

August 27, 2021

**BY Hand Delivery**

April Lazzaro, Senior Environmental Quality Analyst  
EGLE, AQD  
Grand Rapids District Office  
350 Ottawa Avenue NW, Unit 10  
Grand Rapids, MI 49503

Re: August 6, 2021 Violation Notice (VN)  
Steelcase Inc Kentwood Complex Wood Plant

Dear Ms. Lazzaro:

In a letter dated August 6, 2021, Michigan EGLE Air Quality Division issued a notice of violation (VN) on several counts for the operating dust collector DC-7 at the Steelcase Kentwood Complex (Wood Plant). Although the VN noted that documentation already provided addressed some of EGLE's requests, additional information was requested and Steelcase has continued its review and response to the noted concerns. The purpose of this letter is to respond on behalf of Steelcase to the notice of violation, explain what Steelcase has learned and address the proposed conclusions offered by EGLE.

**Violation Notice Allegations and Requests**

The August 6, 2021 VN cites three rule/permit conditions being violated for EUWOOD-DC-7 as follows:

- 1) MI-ROP-N0677-2020 Section 4, Wood Furniture FGWOOD-WORKING Special Condition III.2 – Failure to properly install and operate the baghouse collector.
- 2) Rule 910 – Failure to properly install and operate the baghouse collector.
- 3) MI-ROP-N0677-2020 Section 4, Wood Furniture FGWOOD-WORKING Special Condition VI.5 and 40 CFR 64.6(c)(2) – Failure to maintain a pressure drop between the indicator range of 1-5" water column (WC) on a continuous basis

The VN also requests on or before 16 Sep 2021, the Company provide the following additional information:

- Evaluation of the current acceptable pressure drop range of 1-5" WC to determine if it is appropriate, based on the manufacturer's suggested range which is listed as 2-6" WC.
- Submittal of an updated Preventive Maintenance Plan to align with the requirements of a Preventive Maintenance and Malfunction Abatement Plan as detailed in Rule 336.1911.

### **Responsive Information**

As requested in the VN on or before 27 Aug 2021, although the third paragraph of VN at Page 2 indicates that information previously provided "satisfies the information provided in the previous paragraph" the Company is providing the following supplemental information and responses to address the points made in the VN.

- a) EGLE-AQD policy regarding CAM parameters has been to treat monitoring readings that are outside of the desired operating range as "excursions" and not as deviations.
- b) Established CAM operating ranges for '*normal operation*' provides a means for the equipment operators to determine '*normal operating conditions*' for the respective air pollution control device. Failure to stay in the desired operating range is not necessarily an indication of excess emissions, but is an indication of an abnormal operating condition or in this case abnormal monitoring readings.
- c) The EUWOOD-DC-7 dust collector experienced a monitor operating condition referred to as a "plugged line." The blockage caused an artificially low reading in the differential pressure gage. In this instance, the readings were not indicative of the operating status of the baghouse or its filtration bags.
- d) The exhaust from EUWOOD-DC-7 did not experience abnormally high visually observed opacity. Opacity is a suitable CAM operating parameter that can be used to determine abnormal operating conditions, failed bags, and abnormally high particulate emissions. Visual observations are also identified in the ROP as the means for determining "proper operation of the baghouse." Since no abnormal visual observations were indicated, we conclude the unit continued in proper operation despite the abnormally low differential pressure readings.
- e) Broken bag detectors are used to detect low differential pressures that may be associated with a loss in bag differential pressures to alert the operators of a possible bag malfunction. The broken bag detectors did not indicate broken bags and no broken or compromised bags were found.

- f) Steelcase inspected the internal workings of the baghouse but did not find issues of concern with regards to broken bags or improperly seated (sealed) bags. This indicates the separation between filtered and unfiltered air was not compromised. We assert that the baghouse functioned as intended by collecting and filtering wood dust preventing excess particulate emissions from the control equipment. This also indicates that the baghouse was and continued to operate properly.
- g) The inspection of the baghouse found the rotation mechanism (the pulse arm) for removing (blowing) accumulated dust from the filtration side of the bags had malfunctioned. Photo evidence shared with AQD shows the drive chain has slipped off of the sprocket drive wheel that rotates the reverse pulse jet blast unit.

Inspection of the ducts leading to the baghouse found excess materials had accumulated in the collection ducts. DC 7 has been at 25% capacity for some time given that the new CNC machines have not arrived or were just recently being installed. So, the air flow has been significantly reduced with the blinding off of the dust collector before the new equipment arrives.

However, the collection system continued to collect and convey sawdust from the production equipment the dust collector serves. Steelcase cleaned the ductwork and performed a systems check on the wood dust collection system. The ventilation contract experts that conducted the inspection noted the partially blocked ducts and the blocked monometer tubing used to measure the differential pressure. All other components in the wood dust collection system were and continue to operate properly.

