Heidelberg Materials

Giant Resource Recovery - Harleyville, Inc.

Audit Book

654 Judge Street

Harleyville, SC 29448

EPA ID No. SCD 003 351 699

A History of Resource Recovery and Energy Reutilization

Giant Cement Holding, Inc., (GCHI) manufactures high quality portland cement and masonry cement through its subsidiaries **Giant Cement Company (Giant Cement)** in Harleyville, SC, and **Keystone Cement Company (Keystone Cement)** in Bath, PA. For over thirty-five years, these facilities have carefully utilized hazardous and non-hazardous waste-derived fuels as alternatives to traditional fossil fuel in their cement production processes.

Giant Cement began manufacturing cement at its Harleyville, SC, facility in 1947. It opened **Giant Resource Recovery, Inc.-Harleyville (GRR-Harleyville),** its waste fuel processing and resource recovery facility, in 1987. Keystone opened its cement production operation in Bath, PA, in 1928. It began processing and burning waste as fuel in 1976 and merged with Giant Cement to form GCHI in 1994.

In 1999, GCHI furthered its dedication to resource recovery through the acquisition of M&M Chemical, a waste processing and container management facility located in Attalla, AL. A year later, Giant acquired the Sumter, SC, waste management and solvent recovery operation previously known as Southeastern Chemical & Solvents, Co. As members of the GCHI family, these facilities are now named **GRR-Attalla** and **GRR-Sumter**.

GRR! grew yet again in 2000 with the opening of **GRR Aerosols, Inc.**, in Arvonia, VA. GRR Aerosols offers the unique capability of disposing of waste in aerosol containers by recycling 100% of the components in an innovative closed-loop system. GRR Aerosols expanded and relocated to Attalla, AL, in late 2007. GRR Aerosols handles a greater volume and more types of aerosol waste than any company in North America.

Since its inception, GCHI has developed significant proprietary technology to efficiently utilize solid industrial waste as a reliable fuel source. The Harleyville facility completed an extensive $130 million expansion in 2005 which maximized the use of solid fuel. In 2009, Keystone completed its $230 million modernization project. Complemented by GRR's industry-leading ability to process waste into fuel, Giant Cement and Keystone Cement are two of the most advanced cement plants in the United States.

As its history shows, GCHI actively seeks out new technologies and methods of resource recovery and energy recovery. By combining more than 130 years of experience with a demonstrated commitment to environmental stewardship, the GCHI family of companies provides generators with an unparalleled range of safe, reliable, and permanent waste management services.

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I. About Giant Cement Company & GRR-Harleyville

HISTORY OF GIANT CEMENT COMPANY: Giant Cement Company, first known as the American Improved Cements Company, is one of the oldest cement manufacturing companies in America. It was organized in 1883 for the purpose of constructing and operating a cement plant at Egypt (now called Bath), Pennsylvania. The name of the company was later changed to American Cement Company and in 1913 the Giant Portland Cement Company was organized to acquire the assets. Giant still owns this cement plant that was later named Keystone Cement Company.

Portland cement was so named when it was first discovered in 1824; it resembled the color of a well-known building stone on the Isle of Portland in the English Channel. Today portland cement is made by burning to a clinker and grinding to extreme fineness, a carefully proportioned mixture of limestone and clay or other calcareous and aluminous materials. After the burning process, a small percentage of gypsum is added to control the setting time of the cement.

Portland cement is the principal ingredient in concrete, an easily recognized and well-known construction material which all of us encounter daily in our streets, roads, bridges, buildings and homes. Concrete is the second-most consumed material in the world after water. Concrete made from portland cement has been likened to liquid stone because it can take any shape or form desired. The manufacturing process has been aptly described as passing a mountain through a sieve because the raw materials, after being burned into a clinker, are then reduced to fineness so that the material will pass through a sieve with 40,000 openings per square inch; a sieve finer than a silk scarf.

Several types of cements are produced at Giant. Each type consists of a different chemical composition to satisfy the varying purposes and requirements of the construction industry. Giant also produces a masonry cement that is used with concrete cinder block or brick construction, as well as other types.

HISTORICAL USE OF SITE: The U.S Defense Administration constructed the original plant buildings at the present site on previously undeveloped land in 1944. During World War II, the plant site was used for mining and production of aluminum oxide. In 1947 the facility was purchased by Giant Cement Company and converted to a cement manufacturing plant. The first portland cement was produced in 1948. In 1979, the company started to use waste oil as an alternate fuel. In 1957, the waste substitution program began and waste solvents were used as supplemental fuel. A dry kiln replaced all the wet kilns in 2004.

SITE USE AND LENGTH OF OPERATION: Giant Cement Company is located in rural Harleyville, South Carolina and specializes in the manufacturing of portland and masonry cement. Natural fossil fuel resources such as coal and gas are used to fire its rotary kiln. As part of the resource recovery program, waste solids, waste oils and waste solvents are utilized as fuels to reduce demand for fossil fuels which contributes to lower emissions.

In 1987 Giant Cement began operating under interim status as a RCRA hazardous waste treatment, storage, and disposal facility for both liquids and solid wastes. The Part B permit was originally issued on September 30, 1992 and reissued April 11, 2005, as revised.

Giant Cement and its sister company, Giant Resource Recovery-Harleyville, Inc. (GRR-Harleyville) operates on 60 acres of an approximately 1,914 acre site which is located 1.5 miles north of the town of Harleyville, South Carolina.

Giant Resource Recovery was formed for the purpose of marketing and processing supplemental waste fuels for energy recovery in the cement manufacturing process.

II. Facility Information

1. **Facility Name:** Giant Cement Company (GCC)
Giant **R**esource **R**ecovery–Harleyville, Inc. (GRR-Harleyville)

2. **Location Address:** 654 Judge Street
Harleyville, SC 29448

3. **Mailing Address:** Giant Cement
P.O. Box 218
Harleyville, SC 29448

GRR-Harleyville
P.O. Box 352
Harleyville, SC 29448

Common Carrier Address for samples:
Attn. Samples Dept.
GRR-Harleyville
482 Seven Mile Road
Harleyville, SC 29448

4. **Web Address:** www.grr-gchi.us
5. **EPA ID #:** SCD 003 351 699
6. **Federal ID #:** 57-0856738
7. **Facility Phone Number:** (800) 786-0477 / (803) 496-2200
8. **Facility Established:** 1947
9. **Total Employees:** 215
10. **D & B Rating & Number:** 1R4 / 86-956-3304
11. **GRR-Harleyville Facility Contacts:**

Allison Oliver
Commercial Sales Representative
Phone: (501) 860-8101
aoliver@gchi.com

Tammy Hamilton
Customer Service Chemist
Phone: (803) 496-2221 / (843) 636-0332
thamilton@gchi.com

12. **Under which form of management does the company operate?** Corporation
13. **SIC Code:** Facility Standard Industrial Classification
#3241-Manufacturing – Cement, Hydraulic
#4953 – Hazardous Waste Treatment & Disposal
14. **NAICS Code(s):** Primary: 327310 – Cement Manufacturing
Secondary: 562211 – Hazardous Waste Treatment and Disposal
15. **Classification:** Large Quantity Generator
16. **Previous use of property:** Undeveloped land prior to 1944

17. Facility Operations:

Fully Permitted TSDF
Cement Kiln

18. Surrounding land use:

North – Onsite/adjacent to the site: Four Hole Swamp / Cement Manufacturing Facility (Northeast)
East – Quarry; Four Hole Swamp (with mine areas and undeveloped land between the facility and the quarry/swamp)
West – Onsite railroad; undeveloped land
South – Adjacent to the site: State Road; light industrial area
Residential population within 1 mile – fewer than 50 people
Sensitive Receptors: Within 2 miles; wetlands

Distance from the facility:

Residence: ~1,500 ft.
Flood Plain: Four Hole Swamp which borders property
Hospital: ~30 miles
Public School: ~2.2 miles
Facilities: Charleston CPW ~20 miles
Drinking water: Well behind the GRR! Administrative Building
Offsite Fire Department: ~3 miles

19. Nearest surface water resources:

Huttos Lake is adjacent to GRR's property to the Southeast. It is a small surface water used for fishing and recreation. Four Hole Swamp borders the property to the North and East (and continues for 62 miles, through four counties).

20. Is the facility located on or adjacent to wetlands?

Wetlands are on the North side of the property.

21. Location of nearest drinking water source and type of source:

The two wells are behind the GRR-Harleyville administrative building and in the parking lot on the West side of the property (bottled water is used for drinking at the facility because the iron content affects the taste).

22. Is the site within the 100-year flood plain?

No, but Four Hole Swamp that borders the property to the North is.

23. Site hydrogeologic information:

The aquifer systems of the South Carolina Coastal Plain are highly permeable sand and carbonate zones confined by lower permeability clastic Peedee Formation and Paleocene Black Mingo Formation lie between the Black Creek and the Floridian aquifer (Meadows, 1987). The surficial aquifer system overlies the confining Cooper Formation of the Floridian aquifer system.

In the eastern Coastal Plain of South Carolina, the late-Cenozoic, Pliocene and Pleistocene age marine deposits comprise a surficial aquifer region in the area.

The surficial aquifer system includes alternating, discontinuous layers of sand, silt, and clay which together commonly have an average thickness of less than 50 feet (Park, 1985). Groundwater of the surficial aquifer occurs under water table conditions, and water levels are commonly 3 to 15 feet below land surface and generally reflect variations in local topography.

24. Topography:

Facility is located at an elevation of approximately 85 feet above mean sea level (MSL).

25. Hours of operation:

24 hours/day, 7 days/week, 365 days/year
Loads accepted: 6:00am – 4:00pm Monday - Friday

26. Total acres owned:

1,914 acres

27. Are there surface impoundments, incinerators, landfills, waste piles, or deep well injections conducted at this facility?

a. Surface impoundments are at various settling ponds at the quarry
b. This facility does not have an incinerator
c. There was an onsite construction and demolition (C&D) landfill that is now closed
d. Solid waste is placed in piles in the solids building and inspected daily
e. Deep well injection is not conducted at this site

28. Are there any superfund sites, old landfills or abandoned plants within a ½ mile of the facility?

This facility is not a superfund site though waste has been received from superfund sites. There is an onsite old C & D landfill. There are no abandoned plants within a ½ mile of the facility.

