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

N067741514

FACILITY: Steelcase Inc.- Kentwood Complex		**SRN / ID:** N0677
LOCATION: 5353 Broadmoor Avenue SE, KENTWOOD		**DISTRICT:** Grand Rapids
CITY: KENTWOOD		**COUNTY:** KENT
CONTACT: Lynn Zimmerman , Manager, Operations Environmental Compliance		**ACTIVITY DATE:** 08/30/2017
STAFF: April Lazzaro	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Unannounced, scheduled inspection.		
RESOLVED COMPLAINTS:		

Staff, April Lazzaro contacted Mr. Lynn Zimmerman, Manager, Operations Environmental Compliance Global Compliance & Sustainability the morning of August 30, 2017 to let him know that an inspection would be taking place over the next two days of the Steelcase Incorporated, Kentwood Complex, including all facilities. We agreed to meet at the facility identified in the permit as Kentwood West, now known as the Kentwood Plant.

FACILITY DESCRIPTION

Steelcase Incorporated, Kentwood Complex (Steelcase) operates pursuant to MI-ROP-N0677-2014a. The facility is located within an industrial and commercial area and manufactures metal and wood office furniture products. Within the complex, there are three ROP sections for three buildings used for manufacturing wood or metal office furniture, one section of the ROP is for the energy center, and the final section combines all non-manufacturing or support services. Section 1 the Computer Furniture Plant and Section 4 Kentwood East are closed and have been sold, however the sections remain in the ROP as a placeholder. Going forward in the future ROP renewal, the closed sections will be eliminated from this permit.

Each section's facility name and address are as follows:

SECTION	NAME	FACILITY ADDRESS
1	Computer Furniture Plant -	CLOSED (5353 Broadmoor)
2	Kentwood West (Kentwood Plant)	4350 52nd St.
3	Energy Center	4382 52nd St.
4	Kentwood East	CLOSED (4386 52nd St.)
5	Non-Manufacturing	6100 East Paris Ave. and 4384 52nd St. (Corpora Development Center, Physical Distribution Center and Fleet Facility)
6	Wood Furniture Division	4100 68th St.

Section 2, Kentwood West facility fabricates and coats metal office furniture via the powder coating process. No liquid paint, except for some aerosol touch up is conducted here. Ancillary activities include, sheet steel machining, shears, punches, notchers, presses, brakes, sanders, drills and welding.

Section 3, Energy Center includes four boilers. Boiler #3, the coal fired boiler has been decommissioned. Boiler #1 used to burn fuel oil, but that has been eliminated also. Only one boiler runs at a time. The sizes of each boiler varies and is as follows: Boiler #1 is 43.2 mmBtu/hr, Boiler #2 is 48 mmBtu/hr and Boiler #4 is 90 mmBtu/hr. The facility has taken a source wide limit to only burn natural gas at the stationary source. Additionally, the facility has accepted limits on combustion emissions source-wide.

Section 5, Non-manufacturing includes two facilities that provide support services for the manufacturing plants including research and development, maintenance, shipping and receiving, warehousing and fleet maintenance.

Section 6, Wood Furniture Division manufactures various items of wood office furniture. This includes woodworking and seven large externally vented baghouses, wood finishing lines, adhesive lines, wood staining etc. All VOC emissions are uncontrolled from this facility.

This facility is subject to some major source National Emission Standards for Hazardous Air Pollutants (NESHAP) because of the EPA's "Once in, always in" policy. This includes, the Wood NESHAP 40 CFR Part 63 Subpart JJ, the Metal Furniture NESHAP 40 CFR 63 Subpart RRRR, Reciprocating Internal Combustion Engine NESHAP 40 CFR 63 Subpart ZZZZ.

Steelcase accepted HAP synthetic minor limits on January 28, 2016. Therefore, they became a synthetic minor facility prior to the January 31, 2016 compliance date for the Boiler NESHAP 40 CFR 63 Subpart JJJJJJ and any

future NESHAP or MACT promulgations. The facility is subject to the boiler Area Source NESHAP, which should be added to the ROP application in the next renewal.

