

U.S. ENVIRONMENTAL PROTECTION AGENCY

Region 1

EPCRA and CAA § 112(r) Inspection Report

Date: August 15, 2023
From: Len Wallace, USEPA Enforcement Officer
Through: Mary Jane O'Donnell, Manager
Waste and Chemical Compliance Section
To: File
Subject: Chemical Accident Investigation and Inspection, under Clean Air Act (CAA) Risk Management Plan (RMP) Section 112(r) and Emergency Planning and Community Right-To-Know Act (EPCRA) Sections 302-312, and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 103 of Cargill, Inc. located in North Kingstown, RI

I. GENERAL INFORMATION

Facility Name: Cargill Meat Solutions

Dun and Bradstreet Number: 00-624-9189

RMP Number: 100000244639

Address: 60 Compass Circle
North Kingstown, Rhode Island, 02852

Inspector Names: Len Wallace, U.S. Environmental Protection Agency (EPA) Region 1
Andrew Meyer, U.S. EPA Region 1
Tyler Diercks, U.S. EPA Region 1
Ryan Maisano, U.S. EPA Region 1
Mark Briggs, Eastern Research Group, Inc. (ERG)
John Burton, Weston Solutions

Inspection Date: May 1, 2023

Type of Inspection: Risk Management Plan (RMP) CAA § 112(r); CAA § 112(r)(1) General Duty Clause (GDC), CERCLA § 103, and EPCRA §§ 302-313 Compliance Evaluation Inspection. This inspection was conducted as a routine EPA CAA § 112(r)/EPCRA compliance evaluation inspection. The Cargill Meat Solutions facility in North Kingstown, RI was selected for inspection because the facility's Reporting Year (RY) 2022 EPCRA § 312 Tier II report indicates the Facility's refrigeration system contains 19,000 pounds of anhydrous ammonia and that the Facility stores other extremely hazardous substances (EHSs) such as sulfuric acid in lead-acid batteries. The facility filed an RMP on August 5, 2020.

Current Owner: Ahold Delhaize USA

Current Operator: Cargill, Inc.

Primary NAICS codes: 311612 (Meat Processed from Carcasses)

Number of full-time employees: 650

Estimated Annual Sales: \$114.6 billion (Cargill, Inc. corporate wide)^[1]

Relationship to other firms, parent corporation, subsidiaries, and location of off-site facilities: NA

II. GENERAL FACILITY DESCRIPTION

Cargill Meat Solutions is located at 60 Compass Circle in North Kingstown, RI (Cargill or the Facility). The Facility began operations in 2020 and repackages approximately 1.4 million pounds per week of boxed meat (beef and pork) for sale at Stop and Shop Food Stores. Repackaging and warehousing (i.e., cold storage) operations occur in a single 200,000 square foot building. The Facility is bordered by commercial/industrial properties to the west, a rail line and RI State Route 403 to the north, undeveloped land and Post Road to the east, and undeveloped land and residential properties to the south. At the time of the site visit, the Facility had approximately 650 full-time employees and was non-union. The Facility operates six days per week, and employees typically work four 10-hour shifts per week. Attachment 1 is a Google Earth aerial photograph of the Cargill facility in North Kingstown, RI.

The Facility uses an ammonia refrigeration system to chill the cold storage area and maintain processing temperatures in both the packaging and shipping areas. A single ammonia machinery room (AMR) is located inside the main building. Ammonia condensers as well as ammonia piping are located on the roof and numerous ammonia evaporators are suspended from the ceilings in locations where cooling is required.

The facility also maintains pressure vessels staged on the exterior side of the building that contain liquid carbon dioxide, liquid oxygen, and liquid nitrogen. A separate fire pump building houses the fire suppression system for the facility and a separate wastewater treatment building provides pretreatment of process wastewaters prior to discharge to the sanitary sewer. The Facility's RY 2022 EPCRA § 312 Tier II report indicates that the facility stores a maximum quantity of 19,000 lb. of anhydrous ammonia. The Facility also stores pure sulfuric acid (900 lbs.) and sulfuric acid in lead acid batteries (8,400 lbs.^[2]) for its fork trucks.

