BOWDOIN COLLEGE
AMMONIA RESPONSE PLAN
DAYTON ICE ARENA

Purpose
This document meets the requirements of Title 37-B MRSA Chapter 13 Section 795 (*Maine Emergency Management Agency – Facility Emergency Response Plans*) and SARA Title III for the development, implementation and maintenance of a written emergency response plan for facilities using or storing listed Extremely Hazardous Substances (EHS). The purpose of this plan is to provide information to the employees of Bowdoin College regarding response to an accidental release of anhydrous ammonia from the refrigeration system at Dayton Ice Arena.

Scope
This response plan applies to all employees of Bowdoin College (including part-time employees, student employees, and contractors working onsite) who may be involved in the maintenance of, or emergency response associated with, the Dayton Ice Arena refrigeration system.

Program Components
The response plan consists of the following components:

1. **Facility Emergency Coordinator.** The Manager of Environmental Health and Safety will be designated the Emergency Coordinator in the event of an accidental release; the alternate will be the Director of Safety and Security. The names and contacts numbers for these personnel are provided in the attached **Contact List.**

2. **Emergency Alarm Systems.** The compressor room in the arena contains a closed-loop refrigeration system storing approximately 1,200 pounds of anhydrous ammonia. A dedicated monitoring and alarm system is connected remotely to the Communications Center at Rhodes Hall, and arena personnel directly read and log the digital readout of airborne ammonia concentrations in the compressor room four times a day. There is also a remote monitor on the wall outside of the compressor room. The main ammonia alarm system panel is located on the west wall in the compressor mechanical room. This detection system has two alarm set points and functions, as follows:

    - **Alarm 1** sounds when the airborne ammonia concentration reaches **15 parts per million (ppm)**. Blinking yellow lights are activated, located in four places: inside the compressor room, outside of the compressor room (visible from within the arena), in the Zamboni room, and on the exterior northeast wall of the arena adjacent to the parking lot. These lights notify arena/athletics staff and persons outside the building that there is an elevated level of airborne ammonia in the compressor room. Ventilation fans automatically start, and an alarm is sent to the Communications Center.

    - **Alarm 3** sounds when the airborne ammonia concentration reaches **45 ppm**. The general fire alarm in the arena is activated, and an alarm is sent to the Communications Center. Flashing red lights are activated, located adjacent to the yellow lights. **Bowdoin employees may not enter the compressor room once Alarm 3 has been activated.** An automated public address system announcement begins, stating that there is an emergency and directing occupants to evacuate the building.

    There are three (3) emergency shutdown switches for the system:

    - North end of rink area, on the remote ammonia readout panel [Key Operated];
    - Inside the north compressor room entrance [Push Button]; and
    - North exterior wall, next to compressor room entrance [Key Operated].

Copies of the keys for the two “Key Operated” switches are located in Environmental Controls office at Rhodes Hall, the Security Communications Center and cruiser, and in the Skate Shop at the arena. There are also five (5) labeled ammonia isolation valves located in the compressor room.

FOR THE 15 PPM ALARM AND BELOW 45 PPM, ONLY THE FOLLOWING PERSONNEL ARE AUTHORIZED OR MAY DESIGNATE SOMEONE TO SHUT DOWN THE AMMONIA SYSTEM:

- Director of Facilities Management
- Director of Facilities Operations
- Director of Safety & Security
- Manager of Environmental Health and Safety
- Facilities Management Environmental Control Technicians
- AAA Energy Services Technicians
- Brunswick Fire Department (BFD) On Scene Commander

IF LEVELS EXCEED 45 PPM, ANY INDIVIDUAL MAY SHUT DOWN THE SYSTEM.

IF THE ALARM SYSTEM MALFUNCTIONS AT ANY TIME, SECURITY SHALL CONDUCT HOURLY CHECKS AND LOG RESULTS UNTIL THE SYSTEM RESUMES NORMAL OPERATIONS.

3. **Emergency Response and Health Services.** Mutual aid agreements have been entered into with the BFD and Midcoast Hospital for emergency response and health services in the event of an accidental release; and AAA Energy Services of Scarborough, Maine, are under contract to maintain and respond to emergencies associated with the system (see Contact List).

4. **Employee Training and Exercises.** Any Bowdoin employee who may be involved in the maintenance of, or an emergency response associated with, the refrigeration system must be trained and qualified for their responsibilities. These employees include Buildings&Grounds, Safety&Security, Environmental Controls, or other Facilities Management personnel, and supervisors of those employees. New employees whose job requires them to work in the arena shall be trained by their supervisor within one week of their arrival.