Records referenced below are attached via data CD.

COMPLIANCE EVALUATION

SOURCE-WIDE CONDITIONS

These conditions apply to all process equipment source-wide including equipment covered by other permits, grandfathered equipment and exempt equipment.
NOx emissions are limited to less than 225 tons per 12-month rolling time period as determined at the end of each calendar month. Reported NOx emissions for the time period of August 2016-July 2017 are 17.82 tons. SO_2 emissions are limited to less than 225 tons per 12-month rolling time period as determined at the end of each calendar month. Reported SO_2 emissions for the time period of August 2016-July 2017 are 0.12 tons. Individual Hazardous Air Pollutant (HAP) emissions are limited to less than 9.0 tons per 12-month rolling time period as determined at the end of each calendar month. The highest reported individual HAP for the time period of August 2017-July 2017 is dipropylene glycol monomethyl ether at 0.51 tons. Reported aggregate HAP for the same time period are 1.13 tons. Each section of this permit has the source-wide conditions, however they are only listed once in this report since the values are the same.

Natural Gas is limited to 471 million cubic feet (MMCF) per 12-month rolling time period as determined at the end of each calendar month. Reported natural gas usage for the time period of August 2017-July 2017 is 351.17 MMCF.

AQD staff confirmed that the coal fired boiler #3 has been decommissioned.

While compliance can be determined based on the records provided, the permit clearly states that the permittee shall keep record of the fuel used in each fuel burning process. Future records provided to the AQD should include a list of all fuel burning (natural gas and non-mobile diesel) process at the stationary source and the fuel used in each.

Section 1 – Closed

Section 2- Kentwood West

During the physical inspection, Mr. Zimmerman and I were accompanied by Jarrett Luyk, Safety and Environmental for this plant and Jiarui Cai, Environmental Engineer. This facility operates a mostly first shift with 600-900 employees in the 400,000 ft^2 facility.

The diesel-fired rice engine was observed, and the fuel oil requirements were discussed. Steelcase gets certified fuel at or below 15 ppm which is below the sulfur content limit of 1.7 ppm/Btu heat input. This engine is set up for emergency use only, and the maintenance plan is followed.

All painting in this facility is conducted via powder coating on one of five lines. As such, there are no requirements for compliance with FGKWW-NESHAPRRR because the Surface Coating of Metal furniture NESHAP does not apply to powder coating operations. This is because powder coating materials do not contain organic HAP. No further discussion necessary, however due to the "Once in always in" policy this NESHAP shall remain in the permit.

A brief discussion took place with regard to the heaters located at this facility. Mr. Zimmerman stated that Steelcase evaluated all burners on-site and determined that they were too small to be regulated under the Boiler MACT.

This facility operates one Rule 290 emission unit as detailed in the recordkeeping provided. Reported emissions are 18.35 pounds in the highest month. In the next permit revision, AQD staff has informed Steelcase that each emission unit that exists needs to be identified in the renewal application by a specific name, and what exemption it is operating under. Then, AQD will place that emission unit into a Rule 290 or Rule 287(2)(c) flexible group as is appropriate. The way the permit is currently written lacks accountability of equipment at the facility.

The use of aerosol cans is being reported pursuant to Rule 287(2)(c). Aerosol cans are used for some touch up painting around the facility. Aerosol cans are also exempt per Rule287(b) if the containers do not exceed 8 oz in size. This should be evaluated in preparation for the next ROP renewal process.

The cold cleaner used at this facility currently use a non-solvent zero VOC product called OzzyJuice.

