

Clean Air Act 112(r), Risk Management Program Inspection Report

Blue Bell Creameries Facility

Sylacauga, Alabama

March 27, 2023

1.0 Introduction

The U.S. Environmental Protection Agency's efforts to reduce the likelihood and severity of chemical accidents includes planning and legislative initiatives such as the National Contingency Plan, the Emergency Planning and Community Right-to-Know Act (EPCRA), and the Accidental Release Prevention requirements under Section 112(r) of the Clean Air Act (CAA), as amended in 1990. This report outlines an inspection of the Risk Management Program (RMP) as mandated by Section 112(r)(7) of the CAA.

The focus of this inspection was to assess the RMP for the covered process of anhydrous ammonia at the Blue Bell Creameries facility located in Sylacauga, AL. The inspection consisted of an examination of program documentation as well as site review of the anhydrous ammonia process operations. This report provides background information about the facility and a list of observations.

2.0 Background

Blue Bell Creameries is a privately held company with three (3) ice cream manufacturing facilities in the US (1 in Oklahoma, 1 in Texas, and 1 in Alabama). The Blue Bell Creameries' Sylacauga facility (Facility) has been owned and operated by Blue Bell Creameries since 1996. The Facility uses anhydrous ammonia, a toxic substance regulated by the RMP Rule, 40 CFR Part 68, as a refrigeration system in the ice cream production and cold storage of ice cream products manufactured by the Facility. The Facility operational capacity and inventory of anhydrous ammonia present at the Facility is above the regulatory threshold quantity of 10,000 pounds.

The Facility is subject to the RMP requirements of 40 CFR Part 68 process level 3 as it is not a government entity, has public receptors within its toxic endpoint, and is subject to federal Occupational Safety and Health Administration (OSHA)'s Process Safety Management (PSM) requirements. The background specifics are summarized in Table 1 presented below.

TABLE 1: Inspection Information Summary

Inspection Team

Inspector(s): Chetan Gala, US. EPA, Region 4; and Justin Stark, US. EPA, Region 4

Date of Facility Visit: March 27, 2023

Facility Identification

Name: Blue Bell Creameries, L. P.
Street Address: 423 N. Norton Ave.,
City: Sylacauga County: Talladega State: Alabama Zip: 35150
EPA Facility ID No: 1000 0005 7591
Latitude: 33.174622
Longitude: -086.252828

Name of corporate parent company: N/A

Name, title, and email of the person responsible for 40 C.F.R. Part 68 implementation:

Name: Greg Bridges
Title: VP - Operations
Email: greg.bridges@bluebell.com

Name and title of emergency contact:

Name: Kevin Wood, Plant Manager
Day phone: (256) 249-6100
24-hour Phone: (256) 404-7990
Email: kevin.wood@bluebell.com

Name and titles of stationary source personnel involved in site inspection (*accompanied site tours, provided documents and explanations*):

Name	Title	Phone	Email
Brian Supak	Facilities Compliance Administrator	(979) 830-7306	Brian.Supak@bluebell.com
Sherry Hogan	PSM Compliance Coordinator	(205) 567-6028	Sherry.Hogan@bluebell.com
Robert Schmidt	Maintenance Manager	(256) 249-6161	Robert.Schmidt@bluebell.com
Chris Stephens	Asst. General Manager	(256) 249-6102	Chris.Stephens@bluebell.com
Kevin Wood	General Manager	(256) 249-6101	Kevin.Wood@bluebell.com

Note: **NOT A UNION** facility

Date and Program Levels of Submitted Risk Management Plan

Date of initial submission: June 18, 1999

Date of recent submission: March 10, 2023

Process ID	Process Description	Process Chemical ID	Process Program Level	Chemical Name	Quantity (lbs)	NAICS code	Flammable / Toxic
1000130288	Anhydrous Ammonia System	1000163384	Level 3	Ammonia (anhydrous) CAS Number: 7664-41-7	90,000 lbs.	Process NAIC Code: 1000131724 NAIC Code: 31152 NAIC Description: Ice Cream and Frozen Dessert Manufacturing	Toxic

