EPA ENFORCEMENT ACCOUNTS RECEIVABLE CONTROL NUMBER FORM FOR ADMINISTRATIVE ACTIONS

This form was originated by Wanda I. Santiago for John W. Kilborn (Name of Case Attorney) 6/11/19 (Date)

in the ORC (RAA) (Office & Mail Code) at 918-1113 (Phone number)

Case Docket Number CAA-01-2019-0033

Site-specific Superfund (SF) Acct. Number _____

✓ This is an original debt ____ This is a modification

Name and address of Person and/or Company/Municipality making the payment:

Edward Doherty
Londonderry Freezer Warehouse
219 Rockingham Road
Londonderry, NH 03053

Total Dollar Amount of Receivable $ 78,200 Due Date: 7/11/19

SEP due? Yes _____ No ✓ Date Due _____.

Installment Method (if applicable)

INSTALLMENTS OF:

1ST $ _____ on _____

2nd $ _____ on _____

3rd $ _____ on _____

4th $ _____ on _____

5th $ _____ on _____

For RHC Tracking Purposes:

Copy of Check Received by RHC _____ Notice Sent to Finance _____

TO BE FILLED OUT BY LOCAL FINANCIAL MANAGEMENT OFFICE:

IFMS Accounts Receivable Control Number _____

If you have any questions call: _____ _____
in the Financial Management Office (Phone Number)

U. S. ENVIRONMENTAL PROTECTION AGENCY – NEW ENGLAND
5 POST OFFICE SQUARE, SUITE 100 (OES04-3)
BOSTON, MA 02109-3912

HAND DELIVERY

June 11, 2019

Ms. Wanda Santiago
Regional Hearing Clerk
U.S. EPA, Region I
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: Londonderry Freezer Warehouse, LLC/EPA Docket No. CAA-01-2019-0033

Dear Ms. Santiago:

Attached for filing in the above-referenced matter are an original and one copy of an executed *Consent Agreement and Final Order* ("CAFO") for the above-referenced matter that the EPA has entered into with the Respondent. Also attached are an original and one copy of a Certificate of Service.

EPA has also sent copies of the CAFO, the Certificate of Service, and this letter to the Respondent by First Class Mail.

Thank you for your assistance. Please call me if you have any questions.

Sincerely,

John W. Kilborn
Senior Enforcement Counsel

Cc: Drew Meyer, EPA
Donald Normandin, LFW

Enclosures:

1. Original CAFO and copy of CAFO
2. Certificate of Service and copy

In re: Londonderry Freezer Warehouse, LLC/EPA Docket No. CAA-01-2019-0033

CERTIFICATE OF SERVICE

I hereby certify that the foregoing Consent Agreement and Final Order has been sent to the following persons on the date and in the manner noted below:

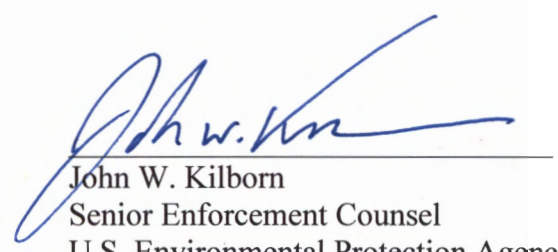
Original and one copy,
hand-delivered:

Ms. Wanda Santiago, Regional Hearing Clerk
U.S. EPA, Region I
5 Post Office Square, Suite 100
Boston, MA 02109-3812

Copy, by First Class Mail:

Edward Doherty, General Manager
Londonderry Freezer Warehouse,
219 Rockingham Road
Londonderry, NH 03053

Date: June 11, 2019



John W. Kilborn
Senior Enforcement Counsel
U.S. Environmental Protection Agency,
Region 1
5 Post Office Square, Suite 100
Boston, MA 02109-3812
(617) 918-1893
Kilborn.john@epa.gov

In re: Londonderry Freezer Warehouse, LLC/EPA Docket No. CAA-01-2019-0033

CERTIFICATE OF SERVICE

I hereby certify that the foregoing Consent Agreement and Final Order has been sent to the following persons on the date and in the manner noted below:

Original and one copy,
hand-delivered:

Ms. Wanda Santiago, Regional Hearing Clerk
U.S. EPA, Region I
5 Post Office Square, Suite 100
Boston, MA 02109-3812

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Edward Doherty, General Manager
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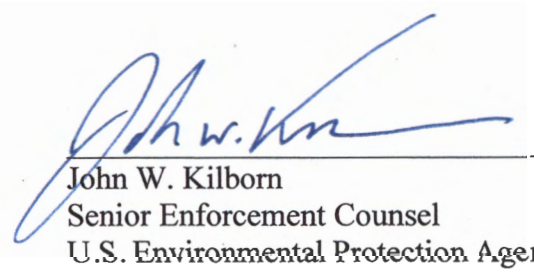
219 Rockingham Road
Londonderry, NH 03053

Date: June 11, 2019



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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1

In the Matter of	)	
Londonderry Freezer Warehouse, LLC	)	Docket No. CAA-01-2019-0033
Respondent.	)	
Proceeding under Section 113(d) of the Clean Air Act, 42 U.S.C. § 7413(d)	)	

CONSENT AGREEMENT AND FINAL ORDER

1. The United States Environmental Protection Agency Region 1 ("EPA" or "Complainant") and Londonderry Freezer Warehouse, LLC ("Respondent") consent to the entry of this Consent Agreement and Final Order ("CAFO") pursuant to 40 C.F.R. § 22.13(b) of the *Consolidated Rules of Practice Governing the Administrative Assessment of Civil Penalties and the Revocation/Suspension of Permits*, 40 C.F.R. Part 22 ("Consolidated Rules of Practice"). This CAFO resolves Respondent's liability for alleged violations of Section 112(r)(1) of the Clean Air Act ("CAA"), 42 U.S.C. § 7412(r)(1).

2. EPA and Respondent hereby agree to settle this matter through this CAFO without the filing of an administrative complaint, as authorized under 40 C.F.R. §§ 22.13(b) and 22.18(b).

3. EPA and Respondent agree that settlement of this matter is in the public interest, and that entry of this CAFO without further litigation is the most appropriate means of resolving this matter.

4. Therefore, before taking any testimony, upon the pleadings, without adjudication or admission of any issue of fact or law, it is hereby ordered as follows:

I. PRELIMINARY STATEMENT

5. This Consent Agreement is entered into under Section 113(d) of the CAA, as amended, 42 U.S.C. §7413(d), and the Consolidated Rules of Practice, 40 C.F.R. Part 22.

6. The EPA and the United States Department of Justice have jointly determined that this matter is appropriate for administrative penalty assessment. 42 U.S.C. § 7413(d); 40 C.F.R. § 19.4.

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

8. This CAFO both initiates and resolves an administrative action for the assessment of monetary penalties, pursuant to Section 113(d) of the CAA. As more thoroughly discussed in Section IV, below, the CAFO resolves the following CAA violations that occurred in conjunction with Respondent's storage and handling of anhydrous ammonia at its freezer warehouse facility in Londonderry, New Hampshire:

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

b. failure to minimize the consequences of accidental releases, should they occur, in violation of the General Duty Clause, Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1).

II. STATUTORY AND REGULATORY AUTHORITY

9. 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."

10. The extremely hazardous substances listed pursuant to Section 112(r)(3) of the CAA, 42 U.S.C. § 7412(r)(3), include, among others, anhydrous ammonia.

11. 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.

12. 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.

13. The term "have a general duty in the same manner and to the same extent as section 654, title 29 of the United States 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 Health Act administered by OSHA.[1]

14. Sections 113(a) and (d) of the CAA, 42 U.S.C. § 7413(a) and (d), as amended by EPA's Civil Monetary Penalty Inflation Adjustment Rule, 40 C.F.R. Part 19, promulgated in accordance with the Debt Collection Improvement Act of 1996 ("DCIA"), 31 U.S.C. § 3701, and the Federal Civil Penalties Inflation Adjustment Act of 1990, Public Law 101-410, 28 U.S.C. § 2461 note, as amended by the Federal Civil Penalties Inflation Adjustment Act Improvements Act of 2015, section 701 of Public Law 114-74, 129 Stat. 599 (Nov. 2, 2015), provide for the assessment of civil penalties for violations of Section 112(r) of the CAA, 42 U.S.C. § 7412(r), in amounts of up to $47,357 per day per violation for violations that occurred after November 2, 2015 and are assessed on or after January 15, 2019.

III. GENERAL ALLEGATIONS

15. Respondent owns and operates a controlled temperature storage warehouse at 219 Rockingham Road, Londonderry, NH 03053 (the "Facility").

