

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 1 – NEW ENGLAND**

In the Matter of:	)		Received by
	)		EPA Region 1
Maritime International, Inc.	)	Docket Nos.	Hearing Clerk
and Bridge Terminal, Inc.,	)	CAA-01-2023-0005,	
	)	EPCRA-01-2023-0006	
Respondents.	)	<b>CONSENT AGREEMENT</b>	
	)	<b>AND FINAL ORDER</b>	

**CONSENT AGREEMENT AND FINAL ORDER**

1. The issuance of this Consent Agreement (“Consent Agreement” or “Agreement”) and attached Final Order (“Final Order” or “Order”), in accordance with 40 C.F.R. § 22.13(b), simultaneously commences and concludes an administrative penalty assessment proceeding brought under Section 113(d) of the Clean Air Act (“CAA”), 42 U.S.C. § 7413(d), Section 325(c) of the Emergency Planning and Community Right-to-Know Act (“EPCRA”), 42 U.S.C. § 11045(c), and Sections 22.13 and 22.18 of the Consolidated Rules of Practice Governing the Administrative Assessment of Civil Penalties and the Revocation/Termination or Suspension of Permits (“Consolidated Rules”), as codified at 40 C.F.R. Part 22.

2. Complainant is the United States Environmental Protection Agency, Region 1 (“EPA”).

3. Respondents are Maritime International, Inc. and Bridge Terminal, Inc. (collectively, “Respondents”).

4. Complainant and Respondents, having agreed that settlement of this action is in the public interest, consent to the entry of this consent agreement and the attached final order

without adjudication of any issues of law or fact herein, and Respondents agree to comply with the terms of this Consent Agreement and Final Order (“CAFO”).

## **I. PRELIMINARY STATEMENT**

5. This Consent Agreement and Final Order is entered into under Sections 113(a)(3)(A) and 113(d) of the CAA, 42 U.S.C. §§ 7413(a)(3)(A) and 7413(d), Section 325(c) of the Emergency Planning and Community Right-to-Know Act, 42 U.S.C. § 11045(c), and the Consolidated Rules of Practice, 40 C.F.R. Part 22.

6. EPA and the U.S. Department of Justice jointly determined that this matter, although it involves alleged violations that occurred more than one year before the initiation of this proceeding, is appropriate for administrative penalty assessment. 42 U.S.C. § 7413(d)(1); 40 C.F.R. § 19.4.

7. The Regional Judicial Officer is authorized to ratify this CAFO, which memorializes a settlement between Complainant and Respondent. 40 C.F.R. §§ 22.4(b) and 22.18(b).

8. The issuance of this CAFO simultaneously initiates and concludes an administrative proceeding for the assessment of monetary penalties, pursuant to Section 113(d) of the CAA, 42 U.S.C. § 7413(d), and Section 325(c) of EPCRA, 42 U.S.C. § 11045(c). As discussed below, the CAFO resolves the following violations that Complainant alleges occurred in connection with Respondent’s storage and handling of anhydrous ammonia at its cold storage warehouse and distribution facility in New Bedford, Massachusetts:

a. Failure to design and maintain a safe facility, taking such steps as are necessary to prevent such releases, in violation of Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1);

b. Failure to minimize the consequences of a release should one occur, in violation of Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1); and

c. Failure to timely submit a Tier 2 chemical inventory report for calendar year 2017 to the fire department, State Emergency Response Commission, and Local Emergency Planning Commission, in violation of Section 312 of EPCRA, 42 U.S.C. § 11022.

## **II. STATUTORY AND REGULATORY AUTHORITY**

### CAA

9. Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1), states that the purpose of Section 112(r) and its implementing regulations is “to prevent the accidental release and to minimize the consequences of any such release” of an “extremely hazardous substance.”

10. Pursuant to Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1), owners and operators of stationary sources producing, processing, handling, or storing substances listed pursuant to Section 112(r)(3) of the CAA, 42 U.S.C. § 7412(r)(3), or any other extremely hazardous substance, have a general duty, in the same manner and to the same extent as 29 U.S.C. § 654, to (a) identify hazards which may result from accidental releases of such substances using appropriate hazard assessment techniques; (b) design and maintain a safe facility taking such steps as are necessary to prevent releases; and (c) minimize the consequences of accidental releases which do occur. This section of the CAA is referred to as the “General Duty Clause.”

11. The extremely hazardous substances listed pursuant to Section 112(r)(3) include, among others, anhydrous ammonia.

12. The term “accidental release” is defined by Section 112(r)(2)(A) of the CAA, 42 U.S.C. § 7412(r)(2)(A), as an unanticipated emission of a regulated substance or other extremely hazardous substance into the ambient air from a stationary source.

13. The term “stationary source” is defined by Section 112(r)(2)(C) of the CAA, 42 U.S.C. § 7412(r)(2)(C), in pertinent part, as any buildings, structures, equipment, installations, or substance-emitting stationary activities, located on one or more contiguous properties under the control of the same person, from which an accidental release may occur.

14. The term “have a general duty in the same manner and to the same extent as section 654 of title 29 [of the U. S. Code]” means owners and operators must comply with the General Duty Clause in the same manner and to the same extent as employers must comply with the Occupational Safety and Health Act (“OSH Act”) administered by the Occupational Safety and Health Administration (“OSHA”). Section 654 of the OSH Act provides, in pertinent part, that “[e]ach employer shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees” and “shall comply with occupational safety and health standards promulgated under this act.” 29 U.S.C. § 654.

15. The intent of Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1), is for facility owners and operators to implement all feasible means to reduce the threat of death, serious injury, or substantial property damage to satisfy the requirements of the General Duty Clause. S. Rep. 101-228, 1990 U.S.C.C.A.N. 3385, 3595 (1989).

16. EPA routinely consults codes, standards, and guidance issued by chemical manufacturers, trade associations, and fire prevention associations (collectively, “industry standards”) to understand the hazards posed by using various extremely hazardous substances.

The industry standards also are evidence of the standard of care that industry itself has recognized to be appropriate for managing those hazards. These industry standards are consistently relied upon by industry safety and fire prevention experts and are sometimes incorporated into state building, fire, and mechanical codes.

17. Sections 113(a) and (d) of the CAA, 42 U.S.C. §§ 7413(a) and (d), the Debt Collection Improvement Act of 1996 (as amended in 2015 by Section 701 of Pub. L. 114–74, 31 U.S.C. § 3701), and EPA’s Civil Monetary Penalty Inflation Adjustment Rule, 40 C.F.R. Part 19, provide for the assessment of civil penalties for violations of Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r), in amounts of up to \$51,796 per day per violation for violations that occurred after November 2, 2015 and are assessed on or after January 12, 2022.

#### EPCRA

18. EPCRA was enacted on October 17, 1986, and establishes requirements regarding emergency planning for, and reporting on, hazardous and toxic chemicals.

19. Under Section 312(a) of EPCRA, owners and operators of facilities that are required to prepare or have available a safety data sheet (“SDS”) for a hazardous chemical under the Occupational Safety and Health Act of 1970 and regulations promulgated thereunder (“hazardous chemicals”) must prepare and submit an emergency and hazardous chemical inventory form (“Tier 1” or “Tier 2” form) to the local emergency planning committee (“LEPC”), the state emergency response commission (“SERC”), and the local fire department. Tier 1 or Tier 2 forms must be submitted annually on or before March 1 and are required to contain information with respect to the preceding calendar year.

20. Section 312(b) of EPCRA, 42 U.S.C. § 11022(b), authorizes EPA to establish minimum threshold levels of hazardous chemicals for the purposes of Section 312(a) of EPCRA,

42 U.S.C. § 11022(a). In accordance with Section 312(b) of EPCRA, 42 U.S.C. § 11022(b), 40 C.F.R. § 370.10 establishes minimum threshold levels for hazardous chemicals for the purposes of 40 C.F.R. Part 370.

21. Under 40 C.F.R. §§ 370.20, 370.40, and 370.44, the owner or operator of a facility that has present a quantity of a hazardous chemical exceeding the minimum threshold level, as set forth in 40 C.F.R. § 370.10, must prepare and submit a Tier 1 or Tier 2 form to the LEPC, SERC and local fire department. Forty C.F.R. § 370.45(a) requires that Tier 1 or Tier 2 forms be submitted annually on or before March 1 and contain information relating to the preceding calendar year. Forty C.F.R. § 370.40(b) allows the LEPC, SERC or local fire department to request that a facility submit the more comprehensive Tier 2 form in lieu of the Tier 1 form. The Commonwealth of Massachusetts requires the more comprehensive Tier 2 form.

22. Section 325(c) of EPCRA, 42 U.S.C. § 11045(c), the Debt Collection Improvement Act of 1996 (as amended in 2015 by Section 701 of Pub. L. 114–74, 31 U.S.C. § 3701), and EPA’s Civil Monetary Penalty Inflation Adjustment Rule, 40 C.F.R. Part 19, provide for the assessment of civil penalties for violations of Section 312 of EPCRA, 42 U.S.C. § 11022, in amounts of up to \$62,689 per day per violation for violations that occurred after November 2, 2015 and are assessed on or after January 12, 2022.

### **III. GENERAL ALLEGATIONS**

23. At all times relevant to the violations alleged herein, Respondents operated a cold storage warehouse and distribution facility located at 12 Fish Island, New Bedford, Massachusetts (the “Facility”).

24. The Facility is located on Fish Island, an island in the Acushnet River, near its confluence with Buzzards Bay, a bay of the Atlantic Ocean. The Facility is less than a half mile from a ferry terminal, hotel, post office, state courthouse, YMCA, two museums, several restaurants, and residential homes.

25. Respondent Bridge Terminal, Inc. is a corporation organized under the laws of the State of Rhode Island.

26. Respondent Maritime International, Inc. is a corporation organized under the laws of the State of Rhode Island.

27. As corporations, each Respondent is a “person” within the meaning of Section 302(e) of the CAA, 42 U.S.C. § 7602(e), against whom an administrative penalty order may be issued under Section 113(a)(3) of the CAA, 42 U.S.C. § 7413(a)(3). Each Respondent is also a “person” within the meaning of Section 329(7) of EPCRA, 42 U.S.C. § 11049(7), and 40 C.F.R. § 370.66.

28. The Facility is a “stationary source” as that term is defined at Section 112(r)(2)(C) of the CAA, 42 U.S.C. § 7412(r)(2)(C).

29. The Facility is also a “facility” within the meaning of Section 329(4) of EPCRA, 42 U.S.C. § 11049(4), and 40 C.F.R. § 370.66.

30. At all times relevant to the violations alleged herein, Respondents were the “owner[s] or operator[s]” of the Facility, within the meaning of Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1), and Section 312 of EPCRA, 42 U.S.C. § 11022.

31. At all times relevant to the violations alleged herein, the Facility’s ammonia refrigeration system (“System”) used approximately 6,500 pounds of anhydrous ammonia.

Accordingly, Respondents “stored” and “handled” anhydrous ammonia, which, as indicated in paragraphs 10 and 11 above, is subject to the General Duty Clause.

32. Accordingly, at the time of the violations alleged herein, Respondents operated a stationary source that handled and stored anhydrous ammonia and thus were subject to the General Duty Clause found in Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1).

33. Likewise, at the time of the violations alleged in this Complaint, Respondents operated a facility at which a hazardous chemical was present in quantities that subjected Respondents to Section 312 of EPCRA, 42 U.S.C. § 11022.

