



REGION 5

CHICAGO, IL 60604

MEMORANDUM

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Kemps LLC, Rochester, Minnesota

FROM: Natalia Vazquez, Environmental Engineer
AECAB (MI/WI)

THRU: Sarah Marshall, Section Supervisor
AECAB (MI/WI)

TO: File

BASIC INFORMATION

Facility Name: Kemps LLC

Facility Location: 406 N Broadway Rochester Minnesota

Date of Inspection: July 17, 2024

EPA Inspector(s):

1. Natalia Vazquez, Environmental Engineer
2. Matthew Walters, Environmental Engineer

Other Attendees:

1. Corey Ramer, Plant Manager, Kemps LLC
2. Thomas Jenkins, EHS Manager, Dairy Farmers of America
3. Dawn Robinson, PSM Coordinator, Kemps LLC
4. Brock Cunningham, Sr. PSM Coordinator, JS Compliance
5. Tim Morrow, Chief Engineer, Kemps LLC
6. Josh Lobdell, Union Representative and operator, Kemps LLC

Contact Email Address: dawn.robinson@kemps.com, thomas.jenkins@dafamilk.com

Purpose of Inspection: ammonia refrigeration system inspection

Facility Type: ice cream manufacturing facility and warehouse with an ammonia refrigeration system

Facility Name: Kemps LLC
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Date of Inspection: July 17, 2024

Regulations Central to Inspection: 40 C.F.R. Part 68 Chemical Accident Prevention Provisions

Arrival Time: 9:00 a.m.

Departure Time: 2:40 p.m.

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.
- ☒ Provided CBI warning to facility

The following information was obtained verbally from Corey Ramer, Tom Jenkins, Dawn Robinson unless otherwise noted.

Process Description:

Ammonia refrigeration is a 2-stage refrigeration system with a single engine room, controls in the engine room. The system is used for cooling storage silos, ice cream freezers, frozen storage, and area cooling. High stage is used for the silos and area cooling, and low stage is used for the ice cream freezers and storage room. The silos are directly cooled by ammonia. The system was expanded in the 1990s, no current knowledge of its size prior to the expansion. Most of the refrigeration equipment is located in the engine room, but condensers and the three high pressure receivers are on the roof.

Staff Interview:

The Facility operates five days of the week, 24 hours. Maintenance employees are on site 24 hours, seven days of the week, three shifts. Kemps has about 169 employees on site, about 19 in maintenance and in direct contact with the ammonia refrigeration system.

The Facility hasn't had any major changes in the past five years.

The Facility had its most recent coordination activity with Rochester Fire Department on July 12, 2024.

Kemps Hazards Assessment can be found in the Confidential Business Information Inspection Report Supplement.

Kemps had in its process safety information (PSI) records the following codes and standards listed: EPA, API, ASHRAE, NIOSH, and NRC. Jenkins stated that Kemps is in the process of transitioning its

paperwork to align with IIAR 6 and they are also following IIAR 9, specifically replacing bulletins. JS Compliance (contractor) is assisting Kemps to follow codes and standards and verify compliance through process hazard analysis (PHA) and compliance audits.

The calculated ammonia inventory is 63,692 pounds.

Ventilation system is being updated through a capital project that has approved funding. Kemps has ammonia detecting sensors with an alarm system that report to a central location on-site. There is no off-site alarm monitoring, but maintenance employees are on-site 24 hours seven days of the week. Kemps has several portable ammonia sensors at the maintenance shop. Inspectors observed current calibration stickers on these sensors.

The process of verifying if P&ID are accurate only takes place if the Facility is doing a new PHA, but not if it's completing a revalidation. The 2014 PHA was a new evaluation due to the change in ownership and the 2019 PHA was a revalidation. The Facility is planning on doing a revalidation for the next PHA as there were no major changes in the system.

Kemps uses the PHA matrix to prioritize what recommendations to complete first, that is critical before convenient, while also tackling easy projects right away. The recommendation to install ammonia sensor in vent lines has been time consuming. The Facility has a quote for the ammonia sensors for vent lines and hopes to complete this project before the next PHA.

APSM software used for tracking PSM documentation and action list. CMMS software is used to track maintenance records.

Maintenance employees do routine per shift walkthrough of the ammonia refrigeration system. If an issue is identified during the walkthrough, it either gets immediately fixed or a work order is put in place. Kemps has a form used for the daily log that records temperatures, pressure, and level for its equipment and it's filled up at each shift (three shifts per day). The form has upper values or ranges for each parameter.

