Emergency Eyewash and Safety Shower Equipment

1. Purpose and Scope

This document provides requirements for the selection, installation, and maintenance of Emergency Eyewash and Safety Showers the (‘equipment’) at Boston University (BU).

2. References

2.1. Regulations
   29 CFR 1910.151 (c) Medical Services and First Aid
   527 CMR 10.02 Fire Extinguishers
   248 CMR 10.13 (l) Uniform State Building Code
   ANSI Z358.1 – 2004 Standard for Emergency Eyewash and Shower ‘equipment’

2.2. Other SOP
   Emergency Eyewash and Safety Shower Inspection and Testing, #2.3.10.1
   Weekly Emergency Eyewash Flushing | Guidance Document, #2.3.10.2

2.3. Supplementary Documents

   Emergency Eyewash and Shower Inventory – EHS Document
   Emergency Eyewash and Safety Shower Inspection/Testing Records

3. Definitions

   • ANSI: American National Standards Institute.
   • CMR: Code of Massachusetts Regulation.
   • Emergency Shower: A device specifically designed and intended to deliver flushing fluid in sufficient volume to cause that fluid to cascade over the entire body.
   • Eyewash: A device used to provide flushing fluid water to irrigate and flush the eyes.
   • Equipment: for purposes of this policy, “Equipment” is inclusive of both emergency eyewash stations and safety showers unless specifically stated otherwise.
   • Facilities Management and Planning (Facilities): The Facilities department at BU and BU Medical Campus. Facilities perform maintenance activities for all BU Facilities.
   • Flushing Fluid: Potable water, preserved water, preserved buffered saline, solution or other medically acceptable solution manufactured and labeled in accordance with applicable government regulations.
   • Hazardous Materials: Any substance or compound that has the capability of producing adverse effects on the health and safety of humans.
   • Potable Water: Water that does not contain impurities in amounts sufficient to cause disease or harmful physiological effects. Its bacteriological and chemical quality shall
conform to the pertinent requirements of 310 CMR, the regulations of the Massachusetts Department of Environmental Protection or to the pertinent local Board of Health regulations.

- Tepid: Moderately warm; lukewarm.

4. Roles & Responsibilities

4.1. Departments with Emergency Eyewash and Safety Showers;
Including laboratories, patient areas deemed necessary through risk assessments, Facilities departments, and other areas where corrosive or flammable liquids are handled, chemicals are stored or used, or where open flame devices are used.

4.1.1. Managers of these areas are responsible for the following.
- Notifies EHS when new hazardous materials are used in an area that may require the ‘equipment’.
- Conducts weekly eyewash flushes and inspections in their respective areas. Areas include but are not limited to; laboratories, Lab Animal Sciences areas, College of Fine Arts, Facilities areas and certain patient care areas.
- Maintains clear access to and around the ‘equipment’ in their respective areas.
- Does not dispose of liquids or solids through the ‘equipment’ drain.
- Reports deficiencies of the ‘equipment’ to the Control Center at the Medical Campus and the Control Desk on the Charles River Campus (CRC) or completes an online work request.
- Ensures their employees are trained on the location and use of the ‘equipment’ in their area.

4.1.2. Teacher/Instructionrs in areas with the ‘equipment’ are responsible for advising students in their location and use.

4.2. Environmental Health and Safety (EHS);
- Identify locations that may require the ‘equipment’.
- Maintains an inventory of the ‘equipment’.
- Advises on the proper placement and installation of the ‘equipment’.
- Approves locations for installation with Facilities Management.
- Informs Facilities when failed ‘equipment’ requires repair. Re-inspects failed ‘equipment’ once Facilities has made repairs.
- Performs flow test inspections of the ‘equipment’ twice annually.
- Coordinates the flow test inspections twice annually for laboratories at the CRC using a 3rd party company.

4.3. Facilities Management and Planning (BU);
- Makes repairs to and installs the ‘equipment’.
- Notifies EHS when ‘equipment’ is repaired and the need to install ‘equipment’ in areas that may require it.
• Conducts weekly eyewash flushes in non-laboratory areas where Facilities is responsible. These areas include but are not limited to; boiler, mechanical and machine rooms.
• Maintains clear access to and around the ‘equipment’ in areas where Facilities is responsible.
• Does not dispose liquids or solids through the ‘equipment’ drain.
•notifies EHS when the ‘equipment’ is removed from service.