34. Due to the dangers associated with anhydrous ammonia, the ammonia refrigeration industry has developed industry standards to control the risks associated with the use of ammonia, specified in Appendix A. These standards are consistently relied upon by refrigeration experts and are sometimes incorporated by reference into state building and mechanical codes.

35. On July 17, 2018, approximately 3,200 pounds of anhydrous ammonia were released from a cracked pump associated with a receiver in the Facility’s ammonia machinery room (the “Release”). The local fire department responded and was able to stop the Release by closing the shut-off valves to the pump during a hazardous materials entry.

36. On July 25, 2018, three duly authorized EPA inspectors and an Eastern Research Group, Inc. (“ERG”) contract inspector (collectively, the “EPA Inspectors”) conducted an inspection at the Facility (the “Inspection”) alongside an EPA On-Scene Coordinator and representatives of the New Bedford Fire Department and OSHA. The purposes of EPA’s Inspection were to investigate the Release and to determine whether Respondents were

complying with Section 112(r) of the CAA, EPCRA, and the Comprehensive Environmental Response, Compensation, and Liability Act's ("CERCLA") release notification procedures.

37. The EPA inspectors toured the Facility's perimeter, roof, ammonia machinery room ("AMR"), and warehouse freezer.

38. During the Inspection, EPA observed numerous potentially dangerous conditions, and additional potentially dangerous conditions were identified based on a review of documents provided by Respondents. These potentially dangerous conditions were explained (1) in EPA's out-brief meeting with Respondents at the conclusion of the Inspection; (2) in EPA's Inspection Report, which was provided to Respondents; (3) during a February 25, 2019 meeting between EPA and Respondents; and, for many of these conditions, (4) in an administrative compliance order issued to Respondents on September 11, 2019.

39. The potentially dangerous conditions identified by EPA are listed in the chart attached to and made a part of this CAFO as Appendix A. Appendix A also explains how each of the conditions could lead to a release or inhibit the Facility's ability to minimize the consequences of any release that might occur and examples of recognized industry standards of care that feasibly could reduce or eliminate the hazard.

40. On September 11, 2019, EPA issued an administrative order on consent to Respondents to require compliance with the General Duty Clause.

#### **IV. VIOLATIONS**

##### **CAA VIOLATIONS**

##### **COUNT I – FAILURE TO DESIGN AND MAINTAIN A SAFE FACILITY**

41. The allegations in paragraphs 1 through 40 are hereby realleged and incorporated herein by reference.

42. Pursuant to the General Duty Clause, Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1), owners and operators of stationary sources producing, processing, handling, or storing extremely hazardous substances have a general duty, in the same manner and to the same extent as Section 654 of Title 29, to, among other things, design and maintain a safe facility, taking such steps as are necessary to prevent releases.

43. The recommended industry practice and standard of care for designing and maintaining a safe facility so as to prevent releases of extremely hazardous substances is to base design considerations upon applicable design codes, federal and state regulations, and industry guidelines to prevent releases or minimize their impacts as well as to develop and implement standard operating procedures, maintenance programs, personnel training programs, management of change practices, incident investigation procedures, self-audits, and preventative maintenance programs. EPA's *Guidance for Implementation of the General Duty Clause: Clean Air Act Section 112(r)(1)* (May 2000) ("EPA's GDC Guidance") explains broad categories of measures appropriate for preventing releases of extremely hazardous substances, and the International Institute of Ammonia Refrigeration and others have developed more specific standards and guidelines for preventing releases of ammonia, set out in Appendix A.

44. The instances in which EPA alleges that Respondents failed in their general duty to design and maintain the Facility in a safe manner, taking such steps as are necessary to prevent a release of an extremely hazardous substance, are listed under Conditions 1-10, 15, 19, and 21-22 of Appendix A, which is incorporated by reference into this CAFO. They include, for example, the failure to provide impact protection and adequate supports for piping and equipment, to address areas of breached insulation and corrosion, and to replace expired pressure relief valves.

45. Examples of industry standards associated with each instance in which Respondents failed in their general duty to design and maintain a safe facility (identified in Appendix A) demonstrate that the hazard is recognized by the ammonia refrigeration industry and that the industry has identified a feasible means by which Respondents could have eliminated or reduced the hazard. Further, Appendix A identifies, for each condition, how the failure to address the hazard could lead to or exacerbate a release of anhydrous ammonia and cause harm.

46. Accordingly, from at least March 1, 2017 through December 31, 2019, EPA alleges that Respondents failed to design and maintain a safe facility, taking such steps as were necessary to prevent a release of an extremely hazardous substance, in violation of the General Duty Clause, Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1).

**COUNT II – FAILURE TO MINIMIZE THE CONSEQUENCES  
OF ACCIDENTAL RELEASES THAT MIGHT OCCUR**

47. The allegations in paragraphs 1 through 46 are hereby realleged and incorporated herein by reference.

48. Pursuant to the General Duty Clause, Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1), owners and operators of stationary sources producing, processing, handling, or storing extremely hazardous substances (including anhydrous ammonia) have a general duty, in the same manner and to the same extent as Section 654 of Title 29, to, among other things, minimize the consequences of any accidental releases that do occur.

49. Industry standards and guidelines for minimizing the consequence of an accidental release from ammonia refrigeration systems are found, among other places, in the industry standards referenced in Appendix A. They include emergency planning and

preparedness measures, as well as design and maintenance measures to minimize the severity and duration of releases that do occur.

50. The instances in which EPA alleges that Respondents failed in their general duty to minimize the consequences of a release should one occur are listed under Conditions 1, 6, 8, and 10-22 of Appendix A, which is incorporated by reference into this CAFO. They include, for example, the failure to provide adequate ventilation, adequate signage/labeling, audible/visual alarms, panic hardware on doors, and eyewash/safety shower units inside the machinery room.

51. Examples of industry standards associated with each instance in which Respondents failed in their general duty to minimize the consequences of a release (identified in Appendix A) demonstrate that the hazard is recognized by the ammonia refrigeration industry and that the industry has identified a standard means by which Respondents could have eliminated or reduced the hazard. Further, Appendix A identifies, for each condition, how the failure to address the hazard could lead to or exacerbate a release of anhydrous ammonia and cause harm.

52. Accordingly, from at least March 1, 2017 through December 31, 2019, EPA alleges that Respondents failed to minimize the consequences of an accidental release of an extremely hazardous substance should one occur, in violation of the General Duty Clause, Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1).

### EPCRA VIOLATIONS

#### **COUNT III – FAILURE TO SUBMIT TIER 2 CHEMICAL INVENTORY FORM**

53. The allegations in paragraphs 1 through 52 are hereby realleged and incorporated by reference herein.

54. At all times relevant to the violations alleged herein, Respondents were owners or operators of a facility required by OSHA to prepare or have available onsite an SDS for anhydrous ammonia, an extremely hazardous substance as defined in 40 C.F.R. § 370.66.

55. In calendar year 2017, the Facility stored over the EPCRA reportable quantity of 100 pounds and the threshold planning quantity of 500 pounds of ammonia, as listed in 40 C.F.R. Part 355, Appendix A, thereby exceeding the minimum threshold level (“MTL”) for Tier 2 reporting established in 40 C.F.R. § 370.10(a)(1).

56. Under 40 C.F.R. §§ 370.20, 370.40, 370.44, and 370.45, Respondents were required to prepare and submit an emergency and hazardous chemical inventory (Tier 2) form to the SERC, LEPC, and the local fire department with jurisdiction over the Facility in order to report the data required by Section 312(d) of EPCRA, 42 U.S.C. § 11022(d), for calendar year 2017, on or before March 1, 2018.

57. At the time of the Inspection, Respondents had not submitted a Tier 2 chemical inventory form for anhydrous ammonia for calendar year 2017 to the appropriate SERC, LEPC, and the local fire department with jurisdiction over the Facility.

58. Respondents submitted a Tier 2 chemical inventory form for the Facility for calendar year 2017 on August 16, 2018, after EPA’s Inspection.

59. Pursuant to EPCRA Section 325(c)(3), 42 U.S.C. § 11045(c)(3), each day that Respondents failed to timely submit a Tier 2 chemical inventory form for anhydrous ammonia to the appropriate LEPC, SERC, and fire department constitutes a separate violation of Section 312 of EPCRA, 42 U.S.C. § 11022.

60. Accordingly, by failing to timely submit the required Tier 2 chemical inventory form for reporting year 2017 from March 1, 2018 through August 16, 2018, Respondents

violated Section 312 of EPCRA, 42 U.S.C. § 11022, and 40 C.F.R. §§ 370.20, 370.40, 370.44, and 370.45.

## V. TERMS OF SETTLEMENT

61. For the purpose of this proceeding, as required by 40 C.F.R. § 22.18(b)(2), Respondents:

- a. Admit that EPA has jurisdiction over the subject matter alleged in this CAFO;
- b. Neither admit nor deny the specific factual allegations contained in this CAFO;
- c. Consent to the assessment of a civil penalty as stated below;
- d. Consent to the issuance of any specified compliance or corrective action order;
- e. Consent to the conditions specified in this CAFO;
- f. Consent to any stated Permit Action;
- g. Waive any right to contest the alleged violations of law set forth in Section IV of this CAFO; and
- h. Waive their right to appeal the Final Order accompanying this Consent Agreement.

62. For the purpose of this proceeding, Respondents also:

- a. Agree that this CAFO states a claim upon which relief can be granted against Respondents;

- b. Acknowledge that this CAFO constitutes an enforcement action for purposes of considering Respondents' compliance history in any subsequent enforcement actions;
- c. Waive any and all remedies, claims for relief, and otherwise available rights to judicial or administrative review that Respondents may have with respect to any issue of fact or law set forth in this CAFO, including any right of judicial review under Section 307(b)(1) of the Clean Air Act, 42 U.S.C. § 7607(b)(1);
- d. Consent to personal jurisdiction in any action to enforce this Consent Agreement or Final Order, or both, in the United States District Court for the District of Massachusetts; and
- e. Waive any rights they may possess at law or in equity to challenge the authority of the EPA to bring a civil action in a United States District Court to compel compliance with the Consent Agreement or Final Order, or both, and to seek an additional penalty for such noncompliance, and agree that federal law shall govern in any such civil action.

63. Each Respondent certifies to the best of its knowledge based upon reasonable belief that they have corrected the violations alleged in this CAFO and are currently operating the Facility in compliance with the requirements of the General Duty Clause and EPCRA Section 312. Such compliance includes compliance with the key safety measures for ammonia refrigeration systems posted by EPA at <https://www.epa.gov/sites/default/files/2018-05/documents/listofkeymeasurements.pdf>.

64. Pursuant to Sections 113(a)(3)(A), (d)(2)(B) and (e) of the CAA, 42 U.S.C. § 7413(a)(3)(A), (d)(2)(B) and (e), and Section 325(c) of EPCRA, 42 U.S.C. § 11045(c), and taking into account the relevant statutory penalty criteria, the applicable penalty policies, and Respondents' cooperation in agreeing to perform the non-penalty obligations in this CAFO, EPA has determined that it is fair and proper to assess a civil penalty of \$46,775 for the violations alleged in this matter. Respondents consent to the issuance of this CAFO and consent for purposes of settlement to:

- a. pay the penalty cited in paragraph 65 below; and
- b. perform the Supplemental Environmental Projects ("SEPs") described in paragraphs 71 – 90 below.

