I. APPLICABILITY

This procedure establishes minimum performance requirements in connection with Eyewashes, Emergency Showers, Hand-held Drench Hoses, and Combination Units for Academic Affairs Division at Ferris State University (FSU). The program document is issued pursuant to the Academic Affairs Laboratory Safety Management System.

II. KEY ELEMENTS

A. The type and location of the Eyewash and Emergency Shower equipment shall be specified by the Academic Affairs Director of Laboratory Safety for Academic Affairs.

B. Appropriate use of Eyewash and Emergency Shower equipment is outlined.

C. Testing requirements and frequency for Eyewashes and Emergency Shower equipment is specified.

III. ROLES IN THE PROCESS—

A. Academic Affairs Director of Laboratory Safety is responsible for developing, maintaining, and revising as necessary, this written program, assuring the creation of appropriate documented procedures, and providing technical expertise in connection with the nature and use of Eyewashes and Emergency Showers. This involves:

1. Assisting the colleges and departments, as a technical resource, with the workplace hazards and job specific hazard assessment surveys.

2. Defining the need for, and type of, Eyewash and Emergency Shower equipment for Academic Affairs Division.

3. Determining if the existing Eyewashes and Emergency Showers provide adequate emergency treatment for the eyes and body of a person who has been exposed to injurious materials.

4. Determining the optimum placement of Eyewash and Emergency Shower equipment.

5. Overseeing the development of training materials for the Principal Investigator, Faculty, Staff and Student Employees.

6. Evaluating the overall effectiveness of this program on a periodic basis, and revising the program as needed to ensure compliance with federal, state and local occupational health and safety and/or environmental regulations and standards.

B. The Physical Plant will oversee installation, maintenance, and timely repairs of the equipment according to the manufacturer’s specifications, the most current applicable regulations, ANSI standards and the Academic Affairs Laboratory specifications/engineering standards associated with this equipment.
C. The laboratory’s supervisors are responsible for overseeing the operation of all Eyewashes, Emergency Showers, Hand-held Drench Hoses, and Combination Units within their work area. Before assigning anyone to work in areas where there is significant potential for hazardous materials to cause injury to the skin or to the eyes, the Laboratory Supervisor shall verify the following:

1. Faculty, staff and students are trained in the use, and testing requirements for Eyewashes, Emergency Shower, Hand-held Drench Hoses, and Combination Units.
2. Faculty and staff are trained in the testing requirements for Eyewash, Emergency Shower, Handheld Drench Hoses, and combination units.
3. Laboratory Supervisors shall, for all equipment inspection failures, issue corrective work orders, request emergency repair, place an Out-of-Service sign on the equipment, and inform the Academic Affairs Director of Laboratory Safety.
4. Laboratory Supervisors, in coordination with the Academic Affairs Director of Laboratory Safety, shall conduct a review of the work performed in the area within 24 hours of the initiation of the Out-of-Service sign. This review will determine if the loss of the Eyewash or Emergency Shower equipment will require work in the area to be temporarily placed on hold, revised, or discontinued until the eyewash emergency shower is repaired.
5. Laboratory Supervisors may rotate the responsibility for performing the required Eyewash and Emergency Shower equipment inspection, testing, and documentation among the individual who are working within the laboratory.
6. If the Laboratory Supervisor will become involved with remodeling an existing laboratory or new construction of a laboratory, he will contact the Academic Affairs Director of Laboratory Safety during the design stage for an Eyewash/Emergency Shower evaluation.
   a. Prior to the completion of the project, the laboratory supervisor will contact the Academic Affairs Director of Laboratory Safety for a final review of the Eyewash and/or Emergency Shower requirements for installation and operation.
   b. When there is a major change in the laboratory processes/experiments conducted in the laboratory, the laboratory supervisor will contact the Academic Affairs Director of Laboratory Safety and request a hazard assessment for the laboratory.

D. All laboratory personnel working in an area where Eyewash or Emergency Shower equipment is required, shall

1. Obtain required training as offered by Academic Affairs Laboratory Safety.
2. Follow the requirements of this written program and related documents and instructions.
3. Inform their Laboratory Supervisor of the need to repair or replace any non-functioning equipment.
4. Have knowledge regarding:
   a. Which chemicals have dermal, toxic hazards or eye sensitivity.
   b. The location of the nearest Eyewash and Emergency Shower.
   c. The routes to the Eyewash and Emergency Shower and the requirements for maintaining unobstructed areas around the stations at all times.
   d. How to use Eyewash and Emergency Shower equipment.
   e. How to perform and record the inspection test.
IV. PROCESS

A. Academic Affairs Director of Laboratory Safety
1. Serve as Eyewash and Emergency Shower equipment technical advisor.
2. Provide hazards assessment to determine the number, location, and type of Eyewash and Emergency Shower that is needed to address the hazards associated with the laboratory operations.
3. Will evaluate the Academic Affairs Laboratories on campus to determine where Eyewash and/or Emergency Shower equipment shall be located.
4. Identify training resources.

