



REGION 5

CHICAGO, IL 60604

MEMORANDUM

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Senior Flexonics, Bartlett, Illinois

FROM: Natalie Schulz, Environmental Engineer
AECAB (MN/OH)

THRU: Brian Dickens, Section Supervisor
AECAB (MN/OH)

TO: File

BASIC INFORMATION

Facility Name: Senior Flexonics

Facility Location: 300 East Devon Avenue, Bartlett, Illinois

Date of Inspection: August 7, 2024

EPA Inspector(s):

1. Natalie Schulz, Environmental Engineer
2. Valeria Apolinario, Environmental Engineer

Other Attendees:

1. Nick Kanara, Plant Manager
2. Jim Hughes, Facility Manager
3. Gilbert Rectin, EHS Specialist

Contact Email Address: nkanara@seniorflexonics.com

Purpose of Inspection: Evaluate compliance with the vapor degreaser provisions in the Illinois SIP and FESOP

Facility Type: Tube manufacturing

Facility Name: Senior Flexonics
Facility Location: 300 E. Devon Ave, Bartlett, IL
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Regulations Central to Inspection: Federally Enforceable State Operating Permit, Application No. 95100001

5b. The two open top vapor degreasers and vacuum charging unit are subject to 35 Ill. Adm. Code 218.301, no person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emissions source, except as provided in 35 Ill. Adm. Code Part 218.302, 218.303, or 218.304 and the following exception: If no odor nuisance exists the limitation of 35 Ill. Adm. Code Part 218 Subpart G shall apply only to photochemically reactive material.

11b. The Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) recommendations, perform periodic maintenance on the condenser associated with the open top vapor degreaser and the scrubber associated with the Blackstone pickling line such that the condenser and scrubber are kept in proper working condition and not cause a violation of the Illinois Environmental Protection Act or regulations promulgated therein.

12a. Emissions from and operation of the existing open-top vapor degreaser with condenser shall not exceed 23.16 tons/year degreasing solvent material usage and 23.16 tons/year volatile organic material emissions.

12b. Emissions from and operation of the new open-top vapor degreaser with a solvent recovery still shall not exceed the 20.0 tons/year degreasing solvent material usage and 20.0 tons/year volatile organic material emissions.

Subject to the provisions of 35 Ill. Adm. Code 218.183 – Open Top Vapor Degreasing, including:
The cover of the degreaser is closed when workloads are not being processed through the degreaser;
Solvent leaks are repaired immediately.

Arrival Time: 1:00 pm

Departure Time: 2:36 pm

Inspection Type:

- ☒ Unannounced Inspection
- ☐ Announced Inspection

OPENING CONFERENCE

- ☒ Presented Credentials
- ☒ Stated authority and purpose of inspection
- ☒ Provided Small Business Resource Information Sheet
- ☒ Provided CBI warning to facility

The following information was obtained verbally from Senior Flexonics staff unless otherwise noted.

Process Description:

The facility receives stainless steel in different forms. Generally, coils are received and formed into tubes and welded. The facility corrugates the tubes to make them flexible and to increase their surface area for heat exchanger applications. Additional assembly and welding are completed before the products are leak tested and packed. Seven vacuum furnaces are used for vacuum furnace brazing or annealing. Annealing is done at the same time as forming and rolling. Brazing is completed at the tips of certain tube products. The furnaces are forced gas cooled with argon. There are 32 high-speed corrugated lines and 10 hydroforming lines for bellow production. Bellows are vacuum charged with acetone, freon, and chlorobenzene. A small amount of plasma tube cutting is done onsite.

The pickling room contains baths of phosphoric acid, nitric acid, rinse tanks, sulfuric acid, surfactant tank, bright drip solution, and citric acid. The chemical processing completed in the pickling room includes a nitric passivation to remove iron particles from the surface and sulfuric acid to remove heat treat scale.

The open top vapor degreaser is used prior to welding to remove oil and grease from offsite products and other machined components. The degreaser is equipped with condensing coils. Spent 1-bromopropane is recovered from the degreaser still.

Staff Interview:

The emission units in the permit called the pickling process has changed to a general chemical processing despite being called pickling in the permit. There are no controls on the pickling room units. The Blackstone cleaning unit has a scrubber associated with it.

One vapor degreaser was decommissioned early last year. The facility conducts regular inspections on the remaining degreaser.

TOUR INFORMATION

EPA Toured the Facility: Yes

Data Collected and Observations:

Inspectors used an optical gas imaging (OGI) camera during the tour. The cover of the open vapor degreaser was closed during the tour. The vapor degreaser was not in use during the tour. The inspectors observed emissions from the closed cover of the vapor degreaser with the OGI camera.

A diagram of the vapor degreaser and its maintenance guide were requested for later review.

A third-party completes the facility's air emission calculations. The VOC emission calculations of the previous three years were requested for later review.

Photos and/or Videos: were taken during the inspection and are listed in Appendix A.

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Field Measurements: were not taken during this inspection.

CLOSING CONFERENCE

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

Requested documents:

- VOC emission calculations for the previous three years
- Degreaser solvent SDS
- Vapor degreaser diagram
- Vapor degreaser maintenance guide

Concerns: Inspectors expressed concern over the leaks observed with the OGI camera on the closed cover of the open top vapor degreaser.

DIGITAL SIGNATURES

Report Author: NATALIE SCHULZ

Digitally signed by NATALIE SCHULZ
Date: 2024.09.09 16:58:01 -05'00'

Section Supervisor: BRIAN DICKENS

Digitally signed by BRIAN DICKENS
Date: 2024.09.10 08:40:40 -05'00'

APPENDICES

1. Appendix A: OGI Image Log and OGI Video Log

Facility Name: Senior Flexonics
Facility Location: 300 E. Devon Ave, Bartlett, IL
Date of Inspection: August 7, 2024

APPENDIX A: OGI IMAGE LOG AND OGI VIDEO LOG

Inspector Name: Natalie Schulz **Archival Record Location:** Electronic Records Center

Image Number	File Name	Date and Time (incl. Time zone and DST)	Description of Image
1	MOV_3473.mp4	August 7, 2024 2:15 pm central	Closed cover of open top vapor degreaser