Most recent vibration test was completed in March 2023.

Cool Air Mechanical is the contractor that Kemps hires for non-routine maintenance on the refrigeration system. Two annual evaluations were documented for November 6, 2023, and September 12, 2022. The other contractor is used to obtain parts and its never in contact with the ammonia refrigeration system.

High stage compressors each have an individual control panel and local emergency stop.

Oil and filter change is done by contractor.

All maintenance employees go through IIAR modules and site-specific training as part of their training program. Online tests for each module are used to demonstrate understanding of the training.

Emergency Response Plan has the position “Site Safety Lead” that is not attached to a single person. Kemps will respond to releases up to 150 ppm, above 150 ppm Rochester Fire Department will be expected to respond.

Ammonia vapor was released from HS1 compressor on June 19, 2020. The compressor was sent out for evaluation, and it was determined that a piston or connecting rod failure caused the incident.

All reviewed MOC were line breaks either for charging ammonia into the system or replacement-in-kind. Tracking line breaks through MOC was a corporate decision.

TOUR INFORMATION

EPA Toured the Facility: Yes

Data Collected and Observations:

- Ammonia detector in the south side of the engine room.
- Second floor grated roof above the north side of engine room and it has an ammonia detector.
- Exhaust fans set at 1,000 ppm.
- HS6 reciprocating compressor has a discharge pressure at 150 psi.
- BC4 oil separator discharge 26.5 psig and suction 9.5 Hg.
- The low-pressure receiver (V16) and intermediate receiver (V12) are located on the second floor above the north side of the engine room.
- All three high pressure receivers are on the roof.
- V1 High pressure receiver was at 50% level. It’s pressure relief device set at 250 psi with a due date by December 2020. The king valve was located underneath the high-pressure receiver.
- V2 and V3 high pressure receivers are on a roof location accessible only by a fixed ladder.

Pressure Relief Valve with “Replace by” tags	
Equipment that PRV is located	“Replace by” date on tag
HS9 oil separator	April 2021
BC4 oil separator	June 2021
V2 high pressure receiver	October (year was not clearly labeled)

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

Field Measurements: were not taken during this inspection.

RECORDS REVIEW

Prior to the Inspection

1. 2014 and 2019 Process Hazard Analysis and each respective recommendation tracker;
2. 2020 Compliance audit;
3. Pipe and Instrumentation Diagrams; and
4. List MOC logs for January 2020 to March 2024.

During the Inspection

1. Process Safety Information included:
 - a. Hazard Assessment,
 - b. description of process equipment (17 pages),
 - c. pressure relief valve design (3 pages),
 - d. ventilation system design (45 pages),
 - e. ammonia detectors (1 page),
 - f. design codes (1 page),
 - g. RAGAGEP electrical classification, and
 - h. ammonia inventory calculations;
2. Individual MOCs (all replacement in kind);
3. Contractor evaluation;
4. Mechanical integrity policy;
5. Certification of SOPs (all dated July 28, 2023);
6. Emergency Response Plan

CLOSING CONFERENCE

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

Requested documents:

- PSI Section 6 Equipment Description;
- PSI Section 8 Pressure Relief Valves;
- PSI Section 9 Ammonia Detectors;
- PSI Section 11 Design Codes and Standards;
- PSI Section 13 Ventilation design;
- MI 2020 Action List;
- Ammonia Delivery log;
- PHA action item tracking documentation;
- MI procedure (inspection summary and equipment list);
- Procedures (SOP):
 - Delivery Procedure,
 - Summary of Normal Operations Procedure,
 - Summary of Emergency Equipment Shutdown Procedure, and
 - HS Reciprocating Compressors SOP (HS 1- HS 4, and HS 6);

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- Incident report for June 19, 2020 ammonia release;
- Daily Round Maintenance Sheets (dates July 14, 2024 through July 16, 2024); and
- Two most recent work orders for the following MI inspection, testing, and maintenance items:
 - Functional test of engine room emergency shutdown switch located outside main engine room door,
 - Functional test of high discharge pressure cutout on reciprocating compressor HS 2,
 - Functional test of high level switch on Intercooler V-12,
 - Belt tension inspection/measurement on reciprocating compressor HS 6,
 - Stem lubrication of King Valve 3 on V-3,
 - Drive shaft alignment measurement on screw compressor BC 2, and
 - Visual inspection for damage and/or moisture in insulation for Recirculator V-16.

