



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

BUREAU OF WASTE MANAGEMENT

DIVISION OF MUNICIPAL and RESIDUAL WASTE

GENERAL PERMIT WMGR159

**PROCESSING OF RECLAIMED WASTE COAL ASH FOR
BENEFICIAL USE AS AN INGREDIENT IN THE
MANUFACTURING OF CONCRETE**

Issued: February 22, 2018

Amended: January 29, 2025

Expires: February 22, 2028

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PROCESSING OF RECLAIMED WASTE COAL ASH FOR BENEFICIAL
USE AS AN INGREDIENT IN THE MANUFACTURING OF CONCRETE

A. Description:

This general permit authorizes the processing of reclaimed waste coal ash prior to beneficial use and subsequent beneficial use as an ingredient in concrete manufacturing, including the formulation of concrete products. Processing is limited to drying and mechanical sizing of reclaimed waste coal ash.

For the purposes of this general permit, waste coal ash is defined as fly ash, bottom ash or boiler slag resulting from the combustion of coal, that has been disposed, or designated for disposal, and has not been beneficially used, reused or reclaimed for a commercial, industrial or governmental purpose. Waste coal ash that has been removed from storage piles, impoundments or monofills to be processed in accordance with the terms and conditions of this general permit for beneficial use as an ingredient in concrete manufacturing including the formulation of concrete products is referred to herein as reclaimed waste coal ash (RWCA).

B. Application Requirements:

A person or municipality that proposes to process RWCA 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. The quality of the RWCA accepted for direct use or processing prior to beneficial use must meet all applicable requirements as outlined in Section D of this permit, relating to Sampling and Analysis.
2. Storage of RWCA prior to processing 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).
3. The processed RWCA must meet all applicable material standards as set forth in the American Society of Testing and Material (ASTM) under which it is being used; or other applicable national, state or industry standard or specifications for which the reclaimed and processed waste coal ash is being substituted prior to being beneficially used as an ingredient in the manufacturing of concrete, including the formulation of concrete products. The processed RWCA must

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provide equivalent performance as the raw or commercially available material it is replacing.

4. The quality of the processed RWCA must meet all applicable requirements as outlined in Section D of this permit, relating to Sampling and Analysis.
5. Storage of processed RWCA shall be in a manner that complies with the requirements set forth in 25 Pa. Code, Chapter 290, Subchapter E (relating to coal ash storage).
6. Neither the incoming RWCA or the processed RWCA shall 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.
7. The permittee shall not operate a facility that processes RWCA within the following minimum isolation distances:
 - a. In the 100-year floodplain of waters of this Commonwealth, unless the Department approves, in writing, a method of protecting the facility from a 100-year flood consistent with the Flood Plain Management Act (32 P.S. §§ 679.101-679.601) and the Dam Safety and Encroachments Act (32 Pa. Code §§ 67.1-67.101) promulgated thereunder.
 - b. In or within the following:
 - i. 300 feet of an exceptional value wetland as defined in 25 Pa. Code §105.17 (relating to wetland), and
 - ii. 100 feet of a wetland other than an exceptional value wetland, unless storage and processing will not occur within that distance or storage and processing take place in an enclosed facility and one of the following applies:
 - A. If the operation is in or along the wetland, the operator has received a permit from the Department under Chapter 105 (relating to dam safety and waterway management).
 - B. If the operation is not in or along the wetland, no adverse hydrologic or water quality impacts will result.
 - c. Within 300 feet measured horizontally from an occupied dwelling, unless the current owner has provided a written waiver consenting to

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the activities being closer than 300 feet. The waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner.

- d. Within 100 feet of an intermittent or perennial stream, unless storage and processing will not occur within that distance and no adverse hydrologic or water quality impacts will result.
 - e. Within 50 feet of a property line, unless the operator demonstrates that actual processing of waste is not occurring within that distance, or that the current owners of occupied dwellings within that distance have provided written waivers consenting to the facility being closer than 50 feet. The waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the owner.
 - f. Within 300 yards of a park, a playground, or a building which is owned by a school district or school and used for instructional purposes.
8. Upon temporary cessation of processing or reclamation activities for 60-days or more, the permittee shall:
- a. remove any remaining unprocessed or processed RWCA from the storage area,
 - b. remove any other residual wastes, and
 - c. provide for the processing and disposal of the waste in accordance with the Solid Waste Management Act (SWMA), 35 P.S. §§ 6018.101- 6018.1001, the environmental protection acts and the regulations promulgated thereunder.
9. Upon cessation of permitted operations at the facility, the permittee shall ensure removal of all wastes and provide for the processing, 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: odors, noise, or other public nuisances.
11. The permittee shall develop and implement a Preparedness, Prevention and Contingency Plan (PPC) that is consistent with the Department's most recent

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guidelines. A copy of the approved PPC plan must be maintained at the facility and be provided to the Department upon request.