#### **Penalty Payment**

65. Respondents agree to:

- a. Pay the civil penalty of \$46,775 ("EPA Penalty") within 30 calendar days of the Effective Date of the CAFO;
- b. Pay the EPA Penalty using any of method, or combination of methods, provided on the website <http://www.epa.gov/financial/additional-instructions-making-payments-epa>, and identifying every payment with "*In re Maritime International, Inc. and Bridge Terminal, Inc.*, Docket Nos. CAA-01-2023-0005, EPCRA-01-2023-0006"; and
- c. Within 24 hours of payment of the EPA Penalty, send proof of payment to the Regional Hearing Clerk and Laura J. Berry by e-mail at the following email addresses. "Proof of payment" means, as applicable, a copy of the check, confirmation of credit card or debit card payment, confirmation of wire or automated clearinghouse transfer, and any other information required to demonstrate that payment has been made according to the EPA

requirements, in the amount due, and identified with “*In re Maritime International, Inc. and Bridge Terminal, Inc.*, Docket Nos. CAA-01-2023-0005, EPCRA-01-2023-0006”:

Laura J. Berry  
Enforcement Counsel  
U.S. Environmental Protection Agency, Region 1  
Berry.LauraJ@epa.gov

Wanda I. Santiago  
Regional Hearing Clerk  
U.S. Environmental Protection Agency, Region 1  
Santiago.Wanda@epa.gov  
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66. If Respondents fail to make the payment required by paragraph 65 by the required due date, the total penalty amount of \$46,775, plus all accrued interest, shall become due immediately to the United States upon such failure. Interest shall continue to accrue on any unpaid amounts until the total amount due has been received by the United States. Respondents shall be liable for such amount regardless of whether EPA has notified Respondents of their failure to pay or make a demand for payment. All payments to the United States under this paragraph shall be via the methods described in paragraph 65.b.

67. Pursuant to 31 U.S.C. § 3717, EPA is entitled to assess interest and penalties on debts owed to the United States and a charge to cover the cost of processing and handling a delinquent claim.

68. In the event that any portion of the civil penalty amount relating to the alleged EPCRA violation (which shall be deemed to be 12 percent of the total due under paragraph 65, above) is not paid when due, the penalty shall be payable, plus accrued interest, without demand. Interest shall be payable at the rate of the United States Treasury tax and loan rate in accordance with 31 C.F.R. § 901.9(b)(2) and shall accrue from the original date on which the payment was

due to the date of payment. In addition, a penalty charge of six percent per year will be assessed on any portion of the debt which remains delinquent more than ninety (90) days after payment is due. However, should assessment of the penalty charge on the debt be required, it will be assessed as of the first day payment is due under 31 C.F.R. § 901.9(d). In any such collection action, the validity, amount, and appropriateness of the penalty shall not be subject to review.

69. In the event that any portion of the civil penalty amount relating to the alleged CAA violations (which shall be deemed to be 88 percent of the total due under paragraph 65, above) is not paid when due without demand, pursuant to Section 113(d)(5) of the CAA, Respondents will be subject to an action to compel payment, plus interest, enforcement expenses, and a nonpayment penalty. Interest will be assessed on the civil penalty if it is not paid when due. In that event, interest will accrue from the due date at the “underpayment rate” established pursuant to 26 U.S.C § 6621(a)(2). In the event that a penalty is not paid when due, an additional charge will be assessed to cover the United States’ enforcement expenses, including attorney’s fees and collection costs as provided in 42 U.S.C. § 7413(d). In addition, a quarterly nonpayment penalty will be assessed for each quarter during which the failure to pay the penalty persists. Such nonpayment penalty shall be 10 percent of the aggregate amount of Respondents’ outstanding civil penalties and nonpayment penalties hereunder accrued as of the beginning of such quarter. In any such collection action, the validity, amount, and appropriateness of the penalty shall not be subject to review.

#### **Non-Penalty Conditions**

70. As a condition of settlement, Respondents agree to conduct the SEPs described in paragraphs 71 – 90 below.

71. Respondents shall satisfactorily complete the SEPs described below and in the Scope of Work attached to this Agreement as Appendix B, which is incorporated herein by reference and which is enforceable under this Consent Agreement and Final Order. The Parties agree that the SEPs are consistent with applicable EPA policy and guidance, specifically EPA's *2015 Update to the 1998 Supplemental Environmental Projects Policy* (March 10, 2015) and are intended to secure significant environmental and public health protection and benefits by (a) helping prevent or mitigate the release of ammonia from, and improve chemical safety at, the Facility and Respondents' nearby sister facility located at 289 Macarthur Drive, New Bedford, Massachusetts (the "West Facility") (the "Safety Upgrades SEP"); and (b) enhancing the hazardous materials response capabilities of local emergency responders ("New Bedford Fire Department SEP"). The parties further agree that the SEPs have nexus to the violations alleged in this CAFO because (a) the SEPs advance the chemical safety and preparedness goals of CAA Section 112(r) and EPCRA; (b) the SEPs are not inconsistent with any provisions of these statutes; and (c) the SEPs relate to the violations alleged in this CAFO and are designed to reduce the overall risk to public health and/or the environment potentially affected by such violations by helping prevent ammonia releases and enhancing local responders' ability to respond to releases.

### **Safety Upgrades SEP**

72. Respondents shall make safety improvements at the Facility and the West Facility in accordance with the requirements and deadlines described in Appendix B. Respondents shall (a) install an Emergency Pressure Control System at the Facility, at an estimated cost of \$40,000; (b) install an Emergency Pressure Control System at the West Facility, at an estimated cost of \$40,000; and (c) install two (2) extra ammonia detectors in the ammonia machinery room at the

West Facility, including a 2% detector for high range detection, a second 0-250 parts per million (“ppm”) detector, and installation of an emergency shut down switch to the king solenoid valve, to supplement and enhance current detection safety systems, at an estimated cost of approximately \$30,000.

73. Respondents represent that, to the best of their knowledge after thorough review of the most current industry standards by Respondents or their agents, each part of the Safety Upgrades SEP described above and in Appendix B exceeds the applicable requirements of the most current industry standards.

74. Respondents estimate that the total cost of the Safety Upgrades SEP is anticipated to be approximately \$110,000. “Satisfactory completion” of the Safety Upgrades SEP shall mean: (a) installing Emergency Pressure Control Systems at the Bridge and West Facilities and installing two additional ammonia detectors at the West Facility according to the requirements, specifications, and deadlines described above and in Appendix B; (b) confirming that the installed equipment is functional and that Maritime personnel and contractors are trained to use it; and (c) spending approximately \$110,000 to carry out the Safety Upgrades SEP.

75. Respondents shall include documentation of the expenditures made in connection with the Safety Upgrades SEP as part of the SEP Completion Report described in paragraph 85 below. Cost overruns on one of the Safety Upgrades projects described in Appendix B may be offset by savings from one or more of the other Safety Upgrades projects that cost less than anticipated, as the case may be.

76. Within seven (7) days of completion of each separate Safety Upgrades project listed in Appendix B, Respondents shall send an electronic mail message to Len Wallace (Wallace.Len@epa.gov) and Laura J. Berry (Berry.LauraJ@epa.gov) to confirm that the new

equipment has been installed and is in operation. Upon completion of the Safety Upgrade projects, Respondents shall submit a SEP Completion Report for the Safety Upgrades SEP, as specified in paragraph 85 below.

### **New Bedford Fire Department SEP**

77. Respondents shall provide to the New Bedford Fire Department, which Respondents have selected to be the SEP Recipient, six (6) hand-held Multi Gas Meters (including sensors for ammonia, carbon monoxide, oxygen, hydrogen sulfide, lower explosive limit, and photoionization detection), a year's supply of calibration gases for the meters, and a three-year maintenance and service contract for the detectors, according to the requirements, specifications, and deadlines described in Appendix B. The purpose of this SEP is to enhance the chemical spill response capabilities, including those for an ammonia release, for local first responders. The New Bedford Fire Department SEP is expected to cost approximately \$42,000.

78. "Satisfactory completion" of the New Bedford Fire Department SEP shall mean: (a) providing the New Bedford Fire Department with emergency response meters and associated calibration gases, an associated three-year maintenance and service contract, and an ammonia emergency response training class according to the requirements, specifications, and deadlines described above and in Appendix B, (b) confirming that the purchased equipment is functional and that New Bedford Fire Department personnel are trained to use it; and (c) spending approximately \$42,000 to carry out the New Bedford Fire Department SEP.

79. Respondents shall include documentation of the expenditures made in connection with the New Bedford Fire Department SEP as part of the SEP Completion Report described in paragraph 85 below.

80. Within seven (7) days of completing the New Bedford Fire Department SEP described in Appendix B, Respondents shall send an electronic mail message to Len Wallace (Wallace.Len@epa.gov) and Laura J. Berry (Berry.LauraJ@epa.gov) to confirm that the new equipment or contract has been purchased and given or assigned to the New Bedford Fire Department. Upon completion of the New Bedford Fire Department SEP, Respondents shall submit a SEP Completion Report for the New Bedford Fire Department SEP, as specified in paragraph 85 below.

### **General SEP Provisions**

81. With regard to the Safety Upgrades SEP and the New Bedford Fire Department SEP, Respondents hereby certify the truth and accuracy of each of the following:

- a. that the SEPs were voluntarily proposed by Respondents;
- b. that all cost information provided to EPA in connection with EPA's approval of the SEPs is complete and accurate and that Respondents, in good faith, estimate that the cost to complete the Safety Upgrades SEP is approximately \$110,000, and the cost to complete the New Bedford Fire Department SEP is approximately \$42,000;
- c. that, as of the date of executing this CAFO, Respondents are not required to perform or develop the SEPs by any federal, state, or local law or regulation, and are not required to perform or develop the SEPs by agreement, grant, or as injunctive relief awarded in any other action in any forum;
- d. that the SEPs are not projects that Respondents were planning or intending to construct, perform, or implement other than in settlement of the claims

resolved in this CAFO and that any equipment being replaced or upgraded was otherwise intended to remain in use for at least ten years but for this settlement;

- e. that Respondents have not received and will not receive credit for the SEPs in any other enforcement action;
- f. that Respondents will not receive any reimbursement for any portion of the SEPs from any other person;
- g. that for federal income tax purposes, Respondents agree that they will neither capitalize into inventory or basis nor deduct any costs or expenditures incurred in performing the SEPs;
- h. that neither Respondent is a party to any open federal financial assistance transaction that is funding or could be used to fund the same activity as the SEPs; and
- i. that Respondents have inquired of the New Bedford Fire Department whether it is a party to an open federal financial assistance transaction that is funding or could fund the same activity as the SEP and have been informed by the New Bedford Fire Department that it is not a party to such a transaction.

82. For the purposes of this certification, the term “open federal financial assistance transaction” refers to a grant, cooperative agreement loan, federally-guaranteed loan guarantee, or other mechanism for providing federal financial assistance whose performance period has not yet expired.

83. Respondents agree that EPA may inspect the Facility or the West Facility at any time to confirm that the Safety Upgrades SEP was undertaken in conformity with the representations made herein.

84. Each Respondent hereby waives any confidentiality rights it has under 26 U.S.C. § 6103 with respect to SEP costs on its tax returns and on the information supporting its tax returns. This waiver of confidentiality is solely as to EPA and the Department of Justice and solely for the purpose of ensuring the accuracy of Respondents' SEP cost certification.

