Faculty Of Science Safety shower and eyewash compliance procedure

Version	1.0
TRIM file number	D09/13608
Faculty of Science Doc No	
Short description	Procedure ensuring safety showers and eye wash units are regularly checked and comply with the AS 4775-2007.
Relevant to	Staff, students, visitors and contractors entering the FSc Facilities.
Authority	This Procedure has been approved by [Dean, Faculty of Science] under the *Governance (Policy and Procedures) Rule* 2005 of the Council and sections 20 and 32 of the *CSU Act*.
Responsible officer	Manager, University Laboratories
Responsible office	Faculty of Science
Date introduced	1 August 2011 when approved
Date(s) modified	August 2011
Next scheduled review date	June 2014
Related University documents	CSU Occupational Health and Safety Policy, CSU Risk Management Policy, FSc Risk Assessment Procedure
Related legislation	OHS Act 2000 & Regulation 2001
Key words	Procedure, eyewash, face wash, safety shower
References	AS4775-2007 Emergency Eyewash and shower equipment Pratt Safety System Instruction Manual

1. PURPOSE

In accordance with the CSU Occupational Health and Safety Policy, the CSU Risk Management Policy and the Occupational Health and Safety Act 2000 the Faculty of Science (FSc) shall provide a safe and healthy environment for staff, students, visitors and contractors. Central to achieving this is staff, students, visitors and contractors understanding their duty of care responsibilities and the specialised risk associated with the FSc Facilities. One mechanism for achieving this is by ensuring the FSc safety showers and eyewash units are available and AS4775-2007 compliant.

2. SCOPE

All safety showers and eyewash units managed by the FSc.

3. RESPONSIBILITIES

Facility Manager

- ensure safety showers and eyewash units function in accordance with AS4775
- set testing schedule
- submit BEIMS if units not compliant
- complete and lodge hazardous incidents reports when required
- ensure work requiring a safety shower or eyewash is performed in an appropriate FSc Facility (see risk assessment procedure)

Line Manager

- ensure safety shower and eyewash units are checked in accordance with Facility Manager's testing schedule
- notify the Facility Manager of non compliance for BEIMS submission
- report any incident or accident to the Facility Manager for hazard report submission
- ensure testing records are up to date and accessible for auditing

Staff

- ensure the equipment is in good working order, well maintained and checked in accordance with the checklist
- check test is completed in accordance with testing schedule and documented
- report any problems identified to Line Manager or Facility Manager

4. PROCEDURE

4.1 Weekly Maintenance Checks

- Complete 'maintenance checklist – safety shower weekly' which includes safety shower and eyewash units

4.1.1 Identification

- highly visible signage required (AS 1319)

- all weather testing tag attached to unit (replacement tags available from Labstore).


4.1.2 Obstructions

- path to unit will be clear of any obstructions (including equipment)
    - showerhead no less than 406mm from any obstruction (excluding the eyewash component)
    - eyewash nozzles are at least 153mm from the nearest obstruction.

4.1.3 Parts Check

- check all parts are in place and in good order
- nozzles need to be protected from airborne contaminants by dust covers and they need to retract automatically when the unit is activated
- check aerators are in good condition and free from corrosion

4.1.4 Operation of Showers and Eyewash

- run safety shower and eyewash unit weekly
- inaccordance with (AS 4775-2007) check flow rates of safety shower and eyewash unit.
    - use a collection bucket or a Pratt shower bin (appendix A) to minimise the water on the floor
    - record results on weekly maintenance checklist

4.2 Periodic Maintenance Requirements

The Facility Manager via risk assessment determines the appropriate period between 'periodic' maintenance checks for individual FSc Facilities. Periodic maintenance checks will also be completed after capital works (especially after plumbing works). Periodic maintenance checks include:

4.2.1 Siting of the unit and its design

Location

The safety unit should be within 10 seconds of the hazard or work area, and is located on the same level. For strong acids or bases the unit must be adjacent to the hazard, and an additional unit may be required outside the hazardous area.

Actuators

The actuators should be easy to locate and activate, open the valve in one second or less. Once open the valve must stay on without the use of hands until they are intentionally turned off. The shower actuator shall not be more than 1733mm above the level on which the user would stand.

