

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Self Initiated Inspection**

N191629126

<b>FACILITY:</b> Comfort Research	<b>SRN / ID:</b> N1916
<b>LOCATION:</b> 1719 Elizabeth NW, GRAND RAPIDS	<b>DISTRICT:</b> Grand Rapids
<b>CITY:</b> GRAND RAPIDS	<b>COUNTY:</b> KENT
<b>CONTACT:</b> Joel Burkel, Operations Ninja	<b>ACTIVITY DATE:</b> 03/16/2015
<b>STAFF:</b> Denise Plafcan	<b>COMPLIANCE STATUS:</b> Non Compliance
	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> This was part of a self-initiated scheduled inspection because the company requested a meeting to discuss changes to their manufacturing operation.	
<b>RESOLVED COMPLAINTS:</b>	

AQD staff Denise Plafcan (DP), conducted an announced scheduled inspection of Comfort Research (CR) to determine compliance with State and Federal air quality rules, regulations, ROP No. MI-ROP-N1916-2014 and Consent Order AQD No. 4-2013. Chris Brinks asked to discuss various changes they were planning on making so while there for the meeting, DP also conducted an inspection. As required, DP provided a copy of the Environmental Inspection Brochure. Chris was also the escort on the inspection.

Since it was March 16, DP began by discussing the MAERS submittal and also the semi-annual and annual ROP Certification. Chris said he had the MAERS up on his screen and would be submitting that day. He stated that he was an accountant and knew it didn't have to be postmarked until the 16<sup>th</sup> because the 15<sup>th</sup> was on Sunday. DP then explained that in most situations that would be correct but in this case the consent order actually specifies the 15<sup>th</sup>. Chris was unaware of the ROP Certification requirement and DP expressed the importance and significance of that submittal. DP provided all of the necessary forms and the instruction pages from the internet site and explained the accuracy needed to complete both the semi and annual certifications and the urgency to get it in that day. Following the inspection, DP offered to wait in the lobby area while Chris completed and signed the ROP forms and he declined the offer. The MAERS was submitted electronically on March 16, 2015. The ROP Annual Certification was postmarked March 17, 2015 and received on March 19, 2015. The Semi-Annual Certification has not been received and a Violation Notice was sent on April 3, 2015. The notice is only for the Semi-Annual Certification not the late submittal of the Annual Certification, however, that is a violation of both the ROP and the Consent Order. Currently waiting for the VN response from the company.

CR continues to manufacture bean bag style chairs using recycled foam and virgin expanded polystyrene beads (EPS) as the filler. The pre-expanded bead is about one half the width and length of a grain of white rice. The expanded bead is about the size of a pea. The EPS bead expansion process consists of a Hirsch expander, with a capacity of approximately 1,500 pounds of beads per hour, which is used for both the first and second stage expansion. The 29 curing nets are used to hold the beads for curing after each stage of expansion. The EPS bead expander was not operating during the inspection. An additional unit had been added which was an EPS mold unit. This unit was not operational during the inspection. They are planning on placing the new mold unit in the same location. The 2 stump grinders, used to grind scrap foam into small chunks have been replaced with a large room size (approximately 10 feet X 10 feet by 10 feet) agricultural grinder that is in a loading dock area of the plant and the foam goes to a fill area inside the plant. This unit was operational during the inspection. The foam products go to a wrapping area that removes the air from the foam chunk products before shipping. The foam grinding operation is exempt from Rule 201 permitting requirements by Rule 285(I)(vi)(B) because it only exhausts into the in-plant environment. It was included in the PTI process because it was part of the initial installation which was subject to Rule 278 and therefore the exemption could not be used. However, there aren't any additional conditions in the ROP for the shredding operation. Two 6.3 MM Btu/hour natural gas boilers are used to supply steam; the other boilers have been decommissioned. Currently, the EPS beads go through 2 expansion cycles on the only expander (the Hirsch) and are allowed to air dry in one of the 29 large curing nets. All other expanders have been removed or decommissioned. The first pass through the expander contains about 200 lbs. of beads and are expanded with 3 lbs. of steam. The second pass through the tank holds about 65 pounds of beads and uses 5 lbs. of steam. There is a blow drier chamber that runs between 110°F and 120°F to dry the beads before they are moved into the tents. The beads shrink after drying

so the two step expansion helps to achieve full expansion of the bead permanently. The expanded bead is then used to fill the chairs or fabric bags that will become the chair or plastic bags that are sold at retail locations to refill chairs. The filling takes place at a new automated filling station with a down draft vent in the floor. This new operation has reduced the overflow beads that were in the filling station. For all practical purposes they have removed the manual fill lines.

Before entering the manufacturing area, the first stop was the research and development room. Models or molds are made out of Styrofoam by cutting and shaping. DP explained the significance of contacting the AQD to discuss any equipment changes that they might be considering as they may require a PTI modification. In this case, the research area would be exempt from PTI requirements under a Rule 283(1)(a)(v) exemption. However, an exemption may not always be applicable for a particular change at the plant and could result in a violation. Chris explained that they are getting molds for the new molding project from Germany.

