

April 27, 2014

**Draft Permit: APC-2014/0060-CONSTRUCTION(NSPS)(MNSR)(SM)**

Crusher Operation at 200 Marsh Lane, New Castle

**Diamond Materials LLC**

924 South Heald Street  
Wilmington, DE 19801

ATTENTION: Paul Lester  
Superintendent

Dear Mr. Lester:

Pursuant to **7 DE Admin. Code** 1102, Section 2, approval of the Department of Natural Resources and Environmental Control (the Department) is hereby granted for the construction of a Portable Cedarapids Crusher (Model No. 3054/5048 and S/N PJF3339/PIS338) and conveyors powered by a 817 HP Caterpillar diesel engine (Model No. 3412 and S/N 81Z21940), located at the 200 Marsh Lane in New Castle, Delaware, in accordance with the application submitted on Form Nos. AQM-1, AQM-2, AQM-3.3, AQM-3.9, and AQM-5 dated March 18, 2014 signed by Mr. Paul Lester, Superintendent, and the letter dated March 18, 2014 signed by Mr. Louis M. Militana, Partner/Principal Consultant, Ambient Air Quality Services.

This permit is issued subject to the following conditions all of which are federally enforceable except Condition 2.4:

**1. General Provisions**

- 1.1 This permit expires on April 22, 2016. If the equipment covered by this permit will not be constructed by April 22, 2016 a request to extend this construction permit must be submitted by March 7, 2016.
- 1.2 Diamond Materials, LLC agrees that all limits, restrictions and requirements in this permit are necessary to limit their potential to emit NOx below major source thresholds. Violation of any limit, restriction or requirement contained herein may be grounds for suspension or revocation of the permit or other enforcement action for noncompliance with the permit, the failure to apply for a Title V permit, or the failure to obtain a Title V permit.
- 1.3 The emission limitation of Condition 2.1.3 & operation limitation of Condition 3.1.2 are voluntary restrictions to limit NOx emissions to below the five (5) ton per year applicability threshold of **7 DE Admin. Code** 1125, Section 4, *Minor New Source Review*. The owner and/or operator shall meet the control technology requirements of **7 DE Admin. Code** 1125, Section 4, *Minor New Source Review* if an increase in the operational limitation of Condition 3.1.2 results in an increase in NOx potential to emit above five tons per year.

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- 1.4 The project shall be constructed in accordance with the application described above. If any changes are necessary, revised plans must be submitted and supplemental approval issued prior to actual construction.
- 1.5 Representatives of the Department may, at any reasonable time, inspect this facility.
- 1.6 This permit may not be transferred to another location or to another piece of equipment or process.
- 1.7 This permit may not be transferred to another person, owner, or operator unless the transfer has been approved in advance by the Department. Approval (or disapproval) of the permit transfer will be provided by the Department in writing. A request for a permit transfer shall be received by the Department at least thirty days before the date of the requested permit transfer. This request shall include:
  - 1.7.1 Signed letters from each person stating the permit transfer is agreeable to each person; and
  - 1.7.2 An Applicant Background Information Questionnaire pursuant to 7 Del C, Chapter 79 if the person receiving the permit has not been issued any permits by the Department in the previous five (5) years.
- 1.8 The applicant shall, upon completion of the construction, installation, or alteration, request that the Department grant approval to operate.
  - 1.8.1 A separate application to operate pursuant to 7 **DE Admin. Code** 1102 does not need to be submitted to the Department for the equipment or process covered by this construction permit. Upon a satisfactory demonstration by an on-site inspection that the equipment or process complies with all of the terms and conditions of this permit, the Department shall issue a 7 **DE Admin. Code** 1102 Operating Permit for this equipment or process.
  - 1.8.2 The applicant shall notify the Department sufficiently in advance of the demonstration and shall obtain the Department's prior concurrence of the operating factors, time period, and other pertinent details relating to the demonstration.
  - 1.8.3 The provisions of 7 **DE Admin. Code** 1102 Sections 2.1 and 11.3 shall not apply to the operation of equipment or processes for the purposes of initially demonstrating satisfactory performance to the Department following construction, installation, modification, or alteration of the equipment or processes.
- 1.9 The owner or operator shall not initiate construction, install, or alter any equipment or facility or air contaminant control device which will emit or prevent the emission of an air contaminant prior to submitting an application to the Department pursuant to 7 **DE Admin. Code** 1102, and, when applicable 7 **DE Admin. Code** 1125, and receiving approval of such application from the Department; except as exempted in 7 **DE Admin. Code** 1102 Section 2.2.