III. IN-BRIEF/OPENING CONFERENCE

The EPA inspection team, consisting of Len Wallace, Andrew Meyer, Tyler Diercks, Ryan Maisano (USEPA Region 1), Mark Briggs (USEPA contract inspector), and John Burton (USEPA air monitoring contractor), entered the Facility at approximately 9:00 a.m. The inspection team was supported by John Linacre, North Kingston Fire Department (NKFD), David DiMaio, Rhode Island State Fire Marshall, and Andrew Palmer, Rhode Island Department of Environmental Management (RI DEM) Mr Palmer departed the facility just after the opening conference. The inspection team presented identification to Ray Downs, EHS Manager, Cargill. Inspector Wallace conducted the opening meeting and explained the reason and

^[1] <https://www.forbes.com/profile/cargill-macmillan-1/?sh=5692614c23b6>

^[2] Calculated based on 42,000 lbs. of lead acid batteries and 20% w/w sulfuric acid

scope of the inspection. Inspector Wallace presented the EPCRA Notice of Inspection to Mr. Downs, who signed as the Recipient of the Notice. Mr. Downs did not attempt to deny Facility entry to the inspectors, nor did he invoke any claims of Confidential Business Information (CBI) for purposes of the inspection.

Facility Representatives:

Name	Title/Company	Phone Number	E-mail
Jordan Robbins	EHS Specialist/Cargill	802-249-2590	Jordan_Robbins@cargill.com
Mike Lacher	Reg. Utility Lead/Cargill	316-712-2887	Michael_Lacher@cargill.com
Ray Downs	EHS Manager/Cargill	774-319-0473	Raymond_Downs@cargill.com
Elena Prats	Process Safety Director/Cargill	603-475-1662	elena_prats@cargill.com
Steven Garcia	Utilities Supervisor/Cargill	401-316-3779	Steven_Garcia@cargill.com
Walter Molina	Regional Process Safety/Cargill	616-577-0650	Walter_Molina@cargill.com
Rhonda Schmidt	Process Safety Lead/Cargill	806-672-4600	Rhonda_schmidt@cargill.com

Inspector Wallace shared the following guidance documents with Facility representatives:

1. Guide to the Emergency Planning and Community Right-to-Know Act (Fall 2020)
2. EPCRA Quick Reference Fact Sheet (Fall 2020)
3. List of Lists (EPA 550-B-20-001, August 2020)
4. Small Business Resource Information Sheet (February 2020, EPA-300-F-20-002)
5. *National Response Center Oil and Chemical Spill Reporting flyer*
6. *Chemicals in Your Community brochure* (EPA 550-K-99-001, December 1999)
7. Safety Standards for Ammonia Refrigeration

Inspector Wallace stated that, after the opening meeting, the inspectors would do a walk-through of the refrigeration process and chemical storage areas. He also stated that the inspection team would be taking photographs of items and areas of interest and a copy of all photographs would be provided to the Facility representatives after the inspection.

IV. PHYSICAL INSPECTION

The EPA inspection team conducted a walk-through of the following areas at the Facility:

- Building exterior and roadways
- Fire pump building
- Wastewater treatment building
- Ammonia Machinery Room
- Roof Areas
- Maintenance Shop
- Utility Hallway
- Refrigerated Loading Docks and Product Packaging and Storage Areas
- Peracetic Acid Room
- Tote Washing Area

Inspector Wallace took 255 digital photographs during the inspection to document observed conditions. These photographs are referenced throughout the inspection report. The following sections discuss areas of concern identified in each area during the physical inspection.

Building Exterior and Roadways

The exterior of the facility is surrounded by an eight-foot-high security fence. Access is through an employee access gate and a truck/shipping gate. The exterior of the building includes shipping and receiving docks, pressure vessels containing liquid nitrogen, carbon dioxide and oxygen, trash compactors and recycling, emergency electrical generation equipment and storage tanks for fire water storage. EPA inspectors identified the following areas of concern based on a tour of the area:

- Security fencing surrounding the facility not equipped with personnel egress gates that can be accessed in an emergency and the existing gates were observed to be pad-locked. (see photographs P1120534, P1120545 and P1120547).
- None of the outside doors in the main building had National Fire Protection Association (NFPA) hazard diamond signage (see photographs P1120525, P1120548, P1120565, and P1120633).
- The only doors into the building observed that were posted with National Fire Protection Association (NFPA) hazard diamond signage was the door leading into the Ammonia Machinery Room (AMR) . (see photographs P1120643). Concrete jersey barriers surrounding snow removal equipment are not anchored to the concrete roadway (see photographs P1120536 and P1120537).
- The electrical cord for the truck top snow removal equipment was on the ground and could be damaged(see photographs P1120534).
- A wood frame shed used by truck drivers was located within 10 feet of flammable Carbon Monoxide gas cylinders (see photograph P1120551 and P1120552).
- No detector in the shed or near the shed holding the Carbon Monoxide gas cylinders.
- NFPA hazard diamond signage not present on or near the storage area for the Carbon Monoxide gas cylinders (see photographs P1120552, P1120553, and P1120559).
- Concrete jersey barriers surrounding the storage area for Carbon Monoxide gas cylinders not anchored to the ground (see photograph P1120552 and P1120559).
- The storage area for Carbon Monoxide gas cylinders piping not labeled for content and flow direction (see photograph P1120553, P1120554, P1120557, and P1120559).
- Glycol piping entering the building not properly labeled to identify contents for direction of flow (see photographs P1120561 and P1120563).
- The waste overflow storage tank not labeled to indicate its contents (see photograph P1120566).
- Piping from the waste overflow storage tank not capped (see photograph P1120569).
- None of the pipe that are wrapped with electrified heat trace cable and covered in insulation had any caution label on the outside of the insulation. This is to warn firefighters and maintenance

