

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

N067768649

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: 08/03/2023
STAFF: April Lazzaro	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Unannounced, scheduled inspection.		
RESOLVED COMPLAINTS:		

Staff, April Lazzaro arrived at the facility for an announced scheduled inspection. This inspection included the entire stationary source to meet the Full Compliance Evaluation criteria. I met with facility representatives at the Energy Center to begin the inspection.

Steelcase representatives included the following staff: Lynn Zimmerman, PE, Manager, Operations Sustainability, Liz Girgen, Senior Environmental Engineer, Operations Sustainability, Lanzhao Cheng and Luyao Li, Environmental Engineering staff, were present for the entire inspection. At the Energy Center we met with Dan Guarizo, Assistant Supervisor and Ron Beasley, Maintenance and Engineering Team Leader. At the Kentwood Seating & Non-Manufacturing facility we met with Jarrett Luyk, Safety and Environmental and Matt Hill. At the Wood Furniture facility, we met with Karen Andrus, Environmental Engineer, Jack Reys and Tyler G.

**FACILITY DESCRIPTION**

Steelcase Inc., Kentwood Complex is a furniture company that manufactures a range of architecture, furniture and technology products and services for office environments as well as the education, health care and retail industries. The stationary source operates pursuant to Renewable Operating Permit (ROP) MI-ROP-N0667-2020. Each of the sections identified in the ROP and listed below is located within industrial or commercial areas.

SECTION	NAME	FACILITY ADDRESS
1	Kentwood West	4350 52 <sup>nd</sup> Street
2	Energy Center	4382 52 <sup>nd</sup> Street
3	Kentwood Seating & Non-Manufacturing	4384 52 <sup>nd</sup> Street

The Kentwood West facility is identified in Section 1 of the Renewable Operating Permit (ROP) and located at 4350 52<sup>nd</sup> Street, Kentwood, Michigan. The activities in Kentwood West include fabricating, powder coating and assembly of metal office furniture. The fabrication process employs sheet steel machining, shears, punches, notchers, presses, brakes, sanders, drills and welders. These fabricated parts are coated with powder coat then assembled into a final product. The Kentwood West facility also houses a paint booth exempt from permitting pursuant to Rule 287(2)(c).

The Energy Center facility is identified in Section 2 of the ROP and is located at 4382 52<sup>nd</sup> Street, Kentwood, Michigan. The equipment at the Energy Center includes three (3) natural gas fired boilers. Boiler 1 is a natural gas-fired boiler with a maximum heat input rate of 43.2 MMBTU/hr and a maximum steam production rate of 30,000 lb/hr. Boiler 2 is a natural gas-fired boiler with a maximum heat input capacity of 48 MMBTU/hr and a maximum steam production rate of 40,000 lb/hour. Boiler 1 and Boiler 2 are exempt from permitting pursuant to Rule 282(2)(b). Boiler 4 is a natural gas -fired boiler with a maximum heat input rate of 90 MMBTU/hr and a maximum steam production rate of 70,000 lb/hr.

The Kentwood Seating & Non-Manufacturing operations are identified in Section 3 of the ROP and are located at 4384 52<sup>nd</sup> Street, Kentwood, Michigan. The activities in the Non-Manufacturing operations include the activities found at the Physical Distribution Center and the Fleet Facility. Within those facilities, activities include manufacturing support services including research and development, maintenance, shipping and receiving, warehousing and fleet maintenance. The Physical Distribution Center also houses a manufacturing subset named Kentwood Seating that conducts light assembly and operates a low volume paint booth exempt from permitting pursuant to Rule 287(2)(c).

