

Environmental Health & Safety Policy Manual		
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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 Showers and Eyewash Equipment (ES & EE) 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 ES & EE in the event of an emergency exposure 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 ES & EE by LSUHSC personnel and students. This procedure further defines the process, maintenance, and other inspection criteria pertaining to ES & EE. These guidelines apply to all LSU Health campus areas and facilities.

3.0 RESPONSIBILITIES:

3.1 Environmental Health and Safety (EH&S) Department shall:

- Ensure implementation of this procedure and revisions to this policy based on changes to referenced documents or determination of deficiencies in work processes or procedures.
- Conduct standard compliance inspections upon installation and annually thereafter.
- Perform semiannual system activations of ES & EE.
- Submit service requests to correct deficiencies identified during either compliance inspections or system activations.
- Ensure that all ES & EE have a current certification tag attached.
- Ensure corrective actions are implemented when required to return-to-service any equipment that is tagged out-of-service.
- Perform assessments to determine the need for ES & EE, as requested or as identified through the performance of routine laboratory and facility inspections.
- Advise laboratory personnel that weekly activation of EE units is recommended.

3.2 Supervisors/Principal Investigators shall:

- Ensure ES & EE are easily accessible.
- Ensure employees are aware of the location and proper operation of ES & EE and perform operational checks prior to performance of hazardous operations.
- Report deficiencies identified with ES & EE immediately to the EH&S Department.
- Ensure SDS 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 ES & EE to direct supervision.
- Use proper personal protective equipment when working with hazardous materials or engaging in hazardous activities, as ES & EE do not substitute for primary protection.

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; ES & EE are considered first-aid used to augment the protection provided by and shall not be expected to serve as a replacement for PPE.
- Approved ES & EE are required for any work areas which pose a risk of exposure to corrosive or hazardous chemicals, or any other materials for which the SDS requires such. EE stations will be available for personnel in all BSL-2 or higher laboratories.
- In most cases, the initial first aid treatment for hazardous material exposure is to rinse the affected area with water for at least 15 minutes prior to seeking any other medical treatment. It is often critical that the eyes be flushed immediately following an exposure with contaminant-free water if injury is to be minimized.
- Water reactive chemicals shall not be used in conjunction with ES & EE units; instructions for first aid procedures associated with exposure to water reactive chemicals will be provided in the SDS.
- The construction, performance and maintenance of ES & EE stations shall be in accordance with the standards and guidelines in ANSI Z358.1 (current version). Notable Z358.1 requirements are as follows:
 - All units should be accessible. No temporary or permanent equipment/materials shall block access to ES & EE stations.
 - ES will have a minimum unobstructed area of 34 inches in diameter below the shower head.
 - ES & EE shall be situated to avoid splash hazards with any electrical equipment or circuit breakers.
 - The ES & EE must be on the same level as the hazard and be located no more than 10 seconds walking distance (approximately 55 feet) from the area of the potential hazard with no impediments through the path of travel to the ES & EE.
 - The ES & EE shall deliver tepid water (defined as 60-100°F by ANSI Z358.1) and allow for continuous flow.
 - The actuator handle must be conspicuously located as the user may be blinded.

4.1.1 Personal Eyewash (Bottles)

- Personal eyewashes shall not be used as a substitute for emergency eyewash stations.

4.2 ES & EE Use

Emergency showers (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. Eyewashes (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 ES & EE for a minimum of 15 minutes or as directed by the SDS, flushing continuously with copious amounts of water. When using ES, simply stand directly beneath the shower head and 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; treat, store, or dispose of clothing as instructed by the SDS. Contact EH&S if temporary replacement clothing is needed.
- When using EE, eyelids shall be held open while eyeballs are rolled to all sides 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:
 - Verify that the path to the ES & EE is unobstructed.
 - Verify that a current inspection is showing on the inspection tag.
 - Verify that the ES & EE has not been tampered with and will function properly.
 - 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.
- Note that weekly activations of EE units are recommended, but not required.

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 functioning.
- Compliance inspections will require activation of the wash station to verify that all parameters are met satisfactorily. Wash stations will be inspected annually for compliance with standard.
- The following performance criteria will be used for compliance inspections:
ES:
 - Path or aisle way to reach the station shall be clear and unobstructed (10 second walk or approximately 55 feet distance from hazards, or in direct vicinity for corrosives).
 - Units shall be free from sharp projections or obstructions within 16 inches of the center of the spray pattern.
 - Area around shower shall be well-lit.
 - Nozzle area shall be clean and uncontaminated.
 - Shower head height must be between 82 and 96 inches from the standing surface.
 - Spray pattern shall be 20 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).
 - Valve actuator shall be located 69 inches or less from the floor surface, and large enough to be easily located by the 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.
 - Unit shall deliver 20 gallons per minute for a minimum of 15 minutes.
 - If provided, shower enclosure has a minimum diameter of 34 inches of clearance.

EE:

- The inside of the unit is marked where the eyes should be held, or where the spray pattern will fall.
- Eyewash nozzles have caps placed over them whenever they are not in use and nozzle caps or lids serve as protection from airborne contaminants.
- Path or aisle way to reach the station shall be clear and unobstructed (10 second walk or approximately 55 feet distance from hazards, or in direct vicinity for corrosives).
- Units shall be free from sharp projections or obstructions within 16 inches of the unit.
- Nozzle area is clean and uncontaminated.
- Valve actuators are readily accessible and large enough to be easily located by users.
- 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.
- Controlled, low velocity rinses both eyes simultaneously and is not injurious to users.
- Water flow is sufficiently high to allow user to hold eyes open while rinsing.
- 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) 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 retested to verify it 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) after each verification. These activations will include the discharging of a low volume of water from the system to ensure that it is functioning properly.
- Problems identified with ES & EE during either the annual compliance inspections or biannual system activations will be forwarded to Facility Services via service request for maintenance/repair actions.

5.0 EMPLOYEE TRAINING AND EDUCATION:

Training on the use of ES & EE 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 ES & EE, accessibility to ES & EE, and the proper operation of ES & EE.

6.0 RECORDKEEPING:

EH&S will maintain the results for the current year’s inspections plus documentation of inspections from 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 CFR 1910.1450	Laboratory Standard
ANSI Z358.1-2014	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.

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.