

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

N087866180

FACILITY: HAVILAND ENTERPRISES, INC		SRN / ID: N0878
LOCATION: 421 ANN ST NW, GRAND RAPIDS		DISTRICT: Grand Rapids
CITY: GRAND RAPIDS		COUNTY: KENT
CONTACT: Brittany Albin , Environmental Engineer		ACTIVITY DATE: 12/13/2022
STAFF: Kaitlyn DeVries	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: The purpose of this inspection was to determine compliance with Permit to Install (PTI) No. 71-17E, Consent Order AQD-2018-01 and other applicable air quality rules and regulations.		
RESOLVED COMPLAINTS:		

On Tuesday December 13, 2022, Department of Environment, Great Lakes, and Energy (EGLE) Air Quality Division (AQD) Staff Kaitlyn DeVries (KD) conducted an unannounced, scheduled inspection of Haviland Enterprises located at 421 Ann Street (East Building), 521 Ann Street (West Building) and 2168 Avastar Parkway (North Building), in Grand Rapids and Walker, MI. The purpose of this inspection was to determine compliance with Permit to Install (PTI) No. 71-17E, Consent Order AQD -2018-01 and other applicable air quality rules and regulations.

KD arrived in the vicinity of the site around 9:00 am and surveyed the area for odors and opacity prior to entering the building; none were noted. After checking in at the Main building at 421 Ann Street, KD was informed that the HSE staff had been relocated to the North Building; thus, KD proceeded to the North building where staff met with Mr. Ben Gaeth, Director of Engineering, and Ms. Brittany Albin, Environmental Engineer for an opening meeting. Mr. Gaeth, Ms. Albin, and Mr. Bruce Katje, Environmental Engineer, accompanied KD on the inspection of the facilities with each building Manager joining for the North, West, and East Campus's joining at various points.

**Facility Description**

Haviland Enterprises, Inc. (Haviland) receives, repackages, blends, and dilutes various products including caustics, phosphates, acids, bleaches, and algaecides. The main facility is comprised of an east campus, a west building, and a north building. The east campus has several buildings located on the vicinity including the corner building, the laboratory building, west building (of east campus) and several rooms within the main building.

**Regulatory analysis**

Haviland currently has one (1) permit through AQD, Opt-Out PTI No. 71-17E. Haviland also relies on Rule 201 permitting exemptions for much of the facility; more specifically Rule 290 and Rule 291 for a majority of the processes. KD had previously discussed the possibility of Haviland being subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63 Subpart VVVVVV for Chemical Manufacturing Area Sources as well as 40 CFR Part 63 Subpart BBBBbbb for Area Sources: Chemical Preparations Industry. Haviland submitted an applicability determination to the AQD, and Haviland is subject to both NESHAPS, as an area source. Further discussion of these regulations can be found in the compliance evaluation section of this report.

Haviland is currently a synthetic minor source of Volatile Organic Compounds (VOCs) and Hazardous Air Pollutants (HAPs). Haviland was also under Consent Order (CO) 2018-1 with AQD at

the time of the inspection. The AQD received a Consent Order Termination Request from Haviland on September 26, 2022, and on December 16, 2022, the AQD terminated the Consent Order.

During the opening meeting Ms. Albin and Mr. Gaeth outlined a few projects that Haviland is considering. KD discussed these projects with Haviland staff and suggested a PTI Pre-application meeting with AQD's permit section if Haviland deemed a permit change was necessary for any of these projects.

## **Compliance Evaluation**

### PTI No. 71-17E

#### *EUCHROME BLEND*

This emission unit covers the chrome blending process located in the manufacturing area of the East building. The process consists of a blending tank, a blender, a reactor, a sparger, and treatment tanks. Emissions from the blending tank, the blender, the reactor, and the sparger are controlled by a wet scrubber. The area was not in production at the time of the inspection.