workers of an electrical hazard (see photographs P1120567, P1120568, and P1120569). The drain valve from the secondary containment surrounding the waste overflow storage tank is open, allowing liquids to freely drain from the area (see Photograph P1120570).

- Empty drums that previously contained corrosive and oxidizing chemicals are being stored upside down in the recycling area. Storing drums upside down could lead to leakage of residual chemicals through unsealed bungs (see photographs P1120575 and P1120576).
- Empty steel drums are being stored without lids in the recycling area. Rainwater is collecting in the drums that lack lids (see photographs P1120575 and P1120577).
- Liquid nitrogen and carbon dioxide transfer piping is not adequately labeled to show the direction of flow (see photograph P1120585).
- The jersey barriers around the Liquid Nitrogen and Carbon Dioxide tanks should be secured to the ground and the jersey barrier near the Liquid Oxygen tank should be secured to the ground (see photographs P1120573 and P1120580).
- Pressure relief valves (PRVs) from the liquid oxygen, nitrogen and carbon dioxide piping are directed downward rather than upward such that releases from PRVs could impact employees working below when activated (see photograph P1120593).
- A shutoff valve on the liquid oxygen transfer piping has a chain and string attached which could prevent the valve from being closed during emergency situations (see photograph P1120594).
- Piping used to transfer liquid nitrogen is not resting on the piping support (see photograph P1120595).
- An air intake vent into the chemical storage area is within 20 feet of the liquid oxygen storage tank and piping (see photographs P1120596 and P1120597).
- No detectors were observed around the liquid oxygen, nitrogen and carbon dioxide tanks to detect either to low oxygen or too much oxygen in the air or to detect rapid temperature change.
- The NFPA hazard diamond signage on the liquid oxygen, nitrogen and carbon dioxide tanks were only on one side of the tanks, they should be visible on all approach ways to the tanks (see photographs P1120573 and P1120711).
- Pipe next to building and near liquid oxygen tank not marked, later in the inspection discovered it part of the emergency sprinkler system tanks (see photographs P1120596 and P1120598).
- The cryogenic nitrogen NFPA hazard diamond signage is not correct (see photographs P1120581 and P1120583).
- Piping used to transfer liquid nitrogen is not resting on the piping support (see photograph P1120595).
- Valve with handle on the liquid nitrogen tanks does not have a cap (see photographs P1120582 and P1120583).

- The liquid oxygen, nitrogen and carbon dioxide tanks appeared to be bonded together but not grounded (see photographs P1120590 and P1120591).

Fire Pump Building

The fire pump building is located along the west side of the property. Diesel fired fire pumps in the building provide fire water to the suppression system from a water storage tank adjacent to the fire pump building. The inspectors noted the following areas of concern based on a tour of the fire pump building:

- The Water Tank to the left of the Fire Pump building was not marked (see photograph P1120599).
- The entry door into the Fire Pump Building does not have an NFPA hazard diamond signage to indicate diesel fuel is being stored inside (see photograph P1120600).
- The diesel fuel piping and water pipes are not properly labeled to identify contents and direction of flow (see photographs P1120602 and P1120606).
- There is Emergency Response Equipment stored inside Emergency Fire Pump Room which could come unaccessible if a leak, fire or explosion occurred inside this room (see photograph P1120604).
- No detectors were observed for Hydrogen gas around where Lead Acid Batteries are charged (see photograph P11206045).
- The Flammable Storage Cabinet was not ground (see photographs P1120603, P1120604, and P1120606).

Wastewater Treatment Building

A wastewater pretreatment building is located on the west side of the property and adjacent to the fire pump building. The wastewater treatment building houses solids removal equipment as well as pH adjustment equipment utilized prior to the discharge point for wastewater to the sanitary sewer. The inspectors noted the following areas of concern based on a tour of the wastewater treatment building:

- The Wastewater Tank to the right of the Wastewater Treatment building was not marked (see photograph P1120600).
- The entry door into the Wastewater Treatment Building does not have an NFPA hazard diamond signage to indicate diesel fuel or sulfuric Acid is being stored inside (see photograph P1120600).
- A sodium hydroxide drum in the wastewater treatment building does not have bungs in place to prevent spillage (see photographs P1120611).
- Spilled sulfuric acid is present around the top of the sulfuric acid drum in the wastewater treatment room (see photograph P1120617).