85. As described in paragraphs 76 and 80, above, Respondents shall submit SEP Completion Reports to EPA within thirty (30) days of completing each SEP. The SEP Completion Reports shall contain the following information:

- a. A detailed description of the SEP as implemented, including, for the Safety Upgrades SEP, photographs of the newly installed equipment; and for the New Bedford Fire Department SEP, a list of the equipment and maintenance contract purchased and/or provided to the New Bedford Fire Department;
- b. A description of any implementation problems encountered and the solutions thereto;
- c. Itemized costs, documented by copies of invoices, purchase orders, receipts, canceled checks, or wire transfer records that specifically identify and itemize the individual costs associated with each SEP. Where the SEP Completion Report includes costs not eligible for SEP credit, those costs must be clearly identified as such;
- d. Certification that each SEP has been fully completed;

- e. A description of the environmental and public health benefits resulting from the implementation of the SEP;
- f. A statement that no tax returns filed or to be filed by Respondents will contain deductions or depreciations for any expense associated with the SEPs; and
- g. The following statement, signed by an officer for each Respondent, under penalty of law, attesting that the information contained in the SEP Completion Report is true, accurate, and not misleading:

*I certify under penalty of law that I have examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.*

86. Respondents shall maintain, for a period of three (3) years from the date of submission of each SEP Completion Report, legible copies of all research, data, and other information upon which the Respondents relied to write the SEP Completion Reports, as well as a copy of each SEP Completion Report, and shall provide such documentation within fourteen (14) days of a request from EPA.

87. Respondents agree that failure to submit the SEP Completion Report shall be deemed a violation of this CAFO, and the Respondents shall become liable for stipulated penalties in accordance with paragraph 93 below.

88. After receipt of each SEP Completion Report described in paragraph 85 above, EPA will notify Respondents in writing: (i) indicating that the project has been completed satisfactorily; (ii) identifying any deficiencies in the SEP Completion Report itself and granting

Respondents an additional thirty (30) days to correct any deficiencies; or (iii) determining that the project has not been completed satisfactorily and seeking stipulated penalties in accordance with paragraph 93 below.

89. If EPA elects to exercise options (ii) or (iii) in paragraph 88 above, Respondents may object in writing to the notice of deficiency given pursuant to this paragraph within ten (10) days of receipt of such notice, except that this right to object shall not be available if EPA found that the project was not completed satisfactorily because Respondents failed to implement or abandoned the project. EPA and Respondents shall have an additional thirty (30) days from the receipt by EPA of Respondents' objection to reach agreement on changes necessary to the SEP or SEP Completion Report. If agreement cannot be reached on any such issue within this thirty (30) day period as may be extended by the written agreement of both EPA and Respondents, EPA shall provide a written statement of its decision on the adequacy of the completion of the SEP to Respondents, which decision shall be final and binding upon Respondents. Respondents agree to comply with any reasonable requirements imposed by EPA that are consistent with this CAFO as a result of any failure to comply with the terms of this CAFO. In the event that the SEP is not completed as contemplated herein, as determined by EPA, stipulated penalties shall be due and payable by Respondents in accordance with paragraph 93 below.

90. Respondents agree that any public statement, oral or written, in print, film, or other media, made by Respondents, their contractors, or third-party implementers referring to a SEP shall include the following language: "This project was undertaken in connection with the settlement of an enforcement action, *In the Matter of Maritime International, Inc. and Bridge Terminal, Inc.*, taken by the U.S. Environmental Protection Agency to enforce federal environmental laws."

91. **Notifications.**

- a. Submissions required by this Agreement shall be in writing and shall be sent to the following recipients by electronic mail:

Len Wallace  
Waste and Chemical Compliance Unit Inspector  
U.S. Environmental Protection Agency, Region 1  
Wallace.Len@epa.gov

and

Laura J. Berry  
Enforcement Counsel  
U.S. Environmental Protection Agency, Region 1  
Berry.LauraJ@epa.gov

- b. EPA will send all written communications to the following representative(s) for Respondents:

Joseph A. Farside, Jr., Esq.  
Krystle G. Tadesse, Esq.  
Locke Lord LLP  
joseph.farside@lockelord.com  
krystle.tadesse@lockelord.com

- c. All documents submitted to EPA in the course of implementing this Agreement shall be available to the public unless identified as confidential by Respondents pursuant to 40 C.F.R. Part 2 Subpart B and determined by EPA to merit treatment as confidential business information, in accordance with applicable law.

**Stipulated Penalties**

92. Respondents' failure to comply with each of the provisions in paragraphs 70 through 91 above shall become liable for stipulated penalties as set forth in paragraphs 93 through 96 below.

93. *SEPs*: In the event that Respondents fail to satisfactorily complete the SEPs as outlined above in paragraphs 71 through 90 and in Appendix B, Respondents shall be liable for stipulated penalties in accordance with the provisions set forth below. The determination of whether the SEP has been satisfactorily completed shall be in the sole discretion of EPA.

- a. If EPA determines that Respondents completely or substantially failed to implement the Safety Upgrades SEP in accordance with this Agreement, Respondents shall pay a stipulated penalty in the amount of 110% of the estimated cost for each such upgrade, as outlined in paragraph 1 of Appendix B;
- b. If EPA determines that Respondents completely or substantially failed to implement the New Bedford Fire Department SEP in accordance with this Agreement, Respondents shall pay a stipulated penalty in the amount of 110% of the estimated cost for each such project, as outlined in paragraph 2 of Appendix B; and
- c. After giving effect to any extensions of time granted by EPA, Respondents shall pay a stipulated penalty in the amount of \$200 for each day the following submissions are late: (a) each electronic mail message required by paragraphs 76 and 80; and (b) the SEP Completion Report required by paragraph 85 above.

94. Respondents shall pay stipulated penalties not more than fifteen (15) days after receipt of written demand by EPA for such penalties. The method of payment shall be in accordance with the provisions of paragraph 65 above. Interest and late charges shall be paid as stated in paragraph 95.

95. *Collection of Unpaid Stipulated Penalty for Failure to Perform Non-Penalty Conditions:* Pursuant to 31 U.S.C. § 3717, EPA is entitled to assess interest and penalties on debts owed to the United States and a charge to cover the cost of processing and handling a delinquent claim. In the event that Respondents fail to timely pay any portion of the stipulated penalty relating to the performance of the Non-Penalty Conditions, the penalty shall be payable, plus accrued interest, without demand. Interest shall be payable at the rate of the United States Treasury tax and loan rate in accordance with 31 C.F.R. § 901.9(b)(2) and shall accrue from the original date on which the penalty was due to the date of payment. In addition, a penalty charge of six percent per year will be assessed on any portion of the debt which remains delinquent more than ninety (90) days after payment is due. Should assessment of the penalty charge on the debt be required, it will be assessed as of the first day payment is due under 31 C.F.R. § 901.9(d). In any such collection action, the validity, amount, and appropriateness of the penalty shall not be subject to review.

96. EPA may, in the unreviewable exercise of its discretion, reduce or waive stipulated penalties otherwise due under this Consent Agreement and Final Order.

97. The terms, conditions, and compliance requirements of this CAFO may not be modified or amended except upon the written agreement of all parties and approval of the Regional Judicial Officer, except that the Regional Judicial Officer need not approve written agreements between the parties modifying the SEP schedules described in Appendix B. The Chief of EPA Region 1's Waste and Chemical Compliance Section shall have the authority to extend the deadlines in Appendix B for good cause.

98. The provisions of this Agreement shall apply to and be binding upon Respondents and their officers, directors, employees, agents, trustees, servants, authorized representatives, successors, and assigns.

99. By signing this CAFO, Respondents acknowledge that this CAFO will be available to the public and agree that this CAFO does not contain any confidential business information or personally identifiable information.

100. By signing this CAFO, the undersigned representative of Complainant and the undersigned representative(s) of Respondents each certify that he or she is fully authorized to execute and enter into the terms and conditions of this CAFO and has the legal capacity to bind the party he or she represents.

101. By signing this CAFO, both parties agree that each party's obligations under this CAFO and EPA's compromise of statutory maximum penalties constitute sufficient consideration for the other party's obligations.

102. By signing this CAFO, Respondents certify that the information they have supplied concerning this matter was at the time of submission true, accurate, and complete for each such submission, response, and statement. Respondents acknowledge that there are significant penalties for submitting false or misleading information, including the possibility of fines and imprisonment for knowing submission of such information, under 18 U.S.C. § 1001.

103. Complainant and Respondents, by entering into this CAFO, each consent to accept digital signatures hereupon. Respondents further consent to accept electronic service of the fully executed CAFO, by e-mail, at [joseph.farside@lockelord.com](mailto:joseph.farside@lockelord.com) and [krystle.tadesse@lockelord.com](mailto:krystle.tadesse@lockelord.com). Respondents understand that these e-mail addresses may be

made public when the CAFO and Certificate of Service are filed and uploaded to a searchable database.

**VI. EFFECT OF CONSENT AGREEMENT AND ATTACHED FINAL ORDER**

104. In accordance with 40 C.F.R. § 22.18(c), completion of the terms of this CAFO resolves only Respondents' liability for federal civil penalties for the violations specifically alleged above.

105. This CAFO constitutes a settlement by EPA of all claims for civil penalties pursuant to Section 113(d) of the CAA and Section 325(c) of EPCRA for the violations alleged herein. Compliance with this CAFO shall not be a defense to any other actions subsequently commenced pursuant to federal laws and regulations administered by EPA for matters not addressed in this CAFO, and it is the responsibility of Respondents to comply with all applicable provisions of federal, state, or local law.

106. The civil penalty provided under this CAFO, and any interest, nonpayment penalties, and charges described in this CAFO, shall represent penalties assessed by EPA within the meaning of 26 U.S.C. § 162(f) and are not tax deductible for purposes of federal, state or local law. Accordingly, Respondents agree to treat all payments made pursuant to this CAFO as penalties within the meaning of 26 C.F.R. § 1.162-21, and further agrees not to use these payments in any way as, or in furtherance of, a tax deduction under federal, state, or local law.

107. This CAFO constitutes the entire agreement and understanding of the parties and supersedes any prior agreements or understandings, whether written or oral, among the parties with respect to the subject matter hereof.

108. Nothing in this CAFO shall relieve Respondents of the duty to comply with all applicable provisions of the Act and other federal, state, or local laws or statutes, nor shall it

restrict the EPA's authority to seek compliance with any applicable laws or regulations, or be construed to be a ruling on, or determination of, any issue related to any federal, state, or local permit.

109. EPA reserves the right to revoke this CAFO and settlement penalty if and to the extent that EPA finds, after signing this CAFO, that any information provided by Respondents was materially false or inaccurate at the time such information was provided to EPA, and EPA reserves the right to assess and collect any and all civil penalties for any violation described herein. EPA shall give Respondents notice of its intent to revoke, which shall not be effective until received by Respondents in writing.

110. This CAFO in no way relieves Respondents or their employees of any criminal liability, and EPA reserves all its other criminal and civil enforcement authorities, including the authority to seek injunctive relief and the authority to undertake any action against Respondents in response to conditions which may present an imminent and substantial endangerment to the public health, welfare, or the environment.