Particulate Matter (PM) emissions from this emission unit are limited to 0.01 gr/dscf and to 0.17 pounds per hour (pph).  $PM_{10}$  and  $PM_{2.5}$  emissions are also limited to 0.17 pph, individually. While PM,  $PM_{2.5}$ , and  $PM_{10}$  stack testing has not been requested at this time, Haviland is tracking  $PM_{10}$  and  $PM_{2.5}$  emissions in order to demonstrate compliance with these limits. The highest daily PM emissions were 0.011 pph, on January 26, 2022. The  $PM_{2.5}$  Toxic Air Contaminants (TACs), and the  $PM_{10}$  TACs are limited to  $1.6 \times 10^{-2}$  pph and, 0.17 pph, respectively. These limits are also based upon stack testing and the TACs are defined as part of PTI No. 71-17E EUCHROME BLEND Special Condition I.5 and I.6 footnotes b and c. Haviland is properly tracking the baseline emissions of each of these TACs with the highest emitted at  $1.99 \times 10^{-5}$  pph. Hexavalent chromium is limited to  $6.07 \times 10^{-6}$  pph based upon the most recent stack test conducted in July 2018. Total fluoride emissions, which applies to the combination of all fluoride compounds, is limited to  $9.19 \times 10^{-5}$  pph, based upon stack testing. Stack testing for fluoride compounds is not being requested at this time.

Haviland is tracking the differential pressure of the scrubber, as required by the Malfunction Abatement Plan (MAP). Records indicate the scrubber operates around 0.5 inches water column (WC). Haviland also tracks other operational parameters of the scrubber including the recirculation flow rate. If Haviland is processing any product in this area, the scrubber becomes inaccessible, without proper PPE.

The stack parameters, while not explicitly measured, appeared to be of correct dimensions. The rooftop was accessed during the inspection to observe the scrubber. No operational issues regarding the scrubber were noted during a visual inspection of the scrubber.

## EUCORNERSCRUB

This emission unit covers the bagging and blending process located in the corner building of the East Campus. This line processes nickel containing compounds and consists of two (2) baggers and a fill line. The emissions from the baggers and the fill line are either controlled by a wet scrubber or are internally vented to a portable dust collector, depending on the materials being processed. The bagging line was in operation at the time of the inspection. Other equipment is also located in this building but will be discussed later in this report in the miscellaneous exempt equipment section, under the corner building.

Table 1 (below) outlines the emission limitations for this emission unit, including the observed values. Testing may be required to verify the emission rates of nickel, total nitrilotriacetic acids, total persulfates, PM, PM<sub>10</sub>, and PM<sub>2.5</sub>, however, testing has not been requested at this time.

**Table 1: Emission limits for EUCORNERSCRUB**

Pollutant	Limit	Observed Value	Notes
PM	0.01 gr/dscf	Verifiable through stack testing. Visible emissions and proper operation of the control device are also an indication of compliance with the emission limit.	Stack testing not requested at this time.
PM, PM <sub>10</sub> , and PM <sub>2.5</sub>	0.12 lb./hr	0.0317 lb./hr	Limit applies to each, individually. Highest observed value from September 8, 2022
Nickel	$1.78 \times 10^{-3}$ lb./hr	$1.78 \times 10^{-3}$ lb./hr	This limit is for Nickel and Nickel containing compounds and is a baseline calculation based upon the nickel content of the products produced.
Total Nitrolotriatic acids	$3.0 \times 10^{-5}$ lb./hr	$3.0 \times 10^{-5}$ lb./hr	Baseline Calculation
Total Persulfates	$1.35 \times 10^{-2}$ lb./hr.	0.00125 lb./hr	Highest pound per hour emission on April 26, 2022.
Total boric acids	0.03 lb./hr	0.0096 lb./hr	Highest pound per hour emission on May 20, 2022.
PM <sub>2.5</sub> TACs	0.03 lb./hr	0.030 lb./hr	

			Highest pound per hour emission on May 12, 2022.
PM <sub>10</sub> TACs	0.12 lb./hr	0.00090 lb./hr	Highest pound per hour emission October 18, 2022.

Table 2, below, outlines the material limits for this emission unit and either the 12-month rolling observed value as of November 2022, or the highest throughput per 8-hour time period. Some materials are used in multiple locations at the facility and may have a combined limit with another emission unit.