5. Special Requirements

5.1. Equipment and Supplies Required

The ‘equipment’ must be indicated by signs of contrasting color, either RED and WHITE or GREEN and WHITE. The signs shall be at least 70 square inches in area bearing the words "EMERGENCY WASH STATION", or "SAFETY SHOWER".

5.2. Safety Requirements

• Every area where corrosives or flammable liquids are handled or where open flame devices are used shall be equipped with at least one appropriately placed ‘equipment’.
• Where strong acids or caustics are used, the ‘equipment’ must be adjacent to the hazard.
• The ‘equipment’ shall be installed as close to the exit door as possible, without obstructing egress, and no greater than 50 feet from the use of the hazard. Additionally, the ‘equipment’ must be reachable within 10 seconds through an unobstructed path of travel on the same level as the hazard.
• Emergency safety showers shall be capable of providing a continuous spray of no less than 30 gallons per minute of water for 15 minutes.
• Emergency eyewash stations shall be capable of providing a continuous supply of water at no less than 0.4 gallons per minute for 15 minutes.
• The ‘equipment’ shall be supplied with tepid water between 70˚F and 90˚F.
• The area around the ‘equipment’ shall be well lit.
• The ‘equipment’ must be installed in accordance with ANSI Z-358.1 and 248 CMR.

5.3. Training

• Employees who may be exposed to hazardous materials shall be instructed in the location and proper use of the ‘equipment’.
• Each student shall be advised of the location and proper use of the ‘equipment’ by the teacher, instructor, or person in charge of the class before the first experiment is conducted.
• Those conducting flow tests of the equipment shall receive training from EHS.

5.4. Monitoring Requirements
EHS will periodically monitor the compliance of this program.

6. **Applicability**
   - Properties managed and occupied by BU.

7. **Procedures and Instructions**

   7.1. The ‘equipment’ must be flushed on a weekly basis following the steps outlined in the Weekly Eyewash Flushing Guidance document by those responsible for the area it serves.

   7.2. The ‘equipment’ will be inspected and a flow test performed every six (6) months (twice annually) following these steps:

   - 7.2.1. Ensure adequate access to, and clearance around the ‘equipment’.
   - 7.2.2. Identify that the appropriate identification signage is visible.
   - 7.2.3. Test the functionality of the on/off valves and levers.
   - 7.2.4. Check for the appropriate flow rate (30 gallons per minute for a shower and 0.4 gallons per minute for eyewash).
   - 7.2.5. Identify the appropriate flow pattern as outlined in ANSI Z 358-1 2004.
   - 7.2.6. Verify a water temperature that it is between 70°F and 90°F.
   - 7.2.7. Request identified repairs to Facilities.
   - 7.2.8. Consult the Emergency Eyewash and Shower Equipment Inspection and Testing procedure, procedure #2.3.10.1 for specifics around how to complete the aforementioned steps.

8. **Forms**
   - Emergency Eyewash and Safety Shower Inventory

9. **Records Management**

   9.1. The ‘equipment’ inventories as well as inspection records are maintained by EHS. EHS staff will update the inventories as necessary.

10. **SOP Revision History**

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<th>Section / Paragraph Changed</th>
<th>Changes Made</th>
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<td>V.1</td>
<td>N/A</td>
<td>None, Original Version</td>
<td>6/17/10</td>
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<tr>
<td>V.2</td>
<td>Entire</td>
<td>More detail added to clarify roles and responsibilities as this is a shared</td>
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<td>v.3</td>
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<td>Reformatted. Refined responsibilities to 4.1</td>
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<td>v.4</td>
<td>Entire</td>
<td>Replaced emergency eyewash and safety showers with ‘equipment’, replaced FEM with FSS, clarified responsibilities</td>
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<td>v.5</td>
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<td>Format change. Modified Facilities responsibilities. EHS conducts flow tests. Sections 4.2 and 4.3</td>
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