111. Except as qualified by paragraphs 68-69 and 95 (overdue penalty and stipulated penalty collection), each party shall bear its own costs and fees in this proceeding including attorney's fees. Respondents specifically waive any right to recover such costs from EPA pursuant to the Equal Access to Justice Act, 5 U.S.C. § 504, or other applicable laws.

## **VII. EFFECTIVE DATE**

112. Respondents and Complainant agree to issuance of the attached Final Order. Upon filing, EPA will electronically transmit a copy of the filed CAFO to Respondents. This CAFO shall become effective after execution of the Final Order by the Regional Judicial Officer, on the date of filing with the Regional Hearing Clerk.

The foregoing Consent Agreement, *In the Matter of Maritime International, Inc. and Bridge Terminal, Inc.*, Docket Nos. CAA-01-2023-0005, EPCRA-01-2023-0006, is hereby stipulated, agreed, and approved for entry.

FOR U.S. ENVIRONMENTAL PROTECTION AGENCY:

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James Chow, Deputy Director for Karen McGuire, Director  
Enforcement and Compliance Assurance Division  
U.S. Environmental Protection Agency, Region 1

The foregoing Consent Agreement, *In the Matter of Maritime International, Inc. and Bridge Terminal, Inc.*, Docket Nos. CAA-01-2023-0005, EPCRA-01-2023-0006, is hereby stipulated, agreed, and approved for entry.

FOR RESPONDENTS:

David Wechsler,  
David Wechsler, President  
Maritime International, Inc. Pres.

Date: 28 November 2022

David Wechsler, Pres.  
David Wechsler, President  
Bridge Terminal, Inc.

Date: 28 November 2022

**FINAL ORDER**

Pursuant to 40 C.F.R. §§ 22.18(b) and (c) of EPA’s Consolidated Rules of Practice; Sections 113(d)(1) and (d)(2)(B) of the Clean Air Act, 42 U.S.C. §§ 7413(d)(1) and (d)(2)(B); and Section 325(c) of EPCRA, 42 U.S.C. § 11045(c), the foregoing Consent Agreement resolving this matter is incorporated by reference into this Final Order and is hereby ratified. Respondents are ordered to pay the civil penalty amount specified in the Consent Agreement, in the manner indicated. The terms of the Consent Agreement will become effective on the date it is filed with the Regional Hearing Clerk.

Date: \_\_\_\_\_

\_\_\_\_\_  
LeAnn Jensen  
Regional Judicial Officer  
U.S. Environmental Protection Agency, Region 1

## Appendix A

### **Recognized and Generally Accepted Good Engineering Practices**

In collaboration with the American National Standards Institute, the International Institute of Ammonia Refrigeration (“IIAR”) has issued and updates, among others, Standard 2: *Standard for Safe Design of Closed-Circuit Ammonia Refrigeration Systems (“ANSI/IIAR 2”)* (e.g., 2014 version, with Addendum A published in July 2019); Standard 4: *Installation of Closed-Circuit Ammonia Mechanical Refrigeration Systems (“ANSI/IIAR 4”)*, Standard 5: *Start-up and Commissioning of Closed Circuit Ammonia Refrigeration Systems* (2013 with subsequent edition published on 9/9/2019) (“ANSI/IIAR 5”); Standard 6: *Standard for Testing, Inspection, and Maintenance of Closed-Circuit Ammonia Refrigeration Systems (“ANSI/IIAR 6”)*, Standard 7: *Developing Operating Procedures for Closed-Circuit Ammonia Mechanical Refrigerating Systems (“ANSI/IIAR 7”)*, and Standard 9: *Standard for Minimum System Safety Requirements for Existing Closed-Circuit Ammonia Refrigeration Systems (“ANSI/IIAR 9”)*, *inter alia*, along with other applicable standards and guidance. Bulletins and guidance include, without limitation, IIAR Bulletin No. 109, *Guidelines for IIAR Minimum Safety Criteria for a Safe Ammonia Refrigeration System* (1997, and in effect until 2019 when ANSI/IIAR 6 replaced it) (“IIAR Bull. 109”); IIAR Bulletin No. 110, *Guidelines for Start-Up, Inspection, and Maintenance of Ammonia Mechanical Refrigerating Systems* (1993, most recently updated in 2007, and in effect until 2019 when ANSI/IIAR 6 replaced it) (“IIAR Bull. 110”); IIAR Bulletin No. 114, *Guidelines for Identification of Ammonia Refrigeration Piping and Components* (1991, most recently updated in 2018) (“IIAR Bull. 114”); IIAR Bulletin No. 116, *Guidelines for Avoiding Component Failure in Industrial Refrigeration Systems Caused by Abnormal Pressure or Shock* (1992) (“IIAR Bull. 116”); and the Ammonia Refrigeration Management Program (2005, most recently updated in 2019) (“IIAR ARM Program”), which is intended to provide streamlined guidance to systems that have less than 10,000 pounds of ammonia. Also in collaboration with the American National Standards Institute, the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (“ASHRAE”) has issued (and updates) “Standard 15: Safety Standard for Refrigeration Systems.” These standards are consistently relied upon by refrigeration experts and are often incorporated into state building and mechanical codes.

The chart cites to the standards of care that were in effect in 2018, when the inspection occurred. The chart also includes citations to ANSI/IIAR 9-2020, which was approved by ANSI for publication on March 3, 2020, *after* EPA’s inspection. ANSI/IIAR 9-2020 is cited for informational purposes, as it contains IIAR’s latest pronouncement on bare minimum safety standards for ammonia refrigeration systems, regardless of size or age.

Alleged Hazards/Dangerous Condition	GDC Violation	How Condition Could Lead to or Exacerbate the Consequences of a Release, Causing Harm	Examples of Industry Standards of Care, Showing that (1) Hazard is Recognized by Owner/Operator's Industry, and (2) There are Way(s) to Eliminate or Reduce the Hazard
<p><u>Condition 1</u></p> <p>A significant amount of ammonia piping throughout the Facility (including piping near the condenser, on the roof, in the ammonia machinery room, and in the warehouse freezer) was not labeled to indicate the contents, direction of flow, physical state (<i>i.e.</i>, liquid or vapor), and pressure level (<i>i.e.</i>, high or low). In addition, the intercooler was not labeled.</p>	<p>Failure to design and maintain a safe facility taking such steps as are necessary to prevent releases.</p> <p>Failure to minimize the consequences of releases which do occur.</p>	<p>Makes it more difficult to properly maintain system, increases chance of accidental release of ammonia, and could frustrate efforts to respond quickly in the event of a release.</p>	<p>The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to label all piping with the identity, physical state, and relative pressure of the contents, as well as direction of flow, and to provide all refrigeration machinery with labels indicating the equipment's name/function. <i>See, e.g.</i>, ANSI/IIAR 2-2014 §§ 5.14.2 (machinery shall be provided with labels), 5.14.5 (piping shall be labeled with the identity, physical state, and relative pressure of the contents, along with the pipe service and direction of flow), and 6.6.3 (piping shall be marked as required by Section 5.14.5); IIAR Bull. 114 § 4.1 (piping markers shall be designed to identify the refrigerant, the physical state of the refrigerant, the relative pressure level of the refrigerant and the direction of flow); ANSI/ASME 13.1-2007 (specifying conventions for labeling piping); ANSI/IIAR 9-2020 §§ 7.2.9.2 (refrigeration equipment shall be provided with labels indicating the equipment's name or identifier), 7.2.9.4 (piping shall be labeled with the identity, physical state, and relative pressure of the contents, along with the pipe service and direction of flow).</p>
<p><u>Condition 2</u></p> <p>A section of piping exiting the condenser on the roof was not properly supported and was vibrating.</p>	<p>Failure to design and maintain a safe facility taking such steps as are necessary to prevent releases.</p>	<p>Adequate supports can minimize or prevent detrimental vibration that might make the piping fail and release ammonia.</p>	<p>The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to provide supports and sway bracing to prevent excessive vibration or movement of piping. <i>See, e.g.</i>, ANSI/IIAR 2-2014 §§ 5.11.5 (supports and foundations shall be designed to prevent excessive vibration or movement of piping, tubing, and equipment), 13.4.2; ANSI/IIAR 9-2020 §§ 7.2.7.1 (piping, tubing, and equipment shall be supported to prevent excessive vibration and movement), 7.3.2.2 (piping supports shall carry the weight of the piping system including contents and insulation; if necessary, provide sway bracing to minimize vibration).</p>

Alleged Hazards/Dangerous Condition	GDC Violation	How Condition Could Lead to or Exacerbate the Consequences of a Release, Causing Harm	Examples of Industry Standards of Care, Showing that (1) Hazard is Recognized by Owner/Operator’s Industry, and (2) There are Way(s) to Eliminate or Reduce the Hazard
<p><u>Condition 3</u></p> <p>Bump protection was not provided for the piping and sight glass associated with the high-pressure receiver nor for evaporators and piping in the freezers.</p>	<p>Failure to design and maintain a safe facility taking such steps as are necessary to prevent releases.</p>	<p>Risks ammonia release from accidental damage to system components.</p>	<p>The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to install guarding or barricading to prevent ammonia piping and equipment from being subject to physical impact. <i>See, e.g.</i>, ANSI/IIAR 2-2014, §§ 5.17.1 (Guarding or barricading shall be provided for ammonia-containing equipment installed in a location subject to physical damage.), 7.2.4 (Equipment shall be protected where a risk of physical damage exists.), 13.4.2 (Refrigerant piping shall be isolated and supported to prevent damage from vibration, stress, corrosion, and physical impact.), 16.2.2 (visual liquid level indicators . . . shall be designed and specified for installation in a manner that provides protection from physical damage), 16.2.3 (linear liquid level indicators shall be provided with protection against accidental breakage of the glass tube from any direction for the entire length of the tube); ANSI/IIAR 4-2015, § 5.4.7 (All components and piping shall be installed in such a manner that they are protected from physical and environmental damage); IIAR ARM Program, Attachment 3A: Generic What-If/Checklist Worksheets, Items 4.17 (if an object or vehicle impacts and ruptures small bore piping on a pressure vessel, it could result in a release) and 6.10 (piping impacted by outside forces could result in a release); ANSI/IIAR 9-2020, §§ 7.2.12.1 (Where ammonia-containing equipment is installed in a location subject to physical damage, guarding or barricading shall be provided.), 7.4.7.5 (2-3) ( visual liquid level indicators . . . shall be specified for installation in a manner that provides protection from physical damage; linear liquid level indicators shall be provided with protection against accidental breakage of the glass tube for the entire length of the tube).</p>

Alleged Hazards/Dangerous Condition	GDC Violation	How Condition Could Lead to or Exacerbate the Consequences of a Release, Causing Harm	Examples of Industry Standards of Care, Showing that (1) Hazard is Recognized by Owner/Operator's Industry, and (2) There are Way(s) to Eliminate or Reduce the Hazard
<p><u>Condition 4</u></p> <p>Wooden supports for the low temperature receiver were compromised.</p>	<p>Failure to design and maintain a safe facility taking such steps as are necessary to prevent releases.</p>	<p>Adequate equipment supports can prevent detrimental vibration or movement that might make the equipment fail and release ammonia.</p>	<p>The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to provide adequate supports to prevent excessive vibration or movement of equipment. <i>See, e.g.</i>, ANSI/IIAR 2-2014 §§ 5.11.4 (Supports and foundations shall meet or exceed the manufacturers' recommendations and shall be designed to carry expected loads.), 5.11.5 (Supports and foundations shall be designed to prevent excessive vibration or movement of piping, tubing, and equipment.), 6.2.3 (Foundations, floor slabs, and supports for compressor units and other equipment located within the machinery room shall be of noncombustible construction and capable of supporting the expected static and dynamic loads imposed by such units, including seismic loads.); ANSI/IIAR 9-2020 §§ 7.2.7.1 (Piping, tubing, and equipment shall be supported to prevent excessive vibration and movement.), 7.3.2.3 (Supports and foundations shall be adequate to prevent movement of the equipment.).</p>