29. Are there any closed impoundments at the site?

No

30. Is there a general buffer zone around the facility?

Yes. There is a minimum of 75 feet of buffer between Giant Cement and the property line. There is a minimum of 1,000 feet of buffer between GRR-Harleyville and the property line.

31. What is the surrounding land use around Giant Cement?

North – Four Hole Swamp
East – Quarry and Four Hole Swamp (with mine areas and undeveloped land between the facility and the quarry/swamp)
South – Fence
West – Fence

III. Waste Management Practices

1. Permitted capacity of container/drum storage areas:

Bulk Solids: 2,000 yd^3

Tanks: 603,500 gallons (though if every tank was filled, there would only be 290,000 gallons in the haz tanks, 13,500 gallons in the non-haz tank)

Drums: The facility does not accept drums of waste, though per the permit, 964 containers are allowed at any time

2. Total approximate annual volume of hazardous waste processed at the facility:

Liquid Hazardous – (1200 bulk loads) 6,200,000 Gal
Liquid Non-Hazardous – (188 bulk loads) 1,500,000 Gal
Solid Hazardous – (1211 bulk loads) 42,100 Tons
Solid Non-Hazardous – (88 bulk loads) 3,200Tons

3. Are wastes permitted to be stored on site for longer than 90 days?

Yes

4. Containment system used:

The solids storage building is completely enclosed with metal flooring on 18” of concrete flooring and walls.

5. Describe container storage areas:

- All waste handling areas are under cover and within containment areas.
- All of the storage is located within secondary containment.
- All piping from the burn tanks and solids conveyor to the cement kiln are above-ground.
- The tanks and associated loading/unloading areas are located within diked concrete containment.
- Tanks have double valves and drip buckets to stop or capture any liquid release.
- Ultrasonic thickness testing and valve checks are conducted periodically.
- Secondary containment has the capacity to hold the volume of the largest tank plus a 25-year rainfall.
- Tanks are raised to allow for inspection of the bottom.
- The entrance of the solids building and the solvent building unloading pad are curbed to prevent run-on.
- Solids are shredded to a sufficient size, then transported by covered conveyor to be fed into the kiln.
- In-house drums of waste (i.e. used PPE, dirt, grease, rags, etc.) are single stacked inside a fenced area, under a roof, on the containment pad.

6. Containers accepted:

Tank Trucks
Railcars
Additional Bulk Liquid Containers (i.e. Flexitanks)
Vacuum Trucks
Rolloffs Trucks
End Dumps

7. List major equipment used in process:

Shredders, Pumps, Carbon-steel Tanks

8. Accepted Waste Codes:

See Attachment I - Acceptable Waste Codes

9. Waste Acceptance Criteria:

The waste must meet the specifications below upon receipt.

REGULATED (HAZARDOUS) AND NON-REGULATED LIQUID FUEL:

- ≥ 5,000 BTUs/Lb. (2,000 - <5,000 BTUs/Lb. handled case-by-case)
- < 2.5% Total Halogens
- < 10% Water (>10% water handled case-by-case)
- <2% Sulfur (higher amounts may be accepted if low quantities)
- <20ppm PCBs (or <50ppm PCBs with State certified analysis; must not have been diluted)
- Metals must pass TCLP if non-regulated

REGULATED (HAZARDOUS) AND NON-REGULATED SOLID FUEL:

- No free liquids
- ≥ 5,000 BTUs/Lb. (2,000 - <5,000 BTUs/Lb. handled case-by-case)
- >1% Total Organic Carbon (or other qualifying fuel)
- < 2.5% Total Halogens
- < 2% Sulfur (higher amounts may be accepted if low quantities)
- < 20ppm PCBs (or <50ppm PCBs with State certified analysis; must not have been diluted)
- <100ppm Benzene (Must pass TCLP for Benzene if Non-Regulated)
- Metals must pass TCLP if non-regulated

10. Types of waste not accepted:

Liquid Fuel

- Waste not meeting acceptance criteria listed above.

Solid Fuel

- Aerosol cans or gas cylinders
- Containers with free liquids
- Alcohol wipes in foil packets
- Free liquids (ensure adequate absorption; compensate for load compression)
- Lab Pack or Loose Pack (small containers regardless of the physical contents)
- Product or Waste in bags (bags must be split and all contents visible)
- Construction Debris (concrete, wire, steel, rebar, metal fittings on hoses, metal filters, etc.)
- Lacquer Dust (or any material containing nitrocellulose)
- Linseed Oil, Tung Oil or Fatty Acid Methyl Ester (Soygold) contaminated solids
- Steel Wool, Brillo Pads, etc.
- Asbestos
- Batteries (regardless of size or type)
- Medical Waste (syringes, needles, vials, bottles, etc.)
- Biological and/or Infectious Waste
- Household Hazardous Waste (unless pre-approved and received as a hazardous waste)
- Oxygen Generating Canisters and Hoods

- Polychlorinated Biphenyl (PCB) Waste
- Radioactive
- Pyrophoric or Explosive wastes
- Reactive Wastes profiled as D003
- Reactive Inorganic Metals (Lithium, Sodium, Potassium, Aluminum, Zinc) and their reactive salts
- Reactive Alkali Metal Hydrides (LiH, CaH2, LiAlH4, NaBH4)
- Reactive Halides of Nonmetals (BCl3, BF3, PCl3, PCl5, SICl4, S2Cl2)
- Reactive Inorganic Acid Halides (POCl3, SOCl2, SO2Cl2)
- Reactive Anhydrous Metal Halides (AlCl3, TiCl4, ZrCl4, SnCl4)
- Phosphorus Pentoxide
- Calcium Carbide
- Acetic Acid Anhydride
- Organic Peroxides
- Oxidizers
- Acidic or Caustic Solids (solids, when mixed with water at 50/50 ratio, resulting in pH <3 or >11)
- Poison Inhalation Hazard Wastes (Zone A and/or B)
- Lachrymators
- Mercaptan bearing waste (unless specifically approved)
- Isocyanates (unless specifically approved)
- Pesticides/Herbicides unless previously authorized
- Bromine containing waste
- Broken glass, glass containers
- Razor blades
- Wet sludges
- Glycidyl Azide Polymer

Non-fuel value materials can be present only as residual contaminants. This list does not attempt to cover all items that may potentially pose process problems at our facility. GRR-Harleyville may reject any material, on a case-by-case basis if deemed as a significant handling problem.

11. Pre-shipment waste acceptance procedure:

Approvals of all streams require the submission of a profile form, an addendum, a SC Air Toxics Survey Form, a Benzene Form and a representative sample. The acceptance procedure includes the Customer Service Chemist, the Lab Manager, the Corporate Approvals Manager, the Health & Safety Manager, the Environmental Compliance Manager, the Director of Operations, and the Site Manager accepting a stream. Streams are reviewed annually to ensure the profile is accurate/up to date and certification is obtained that the chemicals/concentrations and process generating the stream has not changed.

Prequalification analyses include the following:

Liquids:

GCMS is run on liquids to confirm the chemical constituent peeks match the profile. Liquids are analyzed for BTU's/Lb., total halogens, non-pourable solids, water content, sulfur, density, metals, and radioactivity.

Solids:

Solids are analyzed for BTU's/Lb., total halogens, sulfur, metals, free liquids, burn progression, and radioactivity.

Guidelines for approval:

- Per the permit, all approvals require the submission of a representative sample along with profile paperwork.
- Send a 1-quart size liquid sample or a 2-gallon solid sample (two 1-gallon Ziplock bags) to this common carrier address:

  Giant Resource Recovery–Harleyville, Inc.
  Attention: Sample Approvals
  482 Seven Mile Road
  Harleyville, SC 29448
  803-496-2200

12. Shipment procedures and steps the facility takes to determine whether to accept a particular waste stream:

All deliveries are required to be scheduled. When a waste delivery arrives on-site it first must be weighed at the scales (GRR-Harleyville has a dedicated scale at the entrance, in addition, a rail scale is shared with GCC). The paperwork is then reviewed by the manifest clerk and salient information regarding the delivery is entered into the Facility's computer database system. This information is compared to pertinent profile information and must match. If there is a discrepancy, the profile and/or the manifest (and/or associated paperwork) must be adjusted if the facility can accept the waste, or the waste will be rejected.

Next the waste is moved to a designated location (based on if it is a liquid tanker or a liquid railcar or a solid) and a sample of the waste is collected. All loads are sampled.

- For liquids: a coliwasa sampler is used (using the third stick to prevent cross-contamination).
- For solids: a non-sparking post-hole digger is used to collect nine samples from various areas at various depths. The solid samples are composited and most samples are then ground in a small grinder at the Solids Building.

The sample is then sent to the laboratory for fingerprint analysis. Based on the fingerprint laboratory results (which includes the previously listed parameters other than sulfur and metals), the load is either accepted or rejected. If necessary, the profile will be modified based on the findings from the sample analysis. For non-hazardous materials, if previously approved, the driver is allowed to drop their trailer and depart prior to formal acceptance. Loads are not sent to the cement kiln until after the sulfur and metals have been verified.

13. Description of sampling procedures:

Fingerprint analysis is conducted at the onsite lab to verify the stream is the one identified during pre-acceptance. 100% of incoming loads are sampled.

14. Sampling equipment used:

Liquids – Coliwasa and 1 quart container with a lid
Solids – Post hole diggers, small shredder (if needed), 5-gallon bucket with a lid

15. Onsite laboratory capabilities:

- Perkin Elmer FIMS 100 Mercury Analysis System
- Perkin Elmer Avio 500
- CEM Mars 6 Microwave
- Parr 6200 Calorimeter
- Thermo Scientific Orion Star A211 pH meter
- Perkin Elmer Clarus 500 Gas Chromatograph
- Perkin Elmer Turbo Mass Gas Chromatograph/Mass Spectrometer
- Hewlett-Packard 6890 GC/HP5973 MS
- Powder Train Mold (burn progression)
- Napco Vacuum Oven Model 5851
- Fisher Scientific Muffle Furnace
- Ludlum Model 3 Survey Meter
- Pensky-Martens Flash Tester
- Agilent 7890A GC System
- Koehler Open Cup Flash Tester
- ERDCO Rapid Tester RT-1
- Metrohm 915 KF Ti Touch Karl Fischer

The lab maintains detailed analytical records.