The Wood Furniture plant is identified in Section 4 of the ROP and is located at 4100 68<sup>th</sup> Street, Caledonia, Michigan. The activities in the Wood Furniture facility include the manufacturing of wood office furniture which is comprised of woodworking equipment, wood finishing lines and adhesive stations. The wood finishing lines are the High Volume Stain, High Volume Clear, Low Volume Stain, Low Volume Clear, Work Surface, Roll Coat, Hang Line, Special Line and Adhesive Line. Coatings applied are stains, washcoats, tiecoats, topcoats, sealers, fillers, glazes and lacquers. Exhaust from the manual spray booths are vented through dry fabric filters for particulate removal. All water wash particulate control systems at the Wood Furniture plant have been replaced with dry fabric filters. The

woodworking equipment consists of carving, cutting, routing, turning, drilling, sawing, sanding, planing and buffing wood components. The particulate from the wood working equipment is collected and exhausted through one of the seven baghouses.

## **COMPLIANCE EVALUATION**

A records request was sent to the company to fulfill the requirements of a Full Compliance Evaluation. A complete response to that request was received timely.

## **SOURCE-WIDE CONDITIONS**

The source-wide conditions apply to all process located at the stationary source including equipment covered by other permits, grandfathered equipment, exempt equipment, and any future equipment.

### **Emission Limits**

NO<sub>x</sub> emissions are limited to less than 225 tons per year (tpy) based on a 12-month rolling time period. Reported source-wide NO<sub>x</sub> emissions through June 2023 are 7.70 tons.

SO<sub>2</sub> emissions are limited to less than 225 tons per year (tpy) based on a 12-month rolling time period. Reported source-wide SO<sub>2</sub> emissions through June 2023 are 0.10 tons.

Emissions of each individual Hazardous Air Pollutant (HAP) are limited to less than 9.0 tons based on a 12-month rolling time period. The highest reported individual HAP is hexane with reported emissions through June 2023 of 0.27 tons.

Emissions of each aggregate HAPs are limited to less than 22.5 tons based on a 12-month rolling time period. Reported aggregate HAP emissions through June 2023 are 0.59 tons.

### **Material Limits**

Natural gas usage is limited to 471 million cubic feet per year based on a 12-month rolling time period. This limitation applies to EUEC-BOILER1, EUEC-BOILER2 and EUEC=BOILER4. Reported natural gas usage for these boilers through June 2023 was 153.20 million cubic feet.

The source-wide conditions prohibit the use of coal at the facility, and it has been determined that Steelcase, Inc. no longer utilizes any coal. The coal fired boiler has been decommissioned and rendered inoperable.

### **Monitoring/Recordkeeping**

**Steelcase is maintaining the required monthly and 12-month total records required of the source.**

**Each Responsible Official certifies to the compliance status as required.**

### **Section 1- Kentwood West**

**Kentwood west contains a variety of exempt equipment as previously described. No odors or visible emissions were observed originating from this facility.**

**EUKWW-MAINTBOOTH currently utilizes the Rule 287(2)(c) exemption contained in FGKWW-RULE287(2)(c). During the inspection, I observed the clipboard that the facility utilizes for coating tracking. Monthly usage was less than one gallon per month, and the booth has been used six times this year. The values indicate compliance with the 200 gallon per month limit.**

**EUKWW-SOLVENT, EUKWW-SOLVENTSHEET and EUKWW-ADHWELD utilize the Rule 290 exemption contained in FGKWW-RULE290. Steelcase stated during the inspection that these emission units no longer exist at the facility.**

**EUKWW-MT-EMG-GEN is an existing 890 hp diesel-fired compression ignition reciprocating internal combustion engine. The engine was not observed during the inspection as the AQD does not have delegated authority over the requirements of 40 CFR Part 63 Subpart ZZZZ.**

### **Section 2- Energy Center**

**The Energy Center houses the three (3) natural gas fired boilers and one diesel-fired emergency generator. The coal fired boiler is still present but has been rendered permanently inoperable and was removed from the permit during the most recent renewal process. The unit was observed and confirmed to be out of service at the time of the inspection. No odors or visible emissions were observed originating from this facility.**