**Table 2: Material Limits for EUCORNERSCRUB**

Material	Limit	Observed Value	Notes
Ethylenediamine tetraacetic acid, tetrasodium salt	5,310,153 pounds <sup>A</sup>	324 pounds	As of June 2022.
Aluminum Sulfate	7,671,975 pounds <sup>A</sup>	0 pounds	No aluminum sulfate was processed in the last 12-month time period
Total Nitrolotriactic Acids	5,256 pounds <sup>A</sup>	0 pounds	No nitrolotriactic acid products were produced during the last 12-month time period.
Disodium tetraborate	48,000 pounds <sup>B,C</sup>	0 pounds	No material was vented out SV-6 during this time frame.
Disodium tetraborate	21,664 pounds <sup>B,D</sup>	0 pounds	No material was vented out SV-7 during this time frame
Total Boric Acids	24,000 pounds <sup>B,C</sup>	10,258.1 pounds	Highest 8-hour usage on August 23, 2022
Total Persulfates	8,007 pounds <sup>B,C</sup>	1,066.4 pounds	Highest 8-hour usage on February 28, 2022
Total Persulfates	2,400 pounds <sup>E</sup>	1,066.4 pounds	There were no times when this was exhausted out of SV-6 and SV-7 or SV-8 simultaneously
Cobalt	1,601 pounds <sup>B,C</sup>	0 pounds	No Cobalt was exhausted through this

			vent during the 12-month time period.
Cobalt	1,367 pounds <sup>B,F</sup>	0 pounds	No Cobalt was exhausted through this vent during the 12-month time period.

<sup>A</sup> Limit and observed value are based upon a 12-month rolling time period.

<sup>B</sup> Limit and observed value are based upon an 8-hour time period.

<sup>C</sup> This limit applies per 8-hour time period when exhausting only through SV-6, the scrubber associated with this emission unit.

<sup>D</sup> This limit applies per 8-hour time period when exhausting through SV-6 (the scrubber associated with this emission unit) and SV-7 (the powder blending wet scrubber associated with FGWESTPOWDER)

<sup>E</sup> This limit applies per 8-hour time period when exhausting through SV-6 (the scrubber associated with this emission unit) and SV-7 or SV-8 (the powder blending wet scrubber or the powder blending dust collector associated with FGWESTPOWDER)

<sup>F</sup> This limit applies per 8-hour time period when exhausting through SV-6 (the scrubber associated with this emission unit) and SV-8 (the powder blending dust collector associated with FGWESTPOWDER)

Verification of the emissions rates via stack testing, is not being requested at this time.

KD was able to see the display area for the scrubber, and observed the pH was 8.2 and a pressure drop of 0.2" WC. Ms. Albin supplied KD with the appropriate pressure drop readings for the scrubber. The pressure readings are taken every three (3) hour block, at least 1.5 hours apart. The MAP specifies that the scrubber should be operating at a pressure drop of 0.0 – 3.0" WC with a flow of greater than 5 gpm. Per the records, the scrubber operates at a flow rate around 7-8 gpm, and the pressure drop ranges from 0.2 – 0.5" WC. The scrubber most recently had preventative maintenance conducted on December 16, 2022.

Some emissions from processes in this area are exhausted via the wet scrubber, while others are exhausted internally via a portable dust collector. The dust collector is similar to that of a shop-vac and was not in use at the time of the inspection. Haviland is appropriately tracking which compounds are exhausted to which control device.

The stack dimensions were not measured during this inspection but appeared to be of correct dimensions.

#### *FGWESTPOWDER*

This flexible group covers EUWESTPOTPERM, EUWESTPOW, and EUWESTCEMMIX, all located in the West Building. EUWESTPOTPERM is a powder blending process that processes potassium permanganate containing compounds, consisting of a blender, and filling line. The emissions from the blender and filling line are controlled by a wet scrubber. The emissions from the double planetary mixer associated with this process, may exhaust through the scrubber or through an

internally vented portable dust collector, depending on the materials that are being processed. EUWESTPOW is a powder blending process in a powder room that processes nickel containing compounds, consisting of two (2) blending tanks. The emissions from the blend tank and the paddle powder blend tank are controlled by the same wet scrubber for EUWESTPOTPERM or a dust collector, depending on the type of materials being processed. EUWESTCEMMIX is a powder blending process in the manufacturing area that processes acidic and caustic containing compounds. The emissions from this process are controlled by the wet scrubber for this area or an internally vented portable dust collector, depending on the materials being processed.

This flexible group has numerous emission limits, which are outlined in Table 3 (below). As a result of the Fiscal Year 2018 Inspection, the Wet Scrubber associated with this flexible group was tested for PM emissions; the results are in table 3.