16. Underground storage tanks. Above ground storage tanks.

None 5

17. Permitted capacity of the storage tanks:

GRR-Harleyville has 4 existing tanks that are permitted to store waste fuels
One (1) 50,000 gallon tank
Three (3) 80,000 gallon tanks

Giant has a total of 590,000 gallons of permitted tank storage capacity. Of the 590,000 gallons of permitted tank storage capacity, the facility has constructed 290,000 gallons of hazardous waste storage capacity.

GRR-Harleyville also has 1 existing tank for non-hazardous waste fuels:
One (1) 13,500 gallon tank (Non-Haz tank)

- Tank is usually kept around 200°F

18. Material of which the tanks are constructed?

Carbon Steel

19. Does the facility conduct integrity assessment of tanks?

Yes. Tank thickness testing is performed annually.

20. Are tanks permitted or registered with the proper agency?

Yes; South Carolina Department of Health and Environmental Control (SC DHEC).

21. How is the waste managed while awaiting the results of checking and/or laboratory analysis?

The truck waits at a designated area while the analysis is conducted. Required permit analysis is ran in typically 1 hour for liquids and 1¼ hours for solids. The total time trucks are onsite from weighing in to weighing out is typically 2 hours.

22. Are waste separated to prevent potential reactions from occurring between incompatible wastes?

Yes; compatibility tests are performed with waste fuels in storage on each incoming load of material.

23. Explain how waste is tracked while onsite:

There is a computerized system that automatically compares the manifest/bill-of-lading to the generator profile information to verify streams. A manifest or bill-of-lading is required for every load. Upon receipt of the materials, manifests/bill-of-ladings are checked. Materials are tracked via a computer system.

See Attachment II - Waste Tracking Diagram

24. How are wastes screened to ensure compliance with land disposal restrictions?

A Land Disposal Restrictions Form is required with every hazardous waste load; however, no waste is landfilled.

25. What residual products are generated?

Cement kiln dust: Most is sent back into the cement kiln, though some is sold as a product under the name, “Stablesorb”.

26. What limits are placed on wastes and containers which would cause them to be returned to the generator?

Non-conforming wastes containing:

- Prohibited component
- Prohibited waste codes
- Exceed of permit limits (ie; Mercury)
- Not meet minimum permit limits (ie; BTU minimum)
- Compatibility or reactivity issues with sample

27. Description on how rejected material will be handled:

The customer is contacted immediately to find out if they want the rejected materials sent to an alternate facility or returned back to the generator.

28. What happens to empty containers?

Not applicable

29. What methods are used to ensure waste containers are RCRA empty?

Trucks weigh in and out and the weight difference determines if their container is RCRA empty. Waste fuel tankers are pumped, then rinsed as best as possible. Additional tank rinsing may be required; this may be performed at the site or an alternate tank wash facility. If there is a heel, a heel manifest is sent to the generator.

30. Describe how residuals “heels” from bulk truck/tankers are managed:

The facility is permitted to rinse out heels through recirculation from railcars and tankers that contained hazardous flammable liquids; waste from the tank farm is used. Other railcars and tankers are rinsed with water, when needed. The waste is collected and sent to the on-site tank farm for fuel blending.

31. Description of emission vents and controls in container processing:

- Solvent tank farm vapors are vented to the kilns via a closed vent system. In the event there is a shutdown of the kilns, vapors would be directed through two carbon absorption units. These carbon units are monitored with a portable photoionization detector (PID) for VOCs during use.
- The solids storage building and solids conveyor belt are under negative pressure that vents to the kiln.
- Process equipment and most material transfer systems are controlled by dust collectors, thereby limiting fugitive emissions.
- Storage tanks have microwave systems for fluid level measurements; there are high level alarms and high-high level alarms with automatic shutoffs.
- Liquids are moved from tanks to the cement kiln via above ground piping.
- Additional analyses are performed on the liquid waste fuel that has been blended prior to release to the kiln, if needed, to support processing control operations, especially as it relates to the cement composition and air emissions considerations.

32. What operational parameters are monitored and how often?

Emissions Monitoring (50-100' to extinction)**:**

Type	*Frequency*	*Monitor*
• Particulates	Quinquennial	EPA Method 5
• Opacity	Continuous	Per facility, based on COM
• Sulfur Dioxide	N/A	N/A
• Carbon Dioxide	Continuous	Per facility, CEM
• Carbon Monoxide	Continuous	Per facility, CEM
• Oxides of Nitrogen	Annually	EPA Method 7E
• Hydrochloric Acid	Not monitored	N/A (alt. THC CEM)
• Polychlorinated Biphenyls	Not monitored	N/A
• Volatile Organic Compound	N/A	N/A

Additional Continuous Monitoring:

- Oxygen in the shredder
- LEL in the solids building
- Carbon Unit exhaust of the liquids
- Tank levels

33. Describe the system for regulatory recordkeeping and manifest monitoring:

This site has a comprehensive Environmental Management System tailored after ISO-14001. The system includes an environmental calendar, training, and an audit system.

IV. Environmental and Regulatory Compliance

1. **Reported spills at the site within the last 5 years:**

   Available upon request

2. **RCRA corrective actions presently being undertaken or proposed:**

   The facility was subject to a RCRA Facility Investigation (RFI) that was completed in 2003. Although over 50 solid waste management units (SWMUs) were originally identified at the site, only 22 were deemed necessary to be investigated in the RFI. Of these 22 SWMUs, three were recommended for No Further Action. For the 19 remaining SWMUs, the RFI further recommended the data be evaluated in a risk assessment for the human exposure pathway. A risk assessment was done, upon the State's approval of the RFI report. Thirteen active waste management units will require RCRA closure. Nine of these units are located on the GRR! operational area: container storage areas, storage tanks, waste fuel processing areas, and fuel transfer systems. The other active areas are storage and cement kiln dust related operations associated with the cement plant (cement kiln dust from kiln #1 is routed back into the kiln). To date, Giant has conducted a Confirmatory Sampling Investigation (CSI) and a Phase I RCRA Facility Investigation (RFI). Twenty-five SWMUs and one Area of Concern (AOC) were retained for further investigation from the CSI and Phase I RFI. A Phase II RFI Work Plan was prepared and submitted to SCDHEC for approval. The Phase II RFI Work Plan included a two-stage implementation process. Currently, the Primary Stage has been implemented and a Secondary Stage Work Plan has been prepared and submitted to DHEC for approval. The Secondary stage work plan proposes a site-specific dilution attenuation factor (DAF) of 205 for protection of groundwater, additional soil delineation for three SWMUs, and confirmation groundwater sampling for two monitoring wells.

   DHEC approved the Phase II Primary Stage RFI Report/Phase II Secondary Stage RFI Work Plan on May 13, 2013. The Phase II Secondary Stage RFI Work was conducted April 8-10, 2014. Results were included in the report submitted to DHEC in July 2014.

   A Supplementary Work Plan was submitted in 2015; no action has taken place on the part of SCDHEC as of May 2024.

3. **Are spills or leaks evident?**

   No

4. **Environmental Permits**

   EPA ID No. SCD 003 351 699
   RCRA Part B Permit for storage; Issued 4/11/2005; Modified 6/20/2007; Operating under a shield from SC DHEC dated 1/15/2015

   Title V Operating Permit No. 0900-0002
   Includes all applicable MACT requirements; Issued 2/11/2003; Operating under a shield from SC DHEC dated 11/8/2007

   Stormwater Permit No. SCR004214
   Issued 10/1/2016; General Permit issue 5/26/2022

   NPDES Permit No. SC0022667
   General Permit for Surface Water Issued 2/19/2010; Modified 6/14/2011; Operating under a shield from SC DHEC dated 10/23/2014

Mine Permit No. I-000120
Issued 10/16/1974; Modified 11/19/2019. Expires 12/31/2060

See Attachment III - Hazardous Waste Permit Cover Letters

5. Environmental Regulatory Officials:

US EPA Region 4 – Environmental Scientist & Inspector for Solid and Hazardous Waste

Raj Aiyers	404-562-8993	aiyar.raj@epa.gov

South Carolina Department of Health and Environmental Control (SCDHEC)

Hollen Stillwell – District Air Inspector	843-740-1590	stillwhr@dhec.sc.gov
Sara Holgate – NPDES Inspector	843-953-0185	holgatse@dhec.sc.gov
Jeff Herbig – RCRA Permit Engineer	803-898-1302	jherbig@dhec.sc.gov
Ryan Donahue – Solid and Hazardous Waste Inspector	843-953-0464	donohurt@dhec.sc.gov
Lori Baxley – NPDES Permit Engineering Manager	803-898-4273	baxleyla@dhec.sc.gov

MSHA Inspections

Go to www.msha.gov → Data & Reports → Mine Data Retrieval System → (mine ID is 3800007)

6. Site currently under any compliance agreement or other enforcement action:

Available upon request

7. Environmental lawsuits within the past 2 years:

None known

8. Monitoring wells on the property:

A couple of inactive RFI monitoring wells, only piezometers currently monitored per mining permit.

9. Is groundwater monitoring currently being performed?

Giant Cement Company does not place any waste upon the land; therefore, groundwater monitoring is not required. Non-hazardous materials are used as raw material substitutes. Wastes are stored in containers, tanks or as a waste pile within a building.

10. Has monitoring indicated groundwater contamination?

No

11. How is run-off of stormwater from the facility prevented?

Run-on/Run-off is prevented by berms and grading. Giant's NPDES permit authorizes the discharge of non-contact stormwater, truck wash water, and sanitary wastewater from the site to Four Hole Swamp.