Section 3- Energy Center

Mr. Bill Boss and Rose Herrmann assisted Steelcase staff in the Energy Center. Mr. Zimmerman and Ms. Cai were joined by Ke Yang, who is also part of the environmental team. AQD Part 4 rules defines a power plant as a "single structure devoted to steam or electric generation, or both, and may contain multiple boilers." As such, the Energy Center is considered a power plant per AQD rules. Only one boiler operates at any one time. Boilers #2 and #4 have meters on them to monitor natural gas usage. When Boiler #1 is in use, it is monitored using the main Michcon gas meter. The Energy Center does not currently have any Rule 290 emission units, and does utilize one cold cleaner.

EUEC-BOILER1
Boiler #1 is a 43.2 mmBtu/hr natural gas fired boiler that used to also burn fuel oil. The ability to burn fuel oil has been eliminated. Mr. Boss indicated the unit operates with the original burner. There are emission limits for SO_2 and opacity that are carry overs from the days when this unit burned fuel oil, however the limits have not been removed. The annual SO_2 limit for Boiler #1 is 39.0 tons per 12-month rolling time period. Reported SO_2 emissions from this boiler are 6.35 tons for the time frame of July 2016-August 2017. Compliance with the emission limits is assured by the combustion of natural gas.

EUEC-BOILER4
In January 1999, Boiler #4 was re-permitted to only burn natural gas. Emission limits for NO_x are 9.0 lb/hr and 39.4 tons per 12-month rolling time period. Reported NO_x emissions from this boiler are 6.44 tons for the time frame of July 2016-August 2017. Reported hourly NO_x emissions are 2.5 lb/hr. Compliance with the emission limits is assured by the combustion of natural gas. A material limit on the combustion of natural gas is limited to 86,540 cubic feet per hour. Mr. Boss stated that this is impossible for this boiler to achieve at maximum capacity. The maximum hourly natural gas throughput was in April 2017 and was 32,600 cubic feet. AQD has not required stack testing for NO_x emissions at this time. During the inspection, the presence of the natural gas meter was verified, as well as the monitoring of the steam production. Mr. Boss showed me the book where all the portable NO_x analyzer data is kept. I also verified that this monitor is calibrated routinely and told Steelcase that this will be added to the permit during the next renewal to ensure compliance.

The diesel-fired rice engine was discussed along with the fuel oil requirements. Steelcase gets certified fuel at or below 15 ppm which is below the sulfur content limit of 1.7 ppm/Btu heat input. This engine is set up for emergency use only, and the maintenance plan is followed. The tables for the RICE MACT will be updated during the next permit renewal.

FGEC-BOILERS2&3
As previously discussed, Steelcase took fuel restrictions at the facility to eliminate burning coal at the stationary source. This restriction was added during the modification of the ROP in October 2016. Boiler #3 has been decommissioned and the burner removed from the unit. During the modification, AQD staff at the time did not correct the description or limitations in this flexible group. As such, emission limits pertaining to the burning of coal fuel are still in the permit. Also still in the permit is the requirement to operate a Continuous Emissions Monitoring System (CEMS) and a Continuous Opacity Monitoring System (COMS). The permit does clarify that the CEMS and COMS are only required during coal-burning operations. Boiler #2 fires natural gas only, which has no limits identified. Due to the fact that all emission limits are based on CEMS and COMS data obtained during coal-burning operations, they no longer apply. For clarity, Steelcase should consider re-permitting the power plant.

Section 4 – Closed

Section 5- Non-Manufacturing Facilities

This section consists of the PDC and Fleet management facilities and is reporting one Rule 290 emission unit. In the next permit revision, AQD staff has informed Steelcase that each emission unit that exists needs to be identified in the renewal application by a specific name, and what exemption it is operating under. Then, AQD will place that emission unit into a Rule 290 or Rule 287(2)(c) flexible group as is appropriate. The way the permit is currently written lacks accountability to equipment at the facility. It was learned that there is one maintenance spray booth at the PDC facility utilizing Rule 290. Also, some usage records are reported in

ounces, not pounds. Steelcase should conduct the conversion and report in pounds so AQD staff does not have to. Still, the highest emitting source is 18 pounds per month. Additionally, while emissions are reported by CAS #, Steelcase should identify the ITSL/IRSL category each belongs in, so that it is easily identified if any toxic air contaminant emissions are limited to 20 pounds per month.