**Table 3: Emission Limits for FGWESTPOWDER**

Pollutant	Limit	Observed Value	Notes
PM	0.04 gr/dscf <sup>A</sup>	The January 25, 2019, Stack Test results indicated emissions of $5.40e^{-3}$ gr/dscf	No additional stack testing is requested at this time.
PM, PM <sub>10</sub> , and PM <sub>2.5</sub>	1.7 lb./hr <sup>A</sup>	1.01 lb./Hr	The limit applies per pollutant, and the highest value was observed on June 16, 2022
Total Subtilisins	$2.92 \times 10^{-4}$ lb./hr <sup>A</sup>	0.002917 lb./hr	Baseline Calculation
Total nitrolotriacetic acids	$1.04 \times 10^{-1}$ lb./hr <sup>A</sup>	$1.04 \times 10^{-1}$ lb./hr	Baseline Calculation
Total persulfates	$1.50 \times 10^{-1}$ lb./hr <sup>A</sup>	0.0659 lb./hr	Highest hourly emission observed on February 21, 2022
PM	0.01 gr/dscf <sup>B</sup>	Verifiable through stack testing. Visible emissions and proper operation of the control device are also an indication of compliance with the emission limit.	Stack testing not requested at this time.
PM, PM <sub>10</sub> , and PM <sub>2.5</sub>	0.27 lb./hr <sup>B</sup>	0.00545 lb./Hr	The limit applies per pollutant, and the highest value was

			observed on November 30, 2022	A
Nickel	$7.1 \times 10^{-4}$ lb./hr <sup>B</sup>	$7.1 \times 10^{-4}$ lb./hr	Baseline Calculation	
Total Persulfates	$3.33 \times 10^{-3}$ lb./hr <sup>B</sup>	$2.7 \times 10^{-3}$ lb./hr	Highest hourly emission rate observed March 22, 2022	
Total Silica	1.19 lb./hr <sup>A</sup>	0.3334 lb./hr	Baseline Calculation	
Total Fluorides	0.501 lb./hr <sup>A</sup>	0.00333 lb./hr	Baseline Calculation	
Total Fluorides	$3.33 \times 10^{-3}$ lb./hr <sup>B</sup>	$3.3 \times 10^{-3}$ lb./hr	Baseline Calculation	
Total Boric Acids	0.501 lb./hr <sup>A</sup>	0.1036 lb./hr	Highest hourly emission rate observed on July 21, 2022	
Total Boric Acids	$3.33 \times 10^{-3}$ lb./hr <sup>B</sup>	$1.326 \times 10^{-4}$ lb./hr	Highest hourly emission rate observed on June 6, 2022	
PM 2.5 TACs	1.03 lb./hr <sup>A</sup>	0.497 lb./hr	Highest hourly emission rate observed on October 6, 2022	
PM 2.5 TACs	$1.81 \times 10^{-2}$ lb./hr <sup>B</sup>	0.004834	Highest hourly emission rate observed on November 29, 2022	
PM10 TACs	1.7 lb./hr <sup>A</sup>	0.0267 lb./Hr	The limit applies per pollutant, and the highest value was observed on August 2, 2022	
PM10 TACs	0.27 lb./hr <sup>B</sup>	0.000116 lb./hr	Highest hourly emission rate observed on August 8, 2022	

This limit applies for equipment exhausting through SV-7, the wet scrubber associated with this flexible group.

<sup>B</sup> This limit applies for equipment exhausting through SV-8, the dust collector associated with this flexible group

Table 4 outlines the material limits that are applicable to this flexible group. Emissions from some processes using certain materials may only exhaust through one (1) of the two (2) control devices associated with this flexible group, either the wet scrubber or the dust collector. Additionally, some materials limits are applicable when concurrently running with EUCORNERSCRUB.