B. Laboratory Supervisor
1. Will provide training to laboratory personnel on the location, inspection, and use of Eyewash and Emergency Shower equipment
2. Will initiate Physical Plant work order to repair any Eyewash or Emergency Shower that fails inspection.
3. Will determine if work may continue in the laboratory when an Eyewash or Emergency Shower is found to be faulty. The Academic Affairs Director of Laboratory Safety shall be consulted

C. Laboratory Personnel
1. Shall know the locations of, and understand the operations of the nearest Eyewash and Emergency Shower equipment.
2. Shall review the Eyewash or Emergency Shower equipment before starting any work process, to ensure it has not been taken out of service.
3. Will maintain the routes to all Eyewashes and/or Emergency Showers, and ensure the area around the safety equipment remains clear of all obstructions.

D. Exposure Incident
In the event of an accident, especially one involving a corrosive substance, the first 10 to 15 seconds after the body has been exposed to a hazardous substance are critical. Delaying treatment even for a few seconds may result in serious injury.
1. The victim must immediately move to and activate the Eyewash or Emergency Shower equipment. If there are bystanders, they are to assist the victim to the Eyewash or Emergency Shower equipment.
2. The affected body parts must be flushed immediately and thoroughly for at least 15 minutes. Clothing associated with the affected area must be removed immediately. Any witness to this event who exhibits inappropriate behavior concerning the disrobed individual will be referred to the Dean for disciplinary actions.
3. The flushing time of 15 minutes may need to be increased based on the properties of the chemical. Non-penetrating corrosives are chemicals that react with the human tissue to form a protective layer and thus limit the extent of damage. Most acids are non-penetrating corrosives. Penetrating corrosives, such as alkalis, hydrofluoric acid and phenol enter the skin or eyes deeply. Penetrating corrosives require longer water flushing, a minimum of 60 minutes.
4. While the victim is flushing, any bystander not assisting the victim must contact 911.
5. If the victim appears to have uncontrolled shivering after at least 15 minutes of flushing, remove the individual from the Eyewash or Emergency Shower equipment. Cover the victim with a fire blanket or any available dry clothing
6. Remain with the victim until emergency first responders arrives. Provide information concerning the hazardous material involved to the emergency first responders and any emergency medical professional called to the scene.
7. Obtain the SDS on the hazardous material involved without delaying the departure of the victim to the hospital. Provide the SDS to any emergency first responders or medical professional.
8. After an Emergency Shower or Self-contained Eyewash has been used, the wastewater may contain hazardous materials that cannot or should not be introduced into a sanitary sewer. Contain the water by using the chemical spill kit materials and treat as hazardous waste.
E. Inspection and Testing for Plumbed Emergency Showers and Eyewashes
1. All Eyewashes, Emergency Showers, Hand-held Drench Hoses and Combination Units shall be inspected. All PIs who have Eyewash or Emergency Shower equipment in their area will assign Laboratory personnel to perform these inspections and tests.
2. All Plumbed Eyewashes, Hand-held Drench Hoses, and Combination Units shall be checked weekly by the laboratory personnel in which the equipment is located. Emergency showers shall be checked monthly.
3. Test results for Plumbed and for portable units will be documented on the Emergency Eyewash and Shower Inspection Form (Appendix A).

F. Training
Laboratory personnel with potential exposure to accidental splashes of hazardous substances shall be adequately trained in the availability and use of Eyewash and Emergency Shower equipment. This training shall include, at a minimum:
1. Providing clear directions that if chemicals are spilled on the body, the victim must remove all clothing while showering to ensure the impacted area of the victim’s body is well drenched.
2. All Plumbed Eyewashes, Hand-held Drench Hoses, and Combination Units must be activated (flushed) weekly to verify operations, including that the water is Tepid, where plumbed.
3. Direction on ensuring:
   a. Access to every Eyewash, Emergency Shower, Hand-held Drench Hose, and Combination Unit is free of trash, debris, and obstructions.
   b. After emergency use, the Eyewash must be checked for any residue.
   c. Documenting all testing of Eyewashes, Emergency Showers, Hand-held Drench Hoses or Combination Units.
   d. Reporting any piece of equipment that fails inspection.