- Drums and 5-gallon buckets of chemicals are not being stored in secondary containment in the wastewater treatment room (see photograph P1120623).
- The emergency eyewash station and safety shower in the wastewater treatment room is blocked by totes and equipment. The emergency eyewash and safety shower has not been inspected since September 2022 (see photographs P1120624 and P1120625).
- A drum of caustic soda with the bungs removed is laying on its side and has drained onto drums below in the wastewater treatment room (see photographs P1120608 and P1120626). The drums below are not provided with secondary containment.
- An electrical outlet has had the protective cover removed in the wastewater treatment room. The outlet is in a location where water is sprayed for floor and equipment cleaning and could result in an electric shock (see photograph P1120627).
- The Tubing and Hoses being used in the Wastewater Treatment Building did not have any unique identifiers on them to indicate they are part of a Hoses program (see photographs P1120613, P1120615, P1120621, and P1120622).
- Some equipment had arc flash stickers some did not—clearance around this arc flash stickered equipment was not always 36” (see photograph P1120629).

Ammonia Machinery Room (AMR)

The AMR is located inside the main building and includes six compressors, the high-pressure receiver (HPR), various ammonia recirculation vessels, water treatment chemicals for the condensers, and system maintenance equipment. Access to the AMR is either from outside the building (main entry door) or through a doorway located inside the main building. EPA inspectors identified the following areas of concern based on a tour of the AMR:

- The Primary door into the AMR from the outside had only one emergency number posted to call 911 and had no Piping and Instrumentation Diagram(s) (P&ID) identifying the critical emergency valves and had no emergency instructions posted (see photographs P1120643 and P1120648).
- Chains used to activate shutoff valves associated with the HPR inside the AMR are wrapped around another shutoff valve, potentially impacting the ability to close the HPR shutoff valve (see photographs P1120653 and P1120664).
- Two catch basins are suspended from ammonia piping by chains in the AMR (see photographs P1120666 and P1120668).
- Ammonia piping in the AMR is covered with “Armorflex” insulation which may retain moisture and increase the rate of corrosion (see photographs P1120669 and P1120671).
- Equipment and chemicals are stored adjacent to the eyewash station in the AMR preventing unimpeded access (see photographs P1120674 and P1120676).
- A one-gallon container of sulfuric acid is being stored adjacent to the rollup door in the AMR. The container is not in secondary containment (see photographs P1120680 and P1120681).

- Ammonia piping in the AMR is not painted with consistent colors (see photographs P1120682 and P1120683).
- Some of the ammonia piping is not protected from Bumps (see photographs P1120652, P1120653, P1120664, and P1120682).
- Question is the roll up door rated for 1 hour or more fire resistant (see photographs P1120674).
- Question is the glass window into the AMR workers room explosion proof and rate for fire (see photographs P1120674 and P1120679).
- The door into the AMR from the inside had only one emergency number posted to call 911 and had no Piping and Instrumentation Diagram(s) (P&ID) marking the emergency valves and no emergency instructions posted (see photographs P1120692, P1120693 and P1120694).
- No emergency eye wash station and deluge body shower were located outside the inside door to the AMR (see photographs P1120692, P1120693 and P1120694).
- Not all ammonia piping properly labeled (see photographs P1120662 and P1120684).

Roof Areas

Roof areas contain ammonia piping that transfer ammonia from the machinery room to evaporators located in various spaces within the building, air handling units, three ammonia condensers and natural gas piping. Inspectors noted the following areas of concern for the roof areas as well as the access stairway leading to the roof:

- The exit door from the roof areas does not swing in the direction of egress and does not have panic hardware (see photographs P1120696 and P1120697).
- No NFPA hazard diamond signage for ammonia on the roof door (see photograph P1120696).
- Ammonia pipes and Natural Gas pipes both painted yellow (see photographs P1120698, P1120699 and P1120700).
- The Natural Gas pipes not labeled to content and flow direction (see photographs P1120698, P1120699 and P1120700).
- Surface corrosion is present on ammonia piping below the condensers located on the roof (see photographs P1120705 and P1120707).
- A purple painted piping on roof not properly labeled to identify contents for direction of flow (see photographs P1120709 and P1120714).
- Nitrogen piping on roof not properly labeled to identify contents for direction of flow (see photographs P1120712 and P1120713). Not all Ammonia piping is properly labeled on the roof area (see photograph P1120717).