**Table 4: Material Limits for FGWESTPOWDER**

Material	Limit	Observed Value	Notes
Ethylenediamine tetra-acetic acid, tetrasodium salt	973,528 pounds <sup>A,C</sup>	0 pounds	Records indicate none of this compound has been produced.
Ammonium dihydrogen phosphate	3,162,340 pounds <sup>A,C</sup>	81,784 Pounds	
Sodium sulfite	885,455 pounds <sup>A,C</sup>	123,987 Pounds	
Sodium ligno sulfonate	3,162,340 pounds <sup>A,C</sup>	1,246 pounds	
Sodium percarbonate	5,375,977 pounds <sup>A,C</sup>	30,229 pounds	
Oxirane, methyl-, polymer with oxirane, 8-methylnonylether	3,162,340 pounds <sup>A,C</sup>	2,238 pounds	
Benzenesulfonic acid, mono-C10-13-alkyl derivs., sodium salts	3,162,340 pounds <sup>A,C</sup>	0 pounds	Records indicate none of this compound has been produced.
Total nitroloacetic acids	858,480 pounds <sup>A,C</sup>	1,255 pounds	
Potassium iodide	3,301 pounds <sup>B,C</sup>	0 pounds	Records indicate none of this compound has been produced.
Potassium permanganate	2,257 pounds <sup>B,C</sup>	2,158 pounds	Highest 8-hr usage on October 24, 2022
Potassium permanganate	49,914 pounds <sup>B,E</sup>	0 Pounds	Records indicate none of this compound was exhausted through the dust collector
Disodium tetraborate	33,006 pounds <sup>B,C</sup>	0 Pounds	Records indicate none of this compound has been used.
Disodium tetraborate	24,076 pounds <sup>B,D</sup>	0 pounds	Records indicate none of this compound has been used.
Ferrous Sulfate heptahydrate	33,006 pounds <sup>B,C</sup>	0 Pounds	Records indicate none of this compound has been produced.
Total Boric Acids	33,006 pounds <sup>B,C</sup>	838.74 Pounds	Highest 8-hr usage on June 6, 2022
Total Boric Acids	23,113 pounds <sup>B,D</sup>	7733.88 Pounds	Highest 8-hr usage on November 1, 2022
Total Persulfates	3,301 pounds <sup>B,C</sup>	1,542 Pounds	Highest 8-hr usage on November 11, 2022
Total Persulfates	2,316 pounds <sup>B,D</sup>	1,542 Pounds	



			Highest 8-hr usage on November 11, 2022
Total Persulfates	53,344 pounds <sup>B,E</sup>	9,090 Pounds	Highest 8-hr usage on September 9, 2022
Total Persulfates	51,317 pounds <sup>B,F</sup>	7,362 Pounds	Highest 8-hr usage on October 26, 2022
Cobalt	5,176 pounds <sup>B,E</sup>	613 Pounds	Highest 8-hr usage on September 27, 2022
Cobalt	2,145 pounds <sup>B,F</sup>	613 Pounds	Highest 8-hr usage on September 27, 2022. Records indicate none of this compound was exhausted through SV-6.
Alcohols, C12-16, ethoxylated	3,162,340 pounds <sup>A,C</sup>	0 Pounds	Records indicate none of this compound has been used.
Dimethyl silicone polymer with silica	3,162,340 pounds <sup>A,C</sup>	0 Pounds	Records indicate none of this compound has been used.

<sup>A</sup> The limit is based upon a 12-month rolling time period and are current through July 2021

<sup>B</sup> The limit is per 8-hour time period

<sup>C</sup> This applies when exhausting through SV-7 only

<sup>D</sup> This applies when exhausting through SV-6 (EUCORNERSCRUB Wet Scrubber) and SV-7 simultaneously

<sup>E</sup> This applies when exhausting through SV-8 only

<sup>F</sup> This applies when exhausting through SV-6 (EUCORNERSCRUB Wet Scrubber) and SV-8 simultaneously

Ms. Albin showed KD the pressure drop indicator and how Haviland is tracking the pressure drop. Records indicate the scrubber operates in the range specified in the MAP, and had a pressure drop of 2.2" WC at the time of the inspection. Per the records, the Scrubber operates around 0.6 - 3.1" WC with a recirculation flow rate around 152 gpm. Haviland is properly tracking the pressure drop for the dust collector as well.

Roof-top observations were made on the West building, and the areas surrounding the scrubber and the dust collector exhaust points were relatively clean, however, there was evidence that there had been previous upset. Haviland staff indicated they knew about the upset and had cleaned up the area when it was discovered. KD asked how this would be prevented in the future, and Haviland staff told KD that they would be more closely watching when running that particular product as to not have an event like that again. Visible observations of the scrubber did not show any foaming or discoloration of the scrubber.

Haviland is not allowed to exhaust any boric acid, potassium permanganate, or any persulfate compound simultaneously through the scrubber (SV-7) and the dust collector (SV-8). Records indicate they are not exhausting simultaneously. Haviland is not allowed to process any hydroquinone in the Pot Perm Powder blender of the Pot Perm filling line, and records show no hydroquinone was processed in this area. Haviland is properly keeping baseline calculations for all compounds processed through the scrubber and the dust collector.

