

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

P138369001

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| FACILITY: BULK GUYS LLC | | SRN / ID: P1383 |
| LOCATION: 2530 VICKSBURG STREET, MARYSVILLE | | DISTRICT: Warren |
| CITY: MARYSVILLE | | COUNTY: SAINT CLAIR |
| CONTACT: Dustin Hurd , Plant Manager | | ACTIVITY DATE: 09/13/2023 |
| STAFF: Sebastian Kallumkal | COMPLIANCE STATUS: Compliance | SOURCE CLASS: MINOR |
| SUBJECT: Inspection to learn about the process and to verify compliance, possible NSPS Subpart UUU | | |
| RESOLVED COMPLAINTS: | | |

On Wednesday, September 13, 2023, I, Michigan Department of Environment, Great Lakes and Energy-Air Quality Division staff Sebastian Kallumkal, conducted an onsite unannounced inspection at Bulk Guys (SRN P1383) located at 2530 Vicksburg St., Marysville, Michigan. The purpose of the inspection was to determine Bulk Guy's compliance with the federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department of Environment, Great Lakes and Energy-Air Quality Division (EGLE-AQD) Rules and to verify the processes at the facility.

On June 20, 2023, EGLE-AQD staff had observed heavy dust from this location, visited the facility and discussed the operations with General Manager, Dustin Hurd. Based on the discussion, a violation notice (Date: June 26, 2023) pursuant to Michigan Administrative Rule R336.1201 (Rule 201) was sent for installing two sand dryers and two screeners without getting a permit to install (PTI). EGLE-AQD received a response on July 19, 2023, indicating that the heavy dust was due to an issue with the dust collector, and it has been resolved; both sand roasters and screeners are exempt from R201 requirements pursuant to R336.1282(2)(a) and R336.1285(t), respectively.

For the current inspection, I arrived at the facility at about 1:20 PM. I observed visible emissions which appeared to be condensed water vapors. I entered the office building; met the secretary, identified myself and requested to speak to the plant manager, Dustin Hurd. He came over. I introduced myself and stated the purpose of the inspection. He explained to me that they dry sand that is mined elsewhere. They have two roasters and two screeners. The sand in the roaster does not come in contact with the flame and it is indirectly heated/roasted. The dust from all these process equipment is controlled by a dust collector which uses water mist spray. On the day when I observed the heavy dust, they had a malfunction of the sprayers and water was not sprayed properly. According to Dustin, the equipment was repaired on the same day.

We went over the facility's VN response.

1. The roaster 1 is 8.5 mmBTU/hr and roaster 2 is 4.6 mmBTU/hr and natural gas fired. The PTI exemption rule they proposed was R336.1282(2)(a):

R 336.1282 Permit to install exemptions; furnaces, ovens, and heaters. Rule 282. (1) This rule does not apply if prohibited by R 336.1278 and unless the requirements of R 336.1278a have been met.

(2) The requirement of R 336.1201(1) to obtain a permit to install does not apply to any of the following:

(a) Any of the following processes or process equipment which are electrically heated or which fire sweet gas fuel or no. 1 or no. 2 fuel oil at a maximum total heat input rate of not more than 10,000,000 Btu per hour:

(i) Furnaces for heat treating or forging glass or metals, the use of that does not involve ammonia, molten materials, oil-coated parts, or oil quenching.

(ii) Porcelain enameling furnaces or porcelain enameling drying ovens.

(iii) Kilns for firing ceramic ware.

(iv) Crucible furnaces, pot furnaces, or induction melting and holding furnaces that have a capacity of 1,000 pounds or less each, in which sweating or distilling is not conducted and in which fluxing is not conducted utilizing free chlorine, chloride or fluoride derivatives, or ammonium compounds.

(v) Bakery ovens and confection cookers where the products are edible and intended for human consumption.

(vi) Electric resistance melting and holding furnaces that have a capacity of not more than 6,000 pounds per batch and 16,000 pounds per day, which melt only clean Page 61 Courtesy of Michigan Administrative Rules charge. Fluxing that results in the emission of any hazardous air pollutant shall not occur in the furnace.

I explained to him that the exemption is for the processes that are listed in R282(2)(a) (I to VI). When inquired, Justin told me their operations do not include any these processes. Therefore, this exemption is not applicable to the roasters.