- Ammonia piping located in the interior stairway used to access the roof areas is not adequately labeled (see photograph P1120718).

Maintenance Shop

The facility maintenance shop is located inside the main building. The facility maintenance shop houses a spare parts storage area, a hot-work area, maintenance chemical storage areas, and the fire suppression system control valves. The inspection team noted the following areas of concern regarding the maintenance shop:

- The fire door used to access the maintenance shop is propped open using a door stop and does not have panic hardware (see photograph P1120719).
- Flammable gas and Oxygen tanks are not properly stored (see photograph P1120720).
- Access to the fire extinguisher located in the maintenance shop is blocked by a cart (see photograph P1120721).
- Chemicals in the maintenance shop are not being stored in secondary containment (see photograph P1120722).
- Fire main control valves are car-sealed preventing their opening and closing (see photograph P1120723).
- Access to the emergency eyewash station and safety shower in the maintenance shop is blocked by a 5-gallon bucket and other equipment (see photograph P1120726).

Utility Hallway

The utility hallway is an access corridor between the manufacturing areas and the AMR and is used to store access equipment and chemicals. Inspectors noted the following areas of concern in the utility hallway:

- Drums of caustic soda in the utility hallway are not being stored in secondary containment (see photographs P1120727 and P1120728).
- Compressed gas and oxygen cylinders in the utility hallway are not properly secured to prevent them from falling over (see photograph P1120729).
- An oxygen compressed gas cylinder is being stored adjacent to oils in the utility hallway (see photographs P1120729, P1120730 and P1120733).

Refrigerated Loading Docks and Product Packaging and Storage Areas

The facility repackages boxed meat products for shipment to local grocery stores. Cutting, wrapping, and finished goods storage of meat products requires temperatures in these areas be maintained between 35°F and 40°F using ammonia filled evaporators suspended from the ceilings. Inspection of these areas noted the following area of concern:

- Evaporators in the loading dock area and product storage room are not all protected from inadvertent contact with lift trucks (see photographs P1120734, P1120735, P1120756, P1120758 and P1120759).
- No Hydrogen detector were observed in the Lead Acid Battery recharging areas for the lift trucks (see photographs P1120734, P1120738, and P1120752).
- Any Oxygen cylinders and another cylinder are not properly protected from being bumped (see photographs P1120753 and P1120754).

Peracetic Acid Room

Cargill sprays meat prior to packaging to prevent spoilage and increase shelf life. Peracetic acid at Cargill is purchased in drum and tote quantities, diluted with water, and then pumped to the meat packaging areas for application. Inspectors visiting the peracetic acid room had the following area of concern:

- The door to the Peracetic Acid Room had no NFPA hazard diamond signage (see photograph P1120739).
- The exit door in to the Peracetic Acid Room swing in the direction of egress and does not have panic hardware (see photographs P1120739 and P1120743).
- The air vent to have fresh air let into the Peracetic Acid Room has the large liquid oxygen tank just on the other side of the wall (see photographs P1120596 and P1120743).
- A tank in the peracetic acid room is not labeled regarding its contents (see photograph P1120742).
- A five-gallon container of a flammable cleaning chemical in the peracetic acid room is not being stored in secondary containment (see photograph P1120746).
- A drum and trash can prevent ready access to the emergency eyewash station and safety shower in the peracetic acid room (see photograph P1120749).
- The vent fan in the peracetic acid room was not working at the time of the inspection (see photographs P1120742 and P1120746).

Tote Washing Area

Packaged meat is stored in plastic totes before being loaded into trucks for distribution. To maintain sanitation of the plastic storage totes after each use, totes are washed. Inspectors have the following areas of concern after touring the tote washing area:

- A drum of corrosive AcidShine and two additional drums of corrosive cleaning chemicals are not stored in secondary containment in the tote washing area (see photographs P1120765 and P1120768).

- A drum of a corrosive chemical was observed with crystalized product present without a bung. This drum was not provided with secondary containment adjacent to the tote washing area (see photograph P1120770).
- Drums of Foaming Acid N containing nitric and phosphoric acid are not provided with secondary containment in the chemical storage room adjacent to the tote washing area (see photographs P1120771, P1120775 and P1120776).
- The door to the Chemical/Product Storeroom had no NFPA hazard diamond signage (see photograph P1120761 and P1120762).
- There was limited aisle space in this chemical storage room and incompatible chemical stored near each other in storage room (see photograph P1120771). The emergency eyewash station and safety shower in the chemical storage room adjacent to the tote washing area is blocked by drums and 5-gallon containers of chemicals (see photograph P1120772).

