

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

ACTIVITY REPORT: Self Initiated Inspection

FY2014 Insp

B608827299

FACILITY: SUPERIOR MATERIALS, INC.	SRN / ID: B6088
LOCATION: 44922 GRAND RIVER, NOVI	DISTRICT: Southeast Michigan
CITY: NOVI	COUNTY: OAKLAND
CONTACT:	ACTIVITY DATE: 09/25/2014
STAFF: Iranna Konanahalli	COMPLIANCE STATUS: Compliance
SUBJECT: FY 2014 inspection of Superior Materials, Inc.	SOURCE CLASS: MINOR
RESOLVED COMPLAINTS:	

E-file: B6088-SAR-2014 09 25

Superior Materials, Inc. (B6088)
44922 Grand River Ave.
Novi, Michigan 48375-1012

Phone: 248-349-3500

Name change (CY 2011): Spartan Concrete, Inc. (B6088) → Superior Materials, Inc. (B6088)

On September 25, 2014, I conducted a level 2 self-initiated inspection of Superior Materials, Inc. ("Superior"), fka Spartan Concrete, Inc. ("Spartan"), a transit mix concrete batch plant, located at 44922 Grand River Ave., Novi, Michigan 48375-1012. The inspection was conducted to determine compliance with the requirements of federal Clean Air Act; Article II, Air Pollution Control, Part 55 of Act 451 of 1994; Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) administrative rules.

The inspection is a result of previous complaints regarding excessive dust and the plant being large-scale producer of concrete (about 130,000 cubic yards per year).

Two Superior Materials' plants and one Prairie Materials' plant merged in October 2010. One Superior's plant located in Novi shut down. Prairie bought US Concrete. E. C. Levy (50%) and Prairie (50%) formed a joint venture and started doing business as Spartan Concrete until CY2011. Since then, Spartan is known as Superior Materials (2011).

During the inspection, Mr. Tom Webber (Cell: 810-2174501), Plant Operator, assisted me. Mr. Mike Grover (Cell: 810-560-1203; E-mail: magrover@SuperiorMaterials.net), Area Manager, was not present.

Mr. Jeffrey Mattack, manager, then Spartan Concrete, Inc., Novi, joined back Ann Arbor plant in February 2012 although he separated in December 2010.

During FY2014, I observed much less materials (swept today, Thursday, although regular schedule is Tuesdays and Fridays), such as sand, spilled all over the yard, which is entirely concrete-paved although substantially broken. I pointed this observation out to Tom Webber. However, the yard is swept twice a week.

Superior (about 130,000 cubic yards per year) is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1289 subject to the following conditions:

- (i) The plant shall produce not more than 200,000 cubic yards per year.
- (ii) The plant shall use either a fabric filter dust collector, a slurry mixer system, a drop chute, a mixer flap gate, or an enclosure for truck loading operations.
- (iii) All cement handling operations, such as silo loading and cement weighing hoppers, shall either be enclosed by a building or equipped with a fabric filter dust control.
- (iv) The owner or operator shall keep monthly records of the cubic yards of concrete produced.

(v) Before commencing operations, the owner or operator shall notify the appropriate air quality division district supervisor of the location where the concrete batch plant will be operating under this exemption.

(vi) The concrete batch plant shall be located not less than 250 feet from any residential or commercial establishment or place of public assembly unless all of the cement handling operations, excluding the cement silo storage and loading operations, are enclosed within at least a 3-sided structure.

(vii) The owner or operator shall implement the fugitive dust plan described in the Rule 336.1289

However, Superior's (fka Spartan) concrete plant was installed in 1968 (not grandfathered because it was installed after 1967). I gave a copy the above conditions to Mr. Mattack for his guidance regarding the operation of the plant (CY2006). I asked him to follow Rule 289 work-practice methods to control dust.

Entire Superior's yard is paved with concrete although broken in many places. It sweeps the yard twice per week. Spartan used to own Tenant 355 Sweeper; according to Mr. Weeber; Tenant is still present. However, now a contractor (Rolar Property Services of Troy) sweeps twice a week: Tuesdays and Fridays. However, the yard was swept on September 25, 2014 (Thursday), an exception.

The materials, such as aggregates, gravel, limestone, sand, etc., are stored in the open storage bins. The materials are brought to the grates using a front-end loader. From the grates, materials are transported using an enclosed conveyor to weigh scales, from which they are conveyed (enclosed) to a transit mix concrete truck.