We went over R282(2)(b) which states:

(b) Fuel-burning equipment, which is used for space heating, service water heating, electric power generation, oil and gas production or processing, or indirect heating and which burns only the following fuels:

(i) Sweet natural gas, synthetic natural gas, liquefied petroleum gas, or a combination thereof and the equipment has a rated heat input capacity of not more than 50,000,000 Btu per hour.

(ii) No. 1 and no. 2 fuel oils, distillate oil, the gaseous fuels specified in paragraph (i) of this subdivision, or a combination thereof that contains not more than 0.40% sulfur by weight and the equipment has a rated heat input capacity of not more than 20,000,000 Btu per hour.

(iii) Wood, wood residue, or wood waste that is not painted or treated with wood preservatives, which does not contain more than 25% plywood, chipboard, particleboard, and other types of manufactured wood boards, that is not contaminated with other waste materials, and the equipment has a rated heat input capacity of not more than 6,000,000 Btu per hour. (iv) Waste oil or used oil fuels that are generated on the geographical site and the equipment has a rated heat input capacity of not more than 500,000 Btu per hour.

(c) Fuel-burning and refuse-burning equipment used in connection with a structure that is designed and used exclusively as a dwelling for not more than 3 families.

(d) All residential cooking equipment.

(e) Equipment, including smokehouses, at restaurants and other retail or institutional establishments that is used for preparing food for human consumption.

(f) Blacksmith forges.

(g) Sour gas-burning equipment, if the actual emission of sulfur dioxide does not exceed 1 pound per hour.

He suggested that R282(2)(b)(1) could be an applicable exemption rule for their indirect heating process. I also agreed but informed him that this exemption rule only exempts the indirect heating part of the sand roasting process. The roasting process which generates sand dust (particulate matter) is not exempt pursuant to this rule.

In the VN response, with reference to the screeners, they suggested using R336.1285 (2)(t) as an PTI exemption rule.

R285(2)(t) Equipment for the mining, loading, unloading, and screening of uncrushed sand, gravel, soil, and other inorganic soil-like materials.

Justin told me that they are screening uncrushed sand. This exemption appears to be applicable for this process.

He has a copy of the EGLE-AQD PTI Exemption booklet. We discussed other exemption rules in R285 but could not find any appropriate rules. I also told him about Rule 290 which requires recordkeeping and Rule 291. We briefly discussed how to calculate the emissions (lb/hr) particulate matter from the roasting and screening processes. The approximate throughput for the roasting process is about 3 tons natural sand per hour.

During our conversation in the office trailer, the office secretary/receptionist was also present. I inquired Justin about the nature and date they started the operations at that location. He informed me that the roasters are on portable trailers. The facility operates Monday through Friday, 1 shift (10 hr) per day and have 15 employees. The secretary told me that they started the operation at that location 9-10 years ago. I asked Justin why he said earlier that they started about 11 months ago, he told me that was when he started. (During the previous inspection, he told me that operations started at this location in September 2022.)

After the discussion, I requested him for an inspection of the facility. He told me that the owner of the facility, Jon Strauchman, lives nearby and would like him to come over to allow the inspection.

Jon arrived a few minutes later. I informed him of the purpose of my inspection. We discussed the operations. They have two roasters, not dryers which use higher temperature and remove more moisture. The dust collector uses mist bars (5 bars). During malfunction on the previous day, the mist bars were plugged, and the mist was not applied. They removed the bars and reinstalled them.

He informed me that they have been operating in compliance with the rules and had their consultant reviewed AQD regulations and informed them the processes do not need a permit to install (PTI). I requested a copy of the evaluation for review.

Upon request, he and Justin accompanied me for an inspection of the facility. The facility has two bay areas and each one has a roaster and a screener. We first inspected the 4.6 MMBtu/hr roaster which was operating at that time. The sand is

conveyed into the open roaster box through a conveyor and the sand is continuously roasted and moved to the screener.