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[1] Section 654 of OSHA 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 [OSHA]." 29 U.S.C. § 654. *See* Durion Company, Inc. v. Secretary of Labor, 750 F.2d 28 (6th Cir. 1984). According to the legislative history of the CAA General Duty Clause, Durion is cited as a guide for EPA's application of the General Duty Clause. Durion criteria are those established earlier in National Realty & Construction Co. v. OSHRC, 489 F.2d 1257 (D.C. Cir. 1973), namely, that OSHA must prove (1) the employer failed to render the workplace free of a hazard; (2) the hazard was recognized either by the cited employer or generally within the employers' industry; (3) the hazard was causing or was likely to cause death or serious physical harm; and (4) there was a feasible means by which the employer could have eliminated or materially reduced the hazard. For purposes of complying with the CAA General Duty Clause, owners and operators must maintain a facility that is free of a hazard; the hazard must be recognized by the owner/operator or recognized by the owner/operator's industry; the hazard from an accidental release must be likely to cause harm; and the owner/operator must be able to eliminate or reduce the hazard. U.S. EPA, *Guidance for Implementation of the General Duty Clause Clean Air Act Section 112(r)(1)* (May 2000) at 11, footnote 4.

16. The Facility is located within a mixed business-residential area within half a mile of many businesses and residences.

17. As a limited liability corporation, Respondent is a "person" within the meaning of Section 302(e) of the Clean Air Act, 42 U.S.C. § 7602(e).

18. The Facility is a building or structure from which an accidental release may occur and is therefore a "stationary source," as defined at Section 112(r)(2)(C) of the CAA, 42 U.S.C. § 7412(r)(2)(C).

19. At the time of the EPA inspection, approximately 14,600 pounds in total of ammonia were present at the Facility.

20. At the time of the violations alleged herein, the Facility had two separate refrigeration systems, each of which cycled approximately 7,300 pounds of anhydrous ammonia through various physical states to cool the products in Respondent's Facility. Accordingly, Respondent "stored" and "handled" anhydrous ammonia.

21. Anhydrous ammonia is a clear, colorless gas at atmospheric conditions of temperature and pressure with a strong odor. It is often stored and shipped under pressure as a liquid. It presents a significant health hazard because it is corrosive to the skin, eyes, and lungs. Ammonia vapors may be fatal if inhaled. Exposure to 300 parts per million by volume is immediately dangerous to life and health. Ammonia gas is generally regarded as nonflammable but does burn at concentrations of approximately 15.5% to 27% by volume in air with strong ignition. It can explode if released in an enclosed space with a source of ignition present or if a vessel containing anhydrous ammonia is exposed to fire. The fire hazard increases in the presence of oil or other combustible materials.

22. Anhydrous ammonia is an "extremely hazardous substance" subject to the General Duty Clause.

23. 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. In collaboration with the American National Standards Institute ("ANSI"), the International Institute of Ammonia Refrigeration ("IIAR") has issued (and updates) the following standard: *Standard 2: Equipment, Design, and Installation of Closed-Circuit Ammonia Mechanical Refrigerating Systems*, along with other applicable standards and guidance. Relevant IIAR bulletins and guidance documents include without limitation: IIAR Bulletin No. 109, *Guidelines for IIAR Minimum Safety Criteria for a Safe Ammonia Refrigeration System*; IIAR Bulletin No. 110, *Guidelines for Start-Up, Inspection, and Maintenance of Ammonia Mechanical Refrigerating Systems*; IIAR Bulletin No. 114, *Guidelines for Identification of Ammonia Refrigeration Piping and System Components*; and IIAR Bulletin 116, *Guidelines for Avoiding Component Failure in Industrial Refrigeration Systems Caused by Abnormal Pressure or Shock.* The IIAR has also issued the 2005 *Ammonia Refrigeration Management Program* ("IIAR ARM Program"), recently revised as the Ammonia Refrigeration Management Guidelines ("IIAR ARM Guidelines"), which is intended for systems containing less than 10,000 pounds of ammonia. Also, in collaboration with ANSI, the American Society of Heating, Refrigerating and Air-Conditioning Engineers ("ASHRAE") has issued (and updates) the following standard: *Standard 15: Safety Standard for Refrigeration Systems*. These standards, bulletins, and guidelines are consistently relied upon by refrigeration experts and are sometimes incorporated by reference into state building, mechanical, and fire codes.

24. On February 15, 2018, EPA inspectors visited the Facility to inspect and assess Respondent's compliance with Section 112(r) of the CAA.

25. The EPA inspectors toured the following areas of the Facility: building perimeter and loading dock, refrigeration systems in the two ammonia machinery rooms, rooftop, and the "#2 Room."

26. At the time of the violations alleged herein, Respondent operated two separate ammonia refrigeration systems ("Systems") with equipment in two machinery rooms: the ammonia machinery room north ("AMRN") and ammonia machinery room south ("AMRS"). Each System had several components typically found in such systems, some of which are described below:

a. *Receivers:* Receivers are tanks that have the function of (i) collecting ammonia after the condensing stage; (ii) storing most of the ammonia in a typical refrigeration system; and (iii) sending the ammonia to the evaporators.

b. *Compressors*: After being allowed to evaporate, ammonia gas flows at low pressure to a compressor where it is compressed to a higher pressure. This compression process also raises the temperature of the gas. The hot, compressed vapor is then in a thermodynamic state known as a superheated vapor and is at a temperature and pressure at which it next will be condensed with either cooling water or cooling air. Oil is used in the compressors to help seal them and lubricate the compressor's parts. Used oil must be regularly removed from the compressors.

c. *Automatic purgers ("Auto-Purger")*: A mechanical device integrated into a system that gathers, separates, and expels non-condensable gases (that is, gases,

commonly including air, nitrogen, hydrogen, and hydrocarbons, that will not liquefy at the temperatures and pressures present in condensers consistent with industrial refrigeration system) from multiple points in the refrigeration system without operator assistance.

d. *Pumps and valves*: Like most ammonia refrigeration systems, each System had multiple pumps and valves to move and control the flow of ammonia through the System. Ammonia receivers have "king valves" that can be used to stop the flow of ammonia from the receivers to the rest of the System during an emergency. Closing the king valve can shorten the duration of any continuing ammonia releases. Often solenoid valves near these king valves can be activated by emergency switches outside the building so that emergency responders do not have to enter a building filled with ammonia vapors to turn off a system.

e. *Piping*: Pipes throughout the Facility and on the roof carried ammonia in all its various physical states.

f. *Ammonia detectors*: These devices, typically placed in ammonia machinery rooms, detect ammonia vapors that have been released at certain concentrations. They activate alarms to warn of a release, and they activate ventilation systems to prevent vapors from building up to dangerous levels. It is essential for detectors to be properly placed, maintained, calibrated, and connected to alarms and ventilation systems so that they can fulfill their function.

g. *Emergency controls*: An emergency control box, typically placed outside the designated machinery room door, allows emergency responders to control

releases by activating or deactivating key refrigeration system equipment, such as compressors, ventilation, and king valves.

h. *Evaporators*: These are the units in which the ammonia is allowed to evaporate (at a low -28° F boiling point), drawing and absorbing the heat from a room as the ammonia evaporates, thereby cooling a room.

27. EPA's inspection of the Facility and review of submitted information revealed some potentially dangerous or deficient conditions relating to the Facility at the time of the inspection in 2018, including the following:

a. The AMRN only had audio/visual ("AV") alarms inside (but not outside) the engine room to warn people of an ammonia release, and the AMRS did not have adequate AV alarms inside the room. Primary access doors into both the AMRN and AMRS were not equipped with adequate AV alarms. Some doors had visual alarms, but no audio alarms. None of the alarms were marked to identify the purpose of the alarm.

b. Doors into the AMRS and AMRN did not contain adequate warning signs.

c. The AMRS and AMRN contained emergency showers and eyewash stations inside each engine room, but not immediately outside the primary entrances to these rooms.

d. A significant amount of piping and equipment in both the AMRS and AMRN, on the roof, and at other ammonia-containing areas was inadequately labeled or missing labeling indicating contents, physical state, direction of flow, and specific identification tags.

e. The walls of the AMRS and AMRN did not have tight seals around several pipes and electrical conduits where such pipes and conduits penetrated the AMRS and AMRN.

f. In the AMRS, the inspectors could not read some of the "U" or "UM" stamps signifying compliance with the rules of Section VIII of the ASME Boiler and Pressure Vessel Code (BPVC) on some of the compressor oil separator pots that were greater than six inches in diameter.

g. There was missing, damaged, and stained insulation in multiple areas on ammonia piping and vessels along the roof servicing both the AMRS and AMRN.