DIGITAL SIGNATURES

Report Author: NATALIA
VAZQUEZ RIVERA  Digitally signed by NATALIA
VAZQUEZ RIVERA
Date: 2024.09.05 15:10:16 -05'00'

Section Supervisor: SARAH
MARSHALL  Digitally signed by SARAH
MARSHALL
Date: 2024.09.06 08:33:26 -05'00'

APPENDICES

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

Facility Name: Kemps LLC
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APPENDIX A: DIGITAL IMAGE LOG AND DIGITAL VIDEO LOG

Inspector Name: Natalia Vazquez and Matthew Walters
Archival Record Location: Enf_Kemps_MN_24_InspRep_Photos

Image Number	File Name	Date and Time (incl. Time zone and DST)	Description of Image
1	IMG_0775.JPG	7/17/2024 9:54	Pressure relief valve tag on HS9 oil separator, tag with "Replace By" date of April 2021
2	IMG_0776.JPG	7/17/2024 9:56	Suction line on HS9 compressor
3	IMG_0777.JPG	7/17/2024 10:02	Gauge on natural gas engine of HS6 reciprocating compressor – non-operational
4	IMG_0778.JPG	7/17/2024 10:03	HS6 reciprocating compressor control panel
5	IMG_0779.JPG	7/17/2024 10:06	BC6 screw compressor's pressure relief valve tag with "Replace By" date of June 2021
6	IMG_0780.JPG	7/17/2024 10:22	Pressure relief valve's on BC4 screw compressor oil separator (blurry photograph)
7	IMG_0781.JPG	7/17/2024 10:23	Pressure relief valve's nameplate on BC4 oil separator showing set pressure of 300 psig (P&ID indicates set pressure should be 250 psig)
8	IMG_0782.JPG	7/17/2024 10:24	BC4 oil separator with visual level indicators, drain line, and instrumentation not shown on P&ID
9	IMG_0783.JPG	7/17/2024 10:27	Ammonia detector on the south side of the engine room with hand written date of "7 Aug 21"
10	IMG_0784.JPG	7/17/2024 10:32	Ammonia detector on the second floor above the north engine room
11	IMG_0785.JPG	7/17/2024 10:34	V16 low pressure receiver (recirculator)
12	IMG_0786.JPG	7/17/2024 10:41	V1 high pressure receiver
13	IMG_0787.JPG	7/17/2024 10:44	King valve V1KBM.200 with hand wheel underneath the V1 high pressure receiver
14	IMG_0788.JPG	7/17/2024 10:45	Relief vent discharge near V1 high pressure receiver
15	IMG_0789.JPG	7/17/2024 10:51	V2 and V3 high pressure receivers
16	IMG_0790.JPG	7/17/2024 10:51	V2 high pressure receiver pressure relief valve's "replace by" tag with an October date, year is not clearly labeled
17	IMG_0791.JPG	7/17/2024 10:54	V2 high pressure receiver's king valve V2KBM.200 with seal cap on stem above the receiver (V2KBM.203 is labeled as King Valve #2 on P&ID)
18	IMG_0792.JPG	7/17/2024 10:54	V3 high pressure receiver's king valve V3KBM.200 with hand wheel above the receiver, with access restricted by a wall and piping (V3KBM.203)

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Image Number	File Name	Date and Time (incl. Time zone and DST)	Description of Image
19	IMG_0793.JPG	7/17/2024 10:55	Valves on high pressure liquid line from V3 high pressure receiver: V3KBM.201 globe valve, check valve (strainer shown in place of check valve on P&ID), V3KBM.202 solenoid valve, and V3KBM.203 globe valve (labeled as king valve on P&ID but not in field)
20	IMG_0794.JPG	7/17/2024 11:01	hot has defrost (HGD) ammonia lines on roof
21	IMG_0795.JPG	7/17/2024 11:07	Ammonia relief vent on north side of engine room with self-closing valve (line with self-closing valve not shown on P&ID)
22	IMG_0796.JPG	7/17/2024 11:07	Ammonia relief vent and thermosyphon supply/return lines for HS9 compressor on north side of engine room
23	IMG_0797.JPG	7/17/2024 11:08	ammonia recharge line
24	IMG_0798.JPG	7/17/2024 11:09	Safety labels on the engine room's door, E-stop, and audible/visible ammonia alarm