



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

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Freezer Services of Michigan, Detroit, Michigan

FROM: Jason Schenandoah, Environmental Engineer
AECAB (IL/IN)

THRU: Nathan Frank, Section Supervisor
AECAB (IL/IN)

TO: File

BASIC INFORMATION

Facility Name: Freezer Services of Michigan (Freezer Services)

Facility Location: 8350 St. Aubin Street, Detroit, MI 48211

Date of Inspection: May 25, 2023

EPA Inspector(s):

1. Jason Schenandoah, Environmental Engineer
2. Erin DuMontelle, Environmental Engineer
3. Danny Nguyen, Environmental Engineer

Other Attendees:

1. Andy Monks, Plant Manager, Freezer Services
2. Dan Margherio, Operator, Freezer Services
3. Dan Margherio Jr., Operator, Freezer Services

Contact Email Address: andrewmonks@sbcglobal.net

Purpose of Inspection: To assess compliance with the Chemical Accident Prevention Provisions (CAPP) at 40 C.F.R. Part 68

Facility Type: Ammonia refrigeration facility

Regulations Central to Inspection: The CAPP at 40 C.F.R. Part 68

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Arrival Time: 9:15 am
Departure Time: 4:00 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:
- ☒ Provided CBI warning to facility

The following information was obtained verbally from Freezer Services personnel unless otherwise noted.

Process Description:

Freezer Services operates an ammonia refrigeration system to regulate temperature at a logistics warehouse. The facility stores frozen foods and vegetables obtained from customers in its operational region. Product is received by and leaves the facility via truck. There are 7 freezer rooms, 1 cooler room, and 1 inspection room at the facility that are serviced by the ammonia refrigeration system. The rooms are maintained at different temperatures based on product need. The facility reports as a program level 3 process.

TOUR INFORMATION

EPA Tour of the Facility: Yes

Data Collected and Observations:

In the north rail dock, some evaporators were mounted approximately 12 feet above the ground level. The north rail dock is used as a staging area for loading and unloading. Several pallets of materials were in the north rail dock during the tour. When asked if pallets in the north rail dock were ever stacked, Andy Monks said that the pallets were stacked, if necessary.

The following evaporators were noted to have no guards to protect from any incidental contact and product is trafficked, staged, or stored within a short distance (e.g. within a forklift turning radius) from the evaporator:

RD1
RD2

I1

I2 *a dent was observed in the sheet metal of this evaporator

3A

4A

4B

5A

5B

6A

6B

7A

7B

No emergency stop button was located outside of the ammonia refrigeration machine room. Each door to the machine room was not locked, they did not have a quick escape capability, and they did not appear to be fire rated doors. The north machine room door did not have a National Fire Protection Association (NFPA) label. No eyewash station or portable eye wash units were located inside the machine room. Ammonia sensors in use at the facility were calibrated in May 2023. The sensors will alarm if ammonia concentration reaches 100 parts per million (ppm), but not before. The sensors are located one at the eastern side of the machine room and another that was outdoors, approximately 10 to 15 feet to the northwest, from the exhaust of the machine room ventilation, and at a lower elevation. The machine room ventilation is on the west wall, with the ammonia refrigeration equipment in the middle of the room, and the indoor ammonia sensor to the east of the equipment. Ammonia odors were detected near compressor 2 in the machine room and outside near the low temperature accumulator. Some of the ammonia refrigeration equipment is located in a caged area just outside of the machine room. Pressure relief valves on the high-pressure receiver, the intercooler, the flush tanks, and the low temperature accumulator exhaust between, approximately, 7 to 15 feet from the ground. Some valves on the ammonia refrigeration equipment were frozen over and would not be able to turn without the ice being removed. There were portions of the ammonia piping with exposed insulation. The horizontal tank in the caged area had insulation missing from portions of it and the label was peeling off. The main shut off valve for the ammonia refrigeration system was obstructed by other piping. The ammonia piping on the roof of the facility was missing labels in many areas and some labels that were existent were worn away. There are no audio or visual alarms located in the caged-in equipment area.

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

See Appendix A: Digital Image Log

Field Measurements: were not taken during this inspection.