Additional Water Information:

- Undeveloped areas: The water is routed to Four Hole Swamp.
- Manufacturing areas: The water is routed to Four Hole Swamp after sediment ponds through NPDES permitted outfalls.
- Storage areas: The Solids Building is designed for no rainwater to get in. The rainwater that goes in our Liquids Area becomes contact water, and either goes into our kiln or is sent off-site for disposal.
- Transfer areas: All transfer areas are in secondary containment on our solvent pad.
- Sanitary water: Sanitary wastewater treatment system discharge through onsite WWTP.

12. How is stormwater falling on active portions of the site collected?

Stormwater and precipitation within the containment areas are collected in common stainless steel lined sumps. Off-site treatment and/or disposal is required. Non-contact stormwater is routed to quarry retention ponds and Northern canal through two settling ponds within the property and across the canal and discharged through NPDES permitted outfall.

13. How does the facility dispose of its wastewater?

Contact stormwater is either blended with waste fuels and sent to the cement kiln or sent off-site for disposal.

14. Are there any stacks, fugitive emissions, and stationary emission sources, or air pollution control systems within the control of this facility?

Solvent tank farm vapors are manifolded to the kiln. In the event of a kiln shutdown, liquid storage vapors are directed through two standby carbon adsorption units and all solids activities cease. The carbon units are monitored with a portable photoionization detector (PID) for VOC breakthrough, when used.

15. Pollution Control Devises used at the facility:

Reverse air and pulse jet baghouses
Activated carbon injection system

16. Does Giant conduct self-audits?

Yes; internal audits by on-site and corporate personal include:

- Daily, weekly, monthly, and annual inspections by on-site personnel in compliance with RCRA permit
- Monthly Leak Detection inspections in compliance with Subpart DD/H
- Annual Tank Controls inspections in compliance with Subpart CC
- Annual Tank Thickness inspections in compliance with the RCRA permit
- Periodic Environmental Compliance audits by corporate personnel

17. How often are regulatory agency audits conducted and by whom?

Giant Cement and GRR-Harleyville participate in regular as well as unannounced environmental compliance audits by state and federal regulatory authorities responsible for MSHA, RCRA compliance, air quality, and NPDES monitoring. Outside consultants are also contracted to inspect the facility from time to time. GRR's insurance carriers may also perform inspections. All inspections and follow-up are documented.

V. Safety and Security

1. Protective equipment used:

A full-face respirator is the minimum PPE requirement for sampling and unloading trucks and railcars. Personal protective equipment that may be used:

- Supplied air systems
- 3M full faced respirators
- DuPont Tychem SL coveralls
- DuPont Tychem QC coveralls
- Viton gloves
- Butyl gloves
- Neoprene gloves
- PVC gloves

2. Safety showers and eye washes available in work areas:

Yes

3. Adequate fire safety equipment if available. Type of equipment (hydrants, foam/chemical extinguishers, sprinklers, etc.)

- Foam/chemical extinguishers – Various places throughout the plant
- Infra-red detectors with auto-release powder sprinkler system – Solids building
- Auto release foam sprinkler system – Solvent pad
- Water deluge system (an on-site well and a 20,000 gallon storage tank)
- Nitrogen is blown in the shredder in the solids building to prevent fire; there are sensors for the shredder
- On-site bagged cement can close off the solids building if needed
- Telephones – Various places throughout the plant
- Hand-Held Radios – Many outside personnel have
- Cell Phones – Many personnel have

4. Describe the facility's emergency response programs:

- The main power source is electrical with an emergency generator
- Local response time of the off-site fire department is <5 minutes
- Local response time of the ambulance is ~10 minutes
- Telephone
- 2-way radio
- Utility cutoffs
- Adequate area for emergencies
- If more than one department (fire, police) arrive during an emergency, the one that arrives first is the designated primary authority
- Internal teams for:
    - Cleanup of waste and contaminated media
    - Spill containment

- Updated Contingency Plan
    - Emergency coordinator's name and phone number
    - Emergency procedures
    - Assigned emergency contact
    - Emergency equipment and description list
    - Evacuation plan

5. Agencies which have emergency response agreements with the site:

Hospital
Fire Department

6. Recent emergencies in the last year:

Available upon request

7. MSHA rating for the last 5 years:

	2019	2020	2021	2022	2023
Total man hours worked:	421,185	448,188	460,884	463,068	476,070
Operator NFDL Incidence rate:	2.37	2.23	4.34	2.16	1.26
Mine Type National NFDL Incidence Rate:	1.85	1.59	1.72	1.34	1.58

8. Types of medical monitoring conducted for employees:

Giant performs annual monitoring of employees each year by having a third party monitor a person from each job classification (quarry, mechanical, electrical, labor, and production) for an 8-hour shift. This evaluates noise levels, silica exposure, and respirable dust. Respirator testing is conducted along with audiometric testing prior to starting employment. GRR-Harleyville does the pre-employment testing as well as annual testing for each employee that is potentially exposed to the material.

9. Content of training program:

This section is primarily extracted from the approved Part B Permit Application. It addresses the documentation requirements related to the classroom instruction and on-the-job training given to facility waste derived fuel management personnel. The intent of the facility personnel training is to ensure that affected employees have the necessary training to perform their duties in a way that ensures their safety and the facility's compliance with applicable standards of hazardous waste.

OUTLINE OF INTRODUCTORY AND CONTINUING TRAINING PROGRAMS:

Training consists of an initial course followed by annual refresher classes, based on job duties and responsibilities. Initial training includes:

- Job responsibilities
- Hazard recognition
- Hazard communication
- Health effects and physical hazards of waste derived fuel
- Facility communications and alarm systems
- Process safety controls and monitoring
- Inspection, repair, and replacement of emergency equipment
- Shutdown of equipment/operations
- Use of personal protective equipment (PPE)
- Emergency response procedures (including response to spills and fires) and review of the facility Contingency Plan
- Record keeping and reporting requirements

Personnel in the following list are provided with approximately 16 hours of initial training (including approximately 8 hours of classroom and 8 hours of on-the-job training) then 4 hours of annual refresher training (classroom):

- Safety Manager
- Coordinator, Environmental Compliance
- Solid Waste Fuel Material Handler
- Liquid Waste Fuel Material Handler
- Solid Waste Fuel Manager
- Liquid Waste Fuel Manager
- GRR-Harleyville Laboratory Analyst/Technician QA/QC Coordinator
- GRR-Harleyville Laboratory Manager
- Production Coordinator
- Production Supervisor

The following personnel may not receive the full 16-hour initial training or 4-hour refresher training. However, they will at least be trained on the "Introduction and Overview" portion of the training program:

- Giant Cement Plant Manager
- GRR-Harleyville Plant Manager
- GRR-Harleyville Manifest Clerk / Customer Service (grouping includes Customer Service Representatives and the Customer Service Chemist)

The Manager and Environmental Compliance may receive off-site/third party training in-lieu of the training provided in this training program. The off-site training program will provide relevant information on topics appropriate for this job function (e.g., RCRA regulatory review, chemical hazards, etc.) that will reinforce the standards of practice at the facility.

10. Describe employee training program:

Training methods include, but are not limited to, on-site and off-site lectures, discussions, hands-on skill training, on-the-job instruction/training, and video screening followed by discussions. The personnel responsible for coordinating the training program include the Manager of Environmental Compliance and Environmental Compliance Coordinator. These individuals' experience in hazardous waste management and health and safety issues includes the following:

- Knowledge of the chemical and physical characteristics of hazardous waste fuels
- Knowledge of hazardous waste storage, treatment, and disposal operations
- Knowledge of emergency preparedness and the Contingency Plan

Documentation of the qualifications and experience of the existing facility training coordinators are maintained in the facility operating record. Giant may also use the services of an appropriately qualified external organization or individual to provide training. Documentation of a contractor's training qualifications is maintained in the facility operating record.

The training program is designed to be relevant to each employee's job assignment. All employees associated with waste derived fuel management operations are trained in waste derived fuel emergency response procedures. The topic, "Contingency Plan Emergency Procedures," provides waste derived fuel personnel with the tools to respond effectively to emergencies. The procedures in the Contingency Plan are thoroughly reviewed and discussed for each of the possible types of emergencies that might occur at this facility.

The facility's emergency equipment and emergency systems, including facility alarms and automatic waste feed cutoffs are also reviewed and discussed. Other covered topics include spill response material locations; incident-specific responses for fires, explosions, spills, or material releases; and emergency communication, shutdown of operations, and evacuation procedures.

All newly hired, transferred or cross-trained personnel receive introductory instruction and on- the-job training related to their job assignments within six months of assignment or reassignment to an affected job. Employees are not allowed to work unsupervised in waste derived fuel-related operations until they have completed the required training for their job duties. Refresher training is provided to all current employees once every calendar year. The annual refresher training consists of an abbreviated review of relevant introductory training topics and a detailed review of appropriate Contingency Plan procedures. Written description of type and amount of training is maintained until closure of facility.

11. Frequency of training refreshers:

Refresher training is provided to all current employees once every calendar year. The annual refresher training consists of an abbreviated review of relevant introductory training topics and a detailed review of appropriate Contingency Plan procedures. Written description of type and amount of training is maintained until closure of facility.

12. Security measures:

Cement kiln and fuels blending operations are entirely fenced. Video surveillance by supervisory personnel 24/7. Visitors must check in a guard house and then escorted by GRR-Harleyville personnel. The facility has a written security plan and employees are trained in the security plan.