**2. Emission Limitations**

- 2.1 Air contaminant emission level from crusher, conveyor and engine combined shall not exceed those specified in 7 **DE Admin. Code** 1102 and the following:
- 2.1.1 Total Hydrocarbon (THC) Emissions  
THC emissions shall not exceed 0.13 pound per hour and 0.05 ton per twelve (12) month rolling period;
  - 2.1.2 Nitrogen Oxide (NO<sub>x</sub>) Emissions  
NOX emissions shall not exceed 13.71 pounds per hour and 4.85 tons per twelve (12) month rolling period;
  - 2.1.3 Carbon Monoxide (CO) Emissions  
CO emissions shall not exceed 0.49 pounds per hour and 0.17 ton per twelve (12) month rolling period;
  - 2.1.4 Sulfur Oxide (SO<sub>x</sub>) Emissions  
SOx emissions shall not exceed 0.01 pound per hour and 0.004 ton per twelve (12) month rolling period; and
  - 2.1.5 Particulate Matter (PM<sub>10</sub>) Emissions  
PM<sub>10</sub> emissions shall not exceed 1.03 pound per hour and 0.36 ton per twelve (12) month rolling period.
  - 2.1.6 Particulate Matter (PM) Emissions
    - 2.1.6.1 PM emissions shall not exceed 1.25 pound per hour and 0.44 ton per twelve (12) month rolling period.
    - 2.1.6.2 PM emissions shall not exceed 0.3 pound per million BTU heat input, maximum 2-hour average.
- 2.2 No person shall cause or allow the emission of visible air contaminants and/or smoke from the shingle grinder transfer to the stockpile, shingle grinder loading/unloading of ground shingles and the shingle grinder engine exhaust stack, the shade or appearance of which is greater than twenty (20%) percent opacity for an aggregate of more than three (3) minutes in any one (1) hour or more than fifteen (15) minutes in any twenty-four (24) hour period.
- 2.3 The emission of visible air contaminants from the belt conveyor transfer point, except any stockpiles, shall not exceed ten percent (10%) opacity.
- 2.4 Odors from this source shall not be detectable beyond the plant property line in sufficient quantities such as to cause a condition of air pollution.

**3. Operational Limitations**

- 3.1 The owner or operator shall comply with the following operational limits:
- 3.1.1 This permit only allows for operation at the following location:
    - 3.1.1.1. 200 Marsh Lane, New Castle
  - 3.1.2 The maximum hours of operation for this equipment shall not exceed 708 hours in any rolling twelve (12) month period from the site.
  - 3.1.3 Production capacity shall be restricted to 300 tons per hour.
  - 3.1.4 The crusher shall only be powered by the 817 HP Caterpillar diesel engine.
  - 3.1.5 The Company shall combust only diesel fuel (No. 2 fuel oil) in the crusher engine.
  - 3.1.6 No. 2 fuel oil consumption for the crusher engine shall not exceed 28320 gallons per rolling twelve month period.
  - 3.1.7 The sulfur content of the No. 2 fuel oil shall not exceed 15 ppm percent by weight sulfur as evidenced by fuel oil supplier certifications that include the following:
    - 3.1.7.1 The name of the oil supplier.
    - 3.1.7.2 The oil complies with the specifications for fuel oil No. 2 , as defined by the American Society for Testing and Materials in ASTM D396, "Standard Specification for Fuel Oils."
    - 3.1.7.3 The sulfur content of the oil as determined by ASTM methods: D129, D1552, D2622 or D4294.
  - 3.1.8 The crusher shall only be used to crush concrete, stone, bricks, blocks and recycled asphalt pavement (RAP).
  - 3.1.9 The water spray dust suppression system for the crusher and discharge conveyor belt shall be in proper operation when the equipment is operating and shall be regulated to control visible emissions.
- 3.2 The company shall develop and have approved by the Department a Dust Control Plan covering the elements given in Appendix A prior to operation. In addition the following dust control measures shall be employed:
- 3.2.1 The on-site traffic patterns used by vehicles accessing the facility shall minimize vehicle roadway traffic in areas where products are stored or processed. In Addition, the site is readily accessed by a number of major roadways to allow offsite vehicular traffic to avoid residential areas. The use of any roads in residential areas shall be kept to a minimum. This measure shall limit the amount of fugitive dust and/or debris that could collect on residential roads.