Height of unit

The height for the shower head must be between 2083mm and 2438mm from the surface on which the user stands. The height of the nozzles for the eye/face wash should be between 838 and 1143mm from the floor surface and 153mm minimum from the wall.

Fittings

Plumbing connection fittings should be:

- combination shower/eyewash 25mm
- Shower 25mm
- eye/face wash 20mm
- eye wash 12mm

4.2.2 Flushing Water

- Water must be able to maintain its flush for a minimum of 15 minutes. If there are requirements for longer flushing than this, shall be clearly indicated by prominent signage.
- Water should be tepid (between 15^0 and 35^0C). If there is a possibility of water freezing or boiling (over 38^0C) adequate protection must be introduced
- Safety showers and eyewash units must meet the minimum flow rate required.
- Eyewash units need to be capable of washing both eyes simultaneously at a velocity low enough to be non-injurious to the eyes.
- If shut off valves are installed for maintenance purposes, they need to be secure from any unauthorised shut off.

If flushing water accelerates a possible chemical reaction, this should be identified in a Risk Assessment (see Risk Assessment Procedure) prior to undertaking the work and further discussions with the Facility Manager and the Manager of University Laboratories should be undertaken.

4.2.3 Minimum Flow rates

All units should be plumbed at 210kPa and must be able to maintain a period of not less than 15 minutes.

- Showers 75.7 litres per minute
- Eye/face wash 11.4 litres per minute
- Eye wash 1.5 litres per minute

Rates can be tested with a flow meter or by other methods such as timing to fill a bucket. Results are to be recorded on the ‘Maintenance Checklist - Safety shower flow rate’.

4.2.4 Flushing Pattern

Shower
Diameter of pattern should be 508mm at 1524mm above the floor surface. The Pratt safety shower system (Appendix A) can be used to determine this.

Eye/facewash
Use the Pratt Safety shower system (Appendix A) to test.

5.0 REFERENCED and RELATED UNIVERSITY DOCUMENTS

AS4775 - 2007 Emergency Eyewash and Shower Equipment
Pratt Safety systems Instruction Manual
Maintenance Checklist - Safety shower flow rate
Maintenance Checklist – Safety shower weekly
FSc Risk Assessment Procedure
Pratt Safety Shower and Eyewash Test Kit Instruction Manual

7.0 APPENDIX

APPENDIX A Pratt Safety Shower and Eyewash Test Kit instruction Manual

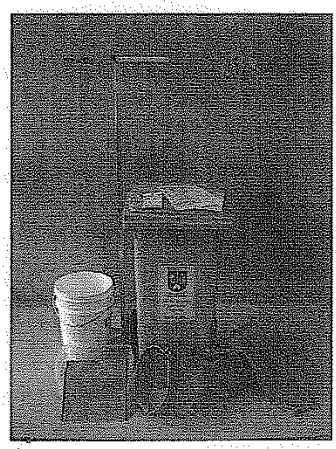
8.0 Table of amendments

Version number	Date	Short description of amendment
0.1	08/09	Draft
1.0	06/11	
	08/11	Amendments K Kent

PRATT SAFETY SYSTEMS
137 McCredie Road
Guildford NSW 2161
Ph: 1300 133 226
Fax: 1300 134 015
Email: prattcs@tycoint.com

Model No. SETESTKIT

INSTRUCTION MANUAL
Pratt Safety Shower and Eyewash Test Kit



1. **Shower Flow Rate and Flush Testing**
   a. Using the **Shower Test Sock** and **Test Bin**, assemble the sock handle to the sock ring and hold the shower sock over the shower head, placing the bottom of the sock in the test bin which is positioned beneath the shower.
   b. Alternatively the **Shower Test Sock** can be mounted onto the **Shower Test Frame** by assembling one of the cross bar sections to create the base together with the three lengths of tube. The Shower Test Sock is then placed to cover the shower head, with the frame standing directly beneath the shower head and the sock placed inside the Test Bin located as close as possible to the frame.
   c. For testing of flow rate, time the test, ensuring the bin is not overfilled. Activate the shower and record the amount of flushing fluid contained in the test bin within the monitored time. Calculate this measured test to the equivalent of one minute. This determines the overall flow rate in litres per minute (L/min). The minimum flow rate required is 75.7L/min. A higher flow rate is acceptable, and may be more effective, provided the velocity is not excessive or injurious to the operator.
   d. For weekly flushing, conduct the same test but without the need to monitor the time, in order to ensure the flushing fluid is clean and the shower is operating properly.
   e. Empty the stored water contained within the Test Bin as required. The waste drainage valve can be connected to a ¾" hose with snap on connecter if required.
   f. The **20L Plastic Bucket** can be used as an alternative to the test bin for weekly flushing when used with the test sock, either hand held or mounted to the frame. Note the bucket is limited in capacity and the shower can only be operated for a few seconds at a time.