RECORDS REVIEW

The following files were submitted to EPA prior to and reviewed during the inspection:

1. Hamtramck Fire Dept.docx
2. 2014 Compliance Audit Recommendation Tracking.pdf

3. 2014 Compliance Audit Report.pdf
4. 2017 Compliance Audit Recommendation Tracking.pdf
5. 2017 Compliance Audit.pdf
6. cont qualif 2023.pdf
7. Contractor Policy.pdf
8. Contractor Qualification Form - Blank.pdf
9. SWP#5 Plant Entry and Security.pdf
10. Crisis Management Plan.pdf
11. emergency action rev 2023.doc
12. Employee Participation Plan of Action.pdf
13. Hot Work Permits & Safe Work Practices.pdf
14. Incident Investigation Blank.pdf
15. LOTO Procedure.pdf
16. Management Chart.pdf
17. Management Structure.pdf
18. MOC - Blank print out from APSM.pdf
19. MOC - Ventilation Upgrade 2009.pdf
20. 2010 MI Inspection.pdf
21. MI Procedure.pdf
22. Alternate Release Scenario.pdf
23. Off-Site Consequence Analysis.pdf
24. Worst Case Scenario.pdf
25. SOP Certification History.pdf
26. SOPs - TOS.pdf
27. PSSR - Blank print out from APSM.pdf
28. 2013 PHA Recommendation Tracking.pdf
29. 2013 PHA Revalidation.pdf
30. 2018 PHA Recommendation Tracking.pdf
31. 2018 PHA Report.pdf
32. Process Hazard Analysis Policy.pdf
33. Anhydrous-Ammonia-SDS.pdf
34. P&ID Reference Library.pdf
35. PSI Library.pdf
36. Training Dates for Operators.pdf
37. Training Program.pdf

The following findings were discovered while reviewing the facility's Risk Management Plan (RMP):

Process Safety Information (PSI):

- The facility's ventilation system was upgraded in 2009 and the PSI was not updated to include the new system design.

Operating Procedures:

- The emergency shutdown procedures did not include a description of the conditions in which the emergency shutdown should be initiated.
- The operating procedures were not reviewed on an annual basis; the last two times the operating procedures had been reviewed were May 17, 2023, and December 15, 2017.

Mechanical Integrity:

- The mechanical integrity procedures include an annual in-depth mechanical integrity inspection that is to be conducted. Records indicate that the inspection had not occurred since 2010.

Compliance Audit:

- The last two compliance audits completed by the company were in 2014 and 2017.
- Many of the recommendations from the 2017 compliance audit were not documented as resolved until May 2023; some recommendations had yet to be completed.

Management Structure:

- The management structure did not delineate and define the responsibilities of the RMP.

Process Hazard Analysis (PHA):

- The 2018 PHA team did not include an operator knowledgeable in the process.
- The PHAs were not actively shared with employees whose work assignments are in the process or may be affected by the PHA recommendations.
- The 2013 and 2018 PHAs still have action items that have not been resolved.
- The PHAs did not include consequences of failure of engineering and administrative controls.

Management of Change:

- There were no written procedures to manage changes to process chemicals, technology, equipment, and procedures that affect covered process.
- The management of change form for the 2009 ventilation upgrade had checked the “no” checkbox for whether process safety information should be updated.

Training:

- Refresher training had not been completed every three years for the process operators.

Off-site Consequence Analysis (OCA):

- Environmental and public receptors were not included in the OCA documentation.

Emergency Response:

- Freezer Services personnel was not aware if the facility is included in the community emergency response plan.
- Freezer Services has only communicated to emergency response officials through an annual walkthrough by the fire department and through Tier II submittals.

RMP submittal:

- The Local Emergency Planning Committee (LEPC) contact information was not included in the RMP submittal.
- The most recent date of coordination with emergency responders was not included in the RMP submittal.

CLOSING CONFERENCE

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

Compliance Assistance: EPA inspectors made the following suggestions:

- Product stored at the same height and within a turning radius of an evaporator should no longer be stored in that section of the racks until guards can be placed around the evaporators.
- The ammonia sensor in the machine room should be between the ammonia refrigeration equipment and the ventilation.
- Pressure relief valve exhaust piping height should be reassessed to assure compliance with the International Institute for Ammonia Refrigeration (IIAR) standards.
- A low-level alarm should be associated with the ammonia detection system for early detection of potentially hazard ammonia conditions.

