

Breathing Air Guideline

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			Signed by:	Signed by:	Docusigned	by: Langola Gurri
2	2025/08/11	Use	Kerria Twa HS Coordinator	BF1B22E4F4EB43E Ian Braconnier, Chris Jones, Frank Roberts, Tamara Hawkins HS Director(s)		B3473 Iraitz de Anzola Guerra Manager, Process Safety and Assurance
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REVISIONS				APPROVALS		



REVISION CONTROL SHEET							
Revision	Date Issued (YYYY/MM/DD)	Comments					
	2025/07/24	Breathing Air System – Updated Training Requirements, formatted, grammar.					
		Breathing Air Sampling and Analysis – Updated with reference to CSA, Consolidated items from Compressor Section.					
		Breathing Air compressor – Updated Requirements to meet CSA standards.					
1		Compressor Inspection and Calibration – added clarity to manufacturer direction and requirements.					
		Breathing Air Cylinders – Added reference to CSA and local authority. Updated hydrotest intervals. Aligned with Respiratory Protection Standard.					
		Breathing Air Hoses and Fittings – Added based on incident learning and findings from Study.					
2	2025/08/11	Removed mandatory material (material to be included in the Respiratory Protection Standard) and transposed recommended practices to new guideline template.					



Purpose

The purpose of this guideline is to provide recommended practices for the safe setup, use, and maintenance of breathing air systems at CPC worksites.

Fittings and Securing Connections

- Use a double-locking connector at the main breathing air hose-torespirator (e.g., facepiece or regulator) to prevent accidental disconnection.
- Secure sliding collar connections with zip ties or electrical tape.
- Secure threaded connections by torquing them to the manufacturer's required specifications using an appropriate torque wrench. Consider drawing a