13. Awards:

- Winner of PCA 2023 Energy & Environment Award of Environmental Performance
- Winner of PCA 2021 Energy & Environment Award for Environmental Performance
- Awarded 2017 MSHA Large quarry group Certificate of Achievement in Safety
- Awarded 2018 MSHA Large quarry group Certificate of Achievement in Safety
- Awarded South Carolina Chamber of Commerce Commendation of Excellence 2017 Safety Program Recognition
- Awarded South Carolina Chamber of Commerce Commendation of Excellence 2018 Safety Program Recognition

VI. Financial/Insurance Data

1. Insurance

Worker's Compensation
General Liability
Excess Liability
Environmental Impairment Liability or Pollution Liability Insurance
Automobile

See Attachment IV - Certificate of Insurance

2. Financial assurance for facility closure:

See Attachment V - Closure Cost Estimate

3. Total Closure Cost Estimates:

$905,416.00 updated 2024

4. Insurance Carriers:

See Attachment IV - Certificate of Insurance

5. What is GRR's policy on indemnification of clients?

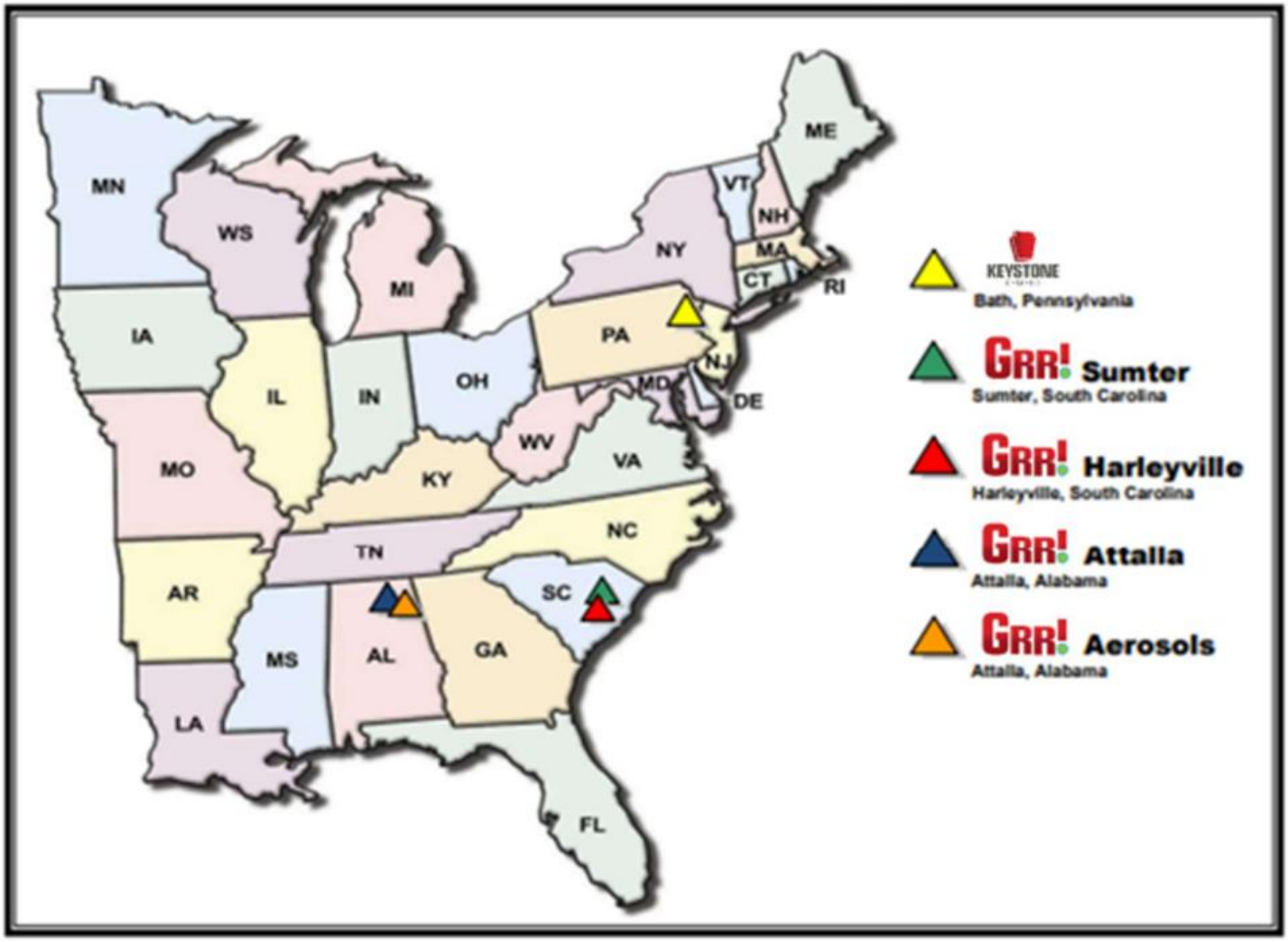
- Customer warrants that the waste customer ships to GRR! will meet waste fuel specifications and will not contain PCB's, dioxins, cyanides, lachrymates, mercaptans, insecticides, listed pesticides, herbicides, or other toxic, explosive, corrosive, or radioactive materials not identified on the Waste Profile. In the event that testing costs, damages, fines, or other costs or liabilities are incurred as the result of the customer or generator shipping out-of-specification waste or unacceptable materials, the customer agrees to indemnify, defend and hold harmless the transporter and GRR!
- **Service Provider Indemnification:** As long as the Waste supplied by Customer conform to the specifications set forth in the respective Waste Profile, Service Provider shall indemnify, hold harmless and defend Customer, its subsidiaries and the present and future officers, directors, employees and agents of Customer and its subsidiaries from and against such civil penalties, fines, claims, losses, damages and causes of action, including costs of defense, settlement and attorney's fees (collectively, "Losses") as may be brought on account of death or bodily injury to any person, destruction or damage to any property, injury to, destruction of or loss of natural resources or any violation of any federal or state law, regulation or municipal ordinance, and which result from or arise out of Service Provider's negligence, willful misconduct, breach of warranty or failure to perform services in accordance with this Agreement.
- **Customer Indemnification:** Customer shall indemnify, hold harmless and defend Service Provider, its parents, subsidiaries and related companies, and each of their respective present and future officers, directors, employees, and agents from such Losses as may be brought on account of death or bodily injury to any person, destruction or damage to any property, injury to, destruction of or loss of natural resources or any violation of any federal or state law, regulation or municipal ordinance, and which result from or arise out of Customer's (or Customer's agents') negligence, willful misconduct or breach of warranty, delivery to Service Provider (or its subcontractor) Nonconforming Waste by or through Customer or failure of Customer to perform its responsibilities under this Agreement.

VII. Giant Resource Recovery Facilities

Keystone Cement Co. Bath, PA	Blends and burns bulk liquid waste derived fuel in the manufacture of cement
GRR-Sumter, Inc. Sumter, SC	Processes containerized and bulk liquids, solids, and sludges
GRR-Harleyville, Inc. Harleyville, SC	Blends and burns bulk solid and liquid waste-derived fuel in the manufacture of cement
GRR-Attalla, Inc. Attalla, AL	Processes containerized and bulk liquids, solids, and sludges
GRR Aerosols, Inc. Attalla, AL	Disposes of waste in aerosol cans through 100% recycling; processes steel drums for reconditioning

GRR!

The Giant Resource Recovery Facilities



Resource Recovery and Energy Reutilization

Safe, Reliable, Permanent

VIII. Facility Map/Layout

Attachment VI - Harleyville Facility Map

Attachment I - Acceptable Waste Codes

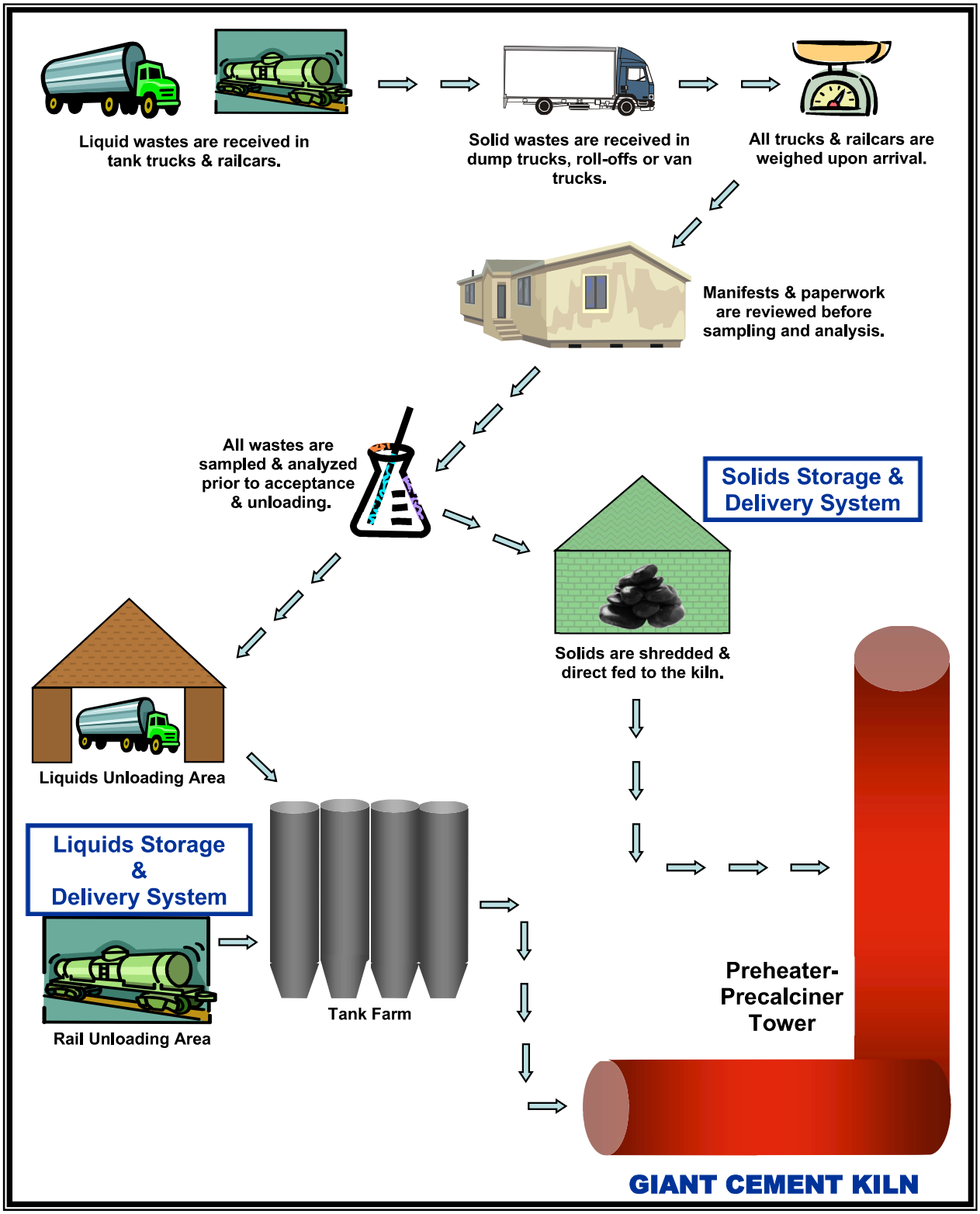
GIANT RESOUCE RECOVERY / GIANT CEMENT COMPANY
LIST OF APPROVED WASTE CODES

Following is a list of hazardous waste codes which Giant Cement Company is permitted to accept at the facility.