h. The isolation valves (e.g., king valves) for the ammonia in the AMRS high pressure receiver ("HPR") were not clearly labeled and identified. In addition, the isolation valve for the AMRN HPR was located approximately eight to ten feet above ground level with no permanent platform, ladder, or chain for operation to access the valve in the case of an emergency.

i. On the rooftop condenser for the AMRS, there were several instances of rusted valves and piping around uninsulated valve manifolds.

j. The AMRS and AMRN were not adequately vented and, in particular, the pressure relief valve ("PRV") vent lines for the AMRS and AMRN were mis-directed. Each of these vents were below the level of the maintenance access platforms for each condenser.

k. Pallet racks were installed near the ceiling and directly underneath ammonia piping and evaporator units in the "#2 Room." The inspectors explained that a forklift or other equipment could run into the ceiling evaporators, as they were not

equipped with any means to adequately protect the ammonia system from damage.

l. The support legs on the AMRS roof-top condenser showed significant signs of rust and degradation.

m. The Facility contained only one windsock. Lack of adequate wind direction devices presents a hazard to employees, truck drivers, and emergency personnel in the event of a chemical release at the Facility.

n. The HPRs in the AMRS and AMRN were not placarded with NFPA hazard diamonds indicating the presence of ammonia in the vessel.

o. A clearly marked emergency ventilation switch with on/override capability and a tamper-resistant cover was not available immediately outside each primary access door to either the AMRS or AMRN. During the inspection, emergency controls at the ground levels for the ARMS and AMRN were both locked, and or maintained in conditions that, in the event of an emergency, were not immediately accessible to any of Respondent's employees.

p. In the AMRS there were cardboard boxes, miscellaneous pieces of wood, florescent bulbs, metal oil drums, and other combustible materials. The oil drums were not stored in secondary containment.

q. There were no emergency shut-down instructions posted outside either the AMRS or AMRN.

r. Respondent operated the Facility without adequate personnel training.

28. By a letter dated August 9, 2018, EPA provided Respondent with notice of potential Clean Air Act Section 112(r) violations.

29. Respondent was responsive to that letter and has taken steps to address deficiencies at the Facility.

IV. VIOLATIONS

COUNT I- FAILURE TO DESIGN AND MAINTAIN A SAFE FACILITY IN VIOLATION OF THE CAA'S GENERAL DUTY CLAUSE

30. The allegations in Paragraphs 1 through 29 are hereby realleged and incorporated herein by reference.

31. 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 to, in the same manner and to the same extent as Section 654 of Title 29, design and maintain a safe facility, taking such steps as are necessary to prevent releases.

32. The recommended industry practice and standard of care for designing and maintaining a safe facility with ammonia refrigeration systems of the same size and type as Respondent's Systems 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. IIAR, ASHRAE and others have developed standards and guidelines for this purpose, such as the IIAR Bulletins, ANSI/IIAR Standard 2, the IIAR ARM Program, and ANSI/ASHRAE Standard 15. See also EPA's GDC Guidance, Section 2.3.2 and National Fire Protection Association 1, Fire Code, Section 53.

33. At all times relevant to the allegations in this CAFO, Respondent failed in its general duty to design and maintain the Facility as a safe facility, taking such steps as were necessary to prevent a release of an extremely hazardous substance, in at least the respects listed in the subparagraphs below. Attachment A provides more information about each listed hazard, including examples of industry standards of care that address each type of hazard, and an explanation of how each hazard could result in a harmful release or exacerbate the consequences of a release. The industry standards of care illustrate how the ammonia refrigeration industry has recognized hazards associated with designing and maintaining an ammonia refrigeration system and developed measures to reduce such hazards. The following hazards existing at the Facility at the time of the inspection resulted in violations of the General Duty Clause's second duty:[2]

a. Inadequate alarms and the absence of markings to identify the purpose of alarms that did exist;

b. Inadequate warning signs on doors into rooms containing ammonia equipment;

c. Ammonia piping and equipment that was inadequately labeled or missing labeling indicating contents, physical state, and direction of flow and specific identification tags.

d. Illegible "U" or "UM" stamps signifying compliance with the rules of Section VIII of the ASME Boiler and Pressure Vessel Code (BPVC) on some of the compressor oil separator pots;

e. Ammonia piping with damaged and stained insulation;

f. Ammonia piping and vessels missing insulation;

[2] Some of these violations also resulted in violations of the General Duty Clause's third duty, as further discussed in Count II.

g. Valves (e.g., king valves) for isolating the ammonia without clear labels;

h. Lack of permanent structures or chains for operation of king valves;

i. Rusted valves and piping around uninsulated valve manifolds.

j. The AMRS and the AMRN were inadequately vented;

k. Ammonia equipment without protection from physical damage;

l. Inadequate maintenance of structural supports for roof-top condensers;

m. A clearly marked emergency ventilation switch with on/override capability and a tamper-resistant cover was not available immediately outside each primary access door to either ammonia machinery room;

n. Inadequate access to ammonia equipment emergency controls;

o. Presence of combustible materials in proximity to ammonia equipment;

p. Absence of emergency shut-down instructions at the ammonia machinery rooms; and

q. Operation of the Facility without adequate personnel training.

34. Accordingly, Respondent violated the General Duty Clause's requirement to design and maintain a safe facility, in violation of 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 DO OCCUR IN VIOLATION OF THE CAA'S GENERAL DUTY CLAUSE

35. The allegations in Paragraphs 1 through 34 are hereby realleged and incorporated herein by reference.

36. 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 to, in the same

manner and to the same extent as Section 654 of Title 29, minimize the consequences of any accidental releases of anhydrous ammonia which do occur.

37. Industry standards and guidelines for minimizing the consequence of an accidental release from ammonia refrigeration systems are found, among other things, in the IIAR ARM Program, ANSI/IIAR Standard 2, ANSI/ASHRAE Standard 15, IIAR bulletins, and other materials (including updates and revisions) consistently relied upon by refrigeration experts. They include design and maintenance measures to minimize the severity and duration of releases that do occur, such as, among other things, standards for vapor detection, alarms, equipment and door labeling, emergency shut-off switches, ventilation, keeping combustible materials and electrical hazards away from ammonia, safe oil drain systems, tight construction of machinery rooms, designing safe pressure relief valves and associated piping, reducing obstructions for responders, and having emergency eye wash stations and showers.

38. In addition, EPA's General Duty Clause Guidance discusses the standard of care for emergency response planning at facilities that have extremely hazardous substances, such as anhydrous ammonia. The recommended industry practice and standard of care for emergency planning at ammonia refrigeration systems of the same size and type as Respondent's Systems is to, among other things, design and implement an emergency response plan that specifically addresses release scenarios developed from hazard analyses and facility-based knowledge; identifies emergency response equipment and its whereabouts; includes communication with and involvement of emergency planning and response officials; incorporates accident training for employees; and involves conducting periodic exercises to ensure that the plan is adequate to address emergency scenarios.

EPA's GDC Guidance at 16-18. IIAR, ANSI, ASHRAE, and other organizations have developed standards and guidelines for this purpose, including, among other things, ANSI/IIAR Standard 2, the IIAR ARM Program, and ANSI/ASHRAE Standard 15. For example, the version of the IIAR ARM Program that was in effect as of the time of the Inspection provided that refrigeration facilities should develop an up-to-date, facility-specific emergency response plan that accurately describes the facility and the potentially affected population. Such a plan should include, among other items, types of evacuation; evacuation procedures and routes; procedures for employees who remain to maintain critical operations; procedures for accounting for evacuated employees; employee rescue and medical duties; and means for reporting emergencies. An adequate emergency response program should also identify procedures for responding to an ammonia release, including shutting the system down; starting emergency ventilation; and coordinating with relevant off-site emergency responders. IIAR's ARM Program, Section 7. IIAR's ARM Revised Guidelines, Section 10 (2018), describes varying response levels depending on whether employees will respond to releases and provides model emergency planning documents.

39. At all times relevant to the allegations in this CAFO, Respondent failed in its general duty to minimize the consequences of an accidental release of an extremely hazardous substance at or from the Facility, in accordance with applicable industry standards (Identified in Attachment A) for ammonia refrigeration systems of the same size and type as Respondent's Systems, in at least the following respects.[3]

[3] Some of these deficiencies are also violations of Count I, as explained above.

40. ***Inadequate emergency ventilation system in machinery room:*** As noted in Count I and identified in Attachment A, the emergency ventilation systems for the ammonia machinery rooms had to be manually operated. Without adequate ventilation, vapors are more likely to build up to levels that are hazardous to human health or that risk causing fire or explosion. Moreover, a buildup of vapors makes it difficult to turn off equipment in the machinery room. Responders and employees cannot enter the machinery room to turn off the equipment until vapors have been ventilated, resulting in a prolonged release.

