



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

BUREAU OF WASTE MANAGEMENT
DIVISION OF MUNICIPAL and RESIDUAL WASTE

GENERAL PERMIT WMGR134

BENEFICIAL USE OF SYNTHETIC GYPSUM

Issued: June 14, 2022

Expires: June 14, 2032

GENERAL PERMIT NO. WMGR134
BENEFICIAL USE OF SYNTHETIC GYPSUM

A. Description:

This general permit authorizes the beneficial use of synthetic gypsum from forced oxidation flue gas desulfurization (FGD) systems generated at coal-fired electric power plants when mixed with coal ash, hereinafter referred to as stabilized FGD-gypsum material, to enhance compaction of fine coal refuse at coal refuse disposal sites.

B. Determination of Applicability Requirements:

A person or municipality that proposes to beneficially use synthetic gypsum under the terms and conditions of this general permit after the date of permit issuance must obtain a "Determination of Applicability" ("DOA") from the appropriate Department Regional Office (see attached list) prior to commencing authorized activities under this general permit. A completed application on forms provided by the Department along with the application fee for a DOA must be submitted to the appropriate Department Regional Office. Checks shall be made payable to the "Commonwealth of Pennsylvania". No activities shall commence unless approved, in writing, by the Department.

C. Operating Conditions:

1. Prior to beneficial use, the synthetic gypsum shall be uniformly mixed with coal ash and coal refuse using a pug mill, double auger, or equivalent mixing method approved by the Department. The blending of these three components must be in a ratio to ensure proper compaction at the end-use site
2. The placement of synthetic gypsum mixed with coal ash for beneficial use must be in a lined area with a leachate and stormwater collection system. Surface water controls must be constructed, implemented, and maintained to eliminate or prevent ponding and excessive wetting and shall be based on a 24-hour precipitation event to be expected once every 25 years, or as permitted under 25 Pa. Code Chapters 86 and 90.
3. The leachate generated at the beneficial use site shall be collected, analyzed, and treated to meet the requirements of this general permit.
4. Water quality monitoring shall be conducted in accordance with 25 Pa. Code § 288.251 through § 288.257.
 - a. Groundwater monitoring shall be sufficient to detect impacts of the placement of stabilized FGD-gypsum material on the groundwater.
 - b. At least one (1) upgradient and three (3) downgradient groundwater monitoring points shall be established unless otherwise approved by the Department.

GENERAL PERMIT NO. WMGR134
BENEFICIAL USE OF SYNTHETIC GYPSUM

- c. Groundwater monitoring points shall be sampled on a quarterly basis once the stabilized FGD-gypsum material is placed.
 - d. Groundwater monitoring shall continue for five (5) years after the completion of beneficial use of stabilized FGD-gypsum material. The monitoring required in this condition shall continue for five (5) additional years if groundwater degradation is determined to occur.
 - e. Quarterly samples shall be analyzed for: static water elevation (for monitoring wells), flow (for springs, seeps, or mine discharges), pH (field and laboratory value), conductance, alkalinity, acidity, Iron, Manganese, Sulfate, Total Dissolved Solids, Total Suspended Solids, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chloride, Calcium, Chromium (Total), Cobalt, Copper, Lead, Magnesium, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, and Zinc.
5. The synthetic gypsum/coal ash mixture may be beneficially used if all of the following are met:
- a. Leachate analysis, using the Synthetic Precipitation Leaching Procedure (EPA 1312), on a representative sample indicates none of the levels in Table 1 are exceeded.

Table 1	
Constituent	Leachable (mg/L)
Aluminum	10
Antimony	0.3
Arsenic	0.5
Barium	100
Beryllium	0.2
Boron	350
Cadmium	0.25
Chromium	5
Cobalt	36.5
Copper	65
Iron	15
Lead	0.25
Manganese	2.5
Mercury	0.1
Molybdenum	8.75
Nickel	5
Selenium	2.5
Silver	5
Thallium	0.025

GENERAL PERMIT NO. WMGR134
BENEFICIAL USE OF SYNTHETIC GYPSUM

Vanadium	13
Zinc	250
Chloride	12,500
Fluoride	200
Nitrate	500
Nitrite	50
Sulfate	12,500