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, 35 P.S. §§ 4001 et seq., 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 SWMA; or the Municipal Waste Planning, Recycling and Waste Reduction Act, 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

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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.

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 the 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.
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, 35 P.S. §§ 691.1 et seq. 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 approves facility closure.
23. The permittee shall maintain a bond in an amount and with sufficient guarantees acceptable to the Department as provided for in 25 Pa. Code, Chapter 287, Subchapter E (relating to bonding and insurance requirements). The bond shall continue in effect for the operational life of the facility and for up to 10 years after final closure of the facility, unless released in whole or in part by the Department, in writing.
 - a. The bonding amount will be reviewed annually as part of the annual report and adjusted according to the prevailing minimum cost of remediation.

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- b. The bond will be calculated at the current prevailing minimum cost for processing, transportation and disposal at a permitted facility.
 - c. When multiple sites are involved, bonding amounts are cumulative and will be determined individually for each site.
24. Equipment used for the storage and processing of RWCA shall be maintained in good operating condition. Daily 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.
25. The processing of RWCA shall be performed in an area with an implemented erosion and sedimentation (E & S) control plan in accordance with the requirements as specified in 25 Pa. Code, Chapter 102 of the Department Rules and Regulations. A copy of the approved E & S plan must be maintained at the facility and be provided to the Department upon request.
26. Storage of processed RWCA that does not meet the chemical leaching limits in Table 1, and that the permittee has demonstrated is capable of meeting the chemical leaching limits in Table 1 only after being mixed with concrete and formed into concrete products, shall be stored in accordance with Chapter 299 until it is beneficially used. To meet the requirements of Chapter 299, and prevent dispersal of the RWCA by wind, the RWCA shall be containerized or stored within a fully enclosed structure. Before sending this RWCA for offsite storage prior to beneficial use, the permittee shall demonstrate compliance of the storage area with Chapter 299 and obtain approval of the storage area from the appropriate Department Regional Office. RWCA that does not meet the chemical concentration limits in Table 1 is not authorized for beneficial use as a bagged ready-mix product.

D. Sampling and Analysis:

- 1. The permittee shall collect representative samples of RWCA to be directly used or prior to processing to determine its eligibility for processing under the provisions of this permit. The permittee shall collect a representative sample of the first 10,000 tons of each new source of RWCA prior to direct use or prior to first processing and analyze the sample in accordance with subparagraphs a-b, below. A subsequent sampling and analysis event shall be conducted for every 10,000 tons of RWCA accepted for direct use or prior to processing. Each source of RWCA shall be sampled in accordance with this condition no less than once per year. Should knowledge of the incoming RWCA, visual observations

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or analytical results indicate variability in the quality of the RWCA, the sampling and analysis required by this condition shall be repeated, and the Department may require more frequent testing to be conducted.

- a. Unless otherwise noted, to obtain a representative sample, the samples must be taken from multiple locations in the batch and represent the entire amount of RWCA being sampled. In the batch process, more than one sample is necessary to accurately represent a particular batch. In general, the more samples taken, the greater the chance that the sampling results will be representative.
 - b. The RWCA must be tested and shown to meet the latest approved edition of the ASTM Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete (C618). Testing required by this subparagraph shall be conducted in accordance with the latest approved edition of the ASTM Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete (C311). In the formulation of concrete products, the RWCA must be tested and shown to meet the latest approved edition of the ASTM Standard Specifications for Loadbearing Concrete Masonry Units (C90), Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units, and Standard Specification for Lightweight Aggregates for Concrete Masonry Units.
2. The permittee shall also collect representative samples of the processed RWCA before the material may be beneficially used. The permittee shall collect a representative sample of the first 10,000 tons of processed RWCA prior to first beneficial use and analyze the sample in accordance with subparagraphs a-b, below. A subsequent sampling and analysis event shall be conducted for every 10,000 tons of processed RWCA generated. Should knowledge of the incoming RWCA, visual observations or analytical results indicate variability in the quality of the processed RWCA, the sampling and analysis required by this condition shall be repeated, and the Department may require more frequent testing to be conducted.
- a. To obtain a representative sample, the samples must be taken from multiple locations in the batch and represent the entire amount of processed RWCA being sampled. In the batch process, more than one sample is necessary to accurately represent a particular batch. In general, the more samples taken, the greater the chance that the sampling results will be representative.

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- b. The processed RWCA must be tested and shown to meet the concentration limits identified in Table 1; or
- c. The permittee demonstrates that the concrete produced using the RWCA meets the leachable limits in Table 1. The sampling methodology used for collecting samples of concrete product shall be consistent with the requirements of Condition D.1.; or
- d. The permittee compares a TCLP or SPLP analysis of concrete produced using the RWCA (“test sample”) to an identical analysis of the same concrete produced without the use of the RWCA (“control sample”) and demonstrates that any observed exceedances of a leachable limit in Table 1 using either is no worse in the test sample than observed in the control sample. The sampling methodology used for collecting samples of concrete product shall be consistent with the requirements of Condition D.1..