#### *FGFACILITY*

This flexible group covers all process equipment source-wide including equipment covered by other permits, grand-fathered equipment, and exempt equipment. Haviland has properly labeled all equipment on site, as per PTI No. 71-17E.

The facility has an individual HAP limit of 8.9 tons per year (tpy) and an aggregate HAP limit of 22.4 tpy, both based upon 12-month rolling time periods. Records indicate aggregate HAP emissions of 5.043 tons, as of November 2022. Toluene had the highest individual emissions during the time period at 4 tons. VOC emissions are limited to 45 tpy, based upon a 12-month rolling time period. Records indicate that as of November 2022, the 12-month rolling VOC emissions were 6.97 tons. Haviland is adequately tracking VOC and HAP content, as well as emissions.

The facility is required to implement and maintain a Malfunction Abatement Plan (MAP) for all permitted equipment, for which they are following.

#### Miscellaneous Exempt Equipment

The remainder of the compliance evaluation portion of this report is evaluated based on the building, area, or room it is located in. All of this equipment relies on Rule 201 permitting exemptions to demonstrate compliance.

#### *East Campus*

The East campus is the largest production site of the three (3) production campus's (North, East, and West). It is located at 421 Ann Street and contains several different areas which rely on Rule 201 permitting exemptions which will be described below.

The industrial packaging and repackaging area, or the West Manufacturing area, is controlled by a wet scrubber located on the roof. This same scrubber also controls some, but not all, of the tanks from the North Tank farm. There are six (6) exhaust points that are all controlled by the common acid room scrubber; four (4) are caustic tanks and two (2) are battery acid tanks. The products made, diluted, mixed, and filled in this area include nitric acid, sulfuric acid, hydrochloric acid, phosphoric acid, sodium bisulfite, magnesium bisulfite, and various caustics. The control panel for this scrubber showed a pH of 10.47 and a pressure drop of 0.8" WC. Maintenance was last done on the scrubber on September 29, 2022. Rule 290 records are used for all of these processes; records are attached. Records indicate that the emissions for each of the contaminants, are below what is allowed, based upon their screening levels.

The two (2) battery acid storage tanks are exempt from Rule 201 permitting under Rule 284(2)(h).

The Upper and Lower Manufacturing Areas, of the east campus, are located near the Chrome blend area. These areas are primarily used for packaging, but there are some reactor vessels. All of the mixing tanks in this area exhaust to the common East Manufacturing scrubber. The tanks associated with both the upper and lower manufacturing areas of the Manufacturing area also rely on the Rule 290 permitting exemption to demonstrate compliance. Records show that the emissions are below what is allowed based upon the screening levels for the compounds. The East Manufacturing scrubber most recently had maintenance conducted on it in November 2022.

A small tank farm, consisting of four (4) tanks, is located directly outside of the manufacturing area. These tanks hold acids such as Sodium Hydroxide and bleach. These tanks use Rule 201 permitting exemption Rule 284(2)(k).

There are also some other tanks in the East building that rely on Rule 291 to be exempt from Rule 201 permitting. The uncontrolled Potential to Emit (PTE) calculations show that the potential for all air contaminants, including VOC's and contaminants with various screening levels are below the allowable PTE.

The Resin Room is a semi-self-contained room that does resin blending. This is controlled by a dust collection system with two (2) air-vey vacuum exhausters. The Resin room relies on Rule 290 to demonstrate compliance. Particulate emission calculations show that monthly PM is compliant with Rule 290(2)(a)(iii)(A). Ms. Albin and Mr. Gaeth indicated that Haviland is considering some changes to this room, including re-purposing some of the equipment, including the Air-Vey's. This room and the equipment were not in use at the time of the inspection, and per Ms. Albin, production in this area ceased the week of July 11, 2022 and the room was cleaned the following week.

A larger North Tank Farm is located on the north end of the facility and feeds the contents of the tanks back to the acid room, which is subsequently controlled by the west manufacturing scrubber, however, not all of the tanks are controlled by the scrubber. The seven (7) tanks contain various acids, such as sulfuric acid, hydrochloric acid, and nitric acid, and are either filled via truck or rail. The tanks exhausting to ambient air are exempt from Rule 201 permitting under Rule 284(2)(h). The tanks that exhaust to the scrubber utilize Rule 290 to demonstrate compliance and are associated with the Rule 290 records.

