

United States Environmental Protection Agency / Region 4

Risk Management Program Inspection Report

Wood Fruitticher Grocery Company

Birmingham, Alabama

May 19, 2022

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 ammonia refrigeration process at the Wood Fruitticher Grocery Company facility located in Birmingham, Jefferson County, Alabama. This facility was selected for inspection because it had never been inspected under the RMP. The inspection, which was conducted on May 19, 2022, consisted of an examination of program documentation as well as site reviews of various aspects of facility operations. Personnel from the facility participated throughout the inspection. Requested program documents were provided for further review off-site. This report will provide a background of the facility and a listing of observations.

2.0 Background

The Wood Fruitticher Grocery Company facility is located in Birmingham, Alabama. The facility uses anhydrous ammonia as a refrigerant to store food products for distribution. The process is regulated as program level 3. According to facility records, the facility has a maximum of 14,300 pounds of anhydrous ammonia on site. The ammonia refrigeration process at the facility is subject to the RMP requirements of 40 C.F.R. Part 68 and EPCRA Section 302. The background specifics are summarized as follows in Table 1.

TABLE 1: Inspection Information Summary

Inspection Team

Lead Inspector-In-Training: Bethany Terpin, EPA

Inspector: Jordan Noles, EPA

Inspector-In-Training: Chet Gala, EPA

Date of Facility Visit: May 19, 2022

Facility Identification

Name: Wood Fruitticher Grocery Company

Street Address: 2900 Alton Road

City: Birmingham County: Jefferson State: Alabama Zip: 35210

EPA Facility ID No: 1000 0018 6425

Dun & Bradstreet (D&B) No: NA

Latitude: 33.586806

Longitude: -086.654278

Name, address and phone of corporate parent company:

Owner/Operator: NA

Mailing Address: NA

City: NA State: NA Zip: NA

Phone: NA

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

Name: Bill Shupe

Title: Vice President of Operations

Phone: NA

Email: BShupe@woodfruitticher.com

Name and title of emergency contact:

Name: Vick Nickles

Title: Maintenance Manager

Day phone: (205) 836-9663

24-hour Phone: (205) 283-6950

Email: vnickles@woodfruitticher.com

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

Name: Vick Nickles

Title: Maintenance Manager

Phone: (205) 283-6950

Email: vnickles@woodfruitticher.com

Name: Zachary Nickles

Title: Refrigeration Technician

Phone: (205) 451-8110

Email: NA

Note: This is not a union facility.

Date and Program Levels of Submitted Risk Management Plan

Date of initial submission: September 11, 2014

Date of most recent submissions: October 10, 2018

Process: Refrigeration System

Process ID: 1000091338

Program Level as reported in RMP: 3

NAICS code: 49312 (Refrigerated Warehousing and Storage)

3.0 Observations

The inspection of the Wood Fruitticher Grocery Company facility evaluated various sections of the RMP regulations (40 C.F.R. Part 68, Program Level 3) and the inspection checklist included in “Guidance for Conducting Risk Management Programs Inspections under Clean Air Act Section 112(r).” The inspection began with an opening discussion of facility operations. The discussion was followed by a tour of the facility’s ammonia refrigeration process areas. EPA inspectors then requested paperwork associated with the facility’s Risk Management Plan (RMPlan). The documents were reviewed by EPA inspectors on-site and other documents were requested for review off-site. An inspection out-brief was conducted where EPA inspectors described their observations. Observations from the RMP inspection at the Wood Fruitticher Grocery Company facility are discussed below:

1. 40 C.F.R. § 68.65(d)(2) requires the owner or operator to document that equipment complies with recognized and generally accepted good engineering practices.
 - At the time of the inspection, significant corrosion and pitting was observed on various pipes and valve groups associated with Air Unit equipment on the roof.

Section 11.1 of ANSI/IIAR 6 (2019) states, “*ITM tasks shall be performed on carbon steel and stainless-steel piping at the indicated frequencies set forth in Table 11.1 or per manufacturers' instructions, unless a different frequency is justified in accordance with Section 5.2.1.*”

Section 11.1.1.1 of ANSI/IIAR 6 (2019) states, “*Where pitting, surface damage, general corrosion, or a combination thereof, has materially reduced the remaining pipe wall thickness, the piping remaining wall thickness shall be measured using appropriate techniques.*”

Section 11.1.1.2 of ANSI/IIAR 6 (2019) states, “*Where pitting, surface damage, general corrosion, or a combination thereof, has not materially reduced the remaining pipe wall thickness, the piping metal surface shall be cleaned and recoated to arrest further deterioration.*”

Section 11.1.1.3 of ANSI/IIAR 6 (2019) states, “*Where pitting, surface damage, general corrosion, or a combination thereof, has materially reduced the remaining*

pipe wall thickness beyond the owner's established acceptance criteria, the piping shall be evaluated to determine suitability for continued operation."

- At the time of the inspection, significant ice buildup was observed on various equipment throughout the facility, on pipes and valve groups on the roof, as well as on the compressors and other equipment in the engine room. Ice was observed to be building up over insulation and potentially between the insulation and piping. This amount of ice buildup adds weight to the system which could damage piping and equipment, and it has the potential to affect valve usage.

Section 5.6.8 of ANSI/IIAR 6 (2019) states, "*Equipment and piping shall be kept free from excessive ice buildup.*

- 1. Ice buildup shall not interfere with the operation of emergency shut-off valves.*
- 2. Ice accumulation shall not be permitted to deflect or bend pipes, displace components, or negatively impact the system's structural integrity."*

Section 7.2.6.1 of ANSI/IIAR 9 (2020) states, "*Piping and equipment surfaces not intended for heat exchange shall 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."*

- At the time of the inspection, pipe insulation was extensively damaged both on the roof and in the engine room. There were large gaps in the insulation where metal piping was exposed, as well as cracks, tears, and holes in the insulation.