The next area was the Hirsch expander, which was not operating at the time of the inspection. Chris explained how efficiently the unit is operating. This system was designed by one of the employees (Doug Hoff) and is a bag inside the stack inside the building that filters the extremely fine particulate. The bag is emptied based on the pounds of beads or number of totes processed roughly every couple of weeks. Doug Hoff is the main operator of the Hirsch and took some time out to explain the operation, installation of the bag system, and on site records.

A couple of new products added to the line are a float similar to a pool noodle but it contains loose beads and the second is a mat that can be used like a mini island for multiple people to float on the water and even place chairs on.

Chris highlighted the maintenance and remodeling of the area and their recent push for recycling and sustainability. DP stated that the DEQ contact for sustainability was Laura Rauwerda and would relay the information. At the close of the physical inspection DP requested a current MSDS and agreed to use the MAERS records for production compliance. DP then offered to wait to take the ROP Compliance Certification forms back to the office. Chris declined.

Since the inspection was completed, but before this report was finalized, Chris Brinks left the company.

## **SOURCE-WIDE CONDITIONS**

### **VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A.
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. Semiannual reporting not received, a VN was issued on April 3, 2015
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. Submitted on March 19, 2015 and postmarked March 17, 2015. Did not report any deviations, however, there were deviations for no monthly reports for November, December and September report was received 30 days late.

### **IX. OTHER REQUIREMENT(S)**

1. At a minimum, the permittee shall comply with paragraphs 9, 11A, 11B, 11C, 12, 13, 14, 15, 16, and 17 of Consent Order AQD No. 4-2013 entered on June 6, 2013. (Consent Order AQD No. 4-2013) By failing to submit the semi-annual compliance certification the company violated the Consent Order requirements that they comply with the ROP. A Violation Notice (VN) was issued on April 3, 2015 and sent via e-mail to Chris and Matt Jung and non-registered traditional mail to Matt Jung.

**FGBEAEXPAND****DESCRIPTION**

**Emission Units:** EUHIRSCH, EUCURING

**POLLUTION CONTROL EQUIPMENT**

FGBEAEXPAND VOC 165.75 tons12-month rolling time period as determined at the end of each calendar month. 56 tons of VOC based on December 2014 MAERS submittal.

**II. MATERIAL LIMIT(S)**

1. EPS bead VOC content 6.5 pounds per 100 pounds of EPS beads processed is being used for all calculations based on worst-case scenario. See attached MSDS.
2. EPS bead 36,000 pounds of beads<sup>4</sup> per calendar day First stage bead expander. Monthly records being submitted through October 2014 demonstrated compliance with this condition.
3. EPS bead 5.1 million pounds of beads 12-month rolling time period as determined at the end of each calendar month first stage bead expander. Based on the MAERS data the highest month was February 2014 at 3,426,000 and the usage has decreased over 2014.

**VI. MONITORING/RECORDKEEPING**

1. All required calculations shall be completed in a format acceptable to the AQD District Supervisor and made available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition. Records are being maintained as required.
2. The permittee shall keep, in a satisfactory manner, records of the pounds per calendar day throughput of EPS beads through the FGBEAEXPAND first stage expansion on file at the facility and make them available to the Department upon request. Monthly records submitted through October 2014 demonstrated compliance with this condition.
3. The permittee shall keep, in a satisfactory manner, records of the monthly and 12-month rolling time period pounds of throughput of EPS beads through the FGBEAEXPAND first stage expansion on file at the facility and make them available to the Department upon request. Records are being maintained as required, see the MAERS submittal.
4. The permittee shall keep, in a satisfactory manner, a separate record of the pounds of VOC per 100 pounds of EPS beads, for each shipment of EPS beads received at the facility, on file at the facility and make them available to the Department upon request. Monthly records submitted through October 2014, demonstrated compliance with this condition.
5. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period records of the VOC emission rate from FGBEAEXPAND, using a method acceptable to the AQD District Supervisor, on file at the facility and make them available to the Department upon request. Records were being maintained and submitted through October 2014 demonstrated compliance with this condition.

**VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A.
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. Semiannual reporting not received, a VN was issued on April\_3, 2015 response due April 21,2015

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. Submitted on March 19, 2015 and postmarked March 17, 2015. Did not report any deviations, however, there were deviations for no monthly reports for November and December and the September report was received 30 days late.

4. The following records, for each calendar month in which the data was collected and recorded, continuing through January 31, 2016, shall be submitted to the AQD District Supervisor in an approved format within 30 days following the end of the calendar month: Records were submitted through August 2014 correctly, September records were 30 days late, and November 2014, December 2014, January 2015 and February 2015 have not been received which is a violation of this condition and Consent Order AQD No. 4-2013.

#### **VIII. STACK/VENT RESTRICTION(S)**

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted. The following stack dimensions were not verified during this compliance inspection due to the condition of the roof.

SV-HIRSCH1 Maximum Exhaust Dimensions 24 inches Minimum Height Above Ground 27 feet

SV-HIRSCH2 Maximum Exhaust Dimensions 24 inches Minimum Height Above Ground 27 feet

SV-HIRSCHSTEAM Maximum Exhaust Dimensions 6 inches Minimum Height Above Ground 27 feet

The physical inspection and the records review demonstrated compliance with emission limits. However, the company has received a Violation Notice for failing to submit the semi-annual compliance certification and will receive a new violation for failing to submit records within 30 days as required.

NAME

Denise Pappas

DATE

4-20-15

SUPERVISOR

PAB