There is also one (1) 500,000 BTU/Hr natural gas boiler in this building as well. This is exempt from Rule 201 permitting under Rule 282(2)(b)(i). One (1) 20 kw (68,242 BTU/Hr) natural gas emergency generator is also located on the east campus. This is exempt from Rule 201 under Rule 285(2)(g).

### *Corner Building*

Aside from the permitted process in the corner building, there is a bromine tablet line that has been historically exhausted to an externally vented dust collector. Haviland staff indicated that they are considering replacing the dust collector for this emission unit Rule 201 permitting

exemption, Rule 290, is used for this process. Records indicate compliance with the PM limit established in Rule 290(2)(a)(iii)(A), with maximum monthly emission of 180.98 pounds per month.

This building also has a V-Blender used for mixing powder material. Rule 201 permitting exemption, Rule 290, is used for this process. Records indicate compliance with the PM emission limit established in Rule 290(2)(a)(iii)(A) with a maximum monthly emission of 941.64 pounds, which is less than the 1000-pound limit for non-carcinogenic materials.

### *Laboratory Building*

The Laboratory building is used for bench type lab work. The lab benches all have hoods and are externally exhausted. This is exempt from Rule 201 permitting under Rule 283(2)(b). Within this building, there is also a small pilot plating line. The line consists of several bucket sized tanks and is exhausted externally. This process is exempt from Rule 201 permitting under Rule 283(2)(a).

### *West Building*

The west building, which is located at 521 Ann Street, Grand Rapids Michigan, is directly to the west of the main East campus. Aside from FGWESTPOWDER, which is permitted and has already been described above, the rest of the equipment in this building relies on Rule 201 permitting exemptions.

A majority of the building houses a large liquid processing and packaging area, the large tanks are exhausted through a wet scrubber; tank #11, however, has its own scrubber. The tanks that use the main scrubber, which is located on the roof-top, and tank 11 rely on Rule 201 permit exemption, Rule 290 to demonstrate compliance. KD observed the scrubber from the rooftop and the scrubber appeared to have proper flow and there was no evidence of foaming or discoloration.

There is also one small dust collector in the packaging area, which is exhausted to the in-plant environment. This is exempt under Rule 284(2)(k).

Also located in this building is a separate contract powder mixing and packaging area with an internally vented baghouse used to control particulate. This emission unit was formerly exhausted externally but has since changed to an internal exhaust system.

In this building, Haviland processes various products, including trichloroisocyanuric acid. Haviland has installed a deluge system with two (2) locations for activation where the room can be flooded with water. It should be noted that after this inspection, Haviland had a release where this system was utilized. That event had an estimated 68 pounds of chlorine released. Haviland properly submitted a 912 report. That report was reviewed separate from this compliance report.

### *North Building*

The north building is located at 2168 Avastar Parkway, Walker Michigan. This building is located to the north and west of the main campus and is connected via railway and is thus considered as part of the same stationary source. No equipment in this building is permitted, but rather relies solely

on Rule 201 permitting exemptions. This area houses the contract manufacturing line and consists of a liquid filling line that is internally vented with no controls and is exempt from Rule 201 permitting under Rule 291.

In the main area of the building, Haviland has three (3) major powder filling lines for which Haviland uses Rule 291 to demonstrate compliance. Haviland maintains PTE calculations, as required by Rule 291, showing the uncontrolled PTE for the lines for all air contaminants are below the maximum allowed. The PTE for VOC is the highest at 0.02 tons. There is a wet scrubber associated with those lines. At the time of the inspection, the scrubber was running with a pH of 9.78. Haviland tracks operational parameters for this unit to ensure proper operation. Records indicate the scrubber has been operating at a pH between 6 and 11. The records also indicate when the pH or conductivity has been either high or low, and action has been taken to correct the issues including full discharges of the scrubber. According to records, the most recent preventative maintenance was completed on September 30, 2022. Roof-top observations were made around the discharge area of the scrubber, and no issues were noted.