**EUEC-BOILER1 and EUEC-BOILER2 are subject to the emission and material limitations in the Source-Wide conditions that have been previously addressed in this report. Otherwise, these natural gas-fired boilers are exempt from permitting.**

**EUEC-BOILER4 is a natural gas-fired boiler with emission and material limitations. NO<sub>x</sub> emissions are limited to 9.0 pounds per hour based on a 24-hour operating hour as determined at the end of each calendar day. Compliance with the limit is based upon stack testing and/or monitoring of NO<sub>x</sub> emissions using a portable emission analyzer. Records of the required quarterly monitoring for 2022 and 2023 were requested and received. The highest measured value was recorded on October 14, 2022 at 66 ppm NO<sub>x</sub>.**

Based on Steelcase engineering calculations, the anticipated exhaust rate of the boiler is 6,601.74 CFM. As such, the average NO<sub>x</sub> emissions rate calculated by the AQD is approximately 3.31 lb/hr. Steelcase also calculates the pound per hour emission rate for this boiler which indicates compliance with the hourly limit. This boiler also has a mass NO<sub>x</sub> emission limit of 39.4 tons per year based on a 12-month rolling time period. The 12-month total emissions ending in June 2023 were reported at 6.11 tons, which indicates compliance with the limit.

Natural gas usage is limited to 85,540 cubic feet per hour based on a 24-hour rolling time period. The heating value and heat input is based on utilization of pipeline quality natural gas. Natural gas usage was requested, and the highest reported 24-hour usage was 41741.67 ft<sup>3</sup>/hr in February 2023, which indicates compliance with the limit.

EUEC-DIE-GENER is an existing 126 hp diesel-fired compression ignition reciprocating internal combustion engine subject to 40 CFR Part 63 Subpart ZZZZ and is equipped with an above ground diesel fuel storage tank that has recently been replaced. The engine serial number is 124861. The engine was not observed during the inspection as the AQD does not have delegated authority over the requirements of 40 CFR Part 63 Subpart ZZZZ.

### **Section 3- Kentwood Seating & Non-manufacturing Facilities**

The activities in the Non-Manufacturing operations include the activities found at the Physical Distribution Center and the Fleet Facility. No odors or visible emissions were observed originating from these facilities.

EUPDC-SEATINGBOOTH currently utilizes the Rule 287(2)(c) exemption contained in FGNMF-RULE287(2)(c). This booth and the clipboard used for coating tracking was observed. Monthly usage is recorded in ounces, and paint usage is low. The records observed indicated compliance with the 200 gallon per month limit.

EUKW-MT-EMG-GEN-FLT-NG, is an existing 100 hp natural gas fired spark ignition (SI) reciprocating internal combustion engine , EUKW-MT-EMG-GEN-PDC is an 830 hp diesel-fired compression ignition (CI) reciprocating internal combustion engine and EUFPH-FIRE-PUMP is an 340 hp diesel-fired compression ignition (CI) reciprocating internal combustion engine which are grouped in FGKW-MT-EMG-GEN and are subject to 40 CFR Part 63 Subpart ZZZZ.

EUKW-MT-EMG-GEN-FLT-NG The serial number was 02198. The engine was not observed during the inspection as the AQD does not have delegated authority over the requirements of 40 CFR Part 63 Subpart ZZZZ.

**EUKW-MT-EMG-GEN-PDC** The serial number was KC-94643. The engine was not observed during the inspection as the AQD does not have delegated authority over the requirements of 40 CFR Part 63 Subpart ZZZZ.

**EUFPH-FIRE-PUMP** The serial number was not found, this is an Alys Chalmers fire pump. The engine was not observed during the inspection as the AQD does not have delegated authority over the requirements of 40 CFR Part 63 Subpart ZZZZ.

