Emergency Shower and Eyewash Equipment Policy

1.0 PURPOSE:

Laboratories and shops conduct operations which potentially expose the body and eyes to hazardous agents. Emergency Eyewash and Shower Equipment (EE&SE) allow for immediate decontamination of these hazards. Properly located and functioning emergency wash stations enhance the safety of all LSUHSC personnel.

This policy helps to ensure that all LSUHSC employees and students are advised on the proper use of EE&SE in the event of an emergency situation; and that required equipment is inspected, maintained and kept in serviceable condition in accordance with applicable OSHA and ANSI standards.

2.0 SCOPE:

This procedure summarizes safety requirements for EE&SE use by LSUHSC personnel and students. This procedure further defines process, maintenance, and other inspection criteria pertaining to EE&SE.

3.0 RESPONSIBILITIES:

3.1 Environmental Health and Safety (EH&S) Department shall:
- Ensure implementation of this procedure and revisions to this procedure based on changes to referenced documents or a determination of deficiencies in work processes or procedures.
- Conduct standard compliance inspections upon installation and annually thereafter.
- Perform semiannual system activations of EE&SE.
- Submit service requests to correct deficiencies identified during either compliance inspections or system activations.
- Ensure that all EE&SE has a current certification tag attached.
- Ensure corrective actions are implemented when required to return-to-service any EE&SE that is tagged out-of-service.
- Perform assessments to determine the need for EE&SE, as requested or as identified through the performance of routine laboratory and facility inspections.
3.2 **Supervisors/Principal Investigators shall:**
- Ensure EE&SE are easily accessible.
- Ensure employees are aware of the location and proper operation of EE&SE and perform operational checks prior to performance of hazardous operations.
- Report deficiencies identified with EE&SE immediately to the EH&S Department.
- Ensure a MSDS is available for all chemicals used during processes/operations.

3.3 **Faculty, Staff, and Students shall:**
- Know the location of emergency wash stations and their proper operation.
- Perform operational checks prior to performance of hazardous operations.
- Report deficiencies with EE&SE to direct supervision.

4.0 **IMPLEMENTATION REQUIREMENTS:**

4.1 **Standards and Equipment Performance**
- Appropriate Personal Protective Equipment (PPE) shall always be used as the first line of protection against exposures to hazardous chemicals; EE&SE are first-aid and used to augment the protection provided by and shall not be expected to serve as a replacement for PPE.
- Approved EE&SE is required for any work area where employees are at risk of exposure to corrosive or hazardous chemicals, or any other chemical for which the MSDS requires such. EE will be installed in all BSL-2 or higher laboratories.
- Water reactive chemicals shall not be used in conjunction with EE&SE, Instructions for first aid procedures associated with exposure to water reactive chemicals will be provided in the MSDS.
- The construction, performance and maintenance of EE&SE stations shall be in accordance with ANSI Z358.1-2004. Notable Z358.1 requirements are as follows:
  - All units should be accessible. No temporary or permanent equipment/ materials shall block access to EE&SE stations.
  - The actuator handle must be conspicuously located as the user may be blinded.
  - The EE&SE must be on the same level as the hazard and be located no more than 10 seconds walking distance (approximately 100 feet) from the area of the potential hazard with no impediments through the path of travel to the EE&SE.
  - As possible, SE locations will have a minimum of 34 inches in diameter unobstructed area below the shower head.

4.1.1 **Personal Eyewash (Bottles)**
- Personal eyewashes shall not be used as substitute for emergency eyewash.
- Personal eyewash can be provided only for irrigation and/or for removal of dirt or other particles from the eye, or for personal hygiene.

4.2 **EE&SE Use**
ES are used to drench the body in water to wash off any hazardous material, removing contact with the body, and diluting the afflicted areas to mitigate harm. In cases of fire, they can be used as a means of dousing an immolated object. EE are used to flush the eyes if they are introduced to any hazardous agents. If an employee has been exposed to a chemical hazard:
• Use the EE&SE for a minimum of 15 minutes or as directed by the MSDS, flushing with copious amounts of water. When using SE, simply stand directly beneath the shower head and then pull the actuator handle. Repeat treatment as necessary.
• Call LSU Police at 568-8999. Medical attention should be obtained immediately following the required flushing of the employee’s eyes or body parts.
• Remove clothing covering any affected body parts, and treat, store, or dispose of clothing as instructed by the MSDS.
• When using EE, eyelids shall be held open and eyeballs rolled so that water will flow to all surfaces when eyes or eyelids are affected.
• An operational inspection should be performed by users prior to the performance of any hazardous operation. The operational inspection shall:
  o Verify that the path to the EE&SE is unobstructed.
  o Verify that a current inspection is showing on the inspection tag.
  o Verify, if possible, that the EE&SE has not been tampered with and will function properly.
  o When a non-compliant unit is found, immediately report the finding to EH&S. If another appropriate unit is not available for use, the hazardous operation shall not be performed.