7777	D038	K013	K102	P127+	U045	U095	U137	U185	U232
D-Codes	D039	K014	K103	P189+	U047	U096	U138	U186	U235
D001	D040	K015	K104	**U-Codes**	U048	U097	U140	U187	U236
D002	D041	K016	K105	U001	U050	U098	U141	U188	U237
D003	D042	K017	K114	U002	U051	U099	U143	U190	U238
D004	D043	K018	K115	U003	U052	U101	U144	U191	U239
D005	**F-Codes**	K019	K141	U004	U053	U102	U145	U192	U240
D006	F001	K020	K142	U005	U055	U103	U146	U193	U242
D007	F002	K021	K143	U006	U056	U105	U147	U194	U243
D008	F003	K022	K144	U007	U057	U106	U148	U196	U244
D009	F004	K023	K145	U008	U063	U107	U149	U200	U247
D010	F005	K024	K146	U009	U066	U108	U150	U201	U328
D011	F006	K025	K147	U010	U067	U109	U151	U202	U359
D012	F007	K026	K148	U011	U068	U110	U152	U203	U367
D013	F008	K027	K156	U012	U069	U111	U153	U204	
D014	F009	K028	K157	U014	U070	U112	U154	U205	
D015	F010	K029	K158	U015	U071	U113	U155	U207	
D016	F011	K030	K159	U016	U072	U114	U157	U208	
D017	F012	K035	K160	U017	U073	U115	U158	U209	
D018	F024	K046	K161	U018	U074	U116	U159	U210	
D019	F032	K048	K169	U019	U076	U117	U161	U211	
D020	F033	K049	K170	U020	U077	U118	U162	U212	
D021	F034	K050	K171	U021	U078	U119	U163	U213	
D022	F035	K051	K172	U022	U079	U120	U164	U214	
D023	F037	K052	**P-Codes**	U023	U080	U121	U165	U215	
D024	F038	K060	P001+	U024	U081	U122	U166	U216	
D025	F039	K061	P006+	U025	U082	U123	U167	U217	
D026	**K-Codes**	K062	P022+	U026	U083	U124	U168	U218	
D027	K001	K083	P028+	U027	U084	U125	U169	U219	
D028	K002	K084	P029+	U028	U085	U126	U170	U220	
D029	K003	K085	P030+	U029	U086	U127	U171	U221	
D030	K004	K086	P050+	U030	U087	U128	U172	U222	
D031	K005	K087	P064+	U031	U088	U129	U174	U223	
D032	K006	K093	P074+	U032	U089	U130	U179	U225	
D033	K007	K094	P075+	U036	U090	U131	U180	U226	
D034	K008	K095	P098+	U037	U091	U132	U181	U227	
D035	K009	K096	P105+	U039	U092	U133	U182	U228	
D036	K010	K100	P106+	U043	U093	U134	U183	U230	
D037	K011	K101	P120+	U044	U094	U136	U184	U231	

+Although these codes are on Giant's permit, they are handled on a case-by-case basis and only with written permisson from Giant.

Attachment II - Waste Tracking Diagram



D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

HAZARDOUS WASTE PERMIT
SCD 003 351 699

Office of Environmental Quality Control
Bureau of Land and Waste Management

Issue Date: April 11, 2005

Effective Date: May 25, 2005

Expiration Date: May 25, 2015

Date Last Modified: June 20, 2007

This Permit is hereby issued to:

Owner/Operator: Giant Cement Company Facility Contact: Mr. Matt Allers, Plant Manager

Address: 654 Judge Street, P.O. Box 218, Harleyville, South Carolina 29448

Phone: (803) 496-5033

This Permit is for storage of hazardous waste in one containment building and two container storage areas as well as eleven storage tanks; treatment of hazardous waste in two shredder systems, nine storage tanks and an industrial furnace; and identification and corrective action for solid waste management units (SWMUs) located at 654 Judge Street, Harleyville, South Carolina in Dorchester County. The permit also requires the Permittee to comply with all land disposal restrictions, waste minimization guidelines, groundwater monitoring requirements and air emission standards applicable to this facility.

This Permit is issued pursuant to Section 44-56-10 et seq. Regulation 61-79 of the 1976 South Carolina Code of Laws, as amended. The authority granted hereunder is subject to the requirements of the aforementioned laws and regulations and the attached conditions.

Richard Haynes, P.E., Director
Division of Waste Management
Bureau of Land and Waste Management

This Permit is the property of the Bureau of Land and Waste Management and must be surrendered on demand. This signature page must be posted at all times in a conspicuous place on the premises.

HSWA PORTION OF THE RCRA PERMIT

OWNER/OPERATOR: Giant Cement Company
654 Judge Street
P.O. Box 218
Harleyville, South Carolina 29448

EPA I.D. No. SCD 003 351 699

Pursuant to the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, 42 USC Section 6901 et seq., and the Hazardous and Solid Waste Amendments (HSWA) of 1984, P.L. 98-616, and regulations promulgated thereunder by the U.S. Environmental Protection Agency (EPA) (codified and to be codified in Title 40 of the Code of Federal Regulations), a permit is issued to Giant Cement Company (hereafter called the Permittee) to operate a hazardous waste treatment facility located in Harleyville, South Carolina at latitude 33°12' 49" and longitude 80°26' 55".

This Permit, in conjunction with the Hazardous Waste Management Permit issued by the State of South Carolina, constitutes the full RCRA Permit for this facility. The Permittee, pursuant to this permit, is authorized to treat hazardous waste in an industrial furnace and to utilize direct burn equipment subject to the terms, conditions, limitations and requirements contained herein. The permit also requires the Permittee to comply with all land disposal restrictions applicable to this facility.

The Permittee must comply with all terms and conditions of this permit. This permit consists of the conditions contained herein (including those in any attachments) and applicable regulations contained in 40 CFR Parts 260 through 264, 266, 268, 270, and 124 as specified in the permit and statutory requirements of RCRA, as amended by HSWA. Nothing in this permit shall preclude the Regional Administrator from reviewing and modifying the permit at any time during its term in accordance with 40 CFR §270.41.

This permit is based on the premise that information and reports submitted by the Permittee prior to issuance of this permit are accurate. Any inaccuracies found in this information or information submitted as required by this permit may be grounds for termination or modification of this permit in accordance with 40 CFR §270.41, §270.42, and §270.43 and potential enforcement action. The Permittee must inform EPA of any deviation from or changes in the information in the application which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

The authority to perform all actions necessary to issue, modify, enforce, or revoke this permit has been delegated by the Regional Administrator to the RCRA Division Director.

This permit is effective 5/11/05, and shall remain in effect for ten years until 5/11/2015, unless revoked and reissued, or terminated under 40 CFR §270.41 and §270.43 or continued in accordance with 40 CFR §270.51(a). If any conditions of this permit are appealed in accordance with 40 CFR §124.19, the effective date of the conditions determined to be stayed in accordance with 40 CFR §124.16 shall be determined by final agency action as specified under 40 CFR §124.19.

April 11, 2005
Issued Date

June 20, 2007 Date Last Modified

G. Alan Farmer
Director
RCRA Division

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

RECEIVED 1/21/15

CC: SONNY DONOGHEY
SANDRA ERVIN
EDMO GUTIERREZ
STEVE HUTT
AL SMITH

January 15, 2015

Mr. Lane Smith
Giant Cement Company
654 Judge Street
Harleyville, South Carolina, 29448

RE: Giant Cement Company
SCD 003 351 699
Resource Conservation and Recovery Act (RCRA)
Notice of Administrative Completeness

Dear Mr. Smith:

The Bureau of Land and Waste Management of the South Carolina Department of Health and Environmental Control (Department) has completed a review of the RCRA Part A & B permit application for the Giant Cement Company, which was received on November 10, 2014. Based on this review, the Department has determined that the application is administratively complete with respect to the regulatory requirements of RCRA and the South Carolina Hazardous Waste Management Regulations (SCHWMR) (R.61-79.124.3(c)). The Department will now begin review to determine if the application is technically adequate with respect to the specific requirements of the SCHWMR.

Please note that the Department may require additional information or revisions to these documents in the future.

If you have any questions, please contact me at 803-898-0258.

Sincerely,

Lynne Garner

Lynne D. Garner, Permit Engineer
Operations Engineering Section
Division of Waste Management
Bureau of Land and Waste Management

cc: Christine Sanfor-Coker, Director, Low Country EQC, Charleston
Rodney Wingard, Section Manager

D H E C

PROMOTE PROTECT PROSPER

RECEIVED
14 Aug 07

August 8, 2007

CLINT ROBERTS
GIANT CEMENT COMPANY
PO BOX 218
HARLEYVILLE SC, 29448

Re : Completeness Determination of Part 70 Air Quality Permit Application
Giant Cement Company (Permit No. 0900-0002)
Dorchester County
Harleyville, South Carolina

Dear Mr. Roberts:

The South Carolina Department of Health and Environmental Control, Bureau of Air Quality (Bureau), on August 8, 2007, received the Part 70 Air Quality (Title V Operating) permit application submitted by AII4 Inc. Consulting Firm for the above-referenced facility. The completeness review period for the application officially began on this date. Upon review, the application has been deemed complete and the application shield granted, effective August 8, 2007.

The permit application will now undergo a technical review by the assigned permit engineer. Please remember that any requests from the Bureau for additional technical information must meet specified deadlines. Failure to do so could result in the removal of the application shield.