<p><u>Condition 5</u></p> <p>There are several sections of damaged or missing insulation and/or vapor barrier present throughout the machinery room, including on the low temperature receiver and nearby piping and valves, as well as other sections of piping in the machinery room.</p>	<p>Failure to design and maintain a safe facility taking such steps as are necessary to prevent releases.</p>	<p>Vapor barriers protect pipes and vessels from moisture, which causes corrosion. Breached insulation can hold moisture against the external pipe surface, furthering corrosion. Corroded pipes and vessels can break or succumb to pressure, causing an ammonia release.</p>	<p>The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to regularly inspect the condition of insulation and vapor barrier on piping, valves, and equipment, remove any sections of insulation or vapor barrier that are in poor condition, and replace the vapor barrier and insulation after any underlying corrosion has been addressed. <i>See, e.g.</i>, ANSI/IIAR 2-2014 § 5.10.1 (piping and equipment surfaces not intended for heat exchange shall be insulated, treated, or otherwise protected to mitigate condensation and excessive frost buildup); ANSI/IIAR 4-2015 § 12.1 (Refrigeration piping or components, whose surface temperature is expected to be at or below the dew point temperature at any time, shall be insulated and conditioned to prevent or mitigate condensation.); ANSI/IIAR 6-2019 §§ 10.1.2 (For insulated pressure vessels, where insulation is removed, partly or completely, for visual inspection or remaining wall thickness measurement(s), a protective coating shall be applied to the exposed metal surface and the insulation shall be replaced in accordance with the manufacturer’s installation instructions after arresting any identified exposed pressure vessel metal corrosion), 11.1.2 (For insulated piping, where insulation is removed, partly or completely, for visual inspection or remaining wall thickness measurement(s), a protective coating shall be applied to the exposed metal surface and insulation shall be replaced in accordance with the manufacturer’s installation instructions after arresting any identified exposed piping metal surface corrosion), Table 10.1 (pressure vessels), Inspection items (d) and (j) and Testing item (c) (calling for regular inspection of insulation and vapor barrier, and testing underneath areas of observed degraded insulation), Table 11.1 (piping), Inspection items (b) and (j) and Testing item (c) (same), and Table 11.1.6 (valves), Inspection items (b) and (f) and Testing item (b) (same); ANSI/IIAR 9-2020 § 7.2.6.1 (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.); IIAR Bull. 110 §§ 3.5 (Insulation where the vapor seal is defective or incomplete will not prevent condensation and may enhance corrosion), 6.7.2 (Any mechanical damage to insulation on piping should be repaired immediately and the vapor seal reinstated to prevent access of water or water vapor which will lead to breakdown of insulation and corrosion of the pipework. At least as part of the annual piping inspection, but preferably more frequently, the external condition of the insulation and supports shall be inspected. Condensation and frosting on the surface of insulated finishes indicates a deterioration or breakdown of the insulation or vapor barrier. Sections of insulation which are obviously in poor condition shall be removed and the</p>
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Alleged Hazards/Dangerous Condition	GDC Violation	How Condition Could Lead to or Exacerbate the Consequences of a Release, Causing Harm	Examples of Industry Standards of Care, Showing that (1) Hazard is Recognized by Owner/Operator's Industry, and (2) There are Way(s) to Eliminate or Reduce the Hazard
			integrity of the exposed piping determined with the aid of non-destructive testing techniques, as appropriate. Piping shall be replaced as necessary, and protective coatings, insulation, and vapor seal reapplied.), 6.4.2.1 (insulation applied to pressure vessels and heat exchangers should be regularly checked by operators for deterioration, and any deterioration found should be recorded and repairs arranged), 6.4.3.1 (Where a section of insulation is materially damaged, it should be repaired or replaced. Underlying areas affected by surface corrosion should be cleaned off, inspected, and appropriately treated before reinstatement of the protective finish, insulation, and vapor barrier.).
<p><u>Condition 6</u></p> <p>Flammable and combustible materials were stored in the ammonia machinery room.</p>	<p>Failure to design and maintain a safe facility taking such steps as are necessary to prevent releases.</p> <p>Failure to minimize the consequences of releases which do occur.</p>	<p>Exacerbates risk of fire or explosion. Ammonia is flammable at certain concentrations.</p>	<p>The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to ensure that combustible materials are not stored in an ammonia machinery room unless in fire-rated storage containers. <i>See, e.g.</i>, ANSI/IIAR 2-2014 § 6.4 (Combustible materials shall not be stored in machinery rooms outside of approved fire-rated storage containers.); ANSI/IIAR 9-2020 § 7.3.4 (same).</p>

Alleged Hazards/Dangerous Condition	GDC Violation	How Condition Could Lead to or Exacerbate the Consequences of a Release, Causing Harm	Examples of Industry Standards of Care, Showing that (1) Hazard is Recognized by Owner/Operator’s Industry, and (2) There are Way(s) to Eliminate or Reduce the Hazard
<p><u>Condition 7</u></p> <p>Surface corrosion was observed on ammonia piping where insulation had been removed and not replaced and on piping associated with the low temperature receiver.</p>	<p>Failure to design and maintain a safe facility taking such steps as are necessary to prevent releases.</p>	<p>Corrosion can weaken piping to the point where it fails, causing a release.</p>	<p>The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to clean down and paint piping showing signs of surface corrosion, and, after doing so, to immediately replace insulation removed from insulated piping. <i>See, e.g.</i>, ANSI/IIAR 2-2014 § 5.10.1 (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); ANSI/IIAR 9-2020 §§ 5.1 (All equipment and system components shall be inspected, tested, and maintained in accordance with ANSI/IIAR 6 (2019).), 7.2.6.1 (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); IIAR 6-2019 § 11.1.2 (For insulated piping, where insulation is removed, partly or completely, for visual inspection or remaining wall thickness measurement(s), a protective coating shall be applied to the exposed metal surface and insulation shall be replaced in accordance with the manufacturer’s installation instructions after arresting any identified exposed piping metal surface corrosion.); IIAR Bull. 109 §§ 4.7.4 (Uninsulated refrigerant piping should be examined for signs of corrosion. If corrosion exists, the pipe should be cleaned down to bare metal and painted with a rust preventive paint. Badly corroded pipe should be replaced.), 4.7.5 (Insulated piping showing signs of vapor barrier failure should have the insulation removed and the pipe inspected. The pipe should then be treated in accordance with Section 4.7.3, above.), and 7 (inspection checklists include corrosion and insulation monitoring questions for piping); IIAR Bull. 110 § 6.7.2 (Any mechanical damage to insulation should be repaired immediately and the vapor seal reinstated to prevent access of water or water vapor which will lead to breakdown of insulation and corrosion of the pipework. At least as part of the annual piping inspection, but preferably more frequently, the external condition of the insulation and supports shall be inspected. . . ).</p>

Alleged Hazards/Dangerous Condition	GDC Violation	How Condition Could Lead to or Exacerbate the Consequences of a Release, Causing Harm	Examples of Industry Standards of Care, Showing that (1) Hazard is Recognized by Owner/Operator’s Industry, and (2) There are Way(s) to Eliminate or Reduce the Hazard
<p><u>Condition 8</u></p> <p>At the time of inspection, six pressure relief valves (“PRVs”) had been in service for more than five years.</p>	<p>Failure to design and maintain a safe facility taking such steps as are necessary to prevent releases.</p> <p>Failure to minimize the consequences of releases which do occur.</p>	<p>Pressure relief valves should be replaced or recalibrated every five years to ensure that they will function properly. Old pressure relief valves can leak ammonia.</p>	<p>The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to replace all pressure relief valves at least every five years. <i>See, e.g.</i>, ANSI/IIAR 6-2019 §§ 13.1.1 (All pressure relief valves (PRVs) that relieve to atmosphere shall be recertified or replaced on the 5-year time-based frequency.), 13.1.1.1 (The service life of the PRV shall not exceed 5 years of service after it is installed on the system.); ANSI/IIAR 9-2020 § 5.1 (All equipment and system components shall be inspected, tested, and maintained in accordance with ANSI/IIAR 6 (2019).); IIAR Bull. 109 § 4.9.7 (Pressure-relief valves discharging to atmosphere should be replaced or inspected, cleaned, and tested every five years of service. Testing should be done by an authorized testing facility.); IIAR Bull. 110 §6.6.3 (calling for PRVs to be replaced (1) every five years from the date of installation; (2) at an alternative replacement interval, if based on documented in-service relief valve life for specific applications using industry accepted good practices of relief valve evaluation; or (3) based on the manufacturer’s recommendation for replacement frequency.).</p>
<p><u>Condition 9</u></p> <p>The Facility’s standard operating procedure for the oil draining process did not accurately reflect the equipment in place at the Facility. Specifically, the oil draining standard operating procedure dated April 2, 2012 did not reflect the fact that there were two oil drain valves installed that must be opened in order to begin draining oil from the oil pot.</p>	<p>Failure to design and maintain a safe facility taking such steps as are necessary to prevent releases.</p>	<p>If operating procedures do not accurately reflect the system, this can lead to errors in carrying out regular maintenance tasks, which can result in an ammonia release.</p>	<p>The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to tailor operating procedures to reflect the equipment present in each individual refrigeration system. <i>See, e.g.</i>, ANSI/IIAR 7-2013 §§ 6.1 (When documenting operating procedures, the procedures in this section shall be customized to reflect the type and style of equipment used in the refrigerating system), 6.8.2.2 (position of isolation and service drain valves, among other things, shall be considered when documenting procedures to drain oil from oil pots).</p>

Alleged Hazards/Dangerous Condition	GDC Violation	How Condition Could Lead to or Exacerbate the Consequences of a Release, Causing Harm	Examples of Industry Standards of Care, Showing that (1) Hazard is Recognized by Owner/Operator’s Industry, and (2) There are Way(s) to Eliminate or Reduce the Hazard
<p><u>Condition 10</u></p> <p>Valves required for emergency shutdown were not labeled on the valves themselves nor in the system schematic diagram.</p>	<p>Failure to design and maintain a safe facility taking such steps as are necessary to prevent releases.</p> <p>Failure to minimize the consequences of releases which do occur.</p>	<p>Being able to quickly identify the location of emergency shutdown valves, both on a system schematic and when looking at the equipment, allows operators and responders to more quickly execute emergency shutdown procedures. Releases are less likely, and their consequences less severe, when this information is available.</p>	<p>The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to clearly identify critical valves at the valve itself and in the system schematic drawing. <i>See, e.g.</i>, ANSI/IIAR 2-2014, § 5.14.3 (Valves required for emergency shutdown of the system shall be clearly and uniquely identified at the valve itself and in the system schematic drawings); ANSI/IIAR 9-2020 § 7.2.9.3 (same); ANSI/IIAR 6-2019, Table 11.1.6, item h (calling for regular inspection to ensure that system emergency shut-off valves are clearly and uniquely identified at each valve and in the system schematic diagram).</p>
<p><u>Condition 11</u></p> <p>Audio/visual alarms outside the ammonia machinery room (“AMR”) were not labeled.</p>	<p>Failure to minimize the consequences of releases which do occur.</p>	<p>Increases the chance of inadvertent exposure to ammonia releases and could frustrate effort to react quickly and properly during an ammonia release. Signs and posted information provide a level of protection in addition to worker training and operating procedures.</p>	<p>The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to provide signs clearly indicating the meaning of each alarm. <i>See, e.g.</i>, ANSI/IIAR 2-2014 §§ 6.15.2 (Alarm signage shall be provided in accordance with Section 17.6.), 17.6 (Ammonia leak detection alarms shall be identified by signage adjacent to visual and audible alarm devices.); ANSI/IIAR 9-2020 §§ 7.2.9.1.2 (The meaning of each alarm shall be clearly marked by signage near the visual and audible alarms.), 7.3.12.6 (Ammonia leak detection alarms shall be identified by signage adjacent to visual and audible alarm devices.).</p>