3.0 Observations

The inspection of the facility evaluated compliance with various sections of the RMP regulations (40 C.F.R. Part 68, Program Level 3). The inspection involved discussions with the facility representatives of issues related to its anhydrous ammonia storage, handling and usage, the Facility's RMP, a review of paperwork associated with the facility's most recent Risk Management Plan (RMPlan), Process Safety Information (PSI), Process Hazard Analysis (PHA), Compliance Audit (CA), Operating Procedures (OP), Management of Change (MOC), Mechanical Integrity (MI), etc., and a walkthrough of the facility. Inspection in-brief and out-brief conferences were conducted. Additional information was requested during the inspection and post on-site inspection. Observations from the RMP inspection and available information are enumerated below:

1. 40 CFR § 68.65(d)(2) requires that the owner or operator must document that equipment complies with recognized and generally accepted good engineering practices (RAGAGEP). During the facility walkthrough, EPA inspectors observed the following:
 - Labels were missing on the normal approach side on some ammonia refrigeration system piping on the roof.
 - The ANSI standard A13.1 indicate that markers must be located so that they are readily visible to plant personnel from the point of normal approach. They need to instantly tell you all you need to know about pipe contents, direction of flow, and whether the contents are hazardous or safe. ANSI A13.1 (2015) requires piping mains, headers, and branches to be identified with the contents and labeling that includes the physical state and direction of flow.
 - International Institute of Ammonia Refrigeration (IIAR) 9 (2020) Section 7.2.9.4, requires ammonia piping mains, headers, and branches to be identified with the following information:
 - "Ammonia"
 - Physical state of the ammonia
 - Relative pressure of ammonia, being low or high as applicable
 - Pipe service which can be abbreviated and
 - Direction of flow
 - One small segment of piping in the machine room appeared to have degradation of the protective coating and some surface corrosion. The Facility's preventive maintenance program should have observed and documented such coating degradation and potential surface corrosion and should have resulted in addressing it through further evaluation and implementation of appropriate measures as necessary.
 - 1910.110(h)(9)(i) requires that piping be well supported and protected against physical damage and corrosion.
 - Section 11.1.1 IIAR 6 (2019) states "Where pitting, surface damage, general corrosion, or a combination thereof, is visually observed on a metal surface of the piping, deficient areas shall be further evaluated per Sections 11.1.1.1 – 11.1.1.3."

- Heavy ice build-up was observed on piping in the ammonia machinery room. The ice buildup adds considerable weight on piping and vessel supports that may not be designed to hold this extra weight and may also contribute to corrosion during thermal cycling.
 - Section 7.2.6.1 IIAR 9 (2020) requires piping and equipment surfaces not intended for heat exchange must be insulated, treated, or otherwise protected to mitigate condensation and excessive frost buildup where the surface temperature is below the dew point of the surrounding air during normal operation and in an area where condensation and frost could develop and become a hazard to occupants or cause damage to the structure, electrical equipment, or refrigeration system. However, there exceptions as follows:
 - Valves and other equipment can be permitted to be uninsulated where necessary for service access provided that the vapor retarder is sealed to the piping or equipment where insulation of adjoining piping terminates.
 - Piping and fittings constructed of corrosion-resistant materials or protected with a corrosion-resistant treatment can be permitted to be uninsulated if they are routinely defrosted or are otherwise managed to limit ice accumulation. Where defrost will be the method of ice control, a means to control and drain condensate shall be provided where condensate will present a nuisance or a hazard.
- The egress doors from the ammonia machinery room were not equipped with panic hardware to facilitate exit in case of emergency.
 - Section 7.3.9.2 of IIAR 9 (2020) states, “Machinery room doors shall be self-closing and tight fitting. Doors that are part of the means of egress shall be equipped with panic hardware and shall be side hinged to swing in the direction of egress for occupants leaving the machinery room. Where the machinery room is not provided with fire sprinklers, doors communicating with the building interior shall be one-hour fire rated. Doors to the outdoors shall be fire rated based on the fire rating required for exterior wall openings.”
- The entry doors into the ammonia machinery room did not have NFPA diamonds reflecting the degree of health hazard (blue), flammability hazard (red), and reactivity hazard (yellow). Also, the fence surrounding anhydrous ammonia receiver tank and piping on the outside of the ammonia machinery room did not have NFPA diamonds reflecting the degree of health/flammability/and reactivity hazard.
 - Section 7.2.9.1 of IIAR 9 (2020) require machinery room be provided in accordance with this section.
 - Buildings and facilities with refrigeration systems must be provided with placards in accordance with NFPA 704. The NFPA 704 ammonia fire diamond for indoor ammonia refrigeration equipment should be 3-3-0 and outdoor entrances should be 3-1-0.
 - The meaning of each alarm shall be clearly marked by signage near the visual and audible alarms.

