

Requirements Documents

HMIS-RD-SP-7459

Safety Showers and Eyewashes

Revision 0, Change 1

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Program: Worker Safety and Health Program (851) Implementing

Topic: Safety Programs

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Use Type: N/A



- No USQ Required

JHA:

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Change Summary

Description of Change

Remove all references to MSA/MSA
Pub Correction 15023: Updated SME

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1.0 PURPOSE AND SCOPE

Occupational Safety and Health Administration (OSHA) standards 29 CFR 1910.151 (c), and 29 CFR 1926.50 (g) [*Medical Services and First Aid*] require provision of suitable facilities for quick drenching or flushing of the eyes and body when employees may be exposed to injurious corrosive materials. Through the General Duty Clause of OSHA (Public Law 91-956), the Hanford Mission Essential Support Contract (HMESC) applies consensus standard ANSI Z358.1 (*Emergency Eyewash and Shower Equipment*) for planning, design, construction, alteration, and acquisition specifications. The project/facility Safety and Health organization may be consulted for issues relating to this subject area that are not directly addressed by this document.

This Level 2 Requirements Document is applicable to HMIS Team employees involved in HMIS scope of work, and include the following types of equipment:

- Plumbed and self-contained showers.
- Plumbed and self-contained eyewash equipment.
- Eye/Face wash equipment.
- Hand-held drench hoses.
- Combination units.

Personal eyewash devices (e.g., squeeze bottles) which are used solely as supplementary support to plumbed and/or self-contained units, and decontamination showers/units, are excluded from the scope of these requirements.

2.0 IMPLEMENTATION

This procedure is effective for implementation upon publication, with the exception of the recently updated requirement to perform weekly visual inspections on self-contained emergency equipment. There will be a 6 month implementation period for this visual inspection to be incorporated into the maintenance program.

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3.0 REQUIREMENTS

3.1 Installation

NOTE: For the tables in this section under the requirement "type" column, "V" means verbatim and "I" means interpreted.

#	Requirement	Type V or I	Source
1.	<p>Equipment shall be located in work areas where eyes, face, and other body parts may be exposed to injurious chemicals.</p> <p>NOTE: Eye wash and/or shower equipment should be available to employees in the following circumstances:</p> <ul style="list-style-type: none"> • When there is a potential exposure to injurious corrosive materials, eyewash that meets the minimum (ANSI Z358.1-2014) requirements shall be available. • When there is a potential for a chemical to splash in an employee's eye, an eye wash that meets the minimum (ANSI Z358.1-2014) requirements may be required. This should be evaluated by IH and Safety on a case by case basis. • Safety Showers shall be available if there is a possibility of getting dangerous quantities of injurious corrosive/chemicals on the skin. 	I	<p>29 CFR 1910.151 (c);</p> <p>29 CFR 1926.50(g);</p> <p>ANSI Z358.1 - 2014</p>
2.	<p>For installations of plumbed emergency eyewash and shower equipment, or in the provision of portable units, the design specifications of ANSI Z358.1 shall be followed.</p> <p>NOTE 1: Eye wash equipment must meet the minimum specifications of ANSI Z358.1; however, the key highlights of the minimum requirements are:</p> <ul style="list-style-type: none"> • A means shall be provided to ensure that a controlled flow of flushing fluid is provided to both eyes simultaneously. • Nozzles shall be protected from airborne contaminants. • Once activated it can be used without requiring the use of the employee's hands. 	I	<p>DOE Guide 420.1-1, Section 4.3.3;</p> <p>ANSI Z358 .1- 2014</p> <p>OSHA General Duty Clause Public Law 91-956</p>

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	<ul style="list-style-type: none"> Be capable of delivering flushing fluid to the eyes not less than 1.5 liters per minute (0.4 gpm) for 15 minutes. <p>NOTE 2: <i>Shower equipment must meet the minimum specifications of ANSI Z358.1; however, the key highlights of the minimum requirements are:</i></p> <ul style="list-style-type: none"> A means shall be provided to ensure that a controlled flow of flushing fluid is provided at a velocity low enough to be non-injurious to the user. Once activated it can be used without requiring the use of the employee's hands. The equipment shall be capable of delivering flushing fluid at a minimum of 75.7 liters per minute (20 gpm) for a minimum of 15 minutes. Stored flushing fluid shall be protected against airborne contaminants. <p>NOTE 3: <i>For multiple installations, uniformity in equipment type and style selection is encouraged to avoid confusion in operating technique during an emergency.</i></p>		
3.	Equipment shall be assembled and installed in accordance with manufacturer instructions, including flushing fluid delivery requirements.	I	ANSI Z358.1 - 2014 4.5.1, 5.4.1, 6.4.1, 7.4.1, 8.2.3.1
4.	Equipment shall be installed or placed in well-lit, easily reachable locations to provide accessibility within approximately 55 ft. (10 second travel time) of the operation that requires the safety shower/eye wash. Emergency equipment shall be located on the same level as the hazard and the path of travel shall be free of obstructions that may inhibit its immediate use.	I	29 CFR 1910.22 (a); ANSI Z358.1 – 2014 4.5.2, 5.4.2, 6.4.2, 7.4.2, Appendix B5
5.	Emergency eyewash and shower equipment shall be identified using a highly visible sign positioned so the sign shall be visible within the area served by the emergency equipment. The area around the emergency equipment shall be well-lit, and free of debris that may inhibit its immediate use.	I	29 CFR 1910.22 (a) ANSI Z358.1 – 2014 4.5.3, 5.4.3, 6.4.3, 7.4.3 and 8.2.3.2
	<p>NOTE: <i>Lights are an acceptable means for identification of installations completed prior to April 6, 1989, but are not recommended as the sole means for identification.</i></p>		