41. ***Inadequate visual/audible alarms:*** As noted in Count I and identified in Attachment A, the ammonia detection system alarms were inadequate and did not identify the purpose of the alarms that existed. 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.

42. ***Combustible materials in ammonia machinery rooms***: As noted in Count I and identified in Attachment A, there were combustible materials stored in the machinery rooms. These conditions exacerbate the risk of fire or explosion if there is an ammonia release because ammonia is flammable at certain concentrations. A fire or explosion could result in a much bigger release of ammonia than would otherwise occur.

43. ***Inadequate signage and labeling on System:*** As noted in Count I and identified in Attachment A, there was inadequate signage and labeling on various parts of the Systems, including doors, pipes, valves and equipment. The lack of signage and labeling could prevent workers and emergency responders responding to releases from having the information they would need to safely and timely perform their jobs. Signs and

posted information provide a level of protection in addition to worker training and operating procedures.

44. ***Machinery room door and walls not sealed tight:*** As noted in Count I and identified in Attachment A, at the time of the EPA inspection, the ammonia machinery rooms were not sealed off from other parts of the Facility with tight-fitting construction. In the event of a release, this risks the spread of ammonia vapors to other parts of the Facility and outdoors, putting employees and responders at risk.

45. ***Lack of safety showers***: At the time of the EPA inspection, the AMRS and AMRN contained emergency showers and eyewash stations inside each engine room, but not immediately outside the primary entrances to these rooms. The lack of adequate safety showers and eyewash stations would make it difficult for emergency responders and workers to safely respond to releases and wash off ammonia, a corrosive and toxic chemical, in the event of exposure. Examples of industry standards for the placement of eyewashes and safety showers are found in Attachment A.

46. ***Improperly placed discharge relief***: At the time of the EPA inspection, PRV piping and vent lines for the AMRS and AMRN were misdirected. Additionally, each of these vents were below the level of the maintenance access platforms for each condenser. Improperly placed discharge reliefs can result in ammonia being sprayed on people during a release, further exacerbating the consequences of a release. Examples of industry standards for the placement of pressure relief device discharge piping are found in Attachment A.

47. Accordingly, Respondent violated the requirement to minimize the consequences of any accidental release of anhydrous ammonia which does occur, as

required under the General Duty Clause, Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1).

V. TERMS OF SETTLEMENT

48. The provisions of this CAFO shall apply to and be binding on EPA and on Respondent and its officers, directors, agents, successors, and assigns.

49. Respondent stipulates that EPA has jurisdiction over the subject matter alleged in this CAFO and that this CAFO states a claim upon which relief may be granted against Respondent. Respondent hereby waives any defenses it might have as to jurisdiction and venue relating to the violations alleged in this CAFO.

50. Respondent neither admits nor denies the specific factual allegations contained in Section III of this CAFO or the violations alleged in Section IV of this CAFO. Respondent consents to the assessment of the penalty stated herein.

51. Respondent hereby waives its right to a judicial or administrative hearing on any issue of law or fact set forth in this CAFO and waives its right to appeal the Final Order.

52. Respondent certifies that it is currently operating the Facility in compliance with Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1).

53. Pursuant to Section 113(e) of the CAA, 42 U.S.C. § 7413(e), and considering the relevant statutory penalty criteria (particularly the economic impact of the penalty on the business), the facts alleged in this CAFO, and such other circumstances as justice may require, EPA has determined that it is fair and proper to assess a civil penalty of $78,200 for the violations alleged in this matter.

54. Respondent consents to the issuance of this CAFO and to the payment of the civil penalty cited in Paragraph 53.

55. Within thirty (30) days of the effective date of this CAFO, Respondent shall pay the total penalty amount of $78,200 according to the following instructions:

a. Respondent shall pay the total penalty by submitting a company, bank, cashier's, or certified check, payable to the order of the "Treasurer, United States of America," in the amount of $78,200, to:

U.S. Environmental Protection Agency
Fines and Penalties
Cincinnati Finance Center
P.O. Box 979077
St. Louis, MP 63197-9000

b. Respondent may make payment by electronic funds transfer instead of check via:

Federal Reserve Bank of New York
ABA = 021030004
Account = 68010727
SWIFT Address = FRNYUS33
33 Liberty Street
New York, NY 10045
Field Tag 4200 of the Fedwire message should read:
"D 68010727 Environmental Protection Agency"

c. Respondent shall include the case name and docket numbers ("*In re: Londonderry Freezer Warehouse, LLC,* Docket Nos. CAA-01-2019-0033") on the face of each check or wire transfer confirmation. In addition, at the time of payment, Respondent shall simultaneously send notice of the payment and a copy of each check or electronic wire transfer confirmation to:

Wanda I. Santiago
Regional Hearing Clerk (Mail Code ORA 18-1)
U.S. Environmental Protection Agency, Region 1
5 Post Office Square, Suite 100
Boston, MA 02109-3912

and

John W. Kilborn
Senior Enforcement Counsel (Mail Code OES 04-03)
U.S. Environmental Protection Agency, Region 1
5 Post Office Square, Suite 100
Boston, MA 02109-3912

56. If any portion of the civil penalty amount described in Paragraph 55 is not paid by the required due date, the total penalty amount of $78,200, plus all accrued interest shall become due immediately to the United States upon such failure. Then, interest as calculated in Paragraph 57 shall continue to accrue on any unpaid amounts until the total amount due has been received by the United States. Respondent shall be liable for such amount regardless of whether EPA has notified Respondent of its failure to pay or made a demand for payment. All payments to the United States under this Paragraph shall be made by company, bank, cashier's, or certified check, or by electronic funds transfer, as described in Paragraph 55.

57. **Collection of Unpaid Civil Penalty**: In the event that any portion of the civil penalty amount is not paid when due without demand, pursuant to Section 113(d)(5) of the CAA, Respondent 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). If 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. 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 Respondent's 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.

58. The civil penalty under this CAFO and any interest, nonpayment penalties, and other charges described herein shall represent penalties assessed by EPA and shall not be deductible for purposes of federal taxes. Accordingly, Respondent agrees to treat all payments made pursuant to this CAFO as penalties within the meaning of Section 1.62-21 of the Internal Revenue Code, 26 U.S.C. § 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.

59. This CAFO constitutes a settlement by EPA of all claims for civil penalties pursuant to Section 113(d) of the CAA 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 Respondent to comply with all applicable provisions of federal, state, or local law.

60. This CAFO in no way relieves Respondent or its 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 Respondent in response to conditions which may present an imminent and substantial endangerment to the public health, welfare, or the environment.

61. Nothing in this agreement shall be construed as prohibiting, altering, or in any way limiting the ability of EPA to seek any other remedies or sanctions available by virtue of Respondent's violation of this CAFO or of the statutes and regulations upon

which the Complaint and this CAFO is based, or for Respondent's violation of any applicable provision of law.

62. Nothing in this CAFO shall be construed to limit the power of the EPA to undertake any action against Respondent or any person in response to conditions that may present an imminent and substantial endangerment to the public health, welfare, or the environment.

63. This CAFO shall not relieve Respondent of its obligation to comply with all applicable provisions of federal, state, or local law; nor shall it be construed to be a ruling on, or determination of, any issue related to any federal, state, or local permit.

64. The parties shall bear their own costs and fees in this action, including attorney's fees, and specifically waive any right to recover such costs from the other parties pursuant to the Equal Access to Justice Act, 5 U.S.C § 504, or other applicable laws.

65. 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.

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

67. The terms, conditions, and requirements of this CAFO may not be modified without the written agreement of all parties and approval of the Regional Judicial Officer.

68. In accordance with 40 C.F.R. § 22.31(b), the effective date of this CAFO is the date on which it is filed with the Regional Hearing Clerk.

69. Each undersigned representative of the parties certifies that he or she is fully authorized by the party responsible to enter into the terms and conditions of this CAFO and to execute and legally bind that party to it.

FOR RESPONDENT LONDONDERRY FREEZER WAREHOUSE, LLC :

Edward Dougherty Date: MAY 20, 2019

Name:

Title: GENERAL MANAGER
Londonderry Freezer Warehouse, LLC

FOR U.S. ENVIRONMENTAL PROTECTION AGENCY:

Date: May 29, 2019

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

On the EPA's behalf, the Director of the Enforcement and Compliance Assurance Division, EPA Region 1, is delegated the authority to settle civil administrative penalty proceedings under CAA Section 113(d).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1

In the matter of	)	
Londonderry Freezer Warehouse, LLC	)	Docket No. CAA-01-0019-0033
Respondent.	)	
Proceeding under Section 113(d) of the Clean Air Act, 42 U.S.C. § 7413(d)	)	

FINAL ORDER

Pursuant to 40 C.F.R. § 22.18(b) and (c) of EPA's Consolidated Rules of Practice, the foregoing Consent Agreement is hereby ratified and incorporated by reference into this Final Order. Respondent is hereby ordered to comply with the terms of the above Consent Agreement, which will be effective on the date is filed with the Regional Hearing Clerk.