V. DEFINITIONS

American National Standards Institute (ANSI)
A voluntary organization that develops various consensus standards. ANSI standards are often incorporated or referenced in federal and state regulations.

Code of Federal Regulations (CFR)
The compilation of regulations promulgated by the United States.

Combination Unit
A unit combining an Emergency Shower with Eyewash or a Hand-held Drench Hose, or both, into one common assembly. Combination Units are Eyewash and Emergency Shower equipment.

Emergency Shower
A unit that is designed and located so a user may have water cascading over the entire body immediately after an accidental splash of a hazardous substance.

Eyewash
A device located for an Employee’s immediate use for irrigating and flushing both the face and eyes following an accidental splash of a hazardous substance. Eyewashes may be Plumbed or Self-contained. For purposes of this written program, the term Eyewash includes an Eye/Face Wash, Drench Hose, and other related equipment or devices.

Hand-held Drench Hose
A flexible hose connected to a tepid water supply and located so that an Employee may immediately irrigate and flush the eyes, face, and other body areas immediately after and accidental splash of a hazardous substance. Hand-held Drench Hoses are Eyewash and Emergency Shower Equipment.

Hazard Assessment
An evaluation of a work place, or work situation, as to the potential for hazards that an individual may encounter while performing tasks in that environment.
Laboratory Supervisor
Refers to any Ferris State University Principal Investigator, Faculty, or Staff who is responsible for the operations of the laboratory.

Laboratory Personnel
Refers to anyone permitted to perform work in the laboratory, Principal Investigator, Faculty, Staff, Student Employee or Student.

Plumbed
A unit permanently connected to a source of portable water.

VI. RELATED OR REFERRED TO DOCUMENTS

B. 29 CFR 1910.151
C. ANSI Standard for Emergency Eyewash and Shower Equipment Z 358.1
A check mark in the month response box indicates agreement with the statement. All non-agreements must be recorded as a “no” in the response box and will require a statement in the comment section of this document indicating the corrections taken. The Emergency Eyewash and Shower Inspection book will serve as documentation that the inspection was completed. This book must be maintained next to the Emergency Eyewash and Shower. Replacements may be obtained by copying this page. Keep all testing records one year + current year in the Laboratory’s Eyewash and Emergency Shower three ring binder.

<table>
<thead>
<tr>
<th>Items to Review</th>
<th>Month:</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1st Week</td>
<td>2nd Week</td>
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<tr>
<td>The eyewash is identified by a highly visible sign.</td>
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<tr>
<td>The area, approximately three feet surrounding the eyewash is free of all obstruction.</td>
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<tr>
<td>The eyewash can be easily activated.</td>
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<tr>
<td>The eyewash covers are removed by activation of the eyewash handle.</td>
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<tr>
<td>The flow of water from the eye and face wash spouts on the eyewash station are about equal height.</td>
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<tr>
<td>The flow of water is clear.</td>
<td></td>
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<tr>
<td>The water is not initially clear, but does come clear after 3 minutes.</td>
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<tr>
<td>The water drains freely from the eyewash bowl.</td>
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<tr>
<td>The eyewash bowl was wiped clean after testing.</td>
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<tr>
<td>Weekly Inspection performed by:</td>
<td></td>
<td></td>
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<tr>
<td><em>(Include Inspector’s initials and date inspection occurred)</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Items to Review</td>
<td>Month:</td>
<td>Comments</td>
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<tr>
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<tr>
<td>The emergency shower is identified by a highly visible sign.</td>
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<tr>
<td>The area, approximately three feet surrounding the emergency shower is free of all obstruction.</td>
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<tr>
<td>The emergency shower can be easily activated.</td>
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<tr>
<td>If the unit is equipped with an emergency alarm, it is activated when the water flow begins.</td>
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<tr>
<td>The flow of water from the shower head was controlled by the emergency shower kit.</td>
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<td></td>
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<tr>
<td>The flow of water is clear.</td>
<td></td>
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</tr>
<tr>
<td>The water is not initially clear, but does come clear after 3 minutes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The water drains freely from the shower head.</td>
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<tr>
<td>Following testing, the area around the shower was free from water.</td>
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<tr>
<td>Emergency shower testing tools were drained and inspected prop to placing in storage.</td>
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<td></td>
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<tr>
<td>Weekly Inspection performed by:</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>(Include Inspector’s initials and date inspection occurred)</em></td>
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