The diesel-fired RICE engine at PDC was discussed along with the fuel oil requirements. Steelcase gets certified fuel at or below 15 ppm which is below the sulfur content limit of 1.7 ppm/Btu heat input. This engine is set up for emergency use only, and the maintenance plan is followed. This engine is also subject to the major source RICE MACT with limited requirements.

The natural gas fired RICE engine at Fleet is also subject to the major source RICE MACT with limited requirements. The tables for the RICE MACT will be updated during the next permit renewal.

The PDC has one cold cleaner and the fleet has two cold cleaners which currently use a non-solvent zero VOC product called OzzyJuice. The cold cleaners also need to be updated similarly to the other exempt emission units. Each needs to be identified in the renewal application by a specific name, then AQD will place that emission unit into a cold cleaner flexible group as is appropriate.

Section 6 – Wood Furniture

This section consists of the wood furniture coating facility located at 4100 68th Street SE, Caledonia, MI. All fuel used at this facility must be counted toward the Source-wide fuel burning limits. Steelcase has stated that fuel use for this facility is included. Karen Andres is the facility Environmental Engineer for this location, and she keeps all recordkeeping. All coating equipment currently operates under either the Rule 290 or Rule 287(2)(c) exemption, and are subject to 40 CFR Part 60, Subpart JJ, Wood Furniture NESHAP. Additionally, there are two 24 mmBtu/hr natural gas fired boilers that are subject to NSPS Dc. These boilers and the NSPS Dc requirements need to be identified in the next renewal application and added to the permit. The requirements of NSPS Dc were in the original PTI No. 286-99 for this plant but were left out of the ROP.

At the time of construction, this was a solvent based wood coating facility that required control of VOC to meet BACT emission limits and to opt-out of prevention of significant deterioration (PSD) requirements. Due to coating formulation changes to low or no VOC the coating lines have been modified since the original permitting and as such were reevaluated and now operate pursuant to permit exemptions.

Reported emissions and usage pursuant to FGWOOD-RULE290 (row 1-9) and FGWOOD0RULE287(2)(c) (row 10-12) are as follows:

	Jan-2017	Feb-2017	Mar-2017	Apr-2017	May-2017	Jun-2017	Jul-2017
HV STAIN	64	8.32	38.01	3.54	20.8	3.48	8.9
HV CLEAR	47.8	61	85.5	39.5	65.35	43.5	100.99
LV STAIN	423	14.55	10.96	34.3	20.12	26	18.9
LV CLEAR	109	90	66.12	139	67.3	105.4	116.5
HANGLINE	84.6	72.26	75.05	62.89	88.24	84.25	63.889
WORKSURFACE	155	161	231	190	224	155	66.5
ADHESIVE	50	90	95	95.4	99.7	99.71	77.9
CLEANING	241	189	550	194	279	267	231
AEROSOL	306	239	229	369	297	315	194
Specials	39.591	39.87	17.044	46.619	38.689	46.151	34.995
Rollcoat	20	20	15	20	20	20	10
Lab/Research	6	4	6	8	6.4	2.4	1.9

During the inspection spray booth filters were observed. Ms. Andres explained that coating usage is determined by the timer in each booth/spray gun combination. When the actual flow rate of the applicator is known, and the time of application it provides actual usage of material. The applicators are calibrated monthly to ensure accuracy. During the recent permit modification to eliminate permitting for these units and utilize permit

exemptions as listed above, the stack dimension limitations were not removed from the ROP. If the emission units are truly exempt from permitting, then the limitations on stack do not apply. These should be removed during the next ROP renewal period.