- Each machinery room entrance door shall be marked with a permanent sign to indicate that only authorized personnel are permitted to enter the room.
- There was an eye wash/safety shower located inside the ammonia machinery room. However, there was no eye wash/safety shower located outside of the ammonia machinery room.
 - Section 7.3.7.1 IIAR 9 (2020), section 7.3.7.1 requires each machinery room to have access to a minimum of two eyewash/safety shower units, one located inside the machinery room, and one located outside of the machinery room, each meeting the requirements in Section 7.3.7.3. Additional eyewash/safety shower units shall be installed such that the path of travel in the machinery room is no more than 55 ft to an eyewash/safety shower unit.
- 2. 40 CFR § 68.67(e) requires the owner or operator to establish a system to promptly address the team's findings and recommendations; assure that the recommendations are resolved in a timely manner and that the resolution is documented; document what actions are to be taken; complete actions as soon as possible; develop a written schedule of when these actions are to be completed; communicate the actions to operating, maintenance and other employees whose work assignments are in the process and who may be affected by the recommendations or actions.
 - The last two PHA documents (one dated June 8, 2017, and the other dated December 9, 2022) presented for review did not contain a developed written schedule of when the actions are to be completed.
- 3. 40 CFR § 68.67(f) states “At least every five (5) years after the completion of the initial process hazard analysis, the process hazard analysis shall be updated and revalidated by a team meeting the requirements in paragraph (d) of this section, to assure that the process hazard analysis is consistent with the current process. Updated and revalidated process hazard analyses completed to comply with 29 CFR 1910.119(e) are acceptable to meet the requirements of this paragraph.”
 - Of the two most recently completed process hazard analysis (PHA), one is dated June 8, 2017, and the other is dated December 9, 2022.
- 4. 40 CFR § 68.67(g) requires the owner or operator to retain process hazards analyses and updates or revalidations for each process covered by this section, as well as the documented resolution of recommendations described in paragraph (e) of this section for the life of the process.
 - PHAs from the original PHA of 1999 thru 2011 have been discarded per the findings of compliance audit conducted on November 16, 2022. A previous compliance audit conducted in November 2019 failed to recognize the failure to retain PHA records for life of the process.
- 5. 40 CFR § 68.75(a) Management of Change (MOC) - requires the owner or operator to establish and implement written procedures to manage changes (except for “replacements in kind”) to process chemicals, technology, equipment, and procedures; and, changes to stationary sources that affect a covered process. 40 CFR § 68.75(b) requires that the procedures must assure that the following considerations are addressed prior to any change: (1) The technical basis for the proposed change; (2) Impact of change on safety and health; (3) Modifications to operating procedures; (4) Necessary time period for the change; and, (5) Authorization requirements for the proposed change. 40 CFR §

68.75(c) states that the employees involved in operating a process and maintenance and contract employees whose job tasks will be affected by a change in the process must be informed of, and trained in, the change prior to start-up of the process or affected part of the process. 40 CFR § 68.75(d) requires that if a change covered by this paragraph results in a change in the process safety information required by § 68.65 of this part, such information must be updated accordingly. 40 CFR § 68.75(e) states that if a change covered by this paragraph results in a change in the operating procedures or practices required by § 68.69, such procedures or practices must be updated accordingly.

- An incident report for an incident dated January 20, 2023, indicated a threaded ammonia pipe was replaced with a non-threaded pipe. This pipe change was not processed under a MOC. The facility representative indicated that this change was considered as a replacement in kind and that it did not have to go through MOC. Replacement in kind means a replacement that satisfies the design specifications.
6. 40 CFR § 68.79(a) requires the owner or operator to certify that they have evaluated compliance with the provisions of this subpart at least every three years to verify that procedures and practices developed under this subpart are adequate and are being followed.
- The latest two compliance audits were performed during November 11-12, 2019, and on November 16, 2022.

Inspection Report,

Prepared by:

Gala, Chetan

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Chetan Gala, Inspector
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Air Enforcement Branch

Date

Approved by:

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