DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

N191637183

FACILITY: Comfort Research		**SRN / ID:** N1916
LOCATION: 1719 Elizabeth NW, GRAND RAPIDS		**DISTRICT:** Grand Rapids
CITY: GRAND RAPIDS		**COUNTY:** KENT
CONTACT: Aaron Wiersum , Sultan of Safety		**ACTIVITY DATE:** 10/13/2016
STAFF: Kaitlyn DeVries	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: The purpose of this inspection was to determine compliance with MI-ROP-N1916-2014, PTI No. 159-15, Consent Order No. 4-2013, and all other applicable air quality rules and regulations.		
RESOLVED COMPLAINTS:		

On Thursday October 13, 2016 AQD Staff Kaitlyn DeVries (KD) conducted an unannounced, scheduled inspection of Comfort Research located at 1719 Elizabeth NW, Grand Rapids, MI. The purpose of this inspection was to determine compliance with MI-ROP-N1916-2014, PTI No. 159-15, Consent Order AQD No. 4-2013, and all other applicable air quality rules and regulations.

KD arrived at the facility shortly before 10:00 am and surveyed the area for any odors, opacity, or fugitive beads in the area. None were noted. KD then entered the building and asked for Mr. Joel Burkel, Operations Ninja. Joel was unavailable, but Mr. Aaron Wiersum, Sultan of Safety accompanied KD on a tour of the facility.

Facility Description

Comfort Research is a manufacturer of bean bag style chairs using recycled foam and virgin expanded polystyrene beads. Comfort Research operated two (2) shifts per day, approximately five (5) days per week. Additionally, the expander typically only operates one (1) shift. Comfort Research is just beginning their busy season, so they may operate an additional day during the peak season.

Regulatory Analysis

Comfort Research is currently subject to the Title V program and is a major source of Volatile Organic Compounds (VOC's). Comfort Research was issued PTI No. 159-15 in October 2015. This PTI has not yet been rolled into the ROP. KD spoke with Mr. Wiersum about the status of this, and he stated they would be checking into this. KD attempted to speak with Mr. Burkel about this, in order to get the PTI rolled in to the ROP as soon as possible, but was unable to reach him as of November 2, 2016. Per the attached November 11, 2016 email, Comfort Research submitted the required forms to roll the PTI into their ROP.

Compliance Evaluation

There are two (2) 6.275 MMBTU/hr Cleaver Brooks natural gas fired boilers that are used to generate heat for expanding the beads (EUCBBOILER1, and EUCBOILER2) . There is a third boiler listed in the ROP, EUSUPBOILER1, but this boiler was decommissioned and is no longer located at the facility. Per Mr. Wiersum, both of the active boilers were built in 1964, but installed at the facility in 2012. These boilers are not subject to 40 CFR Part 63 Supbart JJJJJJ or 40 CFR Part 60 Subpart Dc, due to the small size. Rather, these boilers are exempt from Rule 201 permitting under Rule 282 (b)(i).

Comfort Research has one (1) emergency generator that can be used to back up the server in case of a power failure. Per Mr. Wiersum, this generator was installed during the summer of 2016. The generator is a spark ignition Cummins 0.27 natural gas generator with propane back up. This generator is subject to the new source performance standard (NSPS) 40 CFR Part 60 Subpart JJJJ for stationary spark ignition internal combustion engines. Based on the information provided, this engine appears to be certified to meet emissions standards. This will also need to be rolled into their ROP.

As previously mentioned, PTI No. 159-15 was issued in October 2015 and has not been rolled into the ROP. The newly issued PTI includes the most up-to-date conditions and Comfort Research will be evaluated using the most current conditions.

FGBEADEXPANDONLY

This flexible group covers the Expandable polystyrene (EPS) raw bead expansion consisting of a Hirsh expander

(EUHIRSCH) and 29 curing nets (EUCURING). The Hirsch expander, with a capacity of approximately 1,500 pounds of beads per hour, is used for both the first and the second stage expansion. The 29 curing nets are used to hold the beads for curing after each stage of expansion.

The EPS beads that are used for primary production are small, rice like beads that are limited to a Volatile Organic Compound (VOC) content of 6.5 pounds per 100 pounds of EPS beads processed. Per Mr. Wiersum, Comfort Research only uses one (1) bead for this process. The VOC content for this bead is 6.0% (see attached). Production is limited to 30,800 pounds of beads processed per day. In September, 2016 the largest amount of beads that was expanded was 14,400 pounds of beads. The EPS beads are also limited to 4.36 million pounds of beads, 12-month rolling. As of September 2016, the 12-month rolling EPS bead production was 1,921,200 (1.92 million) pounds of beads. VOC emissions from this process are limited to 141.75 tons per year (tpy) 12-month rolling. As of September 2016, the 12-month rolling VOC emissions were 62.45 tpy.

All stack dimensions, while not explicitly measured, appeared accurate with no apparent changes.

FGFUSION

This flexible group covers the EPS raw bead expansion process consisting of a Hirsch expander (EUHIRSCH), 29 curing nets (EUCURING), and a molding machine (EUMOLD). When operating as part of FGFUISON, the Hirsch expander is used for a single expansion stage. The curing nets are used to hold the expanded beads for cuing between expansion and molding. The flexible group description includes an additional molding machine, but based on the observations made during the inspection, there is only one (1) molding machine.

The molding machine was not in use at the time of the inspection, and per Mr. Wiersum, the molding machine has limited use. The VOC content of the EPS beads are limited to 7.5 pounds per 100 pounds of EPS beads processed. Per the attached records, the VOC content of the beads used is 7.5%. Per Mr. Wiersum, Comfort Research only uses one type of bead for the molding process. The throughput for these EPS beads is limited to 4,500 pounds of beads per day and 640,000 pounds of beads per year, 12-month rolling. As of September 2016, the 12-month rolling throughout was 7,215 pounds of beads. None of these beads were expanded in the month of September. Over the past 9 months, the largest amount of beads produced in a day was 3,000, and beads were only expanded on one day in the month, which is typical per the records. This process has only been operational since January 2016, and does not quite have a full year of emission data yet. The 12-month rolling VOC emissions are limited to 24 tpy. As of September 2016 the 12-month rolling VOC emissions were 0.27 tpy.
Stack dimensions were not measured, but there didn't appear to be any changes.

Per Consent Order AQD- No. 4-2013 Comfort Research is required to submit monthly records. Comfort Research has been successfully submitting the required records for the past 12-months. Additionally, Comfort Research has been submitting the required Semi-Annual and Annual Compliance reports. The previous two (2) Compliance reports have been received on time and complete.

Compliance Determination

Based on the observations made during the inspection and a subsequent review of the records, it appears as if Comfort Research is compliant with MI-ROP-N1916-2014, PTI No. 159-15, and all applicable air quality rules and regulations.

NAME Kaitlyn Deering DATE 11/2/2016 SUPERVISOR