Table 1. Parameters required for leaching tests and the maximum acceptable leaching limits.

Parameter Symbol	Parameter Name	Leaching Limit mg/L	Parameter Symbol	Parameter Name	Leaching Limit
Ag	Silver	2.5	Hg	Mercury	0.05
Al	Aluminum	5.0	K	Potassium	*
As	Arsenic	0.25	Mg	Magnesium	*
B	Boron	15	Mn	Manganese	2.5
Ba	Barium	50	Mo	Molybdenum	4.375
Be	Beryllium	0.1	Na	Sodium	*
Ca	Calcium	*	NH ₃	Ammonia	30
Cd	Cadmium	0.125	Ni	Nickel	2.5
Cl	Chloride	250	NO ₂	Nitrite	1.0
Co	Cobalt	17.5	NO ₃	Nitrate	10
Cr	Chromium	2.5	Pb	Lead	0.375
Cu	Copper	25	SO ₄	Sulfate	2500
F	Fluoride	*	Sb	Antimony	0.15
Fe	Iron	7.5	Se	Selenium	0.5
			Tl	Thallium	0.05
Parameter		Std Units	V	Vanadium	6.125
pH**		7 or above	Zn	Zinc	50

* Limit not established.

** The pH measurement is done independent of the leaching test.

- 3. If the RWCA changes in chemical composition and does not meet the chemical concentration limits in Table 1, further testing shall be performed to demonstrate that the final concrete product meets the chemical leaching limits in Table 1.

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4. Analytical testing required by this general permit shall be performed by a laboratory accredited under the Pennsylvania Environmental Laboratory Accreditation Act, 27 Pa. C.S.A. §§ 4101et seq.

E. Recordkeeping:

1. 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. Records of analytical evaluations must 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.
2. The permittee shall maintain records of all waste accepted by the facility, and records shall be made available to the Department upon request. Required records shall be retained for a minimum of 5 years. Records of each source of incoming waste must include, at a minimum, the following: the name, address, and phone number of each source of incoming waste; the date of receipt; the quantity of waste received; the results of visual observations; and the name, address, and phone number of the destination of each outgoing shipment of waste.
3. The permittee shall also 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 the remediation. The permittee shall also maintain records of all reports submitted to the Department or to the U.S. Environmental Protection Agency.
4. The permittee shall maintain daily operational records at the facility. The daily operational records shall be maintained on the premises and available for inspection by Department personnel upon request and shall include the following:
 - a. The quantities, in tons, of RWCA received at the facility from each source.
 - b. The quantities, end use and destination of processed RWCA shipped from the permitted facility.
 - c. The source and quantities of any rejected waste, including reason for rejection and disposal records.

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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, and the status of any permit issued by the Department or federal government under the environmental protection acts.
2. The local police, fire department, or other appropriate state or local emergency response agencies shall be contacted immediately in the event of a fire, spill, or other hazard arising from the processing or storage that threatens public health, safety, and welfare, or the environment, and whenever necessary in the event of personal injury related to such storage.
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.
4. The permittee shall submit an annual report by March 1, for the previous calendar year for each facility to the appropriate Department Regional Office and to the county and municipality where the facility is located. The report, at a minimum, shall include the following:
 - a. Records of physical and analytical evaluations must include the following for each sample: the dates of sampling and testing; sampling procedures utilized; the 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.
 - b. The amount and sources of RWCA received at the facility.
 - c. The amount of RWCA processed, beneficially used, or transported offsite from the facility.
 - d. The amount of RWCA sent for disposal, reason for rejection, and the facility where the materials were transported.
 - e. The names and locations processed RWCA was transported to for beneficial use.

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- f. Review of the bond and update financial assurance when required by the Department.

- g. Proof of general liability insurance.

G. Renewal:

A permittee 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:

1. General Information Form (Authorization Application for a Residual or Municipal Waste General Permit Application),
2. Form B (Professional Certification),
3. Form 20 (Application for a Municipal or Residual Waste General Permit),
4. Form 27R (Acceptance of General Permit Conditions), and
5. Renewal 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."

A copy of the renewal application shall also be sent to the Department's Bureau of Waste Management, Division of Municipal and Residual Waste, Rachel Carson State Office Building, 400 Market Street, P.O. Box 69170, Harrisburg, PA 17106-9170.

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, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland.

Southwest Regional Office
400 Waterfront Drive
Pittsburgh, PA 15222-4745
Phone: 412.442.4000

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

Northwest Regional Office
230 Chestnut Street
Meadville, PA 16335-3481
Phone: 814.332.6848