



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

DATE: *February 19, 2021*

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Pullman Innovations

FROM: Karina Kuc, Environmental Scientist
AECAB (IL/IN)

THRU: Constantinos Loukeris, Acting Section Chief
AECAB (IL/IN)

TO: File

BASIC INFORMATION

Facility Name: Pullman Innovations

Facility Location: 2701 East 100th Street, Chicago, IL 60617

Date of Inspection: January 20 and 21, 2021

EPA Inspector(s):

1. Karina Kuc, Environmental Scientist
2. Daniel Heins, Environmental Scientist

Other Attendees:

1. Chris Cailles, DAI Environmental
2. Kenny Sullivan, Clean Air
3. Stephanie Sampra, Chicago Department of Public Health (CDPH)
4. Tracy Ricker, CDPH
5. Juan Robles, CDPH

Contact Email Address: Alonso Alvarez, aalvarez@pullmaninnovations.com

Purpose of Inspection: To observe volatile organic compound (VOC) emission testing in accordance with the CAA.

Facility Type: Soapstock acidulation

Facility Name: Pullman Innovations

Facility Location: 2701 E. 100th St., Chicago, IL 60617

Date of Inspection: January 20 and 21, 2021

Arrival Time: January 20, 2021 at 9:00 AM; January 21, 2021 at 9:00 AM

Departure Time: January 20, 2021 at 2:45 PM; January 21, 2021 at 12:00 PM

Inspection Type:

- ☐ Unannounced Inspection
- ☒ Announced Inspection

OPENING CONFERENCE

- ☒ Presented Credentials
- ☒ Stated authority and purpose of inspection
- ☐ Provided Small Business Resource Information Sheet
- ☒ Small Business Resource Information Sheet not provided. Reason: Not a small business
- ☐ Provided CBI warning to facility

The following information was obtained verbally from Chris Cailles and Kenny Sullivan unless otherwise noted.

Company Ownership: In 2016, Agri-Fine went bankrupt, was purchased by AF Acquisitions Group and the name was changed to Pullman Innovations.

Process Description:

Pullman Innovations refines soapstock (a byproduct of vegetable oil clarification) using sulfuric acid to separate water from oil and fat. The soapstock emulsion is delivered via truck or railcar and pumped into raw material storage tanks. Fresh water in the soapstock emulsion is decanted from the raw material storage tanks. The soapstock is then heated and pumped into one of 24 process tanks/reactors. Sulfuric acid is added, the contents are heated to about 180 °F, mixed for several hours, then, sealed and allowed to settle and separate overnight. Employees operate dead-man valves to inspect whether proper separation has occurred, resulting in “top” oil, “interphase” oil, and spent water. The “top” oil and “interphase” oil are final products. These products are pumped to the final product storage tanks and then loaded to trucks or railcars, to be used in poultry and cattle feed. The spent water is pumped to the onsite water treatment equipment to skim off remaining oils and fats and finally, mixed with the decanted water from the raw material tanks. The pH of the mixed water is adjusted before being discharged to Municipal Water Reclamation District. If proper separation does not occur in the reactors, employees either remix the tank, add more sulfuric acid, or increase the temperature as needed and allow the tank to settle for another day. The facility produces four to eight batches a day in alternate reactors. Approximately 3,000 gallons of sulfuric acid are used per day. Two 300 horsepower natural gas steam generators provide process heat.

The facility utilizes two air scrubber systems. The “east” scrubber uses sulfuric acid to control emissions routed from raw material storage and operates 24 hours a day. The “west” dual scrubber uses sodium hydroxide to control emissions routed from the reactors, final product storage tanks, and wastewater treatment; it operates only during production hours. While emissions from each reactor are routed to the scrubber, the reactor room itself vents to the atmosphere.

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Staff Interview:

Mr. Cailles is Pullman Innovation's environmental consultant and was on site to direct the Clean Air staff in conducting the stack tests on the acid and caustic scrubbers. Both scrubbers were tested using EPA Reference Methods 1-4 and 25A to determine VOC content at the inlet and outlet, as well as removal efficiency.

TOUR INFORMATION

EPA Tour of the Facility: No

Data Collected and Observations:

On January 20, 2021, stack testing was conducted at the "east" acid scrubber, which the facility uses to control odors, not explicitly VOCs. The test was to be conducted under typical conditions; as such, three tanker trucks and two rail cars were being unloaded throughout the day. Initial air flow through the acid scrubber was lower than expected, delaying testing. Technicians determined that the scrubber was frozen. The scrubber water is changed weekly to biweekly and was changed that morning. The scrubber was steamed and air flow increased to expected levels. The first run began but was stopped after about 40 minutes due to the scrubber freezing again. The steam was kept on the scrubber and run 1 was restarted and successfully completed. EPA and Mr. Cailles discussed the freezing issue and that it may have occurred in the past without the facility being aware. EPA did not stay to observe runs 2 and 3.

On January 21, 2021, stack testing was conducted at the "west" caustic scrubber. The facility was running four reactors during run 1. After run 1 had started, Clean Air realized that based on inlet concentrations, they did not have high enough concentration calibration gas to calibrate the equipment in accordance with Method 25A. Higher concentration calibration gases were obtained. Clean Air conducted a post-run calibration with the proper calibration gases and confirmed a linear response. Clean Air recalibrated all the equipment with the higher concentration calibration gas prior to runs 2 and 3. Pullman Innovations indicated they would be starting up two additional reactors for a total of six reactors operating during runs 2 and 3. EPA did not stay to observe runs 2 and 3. EPA observed that five rail cars and one tanker truck were staged for unloading.

Photos and/or Videos: were not taken during the inspection.

Field Measurements: were not taken during this inspection.

CLOSING CONFERENCE

☒ Provided U.S. EPA point of contact to the facility

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Facility Location: 2701 E. 100th St., Chicago, IL 60617
Date of Inspection: January 20 and 21, 2021

SIGNATURES

KARINA
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Karina Kuc
Environmental Scientist

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Constantinos Loukeris
Acting Section Chief