Alleged Hazards/Dangerous Condition	GDC Violation	How Condition Could Lead to or Exacerbate the Consequences of a Release, Causing Harm	Examples of Industry Standards of Care, Showing that (1) Hazard is Recognized by Owner/Operator's Industry, and (2) There are Way(s) to Eliminate or Reduce the Hazard
<p><u>Condition 12</u></p> <p>There were no audio/visual alarms inside the AMR.</p>	<p>Failure to minimize the consequences of releases which do occur.</p>	<p>Ammonia alarms provide early warning that a release is taking place, enabling quick response and protecting workers, emergency responders, and the public from a larger release.</p>	<p>The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to provide audible and visual alarms inside the machinery room and outside each entrance to the machinery room. <i>See, e.g.</i>, ANSI/IIAR 2-2014 § 6.13.1.3 (Audible and visual alarms shall be provided inside the [machinery] room to warn that access to the room is restricted to authorized personnel and responders when the alarm has activated. Additional audible and visual alarms shall be located outside of each entrance to the machinery room.); ANSI/IIAR 9-2020 § 7.3.12.1.3 (Audible and visual alarms shall be provided inside the [machinery] room. Additional audible and visual alarms shall be located outside of each entrance to the machinery room.).</p>
<p><u>Condition 13</u></p> <p>There were no eyewash/shower units inside the AMR.</p>	<p>Failure to minimize the consequences of releases which do occur.</p>	<p>Makes it difficult for emergency responders and workers to safely respond to releases and wash off this corrosive, toxic chemical in the event of exposure</p>	<p>The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to provide at least one eyewash/safety shower unit in each machinery room. <i>See, e.g.</i>, ANSI/IIAR 2-2014 § 6.7.1 (Each machinery room shall 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 [ANSI/ISEA Z358.1]. Additional eyewash/safety shower units shall be installed such that the path of travel in the machinery room is no more than 55 feet to an eyewash/safety shower unit.); ANSI/IIAR 9-2020 § 7.3.7.1 (same).</p>
<p><u>Condition 14</u></p> <p>AMR doors were not equipped with panic hardware.</p>	<p>Failure to minimize the consequences of releases which do occur.</p>	<p>In the event of an ammonia release inside the machinery room, it is more difficult for employees to escape the room when the door opens with a doorknob or other handle, rather than a crash bar.</p>	<p>The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to ensure machinery room doors have panic hardware to ensure easy egress. <i>See, e.g.</i>, ANSI/IIAR 2-2014 § 6.10.2 (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.); ANSI/IIAR 9-2020 § 7.3.9.2 (same).</p>

Alleged Hazards/Dangerous Condition	GDC Violation	How Condition Could Lead to or Exacerbate the Consequences of a Release, Causing Harm	Examples of Industry Standards of Care, Showing that (1) Hazard is Recognized by Owner/Operator's Industry, and (2) There are Way(s) to Eliminate or Reduce the Hazard
<p><u>Condition 15</u></p> <p>There was no permanent ladder and platform or chain available to access and actuate the hot gas shutoff valve from floor level.</p>	<p>Failure to design and maintain a safe facility taking such steps as are necessary to prevent releases.</p> <p>Failure to minimize the consequences of releases which do occur.</p>	<p>Emergency responders would have a difficult time accessing equipment, which could increase the duration of a release.</p>	<p>The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to ensure that emergency shutoff valves are either directly operable from the floor or chain operated from a permanent work surface. <i>See, e.g.</i>, ANSI/IIAR 2-2014 § 6.3.3.2 (Manually operated isolation valves identified as being part of the system emergency shutdown procedure shall be directly operable from the floor or chain operated from a permanent work surface.); ANSI/IIAR 9-2020 § 7.3.3.3.2 (same).</p>
<p><u>Condition 16</u></p> <p>Emergency shutdown procedures were not posted outside the AMR.</p>	<p>Failure to minimize the consequences of releases which do occur.</p>	<p>Creates risk of harm to workers and emergency responders who cannot quickly shut down the system, as the delay could contribute to a longer ammonia release time, increasing risks to workers, emergency responders, and people off-site.</p>	<p>The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to provide emergency shutdown instructions in a location that is readily accessible to staff and responders. <i>See, e.g.</i>, ANSI/IIAR 2-2014 § 5.15 (It shall be the duty of the person in charge of the premises at which the refrigeration system is installed to provide directions for the emergency shutdown of the system at a location that is readily accessible to trained refrigeration staff and trained emergency responders. Schematic drawings or signage shall include the following: (1) instructions with details and steps for shutting down the system in an emergency . . . ); ANSI/IIAR 9-2020 § 7.2.10 (same).</p>

Alleged Hazards/Dangerous Condition	GDC Violation	How Condition Could Lead to or Exacerbate the Consequences of a Release, Causing Harm	Examples of Industry Standards of Care, Showing that (1) Hazard is Recognized by Owner/Operator's Industry, and (2) There are Way(s) to Eliminate or Reduce the Hazard
<p><u>Condition 17</u></p> <p>There was an open floor drain in the AMR, and none of the facility's staff knew where it discharged.</p>	<p>Failure to minimize the consequences of releases which do occur.</p>	<p>The refrigeration system contains both ammonia and oil, so if this drain discharges to a water body, it is foreseeable that both substances could be released into the water, causing environmental damage and exacerbating the negative consequences of any releases that do occur.</p>	<p>The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to cover or otherwise isolate all drains in the machinery room. <i>See, e.g.</i>, ANSI/IIAR 2-2014 § 6.9.3 (A means shall be provided to limit the spread of a liquid ammonia spill into the machinery room drainage system); ANSI/IIAR 9-2020 § 7.3.8.3 (same); ANSI/ASHRAE 15-2013 § 11.3 (Except for the discharge of pressure relief devices and fusible plugs, incidental releases due to leaks, purging of noncondensables, draining oil, and other routine operating or maintenance procedures, no refrigerant shall be discharged to the atmosphere or to locations such as a sewer, river, stream or lake.).</p>
<p><u>Condition 18</u></p> <p>Ammonia piping and structural beams penetrated the AMR's ceiling and walls but were not sealed to prevent the escape of ammonia.</p>	<p>Failure to minimize the consequences of releases which do occur.</p>	<p>Allows release of ammonia inside the machinery room to spread to other parts of the building, putting employees and responders at risk.</p>	<p>The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to ensure all pipes and beams piercing the walls of the machinery room are tightly sealed to prevent ammonia from escaping. <i>See, e.g.</i>, ANSI/IIAR 2-2014 §§ 6.2.1 (The machinery room shall be separated from the remainder of the building by tight-fitting construction with a one-hour fire resistance rating.), 6.6.2 (Pipes penetrating the machinery room separation shall be sealed to the walls, ceiling, or floor through which they pass in accordance with Section 6.2.1. Where Section 6.2.1 requires that the separation have a fire rating, pipe penetrations shall be fire stopped in accordance with the Building Code.); ANSI/IIAR 9-2020 § 7.3.6.2 (Pipes penetrating the machinery room envelope shall be sealed to the walls, ceiling, and floors through which they pass to prevent leakage of ammonia vapor to adjoining spaces and to maintain the fire rating of the machinery room envelope.); ANSI/ASHRAE 15-2013 §§ 8.11.2 (...With the exception of access doors and panels in air ducts and air handling units...there shall be no openings that will permit passage of escaping refrigerant to other parts of the building.), 8.12(f) (All pipes piercing the interior walls, ceiling, or floor of such rooms shall be tightly sealed to the walls, ceiling, or floors through which they pass.).</p>

Alleged Hazards/Dangerous Condition	GDC Violation	How Condition Could Lead to or Exacerbate the Consequences of a Release, Causing Harm	Examples of Industry Standards of Care, Showing that (1) Hazard is Recognized by Owner/Operator’s Industry, and (2) There are Way(s) to Eliminate or Reduce the Hazard
<p><u>Condition 19</u></p> <p>AMR doors were not labeled to warn of the presence of ammonia, permit entry of authorized personnel only, or display NFPA diamonds for ammonia.</p>	<p>Failure to design and maintain a safe facility taking such steps as are necessary to prevent releases.</p> <p>Failure to minimize the consequences of releases which do occur.</p>	<p>Increases the chance of inadvertent exposure to ammonia releases and could frustrate effort to react quickly and properly during an ammonia release. Signs and posted information provide a layer of protection beyond worker training and operating procedures.</p>	<p>The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to mark each door to the machinery room with signs to warn of the presence of ammonia, permit entry of authorized personnel only, and display NFPA 704 diamonds for ammonia hazard identification. <i>See, e.g.</i>, ANSI/IIAR 2-2014 §§ 6.3.4 (Access to a machinery room shall be restricted to authorized personnel. Signage on machinery room doors shall comply with Section 6.15), 6.15.1 (Buildings and facilities with refrigeration systems shall be provided with placards in accordance with NFPA 704 and the Mechanical Code.), 6.15.3 (Each machinery room entrance door shall be marked with a permanent sign to indicate that only authorized personnel are permitted to enter the room.); ANSI/IIAR 9-2020 §§ 7.2.9.1 (Buildings and facilities with refrigeration systems shall be provided with placards in accordance with NFPA 704.), 7.2.9.3 (Each machinery room entrance door shall be marked with a permanent sign to indicate that only authorized personnel are permitted to enter the room.), 7.3.3.4 (Access to a machinery room shall be restricted to authorized personnel. Signage on machinery room doors shall comply with Section 7.2.9.); ANSI/ASHRAE 15-2013 §§ 8.11.8 (Access to the refrigerating machinery room shall be restricted to authorized personnel. Doors shall be clearly marked or permanent signs shall be posted at each entrance to indicate this restriction.), 11.2.4 (Each entrance to a refrigerating machinery room shall be provided with a legible permanent sign, securely attached and easily accessible, reading “Machinery Room—Authorized Personnel Only.” The sign shall further communicate that entry is forbidden except for those personnel trained in the emergency procedures required by Section 11.7 when the refrigerant alarm, required by Section 8.11.2.1, has been activated.); NFPA 1-2012 § 53.2.4.1 (Refrigeration units or systems shall be provided with approved hazard identification signs in accordance with [NFPA 704], emergency operational signs, charts, and labels in accordance with the mechanical code, along with other system information.).</p>