Cement, flyash and steel mill slag are stored in the three separate elevated silos:

1. One 450,000 pounds cement silo (72 bags, shaker)
2. One 140,000 pounds flyash silo (54 bags, shaker)
3. One 240,000 pounds split silo (54 bags, shaker): 120,000 lbs. slag one-half silo and 120,000 lbs. Type-2 cement one-half silo.

The materials flow into a transit mix truck by gravity. A requisite amount of water (steam or hot water in winter) is also added simultaneously.

Each of three silos is equipped with its own baghouse. There are 72 bags per cement silo and 54 bags in each of flyash silo and split silo. The bags are cleaned using shaker mechanism. Transit-Mix loading area baghouse has 72 bags; it uses pulse-jet mechanism to clean bags.

A transit mix truck

The materials are transported using an enclosed conveyor to a truck. The truck opening area, where materials are poured, is equipped with an enclosure. The emissions from the enclosure are captured and ducted to a dry filter system, which is started automatically when a materials conveyor belt is started. Transit-Mix loading area baghouse has 72 bags; it uses pulse-jet mechanism to clean bags.

I observed a transit mix truck being loaded with cement, flyash, slag and water. I did not see any dust issues during the inspection: all dust due to truck loading was captured and the baghouse was working properly.

According Mr. Webber, all bags (loading area and 3 silos) were replaced in April 2013, July 2014.

On April 19, 2012, I observed pneumatic loading of silos from a Portland Cement truck. I did not see any visible emissions during the loading of silo indicating proper operation of silo baghouses.

During my observations of loading of Transit-Mix trucks, I did not see any visible emissions confirming proper

operation of the enclosure (a dust capture device) and a 72-bag baghouse that serves the truck loading.

Concrete materials production (cubic yards per year):

1. CY2011: 119,824
2. CY2012: 127,809
3. CY2013: 126,820

Transit-Mix truck rinsing

Transit-Mix trucks are rinsed before they leave the property to control fugitive dust. Washing protects trucks as well. City water with truck wash detergent (contains HCl) is used. There are four (4) settling ponds. Each pond settles out suspended particulate matter. While fourth pond contains the cleanest water, first pond contains dirtiest water. Water flows via gravity (level gradient) from fourth to first pond while suspended particulate settles: fourth containing largest particle size and first containing smallest particle size. Truck washed dirtiest rinse water goes to fourth pond. To first pond fresh city water is added on as needed basis. First pond water is used in concrete production.

A cold-cleaner

There is one maintenance 3'x4' cold-cleaner. Each cold-cleaner is subject rule 336.611 or 336.1707 depending on if it is new or existing. A cold-cleaner is exempt from Rule 336.1201 pursuant to Rule 281(h) or Rule 285(r) (iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979.

The cold-cleaner is of tank-on-drum type. The solvent is stored in 55-gallon drum (solvent reservoir) and pumped to the tank for cleaning.

As the coldcleaner was installed in 2004, it is a new coldcleaner. I found the coldcleaner open when not in use in 2006; I asked Mr. Mattack to ensure that the cold-cleaner is kept closed at all times when idled. On December 13, 2006, I gave Mr. Mattack a copy of DEQ's "cold-cleaner operating procedures".

Again in September, 2014, I gave DEQ cold-cleaner decals to Mr. Webbe as previous decals were dirty. I found the mechanically assisted lid closed during the FY 2014 inspection. Vesco Oil services the cold-cleaner. It is equipped with mechanically assisted lid.

Vesco Oil Corporation of Southfield. VIC SOL Mineral Spirits (reclaimed)

100% VOC solvent. Flash Point (FP) = 108 °F TCC. Auto Ignition = 490 °F. Boiling Point (BP) = 315-390 °F @ 760 mm Hg. Vapor Pressure (VP) = 10 mm Hg at 100 °F. Specific Gravity (SG, Water = 1.0) = 0.79. Density (ρ) @ 68 °F = 6.59 lbs. / gallon (0.790 kg /L). Flammability range = 1 %v (LEL) – 7%v (UEL). Viscosity = 1 centistokes at 77 °F.

Conclusion

Follow-up inspection is necessary due to fugitive dust problem.

NAME

J. Skranahall

DATE

09/29/2014

SUPERVISOR

CJE