#### **Section 4- Wood Furniture**

The activities in the Wood Furniture facility include the manufacturing of wood office furniture which is comprised of woodworking equipment, wood finishing lines and adhesive stations. The wood finishing lines are the High Volume Stain, High Volume Clear, Low Volume Stain, Low Volume Clear, Work Surface, Roll Coat, Hang Line, Special Line and Adhesive Line. Coatings applied are stains, washcoats, tiecoats, topcoats, sealers, fillers, glazes and lacquers. Exhaust from the manual spray booths are vented through dry fabric filters for particulate removal. No odors or visible emissions were observed originating from this facility.

Since the Steelcase stationary source has synthetic minor limits for HAPs, it is considered an area source and the facility is not subject to the major source provisions of the Wood Furniture National Emissions Standards for Hazardous Air Pollutants (NESHAP) found in 40 CFR Part 63, Subpart JJ. However, Steelcase requested that the requirements of the NESHAP remain in the permit for the time being due to applicability questions surrounding the federal "Once In Always In" policy. If Steelcase would like to remove the NESHAP conditions from the permit, this could be achieved through a Minor Modification.

A roof inspection was conducted, and there was no evidence of paint solids or wood particulate observed. There have been no stack changes observed at the facility.

**EUWOOD-DIESELGEN** is a existing 474 hp diesel-fired compression ignition (CI) reciprocating internal combustion engine subject to 40 CFR Part 63 Subpart ZZZZ. The engine was not observed during the inspection as the AQD does not have delegated authority over the requirements of 40 CFR Part 63 Subpart ZZZZ.

**EUWOOD-BOILER1** and **EUWOOD-BOILER2** were observed in the boiler room. These Cleaver Brooks boilers are rated at 24.5 MMbtu/hour and are subject to 40 CFR Part 60 Subpart Dc. Boiler #1 serial number was OL099492, and Boiler #2 serial number was OL099493. The facility is maintaining monthly natural gas usage as required, which averaged 6.55 mcf per month for 2022 and 2023.

Records for the coating usage pursuant to FGWOOD-NESHAPJJ, FGWOOD-RULE290 and FGWOOD-RULE287(2)(c) were requested and reviewed for the ten emission units included in these flexible groups. All documents and recordkeeping (see attached) were complete and indicate compliance with the limitations. Steelcase also maintains the records and conducts the work practice standards and associated employee training required by NESHAP JJ.

FGWOOD-RULE287(2)(c) emission unit records were evaluated. The highest reported usage for the past year was EUWOOD-Roll at 66.0 gallons. The records indicate compliance with the 200 gallon per month limit.

FGWOOD-RULE290 emission unit records were evaluated. The highest reported emissions for the coating operations EUWOOD-ADHESIVE at 166.0 pounds of emissions. The highest emissions reported for the Rule 290 emission units was EUWOOD-CLEANING at 471.3. The records indicate compliance with the 1,000 lb/month limit.

There are also seven baghouses at the Wood Plant identified as EUWOOD-DC-1, EUWOOD-DC-2, EUWOOD-DC-3, EUWOOD-DC-4, EUWOOD-DC-5, EUWOOD-DC-7, EUWOOD-DC-8 and found in FGWOOD-WOODWORKING. Each emission unit is subject to an emission limit, and compliance with the limit is established through compliance with monitoring and recordkeeping provisions.

The control panel was observed where the pressure drop indicators are located for each unit. The values recorded for each are as follows:

EUWOOD-DC-1: was not operating at the time of the inspection and is in a semi-permanent shut down status.

EUWOOD-DC-2: 2.4" H<sub>2</sub>O

EUWOOD-DC-3: 2.14" H<sub>2</sub>O

EUWOOD-DC-4: 2.75" H<sub>2</sub>O

EUWOOD-DC-5: 2.93" H<sub>2</sub>O

EUWOOD-DC-7: 2.55" H<sub>2</sub>O

EUWOOD-DC-8: 2.4" H<sub>2</sub>O

The baghouses are also equipped with broken bag alarms, and no alarms were activated at the time of the inspection.

**COMPLIANCE SUMMARY**

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

NAME April Lazzaro

DATE 08/22/2023

SUPERVISOR 