

STANDARD PROCEDURE INSTRUCTION

Title Surface Safe Assembly Location (Safe Room)		SPI 34-53
Department Safety, Health and Environment	Supersedes SPI Dated NEW	Effective Date Feb 28, 2014

1.0 Purpose

To define the criteria for a Surface Safe Assembly Location (Commonly referred to as a Safe Room).

2.0 Scope

Established criteria used to define a Safe Room in the Surface plants.

3.0 Definition of a Safe Room

Safe Rooms are designated areas where people can seek protection from a hazardous gas release by minimizing infiltration of a gas. The Safe Room environment can be controlled and is an organized method of accounting for people during an emergency.

4.0 Safe Room Criteria

This section presents criteria for selecting or designing a Safe Room for protection against airborne toxic materials.

Any type of room can be used as a Safe Room if it meets the criteria listed below. In office buildings, Safe Rooms have been established in conference rooms, lunch rooms, offices, and other large common areas. The criteria are as follows:

4.1 Accessibility to the Safe Room must be easily accessible to all people who are to be sheltered. It should be located so it can be reached in minimum time with minimum outdoor travel. There are no specific requirements for the time to reach a Safe Room; however, moving to the Safe Room from the most distant point in the building should take less than 2 minutes. For maximum accessibility, the ideal Safe Room is one in which one spends a substantial portion of time during a normal day.

The accepted industry standard for a Safe Room air requirement is 1 cubic meter of air space per person per hour. In order to determine how many people can be in a Safe Room and for how long, the volume of the room must be determined (length x width x height) and converted to cubic meters. The volume of space taken up by furniture then needs to be calculated and subtracted from the total room volume. A determination must then be made if



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the Safe Room or rooms are sufficient based on the number of people who could be expected to use the area(s) and for how long.

See the example below of a building with several Safe Rooms calculated together to determine if there is enough Safe Rooms to provide protection to all employees in the building.

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<u>Safe Room Air Space Guidelines</u>					
Room	Length in Feet	Width in feet	Height in feet	Cubic Feet	Cubic Meter
A	36	15.5	8.5	4743	134
B	905	12	8.5	969	27
C	12	12	8.5	1224	34
D	12.5	15.5	8.5	1647	46
E	13.5	15.5	8.5	1779	50
F	9	15.5	8.5	1186	33
G	13	15	8.5	1658	47
H	8	12	8.5	816	23
Minus 15% for furniture (59cumt)					
Total available air space 335 cubic meters					
Time in Safe Assembly Area	Number of People				
1 hour	335				
2 hours	167				
3 hours	111				
4 hours	83				
5 hours	67				
6 hours	55				
7 hours	47				
8 hours	41				
9 hours	37				
10 hours	33				

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4.3 There is no specific criterion for air tightness in a Safe Room. To further minimize the risk to employees from outside contaminants the following measures must be undertaken

- i) With the doors closed the Safe Room must have a low rate of air exchange between the Safe Room & outside the door.
- ii) Rooms with few or no windows are preferred.
- iii) Room should have a maximum of two doors to be able to seal the room quickly
- iv) HVAC systems or duct systems must be able to be turned off & sealed without delay. (Preferred to have the power switch located in the Safe Room)
- v) Drop down Poly curtains (precut with Velcro strips) to be used on all windows, doors and vents. (Velcro seals must be taped down to overlap the Velcro and outside of frames to ensure seal) Identify minimum distance to be sealed off around the openings.
- vi) New construction of a Safe Room shall be built with four walls that extend to the floor above or ceiling. The ceiling being of a solid substance wood or concrete type of material. This will prevent unwanted leakage from the outside. The Safe Room may have a false ceiling as long as it has the requirements above.

4.4 Ventilation - Safe Rooms are suitable only for short-duration use, not only because the low ventilation rate when occupied can cause carbon dioxide levels to rise, but also because protection diminishes as the time of exposure to the hazard increases.

5.0 All Safe Rooms shall:

1. Have signage indicating "Safe Room" (refer to the Divisional Sign Standard).
2. Be accessible by all persons at all times. If not accessible a department must establish or identify alternate route or Safe Room in consultation with the departmental Safety and Health Committee
3. Have ventilation that can be controlled.

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4. Have a designated Safe Room phone available.
5. Be near an outside exit if possible.
6. Have space for the normal crew +10% (eg. 30 people in a crew plus 3 more)
7. Be equipped with the following supplies:
 - i. Sufficient plastic and duct tape to seal windows and doors.
 - ii. Emergency light source
 - iii. Minimum 2 rolls of Duct tape
 - iv. Knife / scissors
 - v. Ladder
 - vi. Extra roll of plastic
 - vii. Have checklist of personnel normally working in the area
 - viii. Safe Room procedures
 - ix. First aid kit
 - x. AM/FM battery radio

6.0 The sealing of a Safe Room:

The Safe Room may have one or all of the following openings. The openings must be sealed so that the Safe Room can be utilized as such. These openings may include:

- Supply and return ducts
- Exhaust fan
- Door louvers
- Window-type air conditioner or unit ventilator
- Door undercut

7.0 Training on the use of a Safe Room

7.1 Each department is responsible to ensure that the use of a Safe Room is a part of the building orientation.

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7.2 Training shall include these main objectives:

- The locations of the Safe Rooms and the procedures for using them
- To develop an understanding of the Safe Room policy & procedures during an emergency
- How to seal a Safe Room
- Procedure for taking charge of the room.
- Review of the level II procedures for the Division & your department annually

8.0 Inspections:

Semi-annual inspections shall be implemented through Work Management (MST) and conducted by each department. Visual inspection shall include the following:

- Safe Room emergency supply box & contents
- Doors
- Windows (if any)
- Vents
- HVAC Controls
- Covers for the doors, windows and vents
- Velcro materials
- Water supply (If supplied)
- Wall conditions
- Washroom/Porta Potty (if supplied)
- Phone

9.0 Testing of Safe Rooms:

Contact the Health Department to request testing of a Safe Room in the same manner that sampling requests are made. Contact information can be found on the Health website.



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10.0 Procedure during a Level II Emergency:

When the Level 2 alarm is sounded all personnel are to immediately stop work, make sure that you leave your work site in a safe condition and report to their designated Safe Room. When it is not possible to report to your designated Safe Room, you are to report to the nearest Safe Room and report to the person in charge.

11.0 Responsibilities:

The Department Safety, Health & Environment Committees are responsible for auditing the Safe Rooms once per year to ensure they are ready for an Emergency event.

Each department shall conduct and document a Safe Room drill, semi-annually.

Approved By	Title Vice-President, Manitoba Operations
Date	