- 3.2.2 Trucks delivering or leaving the property with materials shall be covered with a tarp, or other suitable cover, to ensure that dust and debris shall not blow off during transportation on roadways offsite.
- 3.2.3 The site operator shall have access to adequate water supplies and appropriate equipment to allow site personnel to wet down the piles of processed and unprocessed material stored onsite. This measure shall be employed to minimize the amount of dust that blows off the piles when conditions warrant.
- 3.2.4 Any unpaved roads onsite shall be regularly wetted with water to minimize the amount of dust from interior roadways when visible dust is observed. All travel roads on the property will be eventually paved and maintained in minimize the generation of fugitive dust.
- 3.2.5 No person shall cause or allow land clearing, land grading (including grading for roads), excavation, or the use of non-paved roads on private property unless methods, such methods may include the application of water or the use of other techniques approved by the Department, are employed to control dust emissions.
- 3.2.6 No person shall cause or allow visible particulate emissions of any material being transported by a motor vehicle.
- 3.2.7 No person shall cause or allow stockpiling or other storage of material or transport to or from a storage facility in such a manner as may cause a condition of air pollution.
- 3.3 At all times, including periods of startup, shutdown, and malfunction, the owner or operator shall, to the extent practicable, maintain and operate the facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating procedures are being used will be based on information available to the Department which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.
- 3.4 All structural and mechanical components of the equipment or process covered by this Permit shall be maintained in proper operating condition.

#### **4. Testing and Monitoring Requirements**

- 4.1 Within sixty (60) days after achieving the maximum production rate at which the facility will be operated, but not later than 180 days after initial startup of such facility, the owner or operator shall conduct a Reference Method 9 visible emission test and furnish the Department with a written report of the results of such test in accordance with the following general provisions:
  - 4.1.1 The Company shall notify the Department thirty (30) days in advance to give the Department the opportunity to witness the test.

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- 4.1.2 The final results of the testing shall be submitted to the Department within sixty (60) days of the test completion. One (1) original and one (1) copy of the test reports shall be submitted to the address below:

Division of Air Quality Management  
Engineering & Compliance Branch  
Attn: Permitting Engineer  
Blue Hen Corporate Center  
655 S. Bay Road, Suite 5 N  
Dover, DE 19901

- 4.1.3 The results must demonstrate to the Department's satisfaction that the emission unit is operating in compliance with the applicable regulations and conditions of this permit; if the final report of the test results shows non-compliance the owner or operator shall propose corrective action(s). Failure to demonstrate compliance through the test may result in enforcement action.

- 4.2 The following applies to visible emission tests for the crushed materials transfer to the stockpile and materials loading/unloading:

- 4.2.1 The Company shall conduct a daily survey during daylight hours when the equipment is in operation to detect the presence or absence of visible emissions according to the following procedure:

4.2.1.1 "Survey of emission point for the presence or absence of visible emissions" shall be defined as a minimum period of five (5) consecutive minutes. The survey of the emission units concurrently is acceptable provided all emission points are easily observable from the observer's position.

4.2.1.2 The detection of the presence or absence of visible emissions shall be in accordance with the procedures of EPA Reference Method 22 (40 CFR 60, Appendix A) paragraphs 4 and 5.

4.2.1.3 If visible emissions are observed from an emission point for three (3) consecutive minutes during a survey, the observation shall be stopped and corrective actions per Condition 4.2.2 shall be taken.