V. OUT-BRIEF/CLOSING CONFERENCE

Inspector Wallace emailed a copy of the preliminary areas of concern identified during the May 1, 2023, inspection to Mr. Wayne Porterfield on June 29, 2023 and conducted a virtual closeout meeting on July 24, 2023.

1. Security fencing surrounding the facility does not have personnel egress gates that can be accessed in an emergency (see photographs P1120534, P1120545 and P1120547).
2. Concrete jersey barriers surrounding the truck snow removal equipment are not anchored (see photographs P1120536 and P1120537).
3. A wood frame shed used by truck drivers is within 10 feet of flammable compressed gases and not clearly marked as occupied as an office or workspace (see photograph P1120551 and P1120552).
4. NFPA diamonds are not present on or near the storage area for Carbon Monoxide gas cylinders marked flammable compressed gases and inhalation hazard (see photographs P1120552, P1120553, P1120558 and P1120559).
5. The Carbon Monoxide gas cylinders piping, and metal hoses not properly labeled to identify contents for direction of flow (see photographs P1120552, P1120553, and P1120559).
6. Concrete jersey barriers next to Carbon Monoxide gas cylinders are not anchored (see photographs P1120552 and P1120559).
7. No detector or audio-visual alarms in the Carbon Monoxide gas cylinders shed.
8. Glycol piping entering the building is not properly labeled to identify contents for direction of flow (see photographs P1120561 and P1120563).
9. The waste overflow storage tank is not labeled to indicate its contents (see photograph P1120566).
10. Any pipe that is wrapped with heat trace cable and covered in insulation must have a caution label on the outside of the insulation every 10 feet. This is to warn firefighters and

- maintenance workers of an electrical hazard. Piping from the waste overflow storage tank is not capped (see photograph P1120569).
11. The drain valve from the secondary containment surrounding the waste overflow storage tank is open, allowing liquids to freely drain from the area (see Photograph P1120570).
 12. Prominent signage for materials in the Permitted collection area, especially for empty drums (see photograph P1120578).
 13. Empty drums that previously contained corrosive and oxidizing chemicals are being stored upside down in the recycling area. Storing drums upside down could lead to leakage of residual chemicals through unsealed bungs (see photographs P1120575 and P1120576).
 14. Empty steel drums are being stored without lids in the recycling area. Rainwater is collecting in the drums that lack lids (see photographs P1120575 and P1120577).
 15. Liquid nitrogen and carbon dioxide transfer piping is not adequately labeled to show the direction of flow (see photograph P1120585).
 16. Pressure relief valves (PRVs) from the liquid oxygen, nitrogen and carbon dioxide piping are directed downward rather than upward such that releases from PRVs could impact employees working below when activated (see photograph P1120593).
 17. A shutoff valve on the liquid oxygen transfer piping has a chain and string attached which could prevent the valve from being closed during emergency situations (see photograph P1120594).
 18. Piping used to transfer liquid nitrogen is not resting on the piping support (see photograph P1120595).
 19. Appropriate measuring instruments for the determination of oxygen content indicate an increase as well as a decrease of oxygen concentration in the ambient atmosphere because there are cryogenic oxygen, cryogenic nitrogen, and cryogenic carbon dioxide.
 20. The cryogenic nitrogen NFPA 704 signage is not correct (see photographs P1120581 and P1120583).
 21. An air intake vent into the chemical storage area is within 20 feet of the liquid oxygen storage tank and piping (see photographs P1120596 and P1120597).
 22. The entry door into the fire pump building does not have an NFPA diamond to indicate diesel fuel is being stored inside (see photograph P1120600).
 23. A sodium hydroxide drum in the wastewater treatment room does not have bungs in place to prevent spillage (see photographs P1120611).
 24. Spilled sulfuric acid is present around the top of the sulfuric acid drum in the wastewater treatment room (see photograph P1120617).
 25. Drums and 5-gallon buckets of chemicals are not being stored in secondary containment in the wastewater treatment room (see photograph P1120623).
 26. Piping not properly labeled to identify contents for direction of flow (see photographs P1120612, P1120614, and P1120616).
 27. Hoses not protected from impact and bumps and had no unique identifiers to show they are part of Hose program (see photographs P1120615, P1120621, and P1120622).