### **Findings and Proposed Conclusions as to VN Allegations**

In direct response to the three cited issues in the August 6, 2021 VN, it is our opinion that the observations and conclusions by EGLE-AQD are not accurate because:

- 1) The evidence indicates the dust collector continued to collect and filter particulate from woodworking equipment, as designed and as operated. This unit is installed properly and operated properly preventing excess emissions. Our unit inspection finds the monitoring failure did not result in a violation of ROP Special Condition III.2 for FGWOOD-WOODWORKING.

Condition VI 4. States:

*The permittee shall record a daily non-certified visual opacity observation from each baghouse in FGWOOD-WOODWORKING as an indicator of proper operation of the dust collector. The indicator range defining proper operation is the absence of visible emissions. (40 CFR 64.6(c)(1)(i) and (ii)).*

Since visual observations did not find evidence of improper operation, we conclude the first count in the VN is not accurate or valid.

- 2) The evidence indicates no excess emissions occurred and thus the malfunction of the monitoring device did not cause abnormal or excessive emissions and is therefore not a violation of Rule 910 (R 336.1910). Therefore, we conclude the second count in the VN is not valid.
- 3) As discussed above, the readings were not indicative of the operating conditions within the dust collector system. Because the collection fan continued to operate, dust continued to be collected from the woodworking equipment, no visual indication of bag failures was present in the exhaust, no broken bags were found and internal dust collector inspections found the filtration units (bags) were operating as designed, we assert the third count in the VN that the unit was operated outside of the 1-5" WC range is not accurate. Further, once the differential pressure monitoring lines were cleared, the reading returned to the normal operating range of 1-5" WC, indicating the unit had and continued to operate as designed and within the proper differential pressure range indicated in the ROP.

Since the ROP conditions were not violated, we conclude no deviation of the ROP conditions occurred and no violation of the CAM (40 CFR Part 64) provisions occurred.

#### **Conclusions and Recommendations as to VN**

The discussion above directly addresses the inaccurate nature and conclusions of the VN. We submit that these observations and conclusions will meet with your agreement and approval, but please let us know if you have questions, seek additional information or would like to discuss them. In the spirit of cooperation and continuous improvement, Steelcase is taking this opportunity to enhance and improve the internal procedures associated with the dust collection equipment and will or have:

1. Made appropriate repairs to the bag cleaning arm for the chain that was dislodged
2. Replaced DC7 Dwyer sensor and cleaned hoses for pressure differential
3. Changed Programmable Logic Controller program on DC 7 to alarm when the 1"-5" of WC are exceeded for max/min.
4. Updated Preventive Maintenance Plan to reflect quarterly calibration check of Dwyer sensors, and hose cleaning.
5. SCW trades are using EECC process to record DC checks on all three shifts and continuing to use check sheet at DC cage.
  1. EECC stands for "Electronic Equipment Communication Center" which is based in our SAP database system
6. Updated our onsite stock of Dwyer pressure sensors to reorder at level of 2 and max of 4 instead of reorder at 1 and max of 2.
7. Installed an amp draw sensor in the control panel to monitor motor amperage on DC7 bag arm rotation motor. This will detect if the chain is dislodged from the bag arm, the drop in amperage draw from the motor will signal a fault.
8. Affirm our process for addressing differential pressure readings outside of the range is to take one of two actions:
  1. Shut down the dust collector and determine/repair the root cause issue

OR

2. Monitor the opacity of the clean air stack at an interval of every 20 minutes throughout the duration of the repair and correction of the root cause issue


### Supplemental Response and Information:

The VN letter also requests an evaluation be conducted regarding the acceptable pressure drop range (1" to 5" WC). Steelcase and its outside experts reviewed the Dustar Manufacturer's manual for the subject dust collector which states the proper pressure drop range is 0" to 6" WC. Since the CAM established operating range for this unit is 1" to 5" WC, any change that obviates the manufacturer's recommendations is not advised. Further, and since the problem was a plugged line that has been identified and corrected/cleared, we assert change for change's sake is not advisable. We consider this response as being both adequate and timely to the VN response.

With regards to the request for an updated preventive maintenance plan (PMP) to align with the regulatory requirements for a malfunction abatement plan (MAP), and inclusion of changes and updates detailed in Rule 911 (R 336.1911), we will accumulate our internal summary of appropriate standards and operating procedures regarding the dust collectors. To the extent that changes are made or found necessary to prevent a reoccurrence of this situation [or others discovered during our investigation], we will forward those to you in a revised MAP by the requested deadline of September 16, 2021.

Sincerely,

*ENVIRONMENTAL PARTNERS, Inc.*



Jeffrey M. Pfof  
Principal

cc Ms. Jenine Camilleri, Enforcement Unit Supervisor,  
Mr. Lynn Zimmerman, Steelcase Inc.