Concerns:

- The RMP findings listed in the Records Review section were expressed as concerns and they should be addressed by the facility.
- Machine room doors need:
 - To be locked

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- Have a quick escape capability
- Be fire rated
- Need NFPA labels displaying hazards
- There should be an eyewash station or portable eye wash unit inside the machine room.
- Valves on ammonia refrigeration equipment should not be frozen over to the point that they're unable to turn.
- There should be audio and visual alarms located in the caged in equipment area.
- The alarm setpoint for the ammonia sensors were set at 100ppm

DIGITAL SIGNATURES

Report Author: JASON
SCHENANDOAH

Digitally signed by JASON
SCHENANDOAH
Date: 2023.07.19
18:17:09 -05'00'

Section Supervisor: Frank,
Nathan

Digitally signed by Frank,
Nathan
Date: 2023.07.20
16:46:58 -05'00'

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APPENDICES AND ATTACHMENTS

1. Appendix A: Digital Image Log

Facility Name: Freezer Services of Michigan
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APPENDIX A: DIGITAL IMAGE LOG

1. Inspector Name: Erin DuMontelle; Jason Schenandoah	2. Archival Record Location: Photos are stored in the Electronics Record Center in case file Enf_FreezerServicesofMichigan_MI_23
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Image Number	File Name	Date and Time (EDT)	Description of Image
1	IMG_0381.JPG	5/25/2023 1:34 PM	Evaporator the north loading dock
2	IMG_0382.JPG	5/25/2023 1:35 PM	Ice buildup in the top corner of freezer room #1 to the left of the north loading dock entrance
3	IMG_0383.JPG	5/25/2023 1:38 PM	Inspection Room I2 evaporator with dent
4	IMG_0384.JPG	5/25/2023 1:38 PM	Inspection Room I2 evaporator with dent – closer view of IMG_0383.JPG
5	IMG_0385.JPG	5/25/2023 1:44 PM	3A evaporator
6	IMG_0386.JPG	5/25/2023 1:45 PM	3A evaporator – closer view of IMG_0385.JPG
7	IMG_0387.JPG	5/25/2023 1:48 PM	6B evaporator – underside view next to storage shelving
8	IMG_0388.JPG	5/25/2023 1:50 PM	7A evaporator – underside view next to storage shelving
9	IMG_0389.JPG	5/25/2023 1:55 PM	Machine Room – main door from inside the facility that leads into the machine room
10	IMG_0390.JPG	5/25/2023 1:34 PM	Machine Room – ice buildup on overhead insulation
11	IMG_0391.JPG	5/25/2023 2:07 PM	Duplicate photo of IMG_0390.JPG*
12	IMG_0392.JPG	5/25/2023 2:07 PM	Machine Room – broken label on Compressor 2
13	IMG_0393.JPG	5/25/2023 2:08 PM	Machine Room – main door from inside the facility that leads out of the machine room
14	IMG_0394.JPG	5/25/2023 2:11 PM	Machine Room – door from outside of the facility that leads into the machine room
15	IMG_0395.JPG	5/25/2023 2:14 PM	Duplicate photo of IMG_0394.JPG*