- b. The stabilized synthetic gypsum material shall achieve a minimum 90% of the standard Proctor maximum dry density.
6. In cases when coal ash is not being generated at the facility, the permittee shall request, in writing, a temporary daily approval to place synthetic gypsum with coal refuse alone. The Department may approve the use on a case-by-case basis until coal ash is again generated at the facility.
7. The beneficial use of stabilized FGD-gypsum material at a coal refuse disposal site must be approved by DEP's Mining Program.
8. The beneficial use of synthetic gypsum mixed with coal ash shall not be:
 - a. Placed in direct contact with surface or ground water;
 - b. Placed within 100 feet of a perennial stream;
 - c. Placed within 300 feet of an exceptional wetland;
 - d. Placed within 300 feet down gradient of a private or public water source;
 - e. Placed within 100 feet of a sinkhole or area draining into a sinkhole;
 - f. Placed within 1000 feet up gradient of a private or public water source, unless otherwise approved by the Department's appropriate Regional Office;
 - g. Placed during periods of heavy rain or to ground that is saturated;
 - h. Placed within the 100-year floodplain of a water of this Commonwealth.
9. Upon cessation of permitted operations at the facility, the permittee shall assure remove all wastes and provide for the processing, recycling, beneficial use, or disposal of wastes in accordance with the SWMA, the environmental protection acts and the regulations promulgated thereunder.
10. The activities authorized by this permit shall not cause or allow conditions that are harmful to the environment, public health or safety, including but not limited to, odors, noise, or other public nuisances. The permittee shall not cause or allow the attraction,

GENERAL PERMIT NO. WMGR134
BENEFICIAL USE OF SYNTHETIC GYPSUM

harborage, or breeding of vectors. Storage of the produced compost shall be covered to prevent dispersal by wind or water erosion and in a manner that prevents fire or explosion. The produced compost may not be stored in a manner that causes ground or surface water contamination.

11. The permittee shall develop and implement a Preparedness, Prevention and Contingency Plan (PPC) that is consistent with the Department's most recent guidelines.
12. All activities conducted under the authorization granted in this permit shall be conducted in accordance with the permittee's application. Except to the extent the permit states otherwise, the permittee shall utilize materials as described in the permit application.
13. The permittee shall comply with the fugitive emissions regulations under 25 Pa. Code, Chapter 123 (relating to standards for contaminants) issued under the Air Pollution Control Act, the Act of January 8, 1960, P.L. 2119, 35 P.S. §4005, and shall comply with all the applicable provisions of 25 Pa. Code §§123.1 and 123.2 (relating to prohibition of certain fugitive emissions and fugitive particulate matter).
14. Nothing in this permit shall be construed to supersede, amend, or authorize a violation of any of the provisions of any valid and applicable local law, ordinance, or regulation, providing that said local law, ordinance, or regulation is not preempted by the Solid Waste Management Act (SWMA), 35 P.S. §§ 6018.101—6018.1001; and the Municipal Waste Planning, Recycling and Waste Reduction Act of 1988, 53 P.S. §§4000.101, et seq.
15. As a condition of this general permit and of the permittee's authority to conduct the activities authorized by this general permit, the permittee hereby authorizes and consents to allow authorized employees or agents of the Department, without advance notice or search warrant, upon presentation of appropriate credentials and without delay, to have access to and inspect all areas on which solid waste management activities are being, will be, or have been conducted. This authorization and consent shall include consent to collect samples of waste, soils, water, or gases; take photographs; perform measurements, surveys, and other tests; inspect any monitoring equipment; inspect the methods of operation and inspect and/or copy documents, books, and papers required by the Department to be maintained. This permit condition is referenced in accordance with Sections 6018.608 and 6018.610(7) of the SWMA, 35 P.S. §§ 6018.608 and 6018.610(7). This condition in no way limits any other powers granted under the SWMA.
16. Any independent contractors or agents retained by the permittee in the completion of activities authorized under this general permit shall be subject to compliance history review by the Department prior to performance of any activities, as specified by the SWMA.
17. Failure of measures herein approved to perform as intended, or as designed, or in compliance with the applicable laws, rules, and regulations and terms and conditions of this permit, for any reason, shall be grounds for the revocation or suspension of the permittee's approval to operate under this permit.