Section 5.10.1 of ANSI/IIAR 2 (2021) states, "*Piping and equipment surfaces not intended for heat exchange shall be insulated, treated, or otherwise protected to mitigate effects of condensation and excessive frost buildup to a level that interferes with valve operation or creates damage to piping, equipment or supports. Portions of a system that have the potential for condensation shall not be placed above electrical equipment unless the electrical equipment is protected from damage caused by condensation."*

Section 7.2.6.1 of ANSI/IIAR 9 (2020) states, "*Piping and equipment surfaces not intended for heat exchange shall 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."*

- At the time of the inspection, pipes were not adequately labeled, particularly on long ammonia piping runs located on the roof of the facility. Many pipe labels were

unreadable due to fading and damage. Pipe labels were missing on piping around the evaporators in the cooler area as well.

Section 7.2.9.4 of ANSI/IIAR 9 (2020) states, “*Ammonia piping mains, headers, and branches shall be identified with the following information*”:

1. “*AMMONIA.*”
2. *Physical state of the ammonia.*
3. *Relative pressure level of ammonia, being low or high as applicable.*
4. *Pipe service, which shall be permitted to be abbreviated.*
5. *Direction of flow.*”

Section 5.14.6 of ANSI/IIAR 2 (2021) states, “*Ammonia piping mains, headers, and branches shall be identified with the following information*:

1. “*AMMONIA.*”
2. *Physical state of the ammonia.*
3. *Relative pressure level of ammonia, being low or high as applicable.*
4. *Pipe service, which shall be permitted to be abbreviated.*
5. *Direction of flow.*”

“*The marking system shall either be one established by a recognized model code or standard or one described and documented by the facility owner or the owner’s agent.*”

- At the time of the inspection, the door of the engine room that opened into the warehouse had a large vent built into it, and so the door was not tight-fitting.

Section 6.2.5 of ANSI/IIAR 2 (2021) states, “*Air shall not flow to or from any portion of a premises that is routinely accessible to or occupied by people on a part-time or full-time basis through a machinery room unless the air is ducted and sealed to prevent ammonia leakage from entering the airstream. Access doors and panels in ductwork and air-handling units located in a machinery room shall be gasketed and tight-fitting.*”

Section 7.3.2.1 of ANSI/IIAR 9 (2020) states, “*The machinery room shall be separated from the remainder of the building by tight-fitting construction.*”

- At the time of the inspection, combustible materials (cardboard, spare parts, coolant, pump oil, and various other chemicals) were stored on shelves in the engine room.

Section 6.4 of ANSI/IIAR 2 (2014) states, “*Combustible materials shall not be stored in machinery rooms outside of approved fire-rated storage containers.*

EXCEPTION: This provision shall not apply to spare parts, tools, and incidental materials necessary for the operation and maintenance of the refrigeration system.”

Section 7.3.4 of ANSI/IIAR 9 (2020) states, “*Combustible materials shall not be stored in machinery rooms outside of approved fire-rated storage containers.*”

Section 605.11 of the International Fire Code (IFC; 2018) states, “*Flammable and combustible materials shall not be stored in machinery rooms for refrigeration systems having a refrigerant circuit containing more than 220 pounds (100 kg) of Group A1 or 30 pounds (14 kg) of any other group refrigerant. Storage, use or handling of extra refrigerant or refrigerant oils shall be as required by Chapters 50, 53, 55 and 57.*

Exception: This provision shall not apply to spare parts, tools and incidental materials necessary for the safe and proper operation and maintenance of the system.”

2. 40 C.F.R. § 68.67(e) requires the owner or operator to establish a system to promptly address the Process Hazard Analysis (PHA) 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; and 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.
 - At the time of the inspection, the PHA completed in 2018 had two action items that were not resolved in a timely manner. The first action item was to install an emergency eyewash and shower in the equipment room. This item was due to be completed by February 23, 2020, but was not completed until April 6, 2021 (The PHA listed the completion date as April 6, 2020. EPA confirmed the actual date is April 6, 2021, which is consistent with the completion date listed in the Compliance Audit for this same task). The second action item was to establish a program to regularly exercise and lubricate valve stems. This item was due to be completed by August 2020. The task was not assigned until April 26, 2022, and has not yet been completed.
3. 40 C.F.R. § 68.73(d)(3) requires the frequency of inspections and tests of process equipment to be consistent with applicable manufacturers’ recommendations and good engineering practices, and more frequently if determined to be necessary by prior operating experience.
 - At the time of the inspection, facility personnel were completing the maintenance task to check oil draining of pressure vessel and level column four times per year for the past several years. The maintenance schedule for this task, established by the facility, indicated that the task should be completed monthly. Therefore, this maintenance task was not being completed as frequently as the facility had determined to be necessary.

Chapter 10.1 of ANSI/IIAR 6 (2019) states, “*Inspection, Testing, and Maintenance (ITM) tasks shall be performed on carbon steel pressure vessels at the indicated frequencies set forth in Table 10.1 or per manufacturers’ instructions.*” Table 10.1 indicates that the frequency of the maintenance task of draining oil is “as needed” on carbon steel pressure vessels.

4. 40 C.F.R. § 68.79(d) requires the owner or operator to promptly determine and document an appropriate response to each of the findings of the compliance audit, and document that deficiencies have been corrected.
- At the time of the inspection, the compliance audit completed in 2018 identified that an emergency eyewash station needed to be installed. This item was assigned on August 23, 2018, and was not completed until April 6, 2021.

Inspection Report,

Prepared by:

BETHANY TERPIN

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Bethany Terpin, Inspector-In-Training
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Jordan Noles, Inspector
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