Should you have any questions concerning the application shield or technical review, please contact the appropriate staff member, Veronica Barringer, of this office, at (803) 898-4127 or barrinv@dhec.sc.gov.

Sincerely,

Rhonda B. Thompson, P.E., Director
Division of Engineering Services
Bureau of Air Quality

cc: Veronica Barringer, BAQ
Susan Yates, Region 7, Charleston EQC Office
Title V Permit File: 0900-0002

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health
and Environmental Control

Part 70 Air Quality Permit

Giant Cement Company
Post Office Box 218
Harleyville, South Carolina 29448
(permit updated 6/8/06)

In accordance with the provisions of the Pollution Control Act, Sections 48-1-50(5) and 48-1-110(a), and the 1976 Code of Laws of South Carolina, as amended, Regulation 61-62, the above named permittee is hereby granted permission to discharge air contaminants into the ambient air. The Bureau of Air Quality authorizes the operation of this facility and its applicable equipment specified herein in accordance with valid construction permits, and the plans, specifications, and other information submitted in the Title V permit application dated September 3, 2002 and the PSD construction permit application dated June 24, 2002.

This permit is subject to and conditioned upon the terms, limitations, standards, and schedules contained in or specified on the 213 pages, with the accompanying attachments, of this permit.

Permit Number:	**TV-0900-0002**	**Effective Date:**	**April 1, 2003**
Issue Date:	**February 11, 2003**	**Expiration Date:**	**March 31, 2008**

, P.E.

Director, Engineering Services Division
Bureau of Air Quality

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

cc. S. Ervin
E. Gutierrez
S. Holt
A. Smith
L. Smith

October 23, 2014

EDWARD F DOUGHERTY JR
GIANT CEMENT COMPANY
PO BOX 218
HARLEYVILLE, SC 29448-0218

Re: GIANT CEMENT COMPANY INC
NPDES Permit # SC0022667
Dorchester County

Dear Edward F Dougherty Jr:

Acknowledgement is made of receipt of your Form 2C application on March 3, 2014, for renewal of your National Pollutant Discharge Elimination System (NPDES) Permit authorizing discharge of effluent to surface waters.

Your renewal application will carry NPDES #SC0022667, as was previously assigned to this facility. This application fulfills your statutory obligations at this point for the facility outlined therein. Your application is administratively complete and the discharge permit will be issued or denied in accordance with State priorities. If there is a delay in renewing your permit on or before the expiration of your existing permit, you are still authorized to discharge pursuant to Section 122.6 of SC Regulation 61-9. Therefore, unless we notify you in writing to the contrary, your present permit will remain fully effective and enforceable pending issuance of your new permit.

Please keep in mind that your application is still undergoing technical review and that additional technical comments may follow.

If you have any questions regarding this application, please feel free to call this office at 803-898-4232.

Sincerely,

Patty Barnes

Patty G Barnes
NPDES Administration

cc: Kristian Tucker, BOW/WPC Enforcement

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health
and Environmental Control

National Pollutant Discharge Elimination System Permit

for Discharge to Surface Waters

This Permit Certifies That

Giant Cement Company
a subsidiary of Cementos Portland Valderrivas
Harleyville Plant

has been granted permission to discharge from a facility located at

654 Judge Street
Harleyville, SC
Dorchester County

to receiving waters named

002, 004 and 005 - Four Hole Swamp
003 - Huttos Lake to Four Hole Swamp

in accordance with limitations, monitoring requirements and other conditions set forth herein. This permit is issued in accordance with the provisions of the Pollution Control Act of South Carolina (S.C. Code Sections 48-1-10 *et seq.*, 1976), Regulation 61-9 and with the provisions of the Federal Clean Water Act (PL 92-500), as amended, 33 U.S.C. 1251 *et seq.*, the "Act."

Jeffrey P. deBessonet, P.E., Director
Water Facilities Permitting Division

Issue Date: **February 19, 2010**

Expiration Date: **August 31, 2014**

Effective Date: **April 1, 2010**

Permit No.: **SC0022667**

Modification Issue Date: **June 14, 2011**

Modification Effective Date: **July 1, 2011**

dhec
Healthy People. Healthy Communities

June 26, 2017

cc: S. Holt
S. Jaramillo
T. Shaw
A. Smith
L. Smith

GIANT CEMENT COMPANY
GIANT CEMENT COMPANY
654 JUDGE ST
HARLEYVILLE, SC 29448

RE: Reauthorization to Discharge
GIANT CEMENT COMPANY, ,
Coverage #: **SCR004214**

To Industrial Stormwater Program coordinator:

The Department has reissued the NPDES General Permit for "Stormwater Discharges Associated with Industrial Activity" (SCR000000) on September 1, 2016. Per 1.3 of the general permit, your site is authorized to discharge. Please note the Effective Date of the general permit is October 1, 2016 and that your coverage number has not changed.

A copy of the permit may be found at:
http://www.scdhec.gov/Environment/docs/stormwater/2016%20FINAL%20IGP.pdf

The Department may conduct periodic inspections of your facility to determine compliance with your stormwater pollution prevention plan (SWPPP) and the requirements of the general permit. Any violations found during these inspections may result in enforcement action. Therefore, it is incumbent upon you to make sure you are in compliance with the SWPPP and general permit at all times. Do not submit your site's SWPPP to the Department unless requested. Maintain your SWPPP on site at all times and ensure it is up to date.

If, in the future, your facility does not require this permit, you must submit a Notice of Termination (NOT) to cancel your coverage under this general permit. Please see 1.4 of the general permit for the NOT requirements. If the facility changes ownership and/or operator, then a Notice of Intent is required for the new owner/operator. The old owner/operator should submit an NOT. An annual fee is due for each fiscal year that you hold active coverage. The Department will send you an invoice for the fee each year until the NOT is submitted.

If you have any questions, please call or email either:

Mel Leaphart: mel.leaphart@dhec.sc.gov or (803) 898-4143 OR
Shawn Clarke: shawn.clarke@dhec.sc.gov or (803) 898-3544

Sincerely,

SM Clarke

Shawn Clarke, P.E., Manager
Stormwater Permitting Section

Healthy People. Healthy Communities

November 19, 2019

Mr. Sonny Dougherty
Giant Cement Company
P.O. Box 218
Harleyville, SC 29448

RE: Permit Modification (Mod 18-1)
Mine Permit I-000120, Harleyville Mine, Giant Cement Company
(BLWM File 50887), Dorchester County

Dear Mr. Dougherty:

The S.C. Department of Health and Environmental Control (DHEC) has approved the Application for Modifying a Mine Operating Permit and/or Reclamation Plan (Mod 18-1) for the Harleyville Mine effective November 19, 2019. This modification adds the Mims Tract which allows for an increase in the permitted acreage of 114.5 acres (from 1525.0 to 1639.5 acres), an increase in the affected acreage of 112.6 acres (from 1095.0 to 1207.6 acres), and revises the reclamation plan. The reclamation bond covering the Harleyville Mine is a blanket bond of $554,975.00. With this approval, DHEC is hereby modifying Mine Operating Permit I-000120 for the Harleyville Mine. The approved permit document, reclamation plan, and mine maps are enclosed.

If you have any questions concerning the modification of the mine operating permit, please contact Mr. Ed Haigler, Division of Mining and Solid Waste Management (803-898-1375 or *haiglewe@dhec.sc.gov*). Mr. Jeremy Eddy is the mine DHEC inspector for this site (803-898-7609 or *eddyje@dhec.sc.gov*).

Sincerely,

Juli E. Blalock

Juli E. Blalock, Director
Division of Mining and Solid Waste Management

enclosures

pc: Sonny Dougherty, , Giant Cement Company *(sdougherty@gchi.com)*
Rachel L. Odzer, Giant Cement Company (*rodzer@gchi.com*)
Joe Koon, Manager, Mining and Reclamation (*koonjm@dhec.sc.gov*)
Ed Haigler, Mining and Reclamation (*haiglewe@dhec.sc.gov*)
Jeremy Eddy, BLWM (*eddyje@dhec.sc.gov*)
Jonathan Summa, Lowcountry EA (Charleston) (*summjt@dhec.sc.gov*)
Jason Ward, Dorchester County Administrator (*wardj@dorchestercounty.net*)
Kiera Reinertsen, Dorchester Co Planning & Zoning Dir. (*kreinertsen@dorchestercounty.net*)
Brett Caswell, BOW (*caswelbm@dhec.sc.gov*)
BLWM File 50887

S.C. Department of Health and Environmental Control

MINE OPERATING PERMIT

PART I:

Harleyville Mine
Giant Cement Company

Giant Cement Company, a corporation, has been granted a Mine Operating Permit, Mine Permit Number I-000120, to operate the Harleyville Mine in accordance with the S.C. Mining Act (S.C. Code Sections 48-20-10 *et seq.*, 1976) and Regulations 89-10 *et seq.* The operator shall conduct this operation as represented in documents submitted to support the issuance of this permit.

JOE KOON, MANAGER
MINING AND RECLAMATION SECTION

PERMIT NUMBER: I-000120
ORIGINALLY ISSUED: December 16, 1974
MODIFIED: November 19, 2019

In accordance with Section 48-20-60 of the South Carolina Mining Act, this Mine Operating Permit will remain valid unless it terminates as set forth in R.89-270 or is revoked in accordance with Section 48-20-160 and R.89-280. The anticipated mining completion date is shown on the *Schedule for Conservation and Reclamation Practices* in the *Reclamation Plan.*

The approved *Permit Application, Reclamation Plan*, and all supplemental information referenced herein, are an integral part of this permit. *Land Entry Agreements and Mine Maps* as identified in Part II and Part IV, respectively, are also a part of this permit.