GENERAL PERMIT NO. WMGR134
BENEFICIAL USE OF SYNTHETIC GYPSUM

18. The activities authorized by this general permit shall not harm or present a threat of harm to the health, safety, or welfare of the people or environment of this Commonwealth. The Department may modify, suspend, revoke, and reissue the authorization granted in this general permit if it deems necessary to prevent harm or the threat of harm to the public health, and the environment or if they cannot be adequately regulated under the conditions of this general permit.
19. The permittee shall comply with the terms and conditions of this general permit and with the environmental protection acts to the same extent as if the activities were covered by an individual permit. The Department may require an individual permit be obtained if the permittee cannot comply with the conditions of this general permit or is conducting an activity that harms or presents a threat of harm to the health, safety, or welfare of the public or the environment of this Commonwealth.
20. This permit does not authorize and shall not be construed as an approval to discharge any waste, wastewater, or runoff from the site of processing to the land or waters of the Commonwealth. Collected precipitation shall be promptly removed from the secondary containment area.
21. Best Management Practices shall be implemented to divert storm water run-on from the storage area. Storm water runoff shall be managed in accordance with The Clean Streams Law and regulations promulgated thereunder. Prior to beginning operations at the facility, the operator must obtain all necessary storm water management permits.
22. The permittee shall maintain in force and affect a general liability insurance policy in accordance with 25 Pa. Code, Chapter 287, Subchapter E (relating to bonding and insurance requirements) to provide continuous coverage during operation of the facility and until the Department issues a final closure certification.
23. Equipment used for the transportation and storage of synthetic gypsum and coal ash shall be maintained in good operating condition to prevent the synthetic gypsum and coal ash from being unintentionally conveyed out of the storage areas. Weekly inspections of each storage area and surrounding environs shall be conducted to determine compliance of the terms and conditions of this general permit and for evidence of failure.
24. Storage of synthetic gypsum and coal ash by the permittee shall be in a manner that complies with the requirements set forth in 25 Pa. Code, Chapter 299 (relating to storage and transportation of residual waste).
25. Except as otherwise provided by this general permit or applicable regulations, the synthetic gypsum and coal ash shall not be mixed with other types of solid wastes, including hazardous waste, municipal waste, special handling waste, or other residual waste, as the terms are defined in 25 Pa. Code § 287.1.

D. Sampling, Analysis and Frequency of Monitoring

GENERAL PERMIT NO. WMGR134
BENEFICIAL USE OF SYNTHETIC GYPSUM

1. Representative samples of the entire stabilized FGD-gypsum material produced must be collected and analyzed as required in Condition D.2 and D.3 to determine compliance with the physical and/or chemical requirements as specified in Conditions C.5.a and C.5.b of this general permit. More than one sample is usually necessary to accurately represent the stabilized FGD-gypsum material produced. Core samples at different locations and at various depths shall be collected and then composited to obtain a representative sample of the stabilized FGD-gypsum material produced. The key is to obtain a representative sample. In general, the more samples taken, the greater the chance that the sampling results will be representative of the quality of the stabilized FGD-gypsum material that is produced.
2. Prior to the beneficial use of any stabilized FGD-gypsum material under the provisions of this permit, the permittee shall verify that the material is uniformly mixed and collect representative samples of the entire stabilized FGD-gypsum material and analyzed for "leachable" levels for each constituent level as listed in Table 1 of Condition C.5.a of this general permit. Thereafter, the permittee shall perform chemical analysis on additional representative sampled of stabilized FGD-gypsum material as follows:
 - a. If the amount of stabilized FGD-gypsum material is greater than zero but less than 75,000 tons on a monthly basis, the frequency of testing shall be once per 60 days.
 - b. If the amount of stabilized FGD-gypsum material is equal to or greater than 75,000 tons, on a monthly basis, the frequency of testing shall be once per 30 days.
3. The frequency of monitoring requirements for the physical and chemical analysis of representative samples of the stabilized FGD-gypsum material shall be as follows:
 - a. The frequency of monitoring for the compaction of 90% Standard Proctor as specified in Condition C.5.b shall be once per 90 days.
 - b. After the physical and chemical analysis of representative samples of the stabilized FGD-gypsum material has been conducted as required by this general permit for a two-year period and has met the concentration limits and requirements as specified, the Department may reduce the required frequency of monitoring if a written request for the reduction of sampling frequency is submitted by the permittee. However, the frequency of monitoring may not be less than twice per year. A written approval from the Department must be obtained before commencing a reduced sampling frequency.
4. Analytical testing required by this general permit shall be performed by a laboratory accredited under the Pennsylvania Environmental Laboratory Accreditation Act, Act of 2002, 27 Pa. C.S.A. §§ 4101-4113.

E. Recordkeeping:

GENERAL PERMIT NO. WMGR134
BENEFICIAL USE OF SYNTHETIC GYPSUM

1. The permittee shall maintain the following records regarding the beneficial use of synthetic gypsum:
 - a. The dates and volumes of gypsum placement, including the ratio of coal ash/gypsum mixed for placement
 - b. The locations of placement for each coal ash/gypsum mixture.
 - c. Required records shall be retained for a minimum of 5 years.
2. The permittee shall maintain records of all analytical evaluations conducted in accordance with this permit, and records shall be made available to the Department upon request. Required records shall be retained for a minimum of 5 years from the date they were obtained and are to include at a minimum, the following for each sample: the dates of sampling and testing, sampling procedures utilized, name of the individual who collected the sample, the volume or weight of the sample, each parameter tested, the analytical results, the name of the analytical laboratory used, and the analytical methodologies employed.
3. The permittee shall maintain records of spills or releases that include, at a minimum, the following: the location, date, time, identification, and quantity of spilled or released material, and a description of how the material was cleaned up. The permittee shall also maintain records of all reports submitted to the Department or to the U.S. Environmental Protection Agency. Required records shall be retained for a minimum of 5 years.