Natural gas fired flame is introduced into the roaster through a hole on lower side and sand is introduced from the top. Both are applied cocurrently. I asked them whether the sand and flame are in direct contact. Justin explained that these are separated by a plate which makes the process indirect heating. The screened sand is collected. The dust emissions from the roaster and the screener are exhausted to the common dust collector. Next, we inspected Roaster 2, the 8.5 MMBtu/hr and the screener. The dust emissions from this process are also vented to the same dust collector. This was not operating at the time of my inspection.

Next, we inspected the area where the control equipment is located. After the inspection, I discussed the permit to install applicability for the roaster with Jon. I told him that the installation of the roasters appears to need a PTI, but I will review the exemption rules further and let him know later.

Regulatory Evaluation of the sand roaster process:

R336.1281(2)(e) does not appear to be applicable because part of the roasted sand become an air contaminant.

(e) Equipment used for washing or drying materials, where the material itself cannot become an air contaminant, if no volatile organic compounds that have a vapor pressure greater than 0.1 millimeter of mercury at standard conditions are used in the process and no oil or solid fuel is burned.

The sand process does not appear to be exempt from R201-Permit to Install requirements pursuant to R336.1280 through 1289. Facility may evaluate Rule 290 and Rule 291 exemptions.

Facility may contact EGLE-Clean Air Assistance Program at 800 662 9278, email at EGLE-Assist@Michigan.gov for further assistance for permit to install applicability and how to apply for a permit to install.

The permit to install application forms and related information can be accessed at:

<https://www.michigan.gov/egle/about/organization/air-quality/air-permits/new-source-review>

Additionally, Bulk Guys' sand roasting/drying process may be subject to Federal New Source Performance Standard, 40 CFR 60, Subpart UUU-Standards of Performance for Calciners and Dryers at Mineral Industries. The facility may review the applicability of this federal rule.

Subpart UUU—Standards of Performance for Calciners and Dryers in Mineral Industries

§ 60.730 Applicability and designation of affected facility.

(a) The affected facility to which the provisions of this subpart apply is each calciner and dryer at a mineral processing plant. Feed and product conveyors are not considered part of the affected facility. For the brick and related clay products industry, only the calcining and drying of raw materials prior to firing of the brick are covered.

(b) An affected facility that is subject to the provisions of subpart LL, Metallic Mineral Processing Plants, is not subject to the provisions of this subpart. Also, the following processes and process units used at mineral processing plants are not subject to the provisions of this subpart: vertical shaft kilns in the magnesium compounds industry; the chlorination-oxidation process in the titanium dioxide industry; coating kilns, mixers, and aerators in the roofing granules industry; and tunnel kilns, tunnel dryers, apron dryers, and grinding equipment that also dries the process material used in any of the 17 mineral industries (as defined in [§ 60.731](#), "Mineral processing plant").

(c) The owner or operator of any facility under [paragraph \(a\)](#) of this section that commences construction, modification, or reconstruction after April 23, 1986, is subject to the requirements of this subpart.

§ 60.731 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in [subpart A of this part](#).

Calciner means the equipment used to remove combined (chemically bound) water and/or gases from mineral material through direct or indirect heating. This definition includes expansion furnaces and multiple hearth furnaces.

Control device means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere from one or more affected facilities.

Dryer means the equipment used to remove uncombined (free) water from mineral material through direct or indirect heating.

Installed in series means a calciner and dryer installed such that the exhaust gases from one flow through the other and then the combined exhaust gases are discharged to the atmosphere.

Mineral processing plant means any facility that processes or produces any of the following minerals, their concentrates or any mixture of which the majority (>50 percent) is any of the following minerals or a combination of these minerals: alumina, ball clay, bentonite, diatomite, feldspar, fire clay, fuller's earth, gypsum, industrial sand, kaolin, lightweight aggregate, magnesium compounds, perlite, roofing granules, talc, titanium dioxide, and vermiculite.

Conclusion: Bulk Guys' sand roaster process appears to be subject to Rule 201-Permit to Install requirements. If subject to Rule 201 requirements, Bulk Guys LLC shall apply for a PTI for this process no later than November 30, 2023. Bulk Guys also needs to evaluate applicability for NSPS 40 CFR 60, Subpart UUU- Standards of Performance for Calciners and Dryers in Mineral Industries.

NAME Subarfonnykallentka

DATE 09/23/2023

SUPERVISOR foyer