Also located in the main area of the north building are six (6) large mixing, blending, and storage tanks. All of the tanks were labeled with what they were holding. All six (6) tanks are vented through a common duct which is externally exhausted without any controls. There are also some bulk storage tanks. Haviland relies on Rule 201 permit exemption, Rule 291 for these tanks. Rule 291 allows for a PTE of 5 tons for VOC, and the uncontrolled PTE for VOC emissions from these tanks is 0.04 tons and 0.48 tons.

In another room just through the main area, there is a powder storage tank used for storage and blending that has an associated externally vented baghouse to control particulate emissions. This equipment was not in operation at the time of the inspection. This process utilizes Rule 290 to demonstrate compliance. Records indicate that the highest emissions in a month were 0.11 lbs/month.

Another area in the North building produces pool tablets. This area was producing tablets during the inspection and has cartridge filter dust collectors for particulate control. This process utilizes trichloroisocyanuric acid, if exposed to water can result in a volatile reaction. In this area, raw material is loaded from the top down into the hoppers with the binding agent added by hand. The mixed material is then brought to the tablet presses. Haviland staff cleans the room daily putting any raw materials back into the production line and any waste materials are kept in a separate, labeled container. They then put this waste into their on-site wastewater treatment operations. The disposal of the waste is tracked to ensure they are meeting their requirements for discharge into the sanitary sewer systems. Ms. Albin indicated in the opening meeting that Haviland had installed a second room that produces these tablets in this area, which will have a second dust collector for control, similar the one that they already employ for the first tableting line. Currently that second room is employing an internally exhausted dust collection system. During rooftop observations, KD asked about the exhaust point, and Haviland Staff indicated that the exhaust point would be similar to the existing process with a stack yet to be constructed.

Haviland relies on Rule 201 permit exemption Rule 290 for the tableting processes. Records indicate 1.25 pounds of total PM was emitted from the dust collector, while 321 pounds were

emitted back into the in-plant environment via the second room's collection system. Rooftop observations were made at the discharge point of the stack for the dust collectors and no particulate was noted at the exhaust point.

In another room leading back towards the main area of the building there is a silk-screening process that exhausts externally through two (2) vents. This process was printing on bottles at the time of the inspection. The silk-screening process is exempt from Rule 201 permitting under Rule 287(2) (e).

#### *Miscellaneous*

There is a total of eight (8) natural gas boilers located throughout the numerous buildings. The largest boiler is 500,000 BTU/Hr. These boilers are exempt under Rule 282(2)(b)(i).

Haviland also has two (2) natural gas emergency generators. The largest one is 60 kW (204,728 BTU/Hr). These generators are exempt from Rule 201 permitting under Rule 285(2)(g). Due to age, they do not appear to be subject to the provisions of the new source performance standards (NSPS) 40 CFR Part 60 Subpart JJJJ for stationary spark ignition internal combustion engines. These generators may, however, be subject to the provisions of 40 CFR Part 63 Subpart ZZZZ for stationary reciprocating internal combustion engines. The most recent preventative maintenance was conducted in February 2022 and April 2022, each with less than 100 operating hours per year.

Per Ms. Albin, there are no parts cleaners located on site.

As mentioned in the Regulatory Analysis portion of this report, Haviland is subject to the provisions of 40 CFR Part 63 Subpart VVVVVV for Chemical Manufacturing Area Sources as well as 40 CFR Part 63 Subpart BBBB BB for Area Sources: Chemical Preparations Industry.

Haviland submitted the Notification of Compliance Status (NOCS) as required by both regulations on September 7, 2022, with an updated version on November 4, 2022. There are emission units identified by Haviland that are subject to either one, or both of these regulations, depending on the product type and process that is occurring. Haviland conducted the quarterly Audio, Visual, and Olfactory (AVO) inspections in the fourth quarter of 2022 for the management practices, as well as for the batch process vents. In the semiannual report for Subpart VVVVVV, Haviland reported some leaks in the Pot Perm and East Manufacturing areas, but all the leaks were repaired within the required 15-day period. Additionally, no malfunctions were reported. All management practices and inspection requirements have been completed.

For Subpart BBBB BB, Haviland has certified that the PM concentration for each process vent stream will not exceed 0.03 gr/dscf and supplied appropriate documentation to support this claim.

#### **Compliance Determination**

Based on the observations made during the inspection and a subsequent review of the records, it appears that Haviland is in compliance with PTI No. 71-17E.

NAME Kaitlyn Behr

DATE 1/20/2023

SUPERVISOR 