28. The eyewash station and safety shower in the wastewater treatment room is blocked by totes and equipment. The eyewash and safety shower has not been inspected since September 2022 (see photographs P1120624 and P1120625).
29. A drum of caustic soda with the bungs removed is laying on its side and has drained onto drums below in the wastewater treatment room (see photographs P1120608 and P1120626). The drums below are not provided with secondary containment.
30. An electrical outlet has had the protective cover removed in the wastewater treatment room. The outlet is in a location where water is sprayed for floor and equipment cleaning and could result in an electric shock (see photograph P1120627).
31. Some equipment had arc flash stickers some did not—clearance was not always 36” (see photograph P1120629).
32. Chains used to activate shutoff valves associated with the high-pressure receiver inside the ammonia machinery room (AMR) are wrapped around another shutoff valve, potentially impacting the ability to close the high-pressure receiver shutoff valve (see photographs P1120653 and P1120664).
33. Two catch basins are suspended from ammonia piping by chains in the AMR (see photographs P1120666 and P1120668).
34. Ammonia piping in the AMR appears to be covered with Armorflex insulation which may retain moisture and increase the rate of corrosion (see photographs P1120666, P1120669, P1120671 and P1120671).
35. Electrical service, equipment and chemicals are stored adjacent to the eyewash station in the AMR preventing unimpeded access (see photographs P1120674 and P1120676).
36. Questioned if the roll up door is fire rate for 1 hour or greater (see photograph P1120674).
37. Question is the glass window into the AMR workers room explosion proof and rate for fire (see photographs P1120674 and P1120679).
38. A one-gallon container of sulfuric acid is being stored adjacent to the rollup door in the AMR. The container is not in secondary containment (see photographs P1120680 and P1120681).
39. Ammonia piping in the AMR is not painted with consistent colors (see photographs P1120682 and P1120683).
40. Trays were hanging off of chains on ammonia piping (see photographs P1120666 and P1120668).
41. The exit door from the roof areas does not swing in the direction of egress (see photograph P1120697).
42. Surface corrosion is present on ammonia piping below the condensers located on the roof (see photographs P1120705 and P1120707).
43. Ammonia piping is present in the interior stairway used to access the roof areas (see photograph P1120718).
44. Ammonia piping located in the interior stairway used to access the roof areas is not adequately labeled (see photograph P1120718).

45. Nitrogen piping on roof not properly labeled to identify contents for direction of flow (see photographs P1120712 and P1120713).
46. A purple painted piping on roof not properly labeled to identify contents for direction of flow (see photographs P1120709 and P1120714).
47. The fire door used to access the maintenance shop is propped open using a door stop and it also swings inward and did not have panic hardware (see photograph P1120719).
48. Flammable gases used for cutting torches in the maintenance shop have regulators attached are not secured to prevent them from falling over (see photograph P1120720).
49. The fire extinguisher located in the maintenance shop is blocked by a cart (see photograph P1120721).
50. Chemicals in the maintenance shop are not being stored in secondary containment (see photograph P1120722).
51. Fire main control valves are car-sealed preventing their opening and closing (see photograph P1120723).
52. Access to the eyewash station and safety shower in the maintenance shop is blocked by a 5-gallon bucket and other equipment (see photograph P1120726).
53. Drums of caustic soda in the utility hallway are not being stored in secondary containment (see photographs P1120727 and P1120728).
54. Compressed gas cylinders in the utility hallway are not properly secured to prevent them from falling over (see photograph P1120729).
55. An oxygen compressed gas cylinder is being stored adjacent to oils in the utility hallway (see photographs P1120729, P1120730 and P1120733).
56. A tank in the peracetic acid room is not labeled regarding its contents (see photograph P1120742).
57. The air exchange fans appeared to not be working in the peracetic acid room (see photographs P1120742 and P1120747).
58. The door in the peracetic acid room opened the wrong way and had no panic hardware (see photographs P1120743 and P1120747).
59. A five-gallon container of a flammable cleaning chemical in the peracetic acid room is not being stored in secondary containment (see photograph P1120746).
60. A drum and trash can prevent ready access to the eyewash station and safety shower in the peracetic acid room (see photograph P1120749).
61. Evaporators in the loading dock area and product storage room are not protected from inadvertent contact with lift trucks (see photographs P1120734, P1120756, P1120758 and P1120759).
62. A drum of corrosive AcidShine plus two additional drums of corrosive cleaning chemicals are not stored in secondary containment in the tote washing area (see photographs P1120765 and P1120768).
63. There was limited aisle space in this chemical storage room and incompatible chemical stored near each other in storage room (see photograph P1120771).

64. A drum of a corrosive chemical having crystalized product is being stored without the bung and is not provided with secondary containment adjacent to the tote washing area (see photograph P1120770).
65. Drums of Foaming Acid N containing nitric and phosphoric acid are not provided with secondary containment in the chemical storage room adjacent to the tote washing area (see photographs P1120771, P1120775 and P1120776).
66. Using CAMEO Chemicals showing Chemical Reactivity: as indicated in the chart below- nitric acid is incompatible with phosphoric acid and sodium hypochlorite. Phosphoric acid is incompatible with sodium hypochlorite.