Date: June 7, 2019

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

Attachment 1

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 (Note that this Table does not include standards of care that came into effect after the EPA Inspection.)
Paragraph 27.a of CAFO Lack of functioning audio/visual ("AV") alarms: The AMRN only had audio/visual ("AV") alarms inside (but not outside) the engine room to warn people of an ammonia release, and the AMRS did not have adequate AV alarms inside the room. Primary access doors into both the AMRN and AMRS were not equipped with adequate AV alarms. Some doors had visual alarms, but no audio alarms. None of the alarms were marked to identify the purpose of the alarm.	Failure to design and maintain a safe facility taking such steps as are necessary to prevent releases. Failure to minimize the consequences of releases which do occur.	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.	ANSI/IIAR 2-2008 (Add. B, 2012 ed.), *Equipment, Design, and Installation of Closed-Circuit Ammonia Mechanical Refrigerating Systems*, Section 13.2 (Each refrigerating machinery room shall contain at least two refrigerant detectors that activate an alarm and mechanical ventilation.); Section 13.2.1.2 (The detectors shall activate visual and audible alarms inside the refrigerating machinery room and outside each entrance to the refrigerating machinery room.); ANSI/IIAR 2-2014, Sections 6.13.1 and 17.7 (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.); 6.13.2.3 (Detection of ammonia equal to or exceeding 150 ppm shall activate visual indicators and audible alarm and activate emergency ventilation; emergency ventilation shall continue to operate until manually reset by a switch located in the machinery room.); 6.13.2.4 (Detection of ammonia concentration that exceeds detector's upper detection limit or 40,000 ppm (25% LFL), whichever is lower, shall activate visual indicators and audible alarm and emergency ventilation; ventilation will continue to operate until manually reset; refrigerant compressors, refrigerant pumps, and normally closed automatic refrigerant valves not part of emergency control system will be automatically de-energized.); 7.2.(Requirements for Non machinery Room Spaces, specifically 7.2.3 which provides — with key exceptions — that Level 1 detection and alarm shall be provided in accordance with 17.7.1 and that the detection/alarm system shall comply with Chapter 17; 17.4 (detectors shall be mounted in position where ammonia from a leak is expected to accumulate); 17.7.3 (additional requirement that level 3 alarm shall activate system to close control valves and de-energize refrigerant pumps, nonemergency fans and other

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			motors); 17.5 (audible alarms shall provide sound pressure level of 15 decibels (dBA) above average ambient sound level and 5 dBA above maximum sound level of the area); ANSI/ASHRAE 15-2013, *Safety Standard for Refrigeration System,* Section 8.11.2.1 (Each refrigerating machinery room shall contain a detector located in an area where refrigerant from a leak will concentrate that activates an alarm and mechanical ventilation....The alarm shall annunciate visual and audible alarms inside the refrigerating machinery room and outside each entrance to the refrigerating machinery room.); NFPA 1 (2012 ed.) Section 53.2.3.1 (requirement for vapor detectors, monitors and alarm system); Section 8.12.h (When ammonia is used, the machinery room is not required to meet Class 1, Division 2 of the National Electric Code provided (a) the mechanical ventilation system in the machinery room is run continuously and failure of the mechanical ventilation system actuates an alarm or (b) the machinery room is equipped with a detector, conforming to Section 8.11.2.1, except the detector shall alarm at 1000 ppm.); and IIAR's Ammonia Refrigeration Manual (2005), Appendix 10.1, item 9.2 at A10-36.
Paragraph 27.b and 27.n Doors into the AMRS and AMRN did not contain adequate warning signs, including NFPA hazard diamonds.	Failure to design and maintain a safe facility taking such steps as are necessary to prevent releases. Failure to minimize the consequences	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	ANSI/IIAR 2-2008 (Add. B., 2012 ed.), *Equipment, Design, and Installation of Closed-Circuit Ammonia Mechanical Refrigerating Systems,* Section 13.1.10.4: There is a requirement in the section entitled, "Entrances and Exits," that refrigerating systems shall be provided with approved informative signs, emergency signs, charts and labels in accordance with NFPA 704. Hazard signs shall be in accordance with International Mechanical Code. (Refers to Appendix L). Also see Section 13.1.2.4 (signs restricting entry to authorized personnel), Section 13.2.4.1 (signs with meaning of alarms near the visual and audible alarms); and Appendix L (examples of recommended machinery room door signage); ANSI/IIAR 2-2014, Sections 6.3.4 and 6.15 (requires that access to machinery room be restricted to authorized personnel and that machinery room doors shall have restricted

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 (Note that this Table does not include standards of care that came into effect after the EPA Inspection.)
	of releases which do occur.	addition to worker training and operating procedures.	access, signage, alarm signage and NFPA 704 placards); Sections 6.15.2 and 17.6 (use of signage to identify ammonia leak detection alarms); Appendix J (examples of recommended machinery room door signage); ANSI/ASHRAE 15-2013, *Safety Standard for Refrigeration Systems*, Sections 8.11.2.1 (signs with meaning of alarms); 8.11.8 (signs restricting entry to authorized personnel); 11.2.4 (same); 11.7 (posted emergency shutdown procedures); NFPA 704 (re. readability of signs); and IIAR's Ammonia Refrigeration Manual (2005), Appendix 10.1, item 11.3 at A10-40 ("Is access to the machinery room(s) restricted to authorized personnel?").
Paragraph 27.c The AMRS and AMRN contained emergency showers and eyewash stations inside each engine room, but not immediately outside the primary entrances to these rooms.	Failure to minimize the consequences of releases which do occur.	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.	ANSI/IIAR 2-2008 (2012 ed.), Equipment, Design, and Installation of Closed-Circuit Ammonia Mechanical Refrigerating Systems, Section 13.1.6 (An eyewash and body shower unit shall be located external to the machinery room and readily accessible via an exit.); and ANSI/IIAR 2-2014, Section 6.7 (Eyewash/Safety Shower. 6.7.1 General. 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 Section 6.7.3. Additional eyewash/safety shower units shall be installed such that the path of travel in the machinery room is no more than 55 ft to an eyewash/safety shower unit. Section 6.7.2 Path of Travel. The path of travel within the machinery room to at least one eyewash/safety shower unit shall be unobstructed and shall not include intervening doors. Section 6.7.3 Installation Standard. Emergency eyewash/safety shower unit installations shall comply with ANSI/ISEA Z358.1).
Paragraph 27.d The inspectors observed a significant amount of piping and	Failure to design and maintain a safe facility taking	Makes it more difficult to: properly maintain system, operate	IIAR Bulletin No. 109, *IIAR Minimum Safety Criteria for a Safe Ammonia Refrigeration System,* Section 4.7.6 (All ammonia piping should have appropriate pipe markers attached to indicate the use of the pipe and arrows to indicate the direction of flow, such as in IIAR Bulletin No. 114…);

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equipment in both the AMRS and AMRN and on the roof and at other ammonia-containing areas that was inadequately labeled or missing labeling indicating contents, physical state, direction of flow, and specific identification tags.	such steps as are necessary to prevent releases. Failure to minimize the consequences of releases which do occur.	correct valves, warn workers and emergency responders about hazards posed by system, reduce risk of human error in operating the system, and respond quickly in the event of a release.	IIAR Bulletin No. 114, *Identification of Ammonia Refrigeration Piping and System Components*; Section 4.1 (Piping Markers: 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); Section 4.2 (Component Markers: Component markers will bear the name of the equipment they identify, e.g., RECEIVER, ACCUMULATOR, RECIRCULATOR and provide a pressure level designation.); ANSI/IIAR 2-2008 (Add. B, 2012 ed.), *Equipment, Design, and Installation of Closed-Circuit Ammonia Mechanical Refrigerating Systems*, Section 10.6 (All piping mains, headers and branches shall be identified as to the physical state of the refrigerant (that is, vapor, liquid, etc.), the relative pressure level of the refrigerant, and the direction of flow. The identification system used shall either be one established as a standard by a recognized code or standards body or one described and documented by the facility owner.);[1] ANSI/IIAR 2-2014, Sections 5.14.2 (Refrigeration machinery shall be provided with labels); 5.14.3 (Emergency shutdown valves shall be clearly and uniquely identified at the valve itself and in the system schematic drawings); 5.14.5 (Ammonia piping mains, headers, and branches shall be identified with the following information: (1) "AMMONIA;" (2) physical state of the ammonia; (3) relative pressure level of ammonia, being low or high as applicable; (4) pipe service (can be abbreviated); and (5) direction of flow. The marking system shall either be one established by a recognized model code or standard or one described and documented by facility owner.); ANSI/ASHRAE 15-2013, Section 11.2.2 (Systems containing more than 110 lbs of refrigerant shall be provided with durable signs…designating (a) valves or switches for controlling the refrigerant flow, the ventilation, and the refrigeration compressor(s); and (b) the kind of refrigerant or secondary coolant contained in exposed piping outside the machinery room. Valves or piping adjacent to valves shall be identified in accordance with *ANSI 13.1, Scheme for Identification of Piping Systems*.);

[1] This particular requirement was in Section 10.5 of the 2010 edition.