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6.	Equipment shall be connected to a supply of flushing fluid per the manufacturer's installation instructions to produce the required spray pattern for a minimum period of 15 minutes. Where the possibility of freezing conditions exists, the emergency equipment shall be protected from freezing or freeze-protected equipment shall be installed. If shut off valves are installed in the line for maintenance purposes, provisions shall be made to prevent unauthorized shut off.	I	ANSI Z358.1 – 2014 4.5.5, 5.4.5, 6.4.5, 7.4.4, 8.2.3.3
7.	A water supply that is tepid/lukewarm in temperature shall be provided for units installed after April 16, 1998. NOTE 1: <i>Delivered water temperature for existing installations should not be at extremes that would reasonably be expected to prevent an employee from fully flushing the affected area(s) as a result of undue discomfort.</i> NOTE 2: <i>ANSI has defined "tepid/lukewarm" to mean not higher than 38° C (100° F) and not lower than 15.5° C (60° F).</i>	I	ANSI Z358.1 - 2014 4.5.6, 5.4.6, 6.4.6, 7.4.5, 8.2.3.4
8.	When plumbed emergency shower and eyewash equipment is installed its performance shall be tested to ensure proper operability.	I	ANSI Z358.1 - 2014 4.5.7, 5.4.7, 6.4.7, 7.4.6
9.	Self-contained emergency shower and eyewash equipment installation shall be verified in accordance with manufacturer's instructions.	I	ANSI Z358.1 - 2014 4.5.8, 5.4.8, 6.4.8

3.2 Maintenance

1.	Manufacturers shall provide operation, inspection and maintenance instructions with emergency shower and eyewash equipment. Manufacturer instructions shall be used, where applicable, in developing specific maintenance, inspection, and testing criteria.	I	ANSI Z358.1 –2014 4.6.1, 5.5.1, 6.5.1, 7.5.1, 8.1.3.1, 8.2.4.1
2.	Plumbed eyewash and shower equipment shall be activated weekly for a period long enough to verify operation and ensure that flushing fluid is available.	I	ANSI Z358.1 - 2014 4.6.2, 5.5.2, 6.5.2, 7.5.2, 8.2.4.2
3.	Self-contained emergency showers and eyewashes shall be visually checked weekly to determine if flushing fluid needs to be changed or supplemented. Such inspection shall be conducted in accordance with manufacturer's instructions.	I	ANSI Z358.1 - 2014 4.6.3, 5.5.3, 6.5.3, 7.5.3, 8.2.4.3

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4.	All shower and eyewash (plumbed and self-contained) units shall be inspected/tested annually to assure conformance with ANSI Z358.1 installation requirements. The manufacturer instructions and responsible occupational safety and health representative should be consulted if the aforementioned testing and inspection frequencies cannot be followed.	I	ANSI Z358.1 –2014 4.6.5, 5.5.5, 6.5.5, 8.1.2.4, 8.2.4.5
5.	After initial installation, performing repairs or making modifications eyewash and shower equipment should be tested to ensure proper operability prior to placing units back in service.	I	ANSI Z358.1 - 2014
6.	Shutoff valves installed between the sanitary water supply and plumbed emergency equipment in an "open" position shall be maintained during the performance of those work activities which require availability of emergency eyewash or shower equipment.	I	OSHA General Duty Clause Public Law 91-956

3.3 Training

1.	Affected employees shall be instructed in the location and proper use of the emergency eyewash and shower equipment located in their work areas.	I	29 CFR 1910.1200, (h)(3); ANSI Z358.1 –2014 4.6.4, 5.5.4, 6.5.4, 7.5.4, 8.1.3.3, 8.2.4.4
2.	Employees who are assigned to inspect and maintain emergency shower and eyewash equipment shall possess an adequate knowledge of manufacturer performance instructions. Manufacturer instructions shall be readily accessible to maintenance and inspection personnel.	I	ANSI Z358.1 –2014 4.6.1, 5.5.1, 6.5.1, 7.5.1, 8.1.3.1, 8.2.4.1

4.0 REFERENCES

4.1 Source References

29 CFR 1910.22, *Walking-Working Surfaces* (General Requirements)

29 CFR 1910.151, *Medical Services and First Aid*

29 CFR 1910.1200, *Hazard Communications*

29 CFR 1926.50, *Medical Services and First Aid*

American National Standards Institute (ANSI) Z358.1 - 2014, *Emergency Eyewash and Shower Equipment*

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DOE G 420.1-1, *Non Reactor Nuclear Safety Design Criteria and Explosives Safety Criteria
Guide For Use with DOE O 420.1, Facility Safety*

Occupational Safety and Health Act of 1970, *General Duty Clause*, Public Law 91-956

10 CFR 851.23, *Worker Safety and Health Program*