 25 Pa. Code § 290.201(d)(1)).

Form 5600-PM-BMP011 can be used to supply the information needed, but should be accompanied by adequate clarification and supplemental information regarding the origin of the material.

Upon issuance of a mining permit or modification to the mining permit, the DMO will set permit conditions for monitoring the GP material and groundwater on *at least* a quarterly basis.¹ The mining permit conditions will not exempt the operator from the conditions of the GP unless it is agreed between the BWM, BDMO and the applicant that an equal or more stringent mining condition will supersede the GP condition.

Water Monitoring Plan

A water monitoring plan is typically necessary when either more than 10,000 tons of GP material is used per acre or more than 100,000 tons is used on a site. Depending on the material to be used, a monitoring plan may be required for lesser amounts. *See* 25 Pa. Code § 290.101. The DMO reviews the groundwater monitoring plan, including location of monitoring points, parameters monitored and frequency of sampling to be consistent with § 290.301. In addition to chemical parameters listed for coal ash (*see* §§ 290.301(e) and (f))² the additional chemical or physical parameters specifically identified in the conditions of the GP need to be met. The DMO may ask for other chemical parameters that may be of concern for the material that is proposed for beneficial use. For this and various other reasons, the Department recommends a pre-application submission prior to the formal submission process in order to ensure any areas of concern may be addressed early in the process and that suitable monitoring points and parameters are agreed upon.

Fees

For GPs where residual waste is mixed with coal ash, fees described in § 290.104(c) apply.

Existing General Permits

Several GPs issued by BWM currently authorize the beneficial use of waste materials for mine reclamation. These permits may include leaching limits and authorize testing through the Toxicity Characteristic Leaching Procedure (TCLP). Chapter 290, however, requires the use of SPLP. The SPLP test method should be used unless the applicant can demonstrate that an alternative method is as effective or more effective in evaluating the pollution potential of the GP material.³

This guidance does not apply to GPs for materials used for an approved purpose other than mine reclamation at active coal mines.

¹ Quarterly sampling of monitoring points is required for mines at 25 Pa. Code Chapter 87, § 116; Chapter 88, § 88.306; Chapter 89, § 89.59; and Chapter 90, § 90.115.

² The coal ash chemical parameters and their leaching limits are provided in the Fact Sheet “Coal Ash Monitoring Parameters and Certification Standards” (5600-FS-DEP4305).

³ The Toxicity Characteristic Leaching Procedure is designed to mimic landfill conditions. The Synthetic Precipitation Leaching Procedure, as the name implies, is designed to mimic leaching by precipitation, a condition more analogous to mine sites.

General Permit Use on Noncoal Sites

This guidance is not applicable to the beneficial use of GP materials at noncoal sites. For material beneficially used at noncoal sites, reference the Department's Technical Guidance Document, *Use of Reclamation Fill at Active Noncoal Sites*, Document No. 563-2000-301.

Conclusion

This guidance was designed to ensure that safe and proper reclamation practices are followed at active mine sites when beneficially using waste materials under a GP. The requirements of § 86.37, as well as all other applicable laws and regulations, must be satisfied when reclaiming an active mine site. Following the process outlined in this document will assist in ensuring that GP material will be beneficially used at a mine site in accordance with all applicable laws and regulations. The mine site operator will be responsible for the proper use of the GP material as approved within the GP and in accordance with the waste and mining regulations, and applicable permit conditions.