F. Reporting Requirements:

1. Any person that operates under the provisions of this permit shall immediately notify the Department via certified mail of any changes in: the company name, address, owners, operators, and/or responsible officials of the company, compliance status, land ownership and the right to enter and operate any land occupied by a facility, the raw source or physical and chemical characteristics of the waste, the industrial process which generates the waste and the status of any permit issued by the Department or federal government under the environmental protection acts.
2. Persons operating under the provision of this general permit shall submit to the appropriate Department Regional Office (see attached list), an annual report on the beneficial use activities conducted under this permit by March 1 for the preceding calendar year. This report shall include:
 - a. The information outlined in Conditions C.5.a, C.5.b, and Section E.
 - b. The laboratory reports for leachate analyses performed on a representative sample of stabilized gypsum material for all of the constituents listed in Table 1. The

GENERAL PERMIT NO. WMGR134
BENEFICIAL USE OF SYNTHETIC GYPSUM

analysis data submitted must be in compliance with this requirement and from samples of the stabilized gypsum material collected within the past six (6) months.

3. The permittee shall immediately notify the Department's Emergency Hotline by telephone at 800-541-2050 and the waste management program in the appropriate DEP regional office (see attached list) of any accidental spills and shall take appropriate immediate action to protect the health and safety of the public and the environment.

G. Renewal:

A person or municipality that plans to continue the operations authorized under this general permit, after the expiration date indicated on the approval for coverage page, shall file a complete application for permit renewal at least 180 days before the expiration date of this general permit unless permission has been granted by the Department for submission at a later date. The renewal applications shall be submitted to the appropriate DEP Regional Office (see attached list) and include, at a minimum, the following:

- a. General Information Form (Authorization Application for a Residual or Municipal Waste General Permit Application),
- b. Form B (Professional Certification),
- c. Form 20 (Application for a Municipal or Residual Waste General Permit),
- d. Form 27R (Acceptance of General Permit Conditions), and
- e. DOA application fee in the amount identified in Section A (General Information) of the Form 20. A check shall be made payable to the "Commonwealth of Pennsylvania."

In the event that a timely and complete application for renewal has been submitted and the Department is unable, through no fault of the permittee, to reissue the general permit or approval for coverage before its current coverage expiration date, the terms and conditions of the approved coverage will automatically continue and will remain fully effective and enforceable pending the issuance or denial of the renewal for permit coverage, provided the permittee is, and has been, operating in compliance with the terms and conditions of the general permit.

**Department of Environmental Protection
Regional Offices
(and Counties Served)**

- I. Bucks, Chester, Delaware, Montgomery, Philadelphia.

Southeast Regional Office
2 East Main Street
Norristown, PA 19401
Phone: (484) 250 - 5960

- II. Carbon, Lackawanna, Lehigh, Luzerne, Monroe, Northampton, Pike, Schuylkill, Susquehanna, Wayne, Wyoming.

Northeast Regional Office
2 Public Square
Wilkes-Barre, PA 18711-0790
Phone: (570) 826 – 2516

- III. Adams, Bedford, Berks, Blair, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Mifflin, Perry, York.

Southcentral Regional Office
909 Elmerton Avenue
Harrisburg, PA 17110-8200
Phone: (717) 705 – 4706

- IV. Bradford, Cameron, Centre, Clearfield, Clinton, Columbia, Lycoming, Montour, Northumberland, Potter, Snyder, Sullivan, Tioga, Union.

Northcentral Regional Office
208 West 3rd Street - Suite 101
Williamsport, PA 17701
Phone: (570) 327 – 3653

- V. Allegheny, Beaver, Cambria, Fayette, Greene, Somerset, Washington, Westmoreland.

Southwest Regional Office
400 Waterfront Drive
Pittsburgh, PA 15222-4745
Phone: (412) 442 – 4000

- VI. Armstrong, Butler, Clarion, Crawford, Elk, Erie, Forest, Indiana, Jefferson, Lawrence, McKean, Mercer, Venango, Warren.

Northwest Regional Office
230 Chestnut Street
Meadville, PA 16335-3481
Phone: 814-332-6848