4.3 Testing Procedures:
• EH&S will conduct standard compliance inspections upon installation and annually thereafter. Semiannual system activations will also be performed.
• Compliance inspections will verify the unit is accessible, sanitary, and functions properly.
• Compliance inspections will require activation of the wash station to verify that all parameters are met satisfactorily.
• The following performance criteria will be used to for compliance inspections:
  SE:
  o Path or aisle way to reach the station shall be clear and unobstructed (10 second/100 feet distance from hazards, or direct vicinity for corrosive)
  o units shall be free from sharp projections or obstructions within 16 inches of the unit
  o Nozzle area shall be clean and uncontaminated
  o Valve actuator shall be located 69 inches or less from the floor surface and large enough to be easily located by the user
  o Unit shall activate in one second or less when turned on and remain active until intentionally turned off
  o Water temperature from the unit shall not exceed 100°F
  o Spray pattern shall be twenty inches in diameter (at 60 inches from the floor surface of the unit) with fluid dispersed throughout the pattern (spray pattern is full and constant)
  o Unit shall deliver 20 gallons per minute for a minimum of 15 minutes
  EE:
  o The inside of the unit is marked where the eyes should be held, or where the spray pattern will fall
  o eyewash nozzles have caps placed over them whenever they are not in use and nozzle caps or lids serve as protection from airborne contaminants
  o Path/aisle way to reach the station shall be clear and unobstructed (10 second/100 feet distance from hazards, or direct vicinity for corrosive)
- Nozzle area is clean and uncontaminated
- Valve actuators are large enough to be easily located by user
- Unit shall activate in one second or less when turned on and remain active until intentionally turned off
- Water temperature from the unit shall not exceed 100°F
- Spray pattern is four inches across (3-6 inches from nozzle) with the fluid dispersed throughout the spray
- Unit delivers 0.4 gallons per minute for a minimum of 15 minutes
- The following additional checks will be made as part of each inspection:
  - Ensure that each satisfactory annual compliance inspection is documented using indelible ink on the inspection tag. The inspection tag is to be initialed and dated (MM/YY) - A after each satisfactory inspection in the re-inspection section.
  - When a non-compliant unit is found, a “Do Not Use” tag shall be immediately affixed to the unit. This tag shall not be removed until the unit has been serviced and retesting performed to verify the unit is operating within the defined parameters of this policy.
  - Tags shall be firmly affixed to the unit in a manner that provides for minimal potential for accidental removal.
- Semiannual system activations will be performed as a check to assure that the units are in working order and that no significant damage or deterioration to the unit or its components has occurred. The inspection tag is to be initialed and dated (MM/YY) – V after each verification. These activations will include the discharging of a low volume of water from the system.
- Problems identified with EE&SE during either the annual compliance inspections or biannual system activations will be forwarded to Facility Services via a service request for maintenance/repair actions.

5.0 EMPLOYEE TRAINING AND EDUCATION:

Training on the use of EE&SE shall be provided both by supervisors and as part of the Laboratory Safety Training classes offered by EH&S. Training elements shall include the location of EE&SE, accessibility to EE&SE, and the proper operation of EE&SE.

6.0 RECORDKEEPING:

EH&S will maintain the results for the current year inspections plus the previous three years.

7.0 INSPECTIONS AND PROGRAM REVIEW:

Inspections and program effectiveness will be assessed annually by EH&S.

8.0 REFERENCES:

29 CFR 1910.151 Medical Services & First Aid
29 CFR1910.1450 Laboratory Standard
ANSI Z358.1-2004 Emergency Eyewash and Shower Equipment
9.0 DEFINITIONS

American National Standards Institute is a private non-profit organization that oversees the development of voluntary consensus standards for products, services, processes, systems, and personnel in the United States.

Emergency Eyewash & Shower Equipment is required for work environments that may expose employees to harmful agents. Emergency showers also known as drench or deluge showers, are designed to flush the user's head and body. To clarify these requirements, OSHA refers to American National Standards Institute (ANSI) Z358.1, Standards for Emergency Eyewash and Shower Equipment.

Material Safety Data Sheet is a form containing data regarding the properties of a particular substance. As an important component of product stewardship and workplace safety, it is intended to provide workers and emergency personnel with procedures for handling or working with that substance in a safe manner, and includes information such as physical data (melting point, boiling point, flash point, etc.), toxicity, health effects, first aid, reactivity, storage, disposal, protective equipment, and spill handling procedures.