Attachment IV - Certificate of Insurance

GIANCEM-01 TGARRIDO

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 5/2/2024

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Teresa Garrido
Collinsworth, Alter, Fowler & French, LLC 15050 NW 79th Court Suite 200 Miami Lakes, FL 33016	PHONE (A/C, No, Ext): (305) 822-7800 FAX (A/C, No): (305) 362-2443 E-MAIL ADDRESS: tgarrido@caffllc.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Ironshore Specialty Insurance Company	25445
INSURER B : Liberty Mutual Ins Co	23035
INSURER C : Ace American Insurance Co	22667
INSURER D :	
INSURER E :	
INSURER F :	

INSURED

Giant Resource Recovery Harleyville, Inc
654 Judge Street
Harleyville, SC 29448

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY			IEPUW0030359700	5/1/2024	5/1/2025	EACH OCCURRENCE	$ 1,000,000
	CLAIMS-MADE X OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 500,000
							MED EXP (Any one person)	$ 25,000
							PERSONAL & ADV INJURY	$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 2,000,000
	POLICY X PRO-JECT X LOC						PRODUCTS - COMP/OP AGG	$ 2,000,000
	OTHER:							$
B	AUTOMOBILE LIABILITY			AS2Z91478003014	5/1/2024	5/1/2025	COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	X HIRED AUTOS ONLY / X NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
A	UMBRELLA LIAB X OCCUR			XSCUW0030359800	5/1/2024	5/1/2025	EACH OCCURRENCE	$ 11,000,000
	X EXCESS LIAB CLAIMS-MADE						AGGREGATE	$ 11,000,000
	DED X RETENTION $ 0							$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	N / A		WLRC50676377	5/1/2024	5/1/2025	X PER STATUTE / OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N (Mandatory in NH)						E.L. EACH ACCIDENT	$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
A	Pollution Liability			IEPUW0030359700	5/1/2024	5/1/2025	Ech Occu/Aggregate	1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Evidence of Insurance

CERTIFICATE HOLDER

Giant Resource Recover- Harleyville, Inc
654 Judge St
Harleyville, SC 29448

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

GIANT CEMENT

VIA ELECTRONIC MAIL AND CERTIFIED MAIL
RETURN RECEIPT REQUESTED

January 16, 2025

Ms. Lillian McFadden
Compliance and Enforcement Division
Bureau of Land and Waste Management
South Carolina Department of Environmental Services
2600 Bull Street
Columbia, South Carolina 29201

Re: Annual Adjustment of Closure Cost Estimate (2025)
Giant Cement Company - Harleyville, South Carolina
EPA ID Number SCD 003 351 699

Dear Ms. McFadden:

Pursuant to South Carolina Hazardous Waste Management Regulation R.61-79.264.142(b), Giant Cement Company (Giant) submits its annual closure cost estimate update for the year referenced above. The table below contains details of the updated closure cost estimate.

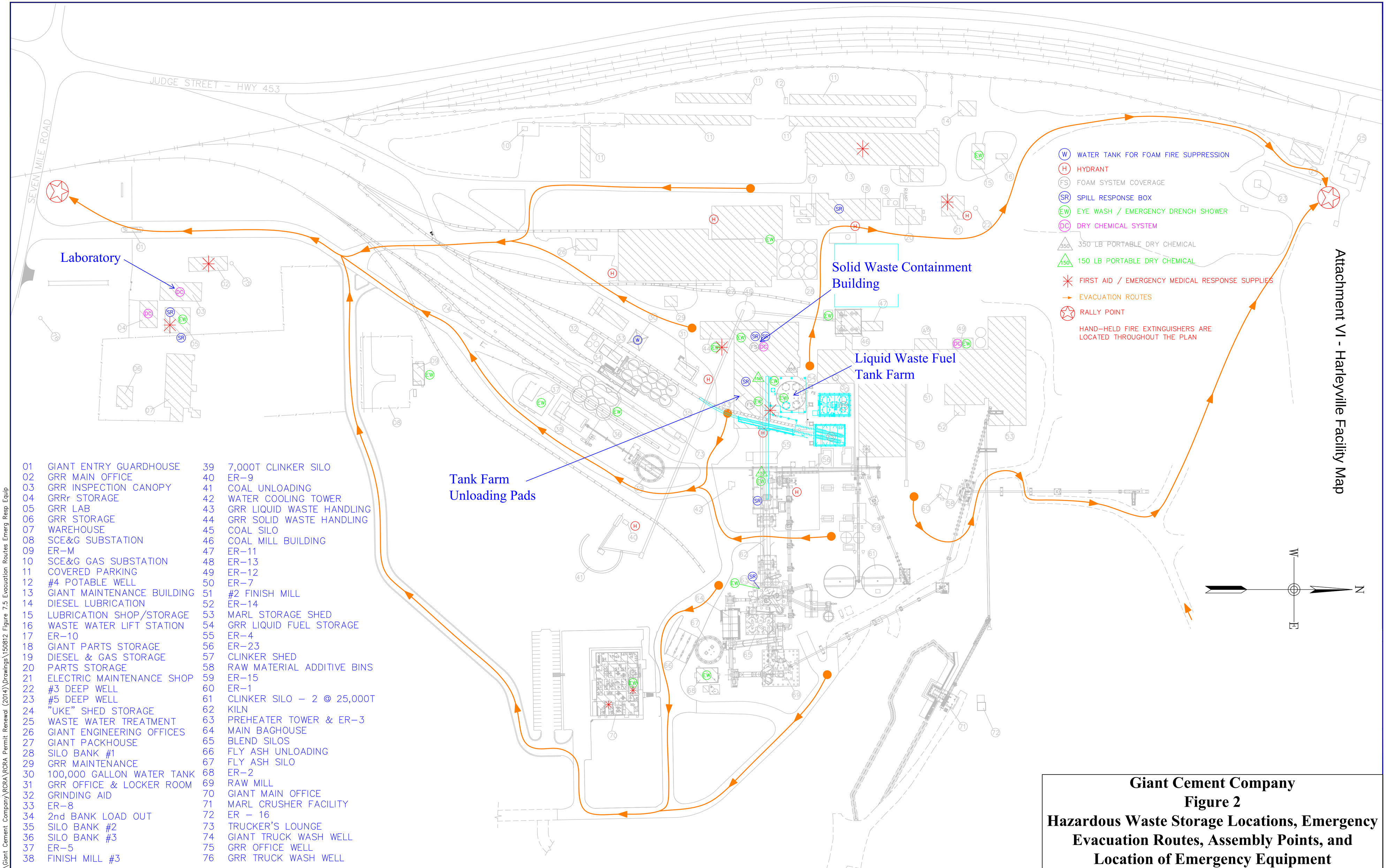
Giant Cement Company					
EPA ID #	Prior Year	GNP Factors		Multiplier	Current Year
	2024	3Q2023	3Q2024		2025
SCD 003351699	$ 905,416	122.668 [1]	125.441 [2]	1.023	$ 926,241
Notes: [1] GNP Factor (line 27), from BEA Table 1.1.9. Last Revised 1/25/2024 (printed 1/25/2024) [2] GNP Factor (line 27), from BEA Table 1.1.9. Last Revised 12/19/2024 (printed 1/6/2025)					

Giant requests Department approval of the updated closure cost estimate to revise its current financial assurance instrument. Should you have any questions or require additional information, please contact Mr. Edward F. "Sonny" Dougherty at (803) 496-2855 or me at (803) 809-4945.

Sincerely,

Jason D. Goins
Director of Environmental Affairs, GCHI

cc: US EPA Region IV
Ricardo Yllescas Alvarez, Giant
Edward F. "Sonny" Dougherty, Giant
Roberto E. Polit, Giant



01	GIANT ENTRY GUARDHOUSE	39	7,000T CLINKER SILO
02	GRR MAIN OFFICE	40	ER–9
03	GRR INSPECTION CANOPY	41	COAL UNLOADING
04	GRRr STORAGE	42	WATER COOLING TOWER
05	GRR LAB	43	GRR LIQUID WASTE HANDLING
06	GRR STORAGE	44	GRR SOLID WASTE HANDLING
07	WAREHOUSE	45	COAL SILO
08	SCE&G SUBSTATION	46	COAL MILL BUILDING
09	ER–M	47	ER–11
10	SCE&G GAS SUBSTATION	48	ER–13
11	COVERED PARKING	49	ER–12
12	#4 POTABLE WELL	50	ER–7
13	GIANT MAINTENANCE BUILDING	51	#2 FINISH MILL
14	DIESEL LUBRICATION	52	ER–14
15	LUBRICATION SHOP/STORAGE	53	MARL STORAGE SHED
16	WASTE WATER LIFT STATION	54	GRR LIQUID FUEL STORAGE
17	ER–10	55	ER–4
18	GIANT PARTS STORAGE	56	ER–23
19	DIESEL & GAS STORAGE	57	CLINKER SHED
20	PARTS STORAGE	58	RAW MATERIAL ADDITIVE BINS
21	ELECTRIC MAINTENANCE SHOP	59	ER–15
22	#3 DEEP WELL	60	ER–1
23	#5 DEEP WELL	61	CLINKER SILO – 2 @ 25,000T
24	"UKE" SHED STORAGE	62	KILN
25	WASTE WATER TREATMENT	63	PREHEATER TOWER & ER–3
26	GIANT ENGINEERING OFFICES	64	MAIN BAGHOUSE
27	GIANT PACKHOUSE	65	BLEND SILOS
28	SILO BANK #1	66	FLY ASH UNLOADING
29	GRR MAINTENANCE	67	FLY ASH SILO
30	100,000 GALLON WATER TANK	68	ER–2
31	GRR OFFICE & LOCKER ROOM	69	RAW MILL
32	GRINDING AID	70	GIANT MAIN OFFICE
33	ER–8	71	MARL CRUSHER FACILITY
34	2nd BANK LOAD OUT	72	ER – 16
35	SILO BANK #2	73	TRUCKER'S LOUNGE
36	SILO BANK #3	74	GIANT TRUCK WASH WELL
37	ER–5	75	GRR OFFICE WELL
38	FINISH MILL #3	76	GRR TRUCK WASH WELL

Attachment VI - Harleyville Facility Map

Giant Cement Company
Figure 2
Hazardous Waste Storage Locations, Emergency Evacuation Routes, Assembly Points, and Location of Emergency Equipment

N:\Giant Cement Company\RCRA\RCRA Permit Renewal (2014)\Drawings\150812 Figure 7.5 Evacuation Routes Emerg Resp Equip