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16	IMG_0396.JPG	5/25/2023 2:14 PM	PRV tag on main ammonia tank
17	IMG_0397.JPG	5/25/2023 2:16 PM	Duplicate photo of IMG_0396.JPG*
18	IMG_0398.JPG	5/25/2023 2:16 PM	PRV tag on main ammonia tank – closer view of IMG_0396.JPG
19	IMG_0399.JPG	5/25/2023 2:16 PM	Duplicate photo of IMG_0398.JPG*
20	IMG_0400.JPG	5/25/2023 2:16 PM	PRV tag on main ammonia tank – further away view of IMG_0396.JPG
21	IMG_0401.JPG	5/25/2023 2:16 PM	Duplicate photo of IMG_0400.JPG*
22	IMG_0402.JPG	5/25/2023 2:18 PM	PRV tag on main ammonia tank – farthest away view of IMG_0396.JPG
23	IMG_0403.JPG	5/25/2023 2:18 PM	Duplicate photo of IMG_0402.JPG*
24	IMG_0404.JPG	5/25/2023 2:20 PM	PRV tags on left side of the Intercooler tank
25	IMG_0405.JPG	5/25/2023 2:23 PM	PRV on front of the Intercooler tank – view from the right side of the tank
26	IMG_0406.JPG	5/25/2023 2:23 PM	Duplicate photo of IMG_0405.JPG*
27	IMG_0407.JPG	5/25/2023 2:25 PM	Low Temp tank – left side view
28	IMG_0408.JPG	5/25/2023 2:25 PM	Duplicate photo of IMG_0407.JPG*
29	IMG_0409.JPG	5/25/2023 2:25 PM	Low Temp tank – front view
30	IMG_0410.JPG	5/25/2023 2:25 PM	Duplicate photo of IMG_0409.JPG*
31	IMG_0411.JPG	5/25/2023 2:29 PM	Receiver tank (center) with external vent from the Machine Room (upper right) and the outdoor ammonia sensor (bottom left along wall)
32	IMG_0412.JPG	5/25/2023 2:29 PM	Duplicate photo of IMG_0411.JPG*
33	IMG_0413.JPG	5/25/2023 2:30 PM	External vent from the Machining Room – Point of View from next to the outdoor ammonia sensor

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34	IMG_0414.JPG	5/25/2023 2:30 PM	Duplicate photo of IMG_0413.JPG*
35	IMG_0415.JPG	5/25/2023 2:31 PM	Main shut-off valve (King valve) located between the High-Pressure Receiver (HPR) tank and the Intercooler tank
36	IMG_0416.JPG	5/25/2023 2:31 PM	Duplicate photo of IMG_0415.JPG*
37	IMG_0417.JPG	5/25/2023 2:34 PM	Corrosion on the HPR tank
38	IMG_0418.JPG	5/25/2023 2:34 PM	Duplicate photo of IMG_0417.JPG*
39	IMG_0419.JPG	5/25/2023 2:34 PM	Corrosion on the HPR tank
40	IMG_0420.JPG	5/25/2023 2:34 PM	Duplicate photo of IMG_0419.JPG*
41	IMG_0421.JPG	5/25/2023 2:36 PM	Iced-over valve on the Intercooler tank
42	IMG_0422.JPG	5/25/2023 2:36 PM	Duplicate photo of IMG_0421.JPG*
43	IMG_0423.JPG	5/25/2023 2:36 PM	Iced-over valve near the Low Temp tank
44	IMG_0424.JPG	5/25/2023 2:36 PM	Duplicate photo of IMG_0423.JPG*
45	IMG_0425.JPG	5/25/2023 2:36 PM	Iced-over valve near the Low Temp tank
46	IMG_0426.JPG	5/25/2023 2:36 PM	Duplicate photo of IMG_0425.JPG*
47	IMG_0427.JPG	5/25/2023 2:38 PM	Machine Room – secondary door from inside the facility that leads into the Machine Room
48	IMG_0428.JPG	5/25/2023 2:44 PM	Ammonia pipe racks near condensers with worn ammonia labeling
49	IMG_0429.JPG	5/25/2023 2:44 PM	Duplicate photo of IMG_0429.JPG*
50	IMG_0430.JPG	5/25/2023 2:46 PM	Ammonia piping rack above the 1900 aisle dock area with worn labels
51	IMG_0431.JPG	5/25/2023 2:46 PM	Duplicate photo of IMG_0430.JPG*
52	IMG_0432.JPG	5/25/2023 2:49 PM	Ammonia piping above the 1500 aisle with worn labels

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53	IMG_0433.JPG	5/25/2023 2:49 PM	Duplicate photo of IMG_0432.JPG*
54	IMG_0434.JPG	5/25/2023 2:52 PM	Ammonia piping rack supports
55	IMG_0435.JPG	5/25/2023 2:53 PM	Additional ammonia piping
56	IMG_0436.JPG	5/25/2023 2:53 PM	Duplicate photo of IMG_0435.JPG*

*An error occurred with the camera during certain photos and a duplicate was created