



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, ILLINOIS 60604**

**DATE:** JUL 22 2019

**SUBJECT:** CLEAN AIR ACT INSPECTION REPORT  
Rayven, Inc., Saint Paul, Minnesota

**FROM:** Gina Harrison, Environmental Scientist  
AECAB (MN/OH)

**THRU:** Dakota Prentice, Acting Section Chief  
AECAB (MN/OH)

**TO:** File

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**BASIC INFORMATION**

**Facility Name:** Rayven, Inc.

**Facility Location:** 431 Griggs Street N, Saint Paul, MN 55104-4108

**Date of Inspection:** May 23, 2019

**Lead Inspector(s):**

1. Gina Harrison, Environmental Scientist

**Other Attendees**

1. Jennifer Carlson, Environmental Specialist 4, Minnesota Pollution Control Agency
2. Marc Severin, Pollution Control Specialist, Minnesota Pollution Control Agency
3. Chong Moua, Lab manager, Rayven, Inc.

**Contact email address:** [cmoua@rayven.com](mailto:cmoua@rayven.com)

**Purpose of Inspection:** Determine compliance with the facility's Title V permit and opacity limits required by the Minnesota State Implementation Plan (Minnesota SIP).

**Facility Type:** Coating and laminating facility

**Regulations Central to Inspection:** Minnesota Title V Permit 12300057-101 and Minnesota SIP opacity limits at 7011.0715(A) and (B)

**Arrival Time:** 1:40 PM CDT

**Departure Time:** 3:45 PM CDT

**Inspection Type:**

- ☒ Unannounced Inspection
- ☐ Announced Inspection

**OPENING CONFERENCE**

- ☒ Credentials Presented
- ☒ CBI warning to facility provided

The following information was obtained verbally from Mr. Chong Moua.

**Company Ownership:** The facility has been operating since 1954, originally owned by Mr. Gerry Ingalls. Rayven, Inc., is a second-generation, family-owned business and currently operates two separate plants – one in Saint Paul, and one in Owatonna – each with similar products, except the Owatonna facility does not produce coating adhesives. The Saint Paul facility employs 25 people and operates in four-day ten-hour shifts, with two shifts per day.

**Process Description:**

Rayven, Inc., Saint Paul (Rayven) operates a coating and film products manufacturing facility and primarily makes release liners, laminating sheets, applique film and tapes. The facility creates products using water-based coatings and adhesive lamination.

Rayven operates three main coating production lines: 1) the Black Line, which uses water or solvent-based coatings; 2) the Blue Line, which uses water or solvent-based coatings, and 3) the Silicone Line, which uses water or solvent-based coatings.

The general coating process flow is:

Load film into 'unwind station' >> film rolled to one of the three coating lines >> corona treatment (electrical charge to adhere the coating) >> apply coating >> dryer/ovens >> curing area, add heptane and water >> rewind film at 'rewind station'

**Staff Interview:** According to Mr. Moua, pentane and toluene are the only hazardous air pollutants (HAP) used in the process. The facility maintains a spreadsheet of HAP and volatile organic compounds (VOC) usage per year. The list of tracked total VOC includes heptane, ethyl acetate, toluene, and mineral spirits. Emission calculations assume 100% of coating line solvents is emitted. Rayven has not performed any emission testing at the facility.

**TOUR INFORMATION**

**EPA toured the facility:** Yes

**Data Collected and Observations:** Upon entering the facility, Ms. Harrison, Ms. Carlson, and Mr. Severin identified the main burner stack from a photo provided by Ms. Carlson and set up the digital opacity camera system (DOCS) in sun compliance to record video of the stack in operation. Inspectors recorded two separate videos of the stack, which appeared to be emitting opacity over the course of each video.

Mr. Moua took Ms. Harrison and Ms. Carlson through the facility and explained the Blue and Black Lines were running at the time of inspection. The Blue Line (identified as EU001 in the Title V Permit) was running a water-based adhesive, and the Black Line (identified as EU005 in the Title V Permit) was also running a water-based adhesive. The main burner stack identified at the roof of the facility receives flow from the dryer/ovens connected to the Black Line.

Inspectors observed operation of the Blue and Black Lines and the associated dryer/ovens. Inspectors also observed operation of the corona treater on the Black Line. Mr. Moua led Ms. Harrison and Ms. Carlson to the roof to observe the dryer (main burner) stack, which appeared to be emitting opacity intermittently.

**Photos and/or Videos:** were taken during the inspection.

**Field Measurements:** were not taken during this inspection.

#### RECORDS REVIEW

- Records were reviewed on site during the inspection. Ms. Harrison reviewed the MSDS for the water-based solvents used at the Black Line and Blue Line.

#### CLOSING CONFERENCE

Ms. Harrison thanked Mr. Moua for his time and told him she would send a copy of the inspection report by email when it was completed. We confirmed that nothing we had discussed was Confidential Business Information. Ms. Harrison stated that EPA may issue a Section 114 Information Request or follow up with questions via phone or email if further questions or concerns arise.

**Requested documents:** Ms. Harrison requested a copy of the MSDS/SDS for solvents used at the Black Line and the Blue Line.

**Compliance Assistance:** General compliance assistance was provided by discussing requirements within the Minnesota SIP and Rayven's Title V permit that limit opacity from the main burner stack.

**Concerns:** Ms. Harrison explained one of the main purposes of the inspection was to evaluate compliance with opacity regulations, and that EPA is concerned that opacity from the stack may exceed Minnesota SIP and Title V permit limits. Ms. Harrison also noted the MSDS for the water-based solvents used on the Black and Blue Lines do not appear to give chemical composition data.

SIGNATURES

Report Author:  Date: 7/22/19

Section Chief:  Date: 7/22/19

## APPENDICES AND ATTACHMENTS

Attachment A: Photo and Video Log from May 23, 2019 Inspection of Rayven, Inc., Saint Paul, Minnesota

| Image Number | File Name          | Date and Time (incl. time zone and DST) | Latitude and Longitude | Description of Image        |
|--------------|--------------------|-----------------------------------------|------------------------|-----------------------------|
| 1            | IMG_0001.JPG       | 2019:05:23 14:51:50                     | 44.954485, -93.152498  | Main burner stack           |
| 2            | Rayven photo 1.jpg | 2019:05:23 14:51:50                     | 44.954519, -93.152389  | Main burner stack           |
| 3            | Rayven photo 2.jpg | 2019:05:23 14:51:50                     | 44.954508, -93.152386  | corona treater              |
| 4            | MVI_0002.MOV       | 5/23/2019 14:52                         |                        | Video of Rayven Main Burner |
| 5            | MVI_0003.MOV       | 5/23/2019 14:55                         |                        | Video of Rayven Main Burner |

Attachment B: DVD with Photos and Videos from May 23, 2019 Inspection of Rayven, Inc., Saint Paul, Minnesota