2. **Shower Water Pattern Testing**
   a. Assemble the **Shower Test Frame** comprising of the two cross bar sections and the two marked lengths of tube. The cross bars are the same so either can be at the top or bottom.
   b. Place the test frame centrally beneath the shower head on the ground. Activate the shower and observe the flushing fluid pattern. If pattern is equal to or exceeds the ends of the cross bars the pattern is acceptable. If the flushing fluid pattern is less than the width of the cross bars, it is not compliant. Also the flushing fluid must be evenly dispersed within the pattern.
   c. If the pattern is not compliant further servicing or review of the water supply may be required.

3. **Eyewash Flow Rate and Flush Testing.**
   a. Where possible connect the **38mm Flexible Hose** to the eyewash waste outlet and position the other end of the hose in the flat **10L Plastic Tray.**
   b. For testing of flow rate, time the test, ensuring the tray is not overfilled. Activate the eyewash and record the amount of water contained within the monitored time. Calculate this measured test to the equivalent of one minute. This determines the overall flow rate in litres per minute (L/min). The minimum flow rate for an eyewash is 1.5L/min and an eye/face wash is 11.4L/min.
   c. For weekly flushing, conduct the same test but without the need to monitor the time, in order to ensure the water is clean and the eye wash nozzles are functioning properly.
   d. Empty the stored water into the test bin as required.

4. **Eyewash Water Pattern Testing**
   a. Turn the eye wash station on. Place the clear plastic **Eye Wash Test Gauge** on top of the fluid stream with the parallel lines facing from front to back of the eyewash.
   b. The flushing fluid must meet within the two sets of parallel lines.
   c. If the flushing fluid does not meet within the lines, the test gauge can be lowered into the fluid stream no more than 38mm (1 ½ inches).
   d. Adjust the flow control valves as necessary to ensure correct flushing fluid pattern.
   e. If the flushing fluid does not reach the parallel lines, further servicing of the eyewash station and or fluid supply may be necessary.

5. **Cleaning or Replacing of Eyewash Aerators**
   a. If the aerators are damaged or blocked this will affect the water flow. The aerator set can be removed and either cleaned or replaced with a new aerator set.
   b. Using the **Aerator Removal Key** unscrew the retaining cap. Remove the aerators from the cap and either clean or replace with a new set. Ensure the aerators are fitted in the correct sequence otherwise the flow stream will be affected. Refit and tighten with Key taking care not to over tighten.

6. **Using the Shower and Eyewash Check List.**
   a. Using the laminated **Check List** take photo copies of the list with one list for each unit. Record the model and installation date if known, the details of the location, the date, and the name of the tester.
   b. The front page is a check list for weekly testing and the reverse side provides additional tests required for annual testing. Mark each of the items on the check list as required.
   c. Also record the test date and tester's name on the **Shower Test Tag** which should be tied to the unit. Use a water proof marking pen such as an Artline 17 to record this information.

7. **PVC Document Holder**
   Use the **Document Holder** to store the Check Lists, Instructions, Eyewash Test Gauge and other relevant documents.

8. **Shower Test Bin**
   a. The **Shower Test Bin** has been fitted with a clear tube liquid level sight gauge and calibrated in 5 litre increments so as to accurately measure the flow rate of the Safety Shower. Do not exceed the recommended maximum fill level as it will be difficult to manoevour the bin.
   b. All of the components of the **Shower Testing Kit** can be disassembled and stored in the Test Bin ready for the next testing programme.