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			IIAR's *Ammonia Refrigeration Manual,* Section 4.2 (recommends labeling in accordance with Bulletin 114 as part of the facility's Standard Operating Procedure program); and ASME 13.1 (2007), specifying conventions for labeling piping.
Paragraph 27.e The walls of the AMRS and AMRN did not have tight seals around several pipes and electrical conduits where such pipes and conduits penetrated the AMRS and AMRN.	Failure to minimize the consequences of releases which do occur.	Allows release of ammonia inside the machinery rooms to spread to other parts of the building, putting employees and responders at risk.	ANSI/ASHRAE-15(2013), Sections 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.); 8.11.7 (There shall be no air flow to or from an occupied space through a machinery room unless the air is ducted and sealed in a manner to prevent any refrigerant leakage from entering the airstream); and 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.); ANSI/IIAR 2-2008 (Add. B, 2012 ed.), Section 13.1.1.3 (Walls, floor, and ceiling shall be tight and of non-combustible construction — with exception from non-combustible construction requirement for buildings equipped with automatic sprinkler system); Section 13.1.5.2 (All pipes piercing the interior walls, ceiling, or floor of machinery rooms shall be tightly sealed to the walls, ceiling, or floors through which they pass.); ANSI/IIAR 2-2014, Section 6.6.2 (Pipes penetrating the machinery room separation shall be sealed to the walls, ceiling, or floor through which they pass); 6.2.5 (Airflow from Occupied Spaces. Air shall not flow to or from any portion of a premises that is routinely accessible to or occupied by people on a part time or full-time basis through a machinery room unless the air is ducted and sealed to prevent ammonia leakage from entering the airstream. Access doors and panels in ductwork and air handling units located in a machinery room shall be gasketed and tight-fitting.); and IIAR's *Ammonia Refrigeration Manual*, Appendix 10.1, item 11.28 ("Are all pipes piercing the exterior walls, ceiling or floor of the machinery room(s) tightly sealed ….?").

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Paragraph 27.f In the AMRS, the inspectors could not read some of the "U" or "UM" stamps signifying compliance with the rules of Section VIII of the ASME Boiler and Pressure Vessel Code (BPVC) on some of the compressor oil separator pots that were greater than six inches in diameter.	Failure to design and maintain a safe facility taking such steps as are necessary to prevent releases.	These stamps provide operators and inspectors with essential understanding of the functioning and capacity of the system and the risks that the system poses. They are also essential in ensuring the proper maintenance of the system. Releases are more likely, and their consequences more severe, when there is limited information available for hazard identification and minimization.	IIAR Bulletin No. 109 (1997), *Minimum Safety Criteria for a Safe Ammonia Refrigeration System*, (Safety Inspection Checklists); Section 4.3.1.2 (specifying name plate requirements for pressure vessels); IIAR Bulletin No. 110, *Start-up, Inspection and Maintenance of Ammonia Mechanical Refrigerating Systems*, Sections 4 (calling for readily available records, including but not limited to name plate data, relief system design and basis, pressure relief device types, set pressures, and dates of installation, and ventilation specifications, including air flow diagrams; "records shall contain a schematic refrigeration circuit or flow diagram for the refrigerating system. Controls and valves which are most likely to be of importance in an emergency shall be clearly identified on the diagram which shall be updated when changes are made to the system.") and 6.4 (testing/information requirements to demonstrate that pressure vessels are fit for service); IIAR's *Ammonia Refrigeration Manual*, Section 3, including MSDS sheets, documentation of ammonia inventory at facility (e.g., documentation of ammonia charges, ammonia inventory during pump-out conditions, or detailed pipe-by-pipe/vessel-by-vessel inventory calculations); refrigeration flow diagrams; facility plan view (for use with fire department); equipment list for ammonia refrigeration equipment with detailed information about the equipment; desired system operating ranges (document desired system operating ranges for pressure, levels, and temperatures in the system); information regarding safety systems (e.g., alarms, compressor cut-outs, and ammonia detection systems); relief system design; ventilation system capacity; installation, operation, and maintenance manuals; and manufacturers data reports for all pressure vessels); ANSI/IIAR 2-2014, Sections 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); 15.3.7 (specifying that pressure relief devices shall have sufficient mass flow carrying capacity to limit the pressure rise in protected equipment to prevent catastrophic failure and setting out how to determine capacity of pressure relief devices for several different types of vessels including pressure vessels, oil separators, plate heat

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 (Note that this Table does not include standards of care that came into effect after the EPA Inspection.)
			exchangers, shell and tube heat exchangers, product storage tanks); 15.5 (specifying how and where ammonia should be discharged through pressure relief devices — generally to the atmosphere with some exceptions, and how to calculate length of discharge pipe); 12.2.2 (specifying that pressure vessels exceeding six inches inside diameter must comply with the ASME Boiler and Pressure Vessel Code, Section VIII Division 1); 12.4.1 (specifying information that must be on pressure vessel nameplates, including manufacturer's name, maximum allowable working pressure information, minimum design metal temperature information, manufacturer's serial number, year of manufacture, manufacturer's model number where applicable, and a stamp affixed to the equipment with the minimum design metal temperature that the equipment is operated at in accordance with the ASME Boiler and Pressure Vessel Code, Section VIII, Div. 1); 5.14.4 (Requiring that equipment shall have a nameplate with minimum data that describes or defines the manufacturer's information and design limits and purpose as specified in Chapter 8 through Chapter 16, specifications regarding how the nameplates shall be affixed, and requirements for duplicate nameplates); 6.14.1 and 6.14.7 (requiring calculated minimum rates of ventilation); ANSI/IIAR 2-2008, Sections 9.3 (nameplate requirements for pressure vessels); 11.2.7 (specifying the required discharge capacity of a pressure relief device); and 11.3 ("The size of the discharge pipe from a pressure-relief device shall not be less than the outlet size of the pressure-relief device. The size and maximum equivalent length of common discharge piping downstream from each of two or more relief devices shall be governed by the sum of the discharge capacities of all the relief devices that are expected to discharge simultaneously, at the lowest pressure setting of any relief devices that discharging into the piping, with due allowance for the pressure drop in all downstream sections."); ANSI/ASHRAE 15-2013, Sections 9.7.5 (specifying minimum discharge capacities of pressure-relief device or fusible plugs for each pressure vessel), 9.7.6 (specifying how to determine the rated discharge capacity of a pressure relief device and specifying that all pipe and fittings between the pressure-relief valve and the parts of the system it protects

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			shall have at least the area of the pressure-relief valve inlet area); 9.7.7 (formulas for determining rated discharge capacity); 9.3.2 (Pressure vessels having an inside diameter exceeding 6 inches and having an internal or external design pressure greater than 16 psig shall be directly marked, or marked on a nameplate, with a "U" or "UM" symbol signifying compliance with the rules of Section VIII of the AME Boiler and Pressure Code.); 9.4 (pressure relief protection); 8.11.4 and 8.11.5 (formulas for determining required mechanical ventilation capacity); and National Board Inspection Code Part 2 — Inspection (regarding procedures to follow when nameplates are missing).
Paragraph 27.g There was missing, damaged, and stained insulation in multiple areas on ammonia piping and vessels along the roof servicing both the AMRS and AMRN.	Failure to design and maintain a safe facility taking such steps as are necessary to prevent releases.	Vapor barriers protect pipes and vessels from moisture, which causes corrosion. Corroded pipes and vessels can break or succumb to pressure, causing an ammonia release.	IIAR Bulletin No. 109, *IIAR Minimum Safety Criteria for a Safe Ammonia Refrigeration System,* Section 4.7.5 (Insulated piping showing signs of vapor barrier failure should have the insulation removed and the pipe inspected....); IIAR Bulletin 110 -- 6.7.2 (Insulated Piping: 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.); 6.4.3 (Annual Inspection: "In the case of pressure vessels and heat exchangers covered by insulation, any effects of dampness or deterioration of the insulation which could lead to the eventual corrosion of the vessel or its connections shall be investigated. Surface treatment shall be applied to the vessels if required and the insulation shall be repaired within the shortest time."); and ANSI/IIAR 2-2014, Section 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); See also Section 6.6.1 (piping and fittings shall be insulated as required by Section 5.10).
Paragraph 27.h The isolation valves (e.g., king valves) for the ammonia in the	Failure to design and maintain a safe facility taking	See condition regarding labeling of valves.	IIAR Bulletin No. 109, *IIAR Minimum Safety Criteria for a Safe Ammonia Refrigeration System,* Section 4.10.3 (The main shut-off valve(s) (king valve(s)), hot gas defrost line main shut-off valve, and NH_3 pump liquid main shut-off valve(s) and/or disconnects of the ammonia system should be readily accessible and identified with a prominent sign