This facility operates 7 baghouses that have not been modified since installation. These baghouses can vent externally or internally for heat reclamation. They are identified in the permit to install application as follows: DC-1, DC-2, DC-3, DC-4 are rated at 61,000 scfm and DC-5 , DC-6 and DC-7 are rated at 81,000 scfm. These baghouses were permitted as a project in 2000 at the original construction of this facility. The seventh baghouse was added in a permit modification in November 2000, but was still part of the initial facility installation. To avoid Prevention of Significant Deterioration (PSD) review, and to limit the potential to emit (PTE) at the facility for particulate, the emissions were limited to 0.00102 pounds per 1,000 pounds of exhaust gas and 0.280 (DC-1 - DC-4) and 0.372 pounds per hour (DC-5 - DC-7) with a corresponding limit on hours of operation.

In 2016, Steelcase requested that the requirements for these baghouses be removed from the ROP, but did not provide a basis for this removal. (It is noted in the AQD file that former AQD staff and long time Steelcase inspector, Denise Plafcan informed Steelcase in an e-mail that the baghouses could not be considered exempt.) Also, the Compliance Assurance Monitoring (CAM) Plan requirements were requested to be removed in this request. Both changes were made. The current legally enforceable limit on particulate matter based on Rule 331 is 0.10 pounds per 1,000 pounds of exhaust gas. This makes the PTE for particulate matter from the seven baghouses based on a combined total 487,000 CFM exhaust gas and equates to 959 tons of particulate matter. Individually, each baghouse PTE is over 100 tons. The assertion made by Steelcase that the baghouses are exempt is incorrect. AQD does not exempt process equipment installed as a project that has not been modified and required legally enforceable restrictions on emissions to be exempt from PSD.

Due to the fact that the baghouses are currently unpermitted, AQD will request a meeting with Steelcase to discuss this issue. The AQD erroneously allowed this change to be made to the ROP and it needs to be corrected. The expected outcome is that Steelcase will submit a permit application to re-permit the baghouses. AQD will request a timeframe for permit submittal to be no later than December 1, 2017.

Additionally, because these baghouses are subject to CAM, the permit is deficient in this area. A modification should be submitted to add CAM requirements for these baghouses back to the ROP.

During the inspection the control center for the baghouses was observed and the pressure drop in inches of W.C. was as follows: DC-1- Not operating, DC-2- 0.6, DC-3 1.44, DC-4- 1.43, DC-5- 1.43, DC-6- Not operating, DC-7- 2.12. DC-2 was in alarm mode because the monitoring system was detecting a broken bag. Ms. Andrus stated that the alarm on the panel would have also sent a notification to her and to Kay who was likely addressing it. At that time, I asked to access the roof to verify that there was not excess emissions being generated. Upon reaching the baghouse stack, no visible emissions were observed. There was no indication of particulate matter on the roof. Due to the removal of the CAM plan requirements, there is no way to determine if the lack of observed action to the broken bag alarm is an acceptable response.

Compliance with FGWOOD-NESHAPJJ and the Wood Furniture NESHAP is currently conducted using the following methods: coatings/thinners/cleaning- averaging approach, adhesives- compliant materials approach. Certified Product Data Sheets were requested and reviewed. Additionally, the facility reports compliance with the 0.8 kg VHAP/kg solids as applied. The highest VHAP reported in the months reviewed was 0.0009 kg VHAP/kg solids as applied.

The diesel-fired rice engine was discussed along with the fuel oil requirements. Steelcase gets certified fuel at or below 15 ppm which is below the sulfur content limit of 1.7 ppm/Btu heat input. This engine is set up for emergency use only, and the maintenance plan is followed. The tables for the RICE MACT will be updated during the next permit renewal.

CONCLUSION

Steelcase Incorporated, Kentwood Complex was in compliance at the time of the inspection.

NAME [signature] DATE 9-22-17 SUPERVISOR [signature]