4.2.1.4 The procedure does not require that the opacity of the emissions be determined. Since this procedure requires only the determination of whether a visible emission occurs and does not require the determination of opacity levels, observer certification according to the procedures of EPA Reference Method 9 (40 CFR 60, Appendix A) are not required. However, it is necessary that the observer is educated on the general procedures for determining the presence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor).

- 4.2.2 If visible emissions are observed, the Company must identify and correct the cause of the excess emissions within forty-eight (48) hours. If the problem is not corrected, the Company must call the Department.

- 4.3 The Company shall conduct modified Reference Method 9 visible emission tests to establish compliance with the visible emissions standard of Condition 2.2 in accordance with 7 **DE Admin. Code** 1120 Section 1.5.3 (i.e., "modified" 40 CFR Part 60 Appendix A Reference Method 9) for the crusher engine exhaust stack.
- 4.4 The Company shall conduct opacity tests to establish compliance with the visible emissions standard of Condition 2.3 for the transfer points.
- 4.4.1 Compliance shall be determined by conducting observations in accordance with Reference Method 9 in Appendix A of 40 CFR Part 60, with the following additions:
- 4.4.1.1 The minimum distance between the observer and the emissions source shall be 4.57 meters (15 feet).
- 4.4.1.2 The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g. road dust). The required observer position relative to the sun (Method 9, Section 2.1) must be followed.
- 4.4.1.3 For affected facilities using wet dust suppression for PM10 control, a visible mist is sometimes generated by the spray. The water mist must not be confused with PM10 emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.
- 4.4.2 When determining compliance with the fugitive emissions standard for the conveyor transfer point, the duration of the Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6-minute averages) only if the following conditions apply:
- 4.4.2.1 There are no individual readings greater than ten percent (10%) opacity.
- 4.4.2.2 There are no more than three (3) readings of ten percent (10%) for the one (1) hour period.
- 4.5 The Department reserves the right to require the Company to perform stack emissions tests using methods approved in advance by the Department in order to demonstrate compliance with emission limits and visible emissions.

## **5. Record Keeping Requirements**

- 5.1 The owner or operator shall maintain all records necessary for determining compliance with this permit in a readily accessible location for five (5) years and shall make these records available to the Department upon written or verbal request.
- 5.2 The following information shall be recorded, initialed and maintained in a log each day:
- 5.2.1 Statements that proper dust control measures are properly employed.
- 5.2.2 Total operating hours.
- 5.2.3 Production capacity (TPH).
- 5.2.4 Visible emissions and corrective actions.
- 5.2.5 Statement that the water spray dust suppression system is in operation.

- 5.3 The following information shall be recorded, initialed and maintained in a log each month:
- 5.3.1 Monthly and rolling twelve month total No. 2 fuel oil consumption.
  - 5.3.2 Monthly and rolling twelve month total hours of grinder operation.
- 5.4 The following information shall be maintained in a file:
- 5.4.1 All opacity observations conducted for compliance demonstration and observer certification.
  - 5.4.2 A maintenance/inspection log shall be maintained detailing all routine and non-routine maintenance performed, including air pollution control equipment.
  - 5.4.3 Performance testing measurements, stack testing measurements conducted for compliance demonstration, stack testing measurements conducted for Department determination purposes, and process and control equipment operating parameters sustained during stack testing.
  - 5.4.4 For each shipment of fuel, fuel supplier certifications of fuel sulfur content that state:
    - 5.4.4.1 The name of the oil supplier.
    - 5.4.4.2 The location of the oil when the sample was drawn for analysis to determine the sulfur content of the oil, specifically including whether the oil was sampled as delivered to the affected facility, or whether the sample was drawn from oil storage at the oil supplier's or oil refiner's facility or other location.
    - 5.4.4.3 The sulfur content of the oil as determined by ASTM methods: D129, D1552, D2622 or D4294 and expressed as:
      - 5.4.4.3.1 The actual sulfur content in ppm or percent (%) sulfur by weight. or
      - 5.4.4.3.2 A statement that certified the sulfur content of the shipment is equal to or below the applicable limit specified in Condition 3.1.7.
- 5.5 The rolling twelve (12) month total emissions shall be calculated and recorded each month in a log for each of the following pollutants. These emissions shall be included in the facility-wide emissions for each site.
- 5.5.1 Volatile Organic Compounds
  - 5.5.2 Nitrogen Oxide
  - 5.5.3 Carbon Monoxide
  - 5.5.4 Sulfur Oxide
  - 5.5.5 Particulate Matter (PM<sub>10</sub>)
  - 5.5.6 Particulate Matter (PM)