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AMRS high pressure receiver ("HPR") were not clearly labeled and identified. In addition, the isolation valve for the AMRN HPR was located approximately eight to ten feet above ground level with no permanent platform, ladder, or chain for operation to access the valve in the case of an emergency.	such steps as are necessary to prevent releases. Failure to minimize the consequences of releases which do occur.	Also, the king valve can be used to quickly shut off flow of ammonia from the ammonia receiver to the rest of the system. Any impediment to its use can lengthen the time of a release, endangering workers, emergency responders, and people off-site.	having letters sufficiently large to be easily read.); See also General Safety Checklist items (d) and (e); ANSI/ASHRAE 15-2013, *Safety Standard for Refrigeration Systems*, Section 11.2.2 (Systems containing more than 110 lbs of refrigerant shall be provided with durable signs…designating (a) valves or switches for controlling the refrigerant flow, the ventilation, and the refrigeration compressor(s).); ANSI/IIAR 2-2014, Sections 5.14.2 (Refrigeration machinery shall be provided with labels.); 5.14.3 (Emergency shutdown valves shall be clearly and uniquely identified at the valve itself and in the system schematic drawings.); NFPA 2-2012 Section 53.2.4.2 (Systems containing more than 110 lbs of refrigerant must have signs for main shutoff to each vessel, electrical controls, remote control valve, pressure limiting device.); ANSI/IIAR 2-2014, Sections 6.3.3.1 (Manually operated valves inaccessible from floor level shall be operable from portable platforms, ladders, or shall be chain operated.); 6.3.3.2 (Manually operated isolation valves that are part of system emergency shutdown procedure shall be directly operable from floor or chain operated from a permanent work surface.); IIAR Bulletin 109, Section 4.10.3 (The main shut-off valve(s) should be readily accessible….) and General Safety checklist, item e.; and IIAR's *Ammonia Refrigeration Manual*, Appendix 10.1, items 7.6 (accessibility of main valves), 11.5 (availability of platforms, ladders or chains for inaccessible valves), 11.33 (lighting).

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Paragraphs 27.i and 27.l On the rooftop condenser for the AMRS, the inspectors observed several instances of rusted valves and piping around uninsulated valve manifolds. The support legs on the AMRS roof-top condenser showed significant signs of rust and degradation.	Failure to design and maintain a safe facility taking such steps as are necessary to prevent releases.	Risks release of ammonia from pipes and/or system components if corrosion continues to point of failure.	The industry standard of care calls for a *preventative* maintenance program. *See, e.g.*, IIAR's *Ammonia Refrigeration Manual,* Section 5 and Appendix 5.1; IIAR Bulletin No. 110, *Startup, Inspection and Maintenance of Ammonia Mechanical Refrigerating Systems,* Section 4.3 (regarding inspection of equipment after being out of use for, among other things, corrosion); Section 6.6 (Inspection and Maintenance — Valves and Sensing Devices) and Section 6.7 (Inspection and Maintenance — Piping); IIAR Bulletin No. 109, *IIAR Minimum Safety Criteria for a Safe Ammonia Refrigeration System,* Sections 4.7.4 and 4.7.5 and inspection checklists (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 prevention 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....); (inspection checklists have corrosion monitoring question for pressure vessels, heat exchangers, evaporators, condensers, and piping.); FM Global Property Loss Prevention Data Sheet 12-61 *Mechanical Refrigeration,* Section 2.2.1.2 (Piping, heat exchangers and other system pressure vessels should be well supported and protected against mechanical and corrosion damage.); Section 53.3.1.1 of NFPA 1 (2012 ed.)[2] (Refrigeration systems shall be operated and maintained in a safe and operable condition, free from accumulations of oil, dirt, waste, excessive corrosion, other debris or leaks, and in accordance with ASHRAE 15 and the mechanical code.); IMC 2009, Section 1101.7 (Mechanical refrigeration systems shall be maintained in proper operating condition, free from accumulations of oil, dirt, waste, excessive corrosion, other debris and leaks.); and

[2] See 53.5.1 and 53.5.3 of NFPA 1 (2003 and 2006 edition). Citations in the 2012 edition changed considerably from earlier versions.

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			ANSI/IIAR 2-2014, Section 13.4.2 (requiring refrigerant piping to be isolated and supported to prevent damage from vibration, stress, corrosion, and physical impact).
Paragraph 27.j The AMRS and AMRN were not adequately vented and, in particular, the pressure relief valve ("PRV") vent lines for the AMRS and AMRN were misdirected. Each of these vents were below the level of the maintenance access platforms for each condenser.	Failure to minimize the consequences of releases which do occur.	Improperly placed discharge reliefs can result in ammonia being sprayed on people during a release, further exacerbating the consequences of a release.	ANSI/IIAR 2-2008 (Add. B., 2012 ed.), Sections 11.3.2 and 11.3.4 (sizing requirements for relief piping and header); Sections 11.3.6.3 (requirement to discharge at least 20 feet from window, ventilation intake or personnel exit) and 11.3.6.4 (requirement to discharge to atmosphere at least 15 feet above adjacent roof level); ANSI/IIAR 2-2014, Section 15.5 (pressure relief device discharge piping must discharge at least: 7.25 feet above the roof, adjacent roof line or platform surface; 15 feet above grade and at least 20 feet from windows, ventilation intakes, or exits, and discharge shall be directed upward and arranged to avoid spraying ammonia on persons in the vicinity); 6.14.3.4 (Machinery room exhaust shall vent to the outdoors no fewer than 20 feet from a property line or openings into the buildings.); and ANSI/ASHRAE 15 (2013) Section 9.7.8 (Requires discharge to atmosphere 15 feet above adjoining ground level and not less than 20 feet from window, ventilation opening, or exit. Discharge shall terminate in a manner that will prevent discharged refrigerant from being sprayed on people.); Section 9.7.8.4 (Sizing requirements – size of discharge pipe from a pressure relief device or fusible plug shall not be less than the outlet size of the pressure relief device or fusible plug).
Paragraph 27.k The inspectors observed pallet racks installed near the ceiling and directly underneath ammonia piping and evaporator units in the "#2 Room."	Failure to design and maintain a safe facility taking such steps as are necessary to prevent releases.	Risks ammonia release from accidental damage to system components.	ANSI/ASHRAE 15 (2013), Section 11.1 (Means shall be taken to adequately safeguard piping, controls and other refrigeration equipment to minimize possible accidental damage or rupture due to external sources.); ANSI/IIAR 2-2014, Sections 5.17.1 (Guarding or barricading shall be provided for ammonia-containing equipment installed in a location subject to physical damage.); 13.4.2 (Refrigerant piping shall be isolated and supported to prevent damage from vibration, stress, corrosion, and physical impact.); IIAR Bulletin 109, Section 7 Inspection Checklists for evaporators, item g (adequate protection against traffic hazards?), item b (piping);

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			Ammonia Refrigeration Manual, Appendix 10.1, item 8.10 ("Is all piping protected from traffic hazards such as fork lifts?"); and IMC 2009, Section 1107.2 (Refrigerant piping that crosses an open space that affords passageway in any building shall be not less than 7 feet 3 inches above the floor unless the piping is located against the ceiling of such space.).
Paragraph 27.m The Facility contained only one windsock.	Failure to minimize the consequences of releases which do occur.	Properly placed windsocks help minimize the consequences of releases that do occur by helping emergency responders understand what direction the wind may be carrying toxic ammonia plumes. They can issue shelter-in-place orders or muster evacuees accordingly.	40 C.F.R. § 1910.119 Appendix C -- Compliance Guidelines and Recommendations for Process Safety Management (Nonmandatory): (For outdoor processes where wind direction is important for selecting the safe route to a refuge area, the employer should place a wind direction indicator such as a wind sock or pennant at the highest point that can be seen throughout the process area. Employees can move in the direction of cross wind to upwind to gain safe access to the refuge area by knowing the wind direction); ANSI/IIAR 2-2014, Section 5.14.6 (Where a sock, pennant or other wind indicator is provided, it shall be in accordance with specifications and locations prescribed by emergency planning documents.); and IIAR's Ammonia Refrigeration Manual, Appendix 10.1, Hazard Review Checklist, item 11.22 at A10-43 ("Is a windsock or some other means of indicating wind direction provided at the facility?").
Paragraph 27.o A clearly marked emergency ventilation switch with on/override capability and a tamper-resistant cover was not available immediately	Failure to design and maintain a safe facility taking such steps as are necessary	Creates risk of harm to workers and emergency responders who cannot quickly shut down or properly	ANSI/ASHRAE 15-2013, *Safety Standard for Refrigeration Systems,* Section 8.12.i (Remote control of the mechanical equipment in the refrigerating machinery room shall be provided immediately outside the machinery room door solely for the purpose of shutting down the equipment in an emergency. Ventilation fans shall be on a separate electrical circuit and have a control switch located immediately outside the machinery room door.);