   Trained employees shall undergo a brief annual refresher conducted and documented by the Manager of Environmental Health & Safety in coordination with the annual drill, to review the response plan and assess any changes noted in the course of the year. If there are significant changes in the system, alarms or emergency response procedures, updated training for all involved personnel will be conducted at the time of the changes.

   A drill will be held annually as required by statute, to exercise this plan and review any changes that may be necessary. The Manager of Environmental Health & Safety shall document the drill and make written notifications to applicable authorities, specifically the county and state emergency management agencies and the Brunswick Fire Department (see Contact List).

   In addition, certificates of training for AAA Energy Services employees, and an updated copy of their contractual service agreement, are kept on file in the Environmental Controls office.

5. **Notification and Evacuation Procedures.** Upon activation of **Alarm 1** (15 ppm), the Communications Center is alerted and will contact one of the **Environmental Controls Technicians** immediately (see Contact List) to check on the status of the alarm.

Upon activation of **Alarm 2** (45 ppm), the arena Fire Alarm sounds and the Communication Center is alerted; the dispatcher will then notify the **Brunswick Fire Department** and send a patrol officer to the scene to assist as directed. Security will also contact **AAA Energy Services** while one of the Environmental Services Technicians checks on the status of the alarm. Selected Bowdoin management staff will also be notified by the Communications Center as soon as possible after the response has been initiated (see Contact List).

The Manager of Environmental Health & Safety will be responsible for making any required notifications to outside emergency management and regulatory agencies (see Contact List).

In the case of any alarm, building occupants will evacuate the space regardless of the event in progress. The BFD On Scene Commander (or his designee) will be in charge of the response and direct any evacuation of the building and outside area. Emergency evacuation routes are posted throughout the building. Security and Facilities Management staff working in the arena shall remain available to assist in directing the evacuation by posting themselves at the exits of the building. Staff not on duty may be called in to assist in the event of a serious emergency. BFD response personnel shall be responsible for directing the overall evacuation, inside and outside, and shall conduct a thorough sweep of the building to insure that all occupants have departed. Decisions regarding larger-area evacuations or other response measures will be at the discretion of the BFD On Scene Commander.

6. **Transportation Routes and Methods.** The refrigeration system is fixed in place so there is no transportation or handling of the listed EHS, except in maintenance quantities by AAA Energy Services. The facility location and access/escape routes are depicted on the attached site plan.

7. **Additional Information.**

- The Material Safety Data Sheet (MSDS) for anhydrous ammonia is attached. It is also kept on file at the arena office, the Facilities Management and Environmental Health & Safety offices (Rhodes Hall), and the Communications Center (open 24 hours per day).

- The layout of the arena, compressor room, and Zamboni room are depicted in the attached building plan, which also outlines the emergency evacuation routes. Various employees in Facilities Management and Safety&Security may gain access to these spaces with keys kept in Facilities Management office and the Communications Center (the AMR key fits the compressor room). A Knox box is located on the outside wall to the compressor room, so that Brunswick Fire Department or other facility or emergency personnel may access the building in an emergency.

Program Review
The Manager of Environmental Health and Safety will review this document annually in coordination with the scheduled employee training and drill, and make revisions as necessary to keep the plan current with the physical setting and regulatory requirements.

Attachments

- MSDS - Anhydrous Ammonia
- Dayton Arena Site Location Map
- Dayton Arena Exit Routes Plan

Dayton Ice Arena Ammonia Response Plan
Contact List

Name	Business	Home	Cell/Pager/ Radio
ENVIRONMENTAL CONTROLS			
Tim French Senior Environmental Controls Technician	x3457		
Richard McKeen Environmental Controls Technician	x3457		
Ben Schissler Environmental Controls Technician	x3457		
MANAGEMENT STAFF			
Dave D'Angelo Director of Facilities Management	x3803		
Corey Hammond Director of Facility Operations	X3979		
Bruce Boucher Director of Safety & Security	x3458		
Mark Fisher EHS Manager (*Emergency Coordinator)	x3763		
Jeff Ward Athletics	x3016		
EMERGENCY RESPONDERS/HEALTH SERVICES			
Brunswick Fire Department HazMat Response Team	911		
AAA Energy Services	883-1473		
Midcoast Hospital	729-0181		
REGULATORY AGENCIES			
Federal Emergency Management Agency (FEMA)	617-223-9540		
Maine Emergency Management Agency (MEMA)	626-4503		
Cumberland County Emergency Management Agency (CCEMA)	892-6785		
Maine Department of Environmental Protection (ME DEP)	287-2651		