**6. Reporting Requirements**

- 6.1 The Company shall furnish the Department and EPA written notification as follows:
- 6.1.1 A notification of the actual date of initial start-up of the facility within 15 days after such date.
  - 6.1.2 A notification of the date construction or reconstruction of the facility is commenced postmarked no later than thirty (30) days after such date.
  - 6.1.3 A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subsection. This notice shall be postmarked sixty (60) days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date change. The Department may request additional relevant information subsequent to this notice.
- 6.2 The owner or operator shall submit to the Department and EPA the following information about any replacement facilities or any new equipment:
- 6.2.1 For a Conveyor belt:
    - 6.2.1.1 The width of the existing belt being replaced and
    - 6.2.1.2 The width of the replacement conveyor belt.
  - 6.2.2 For a Crusher:
    - 6.2.2.1 The rated capacity in tons per hour of the existing facility being replaced and
    - 6.2.2.2 The rated capacity in tons per hour of the replacement equipment.
- 6.3 Emissions in excess of any permit condition or emissions which create a condition of air pollution shall be reported to the Department immediately upon discovery by calling the Environmental Emergency Notification and Complaint number, (800) 662-8802.
- 6.4 In addition to complying with condition 6.1 of this permit, any reporting required by 7 DE **Admin. Code 1203 "Reporting of Discharge of a Pollutant or an Air Contaminant"**, and any other reporting requirements mandated by the State of Delaware, the owner or operator shall for each occurrence of excess emissions, within thirty (30) calendar days of becoming aware of such occurrence, supply the Department in writing with the following information:
- 6.4.1 The name and location of the facility;
  - 6.4.2 The subject source(s) that caused the excess emissions;
  - 6.4.3 The time and date of the first observation of the excess emissions;
  - 6.4.4 The cause and expected duration of the excess emissions;
  - 6.4.5 For sources subject to numerical emission limitations, the estimated rate of emissions (expressed in the units of the applicable emission limitation) and the

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operating data and calculations used in determining the magnitude of the excess emissions; and

6.4.6 The proposed corrective actions and schedule to correct the conditions causing the excess emissions.

6.5 One (1) original and one (1) copy of all required reports shall be sent to the addresses below:

State of Delaware – DNREC Division of Air Quality Blue Hen Corporate Center 655 S. Bay Road, Suite 5 N Dover, DE 19901 ATTN: Division Director	United States Environmental Protection Agency Associate Director of Enforcement (3AP10) 1650 Arch Street Philadelphia, PA 19103
No. of Originals: <b>1</b> & No. of Copies: <b>1</b>	No. of Copies: <b>1</b>

**7. Administrative Conditions**

7.1 This permit shall be made available on the premises.

7.2 Failure to comply with the provisions of this permit may be grounds for suspension or revocation.

Sincerely,

Paul E. Foster, P.E.  
Program Manager  
Engineering & Compliance Branch

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Chandu Dalsania

## Appendix A - Dust Control Plan Outline

A dust control plan for a facility shall address the activities at the site that generate dust and give operating procedures used (type and frequency) to control the dust. The plan shall, at a minimum, cover the following types of activities. The Company shall have an approved dust control plan in place prior to operation of the site.

### Transportation

- Paving of drive areas
- Sweeping, watering to minimize dusting – frequency
- Truck traffic – tailgate tightness, covers, wheel washing

### Materials Handling

- Unloading trucks
- Moving materials on site – location of materials, size of working piles, etc.
- Use of equipment like loaders on site

### Materials Storage

- Materials stored – dustiness
- Storage locations and methods – piles, barns, etc.
- Control methods – watering, surface binding, covering

### Processing

- Spray bars, covers, etc.

### Site Boundary (as necessary)

- Trees
- Scrim on fencing

### Review and Update

- Annual review and update

### Contact Information

- Contact name and phone number

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