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outside each primary access door to either the AMRS or AMRN. During the inspection, emergency controls at the ground levels for the ARMS and AMRN were both locked, and or maintained in conditions that, in the event of an emergency, were not immediately accessible to any of Respondent's employees.	to prevent releases. Failure to minimize the consequences of releases which do occur.	ventilate machinery room without entering the room, which could contain dangerous levels of vapors. The delay could also contribute to a longer ammonia release time, increasing risks to workers, emergency responders, and people off-site.	ANSI/IIAR 2-2008 (Add. B, 2012 ed.), *Equipment, Design, and Installation of Closed-Circuit Ammonia Mechanical Refrigerating Systems,* Section 13.1.13.2 (A remote emergency shutdown control for refrigerant compressors, refrigerant pumps, and normally closed automatic refrigerant valves within the machinery room, shall be provided immediately outside the designated principle exterior machinery room door...); Section 13.3.1 (....The mechanical ventilation systems shall be powered independently of the machine room machinery and shall not be subject to emergency shutdown controls.).; Section 13.3.11 (Ventilation Remote Controls, specifically 13.3.11.1, specifies that emergency remote controls for the emergency mechanical ventilation systems shall be provided and be located immediately outside the designated principle exterior machinery room door.); Section 13.3.11.2 (specifies that the function of the emergency remote controls shall be clearly marked by signage near the controls); Section 13.3.11.3 (specifies that there must be an "on/auto" override for emergency ventilation immediately outside the designated principle exterior machinery room door); and Section 13.3.11.4 (specifies that there should be a "on/off/auto" override for normal and emergency ventilation at a secured remote location."); ANSI/IIAR 2-2014, Section 15.15 (Directions for emergency shutdown should be provided at a location readily accessible to trained refrigeration system staff and trained emergency responders; schematic drawings or signage should include details/steps for shutting down the system in an emergency; contact names and telephone numbers for refrigeration system operating, maintenance and management staff, emergency responders, and safety personnel; contact names and telephone numbers of corporate, local, state and federal agencies to be contacted in event of reportable incident; quantity of ammonia in the system, type and quantity of refrigerant in system; and the field test pressures applied); Section 6.12.1 (Emergency Stop Switch. A clearly identified emergency shut-off switch with a tamper resistant cover shall be located outside and adjacent to the designated principal machinery room door. The switch shall provide off-only control of refrigerant compressors, refrigerant pumps, and normally closed automatic refrigerant valves located in the machinery room. The function of the switch shall be clearly marked by signage near the controls.); 6.12.2 (Emergency Ventilation

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			Control Switch. A clearly identified control switch for emergency ventilation with a tamper-resistant cover shall be located outside the machinery room and adjacent to primary machinery room door. The switch shall provide "ON/AUTO" override capability for emergency ventilation. The function of the switch shall be clearly marked by signage near the controls.); Section 6.14.7.3 (Emergency ventilation shall be powered independently of machine room equipment and continue to operate regardless of whether emergency shutdown controls have been activated.); and NFPA 1 (2012 ed.) Section 53.2.3.1.4 (emergency shut-off interface requirements, requiring vapor detectors to automatically turn off electrical power at concentrations at or above 25% of LFL); 53.2.3.3.1 (requiring emergency ventilation switch right outside machinery room door).[3] Also, see Sections 53.2.3.4.5 (shutoffs for refrigeration machinery) and 53.2.3.3.1 (ventilation switch).
Paragraph 27.p In the AMRS the inspection team observed cardboard boxes, miscellaneous pieces of wood, florescent bulbs, metal oil drums, and other combustible materials. The oil drums were not stored in secondary containment.	Failure to design and maintain a safe facility taking such steps as are necessary to prevent releases. Failure to minimize the consequences of releases	Exacerbates risk of fire or explosion. Ammonia is flammable at certain concentrations.	ANSI/IIAR 2-2008 (Add. B., 2012 ed.), *Equipment, Design, and Installation of Closed-Circuit Ammonia Mechanical Refrigerating Systems*, Section 13.1.3.1 (Flammable and combustible materials shall not be stored in machinery rooms.); Section 13.1.7 Electrical Safety (requires wiring to be installed in accordance with the National Electrical Code); NFPA 1 (2012 ed.), Section 53.3.1.3.1 (Flammable and combustible materials shall not be stored in the refrigeration machinery rooms except for incidental materials necessary for the safe and proper operation and maintenance of the system.)[4]; 53.2.3.4 and 11.1 (Electrical equipment and electrical installations in refrigeration machinery room shall comply with Section 11.1.);

[3] Sections 53.11, 53.10.2, 53.10.9, and 5.10.5 of NFPA-1 2006 edition.

[4] Section 53.10.7, 53.12, and 53.10.8.2 of NFPA-1 (2006 edition). Note that NFPA 1 (2006 ed.) has different provisions than the 2012 edition for electrical safety, but the restriction on storage of flammable or combustible materials is the same as in the 2012 edition.

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	which do occur.		
Paragraph 27.q There were no emergency shut down instructions posted outside either the AMRS or AMRN.	Failure to design and maintain a safe facility taking such steps as are necessary to prevent releases. Failure to minimize the consequences of releases which do occur.	Increases the chance of 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. Proper emergency procedures can also prevent larger releases.	IIAR Bulletin 109, Section 4.10.5 (A sign or signs should be posted in a conspicuous location providing emergency instructions and phone numbers of emergency safety and operating personnel.); ANSI/AHSRAE 15-2013, Section 11.7 (Responsibility for Operation and Emergency Shutdown: ...Emergency shutdown procedures, including precautions to be observed in case of a breakdown or leak, shall be displayed on a conspicuous card located as near as possible to the refrigerant compressor. These precautions shall address (a) instructions for shutting down the system in case of an emergency; (b) the name, address, and day and night telephone numbers for obtaining service; (c) the names, addresses and telephone numbers of all corporate, local, state, and federal agencies to be contacted in the event of a reportable incident. When a refrigerating machinery room is used, the emergency procedures shall be posted outside the room, immediately adjacent to each door. The emergency procedures shall forbid entry into the refrigerating machinery room when the refrigerant alarm required by Section 8.11.2.1 has been activated except by persons provided with the appropriate respiratory and other protective equipment and trained in accordance with jurisdictional requirements.); ANSI/IIAR 2-2014, Section 5.15 (Emergency Shutdown Documentation. 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 system 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; (2) the name and telephone numbers of the refrigeration operating, maintenance, and management staff, emergency responders, and safety personnel; (3) the names and telephone numbers of all corporate, local, state, and federal agencies to be contacted as required in the event of a reportable

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			incident; (4) quantity of ammonia in the system; (5) type and quantity of refrigerant oil in the system; (6) field test pressures applied.; and IIAR's *Ammonia Refrigeration Manual*, Section 4.2, recommending that emergency shutdown procedures be written.
Paragraph 27.r Respondent operated the Facility without adequate personnel training.	Failure to minimize the consequences of releases which do occur.	Inadequately trained operators may manage refrigeration systems unsafely, which could lead to a release that injures the operator, other employees, and people off-site. Also, inadequately trained employees may not be able to respond safely during a release, thereby making the consequences of a release more dangerous.	IIAR Bulletin No. 109, Minimum Safety Criteria for a Safe Ammonia Refrigeration System, Section 5.1 [Each plant should have an owner's appointed representative responsible for compliance with all refrigeration safety requirements.]; IIAR Bulletin No. 110, Start-up, Inspection and Maintenance of Ammonia Mechanical Refrigerating Systems, Section 5.2.3 [Training] IIAR's Ammonia Refrigeration Manual, Section 2 [Management System], Section 9 [Training Program]; 29 C.F.R. § 1910.1200 [requiring all employees to be trained about any operations in their work areas where hazardous chemicals are present]