Alleged Hazards/Dangerous Condition	GDC Violation	How Condition Could Lead to or Exacerbate the Consequences of a Release, Causing Harm	Examples of Industry Standards of Care, Showing that (1) Hazard is Recognized by Owner/Operator's Industry, and (2) There are Way(s) to Eliminate or Reduce the Hazard
<p><u>Condition 20</u></p> <p>Only two of the ten ammonia detectors at the facility were working at the time of inspection.</p>	<p>Failure to minimize the consequences of releases which do occur.</p>	<p>Ammonia detectors and alarms provide early warning that a release is taking place, enabling quick response and protecting workers, emergency responders, and the public from a larger release.</p>	<p>The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to regularly maintain and test ammonia detection systems to ensure all detectors are working properly. <i>See, e.g.</i>, ANSI/IIAR 2-2014 §§ 5.12.3 (Design provisions for maintenance and functional testing of safety controls shall be provided.), 17.3 (A schedule for testing ammonia detectors and alarms shall be established based on manufacturer's recommendations, unless modified based on experience. Where manufacturer's recommendations are not provided, ammonia detectors and alarms shall be tested at least annually.); ANSI/IIAR 9-2020 § 5.1 (All equipment and system components shall be inspected, tested, and maintained in accordance with ANSI/IIAR 6 (2019).); ANSI/IIAR 6-2019 § 12.1 ([Inspection, Testing, and Maintenance] tasks shall be performed on Safety Systems for Emergency Ventilation, Emergency Shutdown Switches, Ammonia Detection and Alarms, Computer Controls, and Emergency Eyewash and Safety Showers at the indicated frequencies in Tables 12.1-12.5 or per manufacturers' instructions, unless a different frequency is justified in accordance with Section 5.2.1.), Table 12.3 (calling for, among other things, semiannual calibration of ammonia detector sensors, annual testing of detectors to confirm exposure to ammonia gas as specified levels shuts down refrigeration equipment and activates the emergency ventilation system, and annual testing of alarms).</p>

Alleged Hazards/Dangerous Condition	GDC Violation	How Condition Could Lead to or Exacerbate the Consequences of a Release, Causing Harm	Examples of Industry Standards of Care, Showing that (1) Hazard is Recognized by Owner/Operator's Industry, and (2) There are Way(s) to Eliminate or Reduce the Hazard
<p><u>Condition 21</u></p> <p>Ammonia detectors in the AMRs were set to actuate alarms at 150 ppm rather than the lower concentration called for in industry standards and were not being regularly tested and calibrated.</p>	<p>Failure to design and maintain a safe facility taking such steps as are necessary to prevent releases.</p> <p>Failure to minimize the consequences of releases which do occur.</p>	<p>Ammonia detectors and alarms provide early warning that a release is taking place, enabling quick response and protecting workers, emergency responders, and the public from a larger release.</p>	<p>The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to install at least one detector in each machinery room that activates alarms at safe worker exposure limits, and to regularly test ammonia detection systems to ensure all detectors are working properly. <i>See, e.g.</i>, ANSI/IIAR 2-2014 §§ 6.13.1 (The machinery room shall have at least one ammonia detector that activates an alarm that reports to monitored location at concentration of 25 ppm or higher; audible and visual alarms shall be provided inside machinery room to warn that access restricted to authorized personnel and emergency responders when alarm activated; additional audible and visual alarms shall be located outside each entrance to machinery room.), 17.3 (A schedule for testing ammonia detectors and alarms shall be established based on manufacturer's recommendations, unless modified based on experience. Where manufacturer's recommendations are not provided, ammonia detectors and alarms shall be tested at least annually.); ANSI/IIAR 9-2020 §§ 5.1 (All equipment and system components shall be inspected, tested, and maintained in accordance with ANSI/IIAR 6 (2019).), 7.3.12.2 (At a minimum, the machinery room alarm response shall be at an appropriate arrangement to activate an alarm to a monitored location so an immediate response can be set in place at a detected concentration of no higher than 50 ppm.); ANSI/IIAR 6-2019 § 12.1 ([Inspection, Testing, and Maintenance] tasks shall be performed on Safety Systems for Emergency Ventilation, Emergency Shutdown Switches, Ammonia Detection and Alarms, Computer Controls, and Emergency Eyewash and Safety Showers at the indicated frequencies in Tables 12.1-12.5 or per manufacturers' instructions, unless a different frequency is justified in accordance with Section 5.2.1.), Table 12.3 (calling for, among other things, semiannual calibration of ammonia detector sensors, annual testing of detectors to confirm exposure to ammonia gas as specified levels shuts down refrigeration equipment and activates the emergency ventilation system, and annual testing of alarms.).</p>

Alleged Hazards/Dangerous Condition	GDC Violation	How Condition Could Lead to or Exacerbate the Consequences of a Release, Causing Harm	Examples of Industry Standards of Care, Showing that (1) Hazard is Recognized by Owner/Operator’s Industry, and (2) There are Way(s) to Eliminate or Reduce the Hazard
<p><u>Condition 22</u></p> <p>The Facility did not have adequate ventilation in the machinery room. Specifically, the exhaust fans did not have a discharge velocity of at least 2,500 feet per minute, the supply fan air exceeded the exhaust fan air, and the continuous and emergency ventilation systems were undersized.</p>	<p>Failure to design and maintain a safe facility taking such steps as are necessary to prevent releases.</p> <p>Failure to minimize the consequences of releases which do occur.</p>	<p>Without adequate ventilation, vapors are more likely to build up to levels that are significant inhalation and dermal hazards or that risk causing fire or explosion. The buildup of dangerous levels of toxic/flammable vapors in a machinery room can also delay the entry of emergency response personnel to shut off the system, resulting in a prolonged release.</p>	<p>The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to provide temperature control ventilation to limit the room temperature to 104°F and emergency ventilation at a rate of not less than 30 air changes per hour, to discharge exhaust upward in a location and at a sufficient speed to safely clear the building, and to provide adequate inlet air to make up that being exhausted and create slight negative pressure in the room. <i>See, e.g.</i>, ANSI/IIAR 2-2014 §§ 6.14.3.2 (mechanical exhaust ventilation systems shall be designed to produce not less than the temperature control ventilation rate required by Section 6.14.6 [<i>i.e.</i>, the volume required to limit the room dry bulb temperature to 104°F (40°C)] and the emergency exhaust ventilation rate required by Section 6.14.7 [<i>i.e.</i>, not less than 30 air changes per hour based on the gross machinery room volume]), 6.14.3.5 (Machinery room exhaust shall discharge vertically upward with a minimum discharge velocity of 2,500 feet/minute at the required emergency ventilation rate), 6.14.5.1 (outdoor make-up air shall be provided to replace air being exhausted and shall maintain negative pressure in the machinery room at a specified level); ANSI/IIAR 9-2020 §§ 7.3.13.2 (Machinery rooms shall be vented to the outdoors by means of a mechanical exhaust ventilation system at a rate that complies with the codes and standards adopted at the time of installation or at the time that there was an addition or modification that would affect the emergency ventilation rate.), 7.3.13.3.1 (Make-up air shall be provided to replace air being exhausted.).</p>

## Appendix B

### Scope of Work for Supplemental Environmental Projects

#### 1. Safety Upgrades SEP

The Safety Upgrades SEP will be installed at the cold storage warehouse and distribution facility located at 12 Fish Island in New Bedford, Massachusetts (the “Bridge Facility”) or at the cold storage warehouse and distribution facility located at 289 Macarthur Drive in New Bedford, Massachusetts (the “West Facility”), as described below.

- a. Required Action: Respondents or their contractors shall install an Emergency Pressure Control System (“EPCS”) on the ammonia refrigeration system at the Bridge Facility.

Respondents or their contractor(s) shall test the EPCS at the Bridge Facility within five (5) days after it is installed to ensure it is calibrated and operating properly. Respondents or their contractor(s) shall prepare and implement procedures to inspect the EPCS in accordance with the manufacturer’s recommendations, both substantive and regarding the frequency of such inspections. If the manufacturer does not provide such instructions, they shall be established by Respondents in accordance with recognized and generally accepted good engineering practices (RAGAGEP). This project shall be completed no later than 120 days after the effective date of this CAFO. The cost of this project is approximately \$40,000.

Benefit: This is a safety control system that automatically activates in an over-pressure situation to move refrigerant through a valve to a lower pressure portion of the system. It can delay or/ or prevent the lifting of the refrigeration system’s pressure relief valves, thereby preventing or mitigating an ammonia release.

- b. Required Action: Respondents or their contractors shall install an EPCS on the ammonia refrigeration system at the West Facility.

Respondents or their contractor(s) shall test the EPCS at the West Facility within five (5) days after it is installed to ensure it is calibrated and operating properly. Respondents or their contractor(s) shall prepare and implement procedures to inspect the EPCS in accordance with the manufacturer’s recommendations, both substantive and regarding the frequency of such inspections. If the manufacturer does not provide such instructions, they shall be established by Respondents in accordance with recognized and generally accepted good engineering practices (RAGAGEP). This project shall be completed no later than 120 days after the effective date of this CAFO. The cost of this project is approximately \$40,000.

Benefit: This is a safety control system that automatically activates in an over-pressure situation to move refrigerant through a valve to a lower pressure portion

of the system. It can delay or/or prevent the lifting of the refrigeration system's pressure relief valves, thereby preventing or mitigating an ammonia release.

- c. Required Action: Respondents or their contractors shall install two (2) additional ammonia detectors in the ammonia machinery room to supplement and enhance current ammonia detection capabilities at the West Facility. This installation shall include one (1) 2% detector for high range detection, one (1) 0-250 ppm detector as redundancy to current detection in the room, an upgrade of the detection control software to incorporate the new detectors, and installation of an emergency shut down switch to the king solenoid valve.

Respondents or their contractor(s) shall test the functioning of each detector, the detection control software, and the interlocked solenoid valve within five (5) days after each component is installed to ensure it is calibrated and operating properly. Respondents or their contractor(s) shall prepare and implement procedures to inspect each component of the upgraded ammonia detection system in accordance with the manufacturer's recommendations, both substantive and regarding the frequency of such inspections. If the manufacturer does not provide such instructions, they shall be established by Respondents in accordance with recognized and generally accepted good engineering practices (RAGAGEP). This project shall be completed no later than 90 days after the effective date of this CAFO. The cost of this project is approximately \$30,000.

Benefit: This project will add improved ammonia detection and redundancy beyond the requirements of the most current industry standards, including detection of ammonia releases at lower levels than is currently required as well as adding in remote shutdown capabilities, thereby allowing workers and responders to stop and mitigate ammonia releases sooner.

## 2. New Bedford Fire Department SEP

- a. Required Action: Respondents shall provide the following to the New Bedford Fire Department:
- Six handheld (6) Multi Gas Meters (each of which includes sensors for ammonia, carbon monoxide, oxygen, hydrogen sulfide, lower explosive limit, and photoionization detection);
  - One year's supply of calibration gases for the meters; and
  - A three-year maintenance and service contract for the meters.

Respondents shall provide all of the above items by no later than 60 days after the effective date of this CAFO. The cost of this project is approximately \$42,000.

Benefit: This equipment will improve the New Bedford Fire Department's ability to detect and safely respond to releases of ammonia and other toxic substances in the New Bedford community.