	NITRIC ACID, OTHER THAN RED FUMING	
PHOSPHORIC ACID	Incompatible ■ Explosive Generates gas Generates heat Toxic	PHOSPHORIC ACID
SODIUM HYPOCHLORITE	Incompatible ■ Corrosive Explosive Generates gas Generates heat Intense or explosive reaction Toxic	Incompatible ■ Corrosive Generates gas Generates heat Intense or explosive reaction Toxic

67. The eyewash station and safety shower in the chemical storage room adjacent to the tote washing area is blocked by drums and 5-gallon containers of chemicals (see photograph P1120772).

VI. FACILITY COMPLIANCE STATUS AND ELEMENTS OF PROOF - EPCRA

EPCRA § 302

- (1) Does facility have on-site, at any one time, extremely hazardous substances (EHS) at or above the TPQ? Yes, anhydrous ammonia and sulfuric acid was observed during the inspection Also observed was Peracetic Acid and Nitric Acid products and waiting for inventory on amount present the day of the inspection.
- (2) List or obtain documentation: Inspectors' observations; RY 2022 Tier II report.
- (3) How was maximum quantity on-site determined or calculated? Operating volumes for refrigeration equipment. Waiting for Chemical inventory data for allonsite chemicals/products.

EPCRA § 303

- (1) Facility Coordinator identified per Sec. 303 and date LEPC was notified? The Facility's Tier II report identifies Ray Downs, EHS Manager, as the Emergency Coordinator.

EPCRA § 311

(1) Is facility required to maintain SDSs under the OSHA Hazard Communication Standard 29 CFR 1910.1200.? Yes

(2) Has the facility conducted a comprehensive audit to identify SDS chemicals on-site and to determine if 500 lb./10,000 lb./TPQ thresholds were exceeded? Unkown

(3) List of OSHA chemicals manufactured, processed, used/stored, and obtained? Still waiting for list.

(4) How were the maximum amounts determined? From the Teir 2 form and waiting for inventory of all chemicals/products present the day of the inspection.

(5) Section 311 info supplied to the:

SERC (Y/N): Unknown
LEPC (Y/N): Unknown
Local Fire Department(Y/N): Unknown
Date: Unknown
Chemical List: Available

SDSs: Yes

(6) Have any new hazardous chemicals, mixtures, or substances been introduced into the facility in the last 5 years? Unknown

(7) If yes, has the facility submitted updated lists or SDSs? Unknown

EPCRA § 312 (due March 1 of year following reporting calendar year)

(1) Was Tier II form submitted for all required chemicals? Facility submitted a Tier II Report for RYs 2021 and 2022.

(2) What procedures are used to update Section 312 information for annual submittal and to ensure additional or new chemical data is submitted within 90 days? Unknown.

(3) Was the facility aware of annual reporting requirements under Section 312? Yes.

(4) Had the facility completed and signed a list of all reportable chemicals on site on date of the inspection? No. Chemical inventory data requested during inspection for review following inspection.

(5) Table of EPCRA 312 Extremely Hazardous Substances

CAS #	Chemical	Approx. Max. Wt. on Site (Lbs.) ¹	TPQ (Lbs.)	Approx. Ratio (Actual/TPQ)
7664-41-7	Ammonia (anhydrous)	19,000	500	38
7664-93-9	Sulfuric Acid (pure)	900	1,000/500	0.9/1.8
7664-93-9	Sulfuric Acid (in lead acid batteries)	8,400 ²	1,000/500	8.4/16.8
	Lead (in lead acid batteries)	23,100	10,00	2.3

124-38-9	Carbon Dioxide	60,000	10,000	6
7727-37-9	Nitrogen-liquid	114,064	10,000	11.4
7782-44-7	Oxygen	142,832	10,000	14.2
57-55-6	Propylene glycol	362	10,000	.03

1. Based on the RY 2022 EPCRA Tier II Report
2. Calculated based on 42,000 lbs of lead acid batteries at 20% w/w sulfuric acid
 Calculated based on 42,000 lbs of lead acid batteries at 55% w/w lead

VII. ENFORCEMENT HISTORY

A search of EPA's ECHO database found no compliance or enforcement actions for the Cargill Facility located at 60 Compass Circle in North Kingstown, RI.

VIII. ENVIRONMENTAL JUSTICE

The demographic information in the environmental justice report indicates that the area within a 1-mile radius of the Facility has five Environment Justice indices at or above the 80th percentile for the U.S. These indices are Traffic Proximity, Risk Management Plan Facility Proximity, Hazardous Waste Proximity, Superfund Proximity, and Wastewater Discharge.

Attachment 1

Google Earth Image of the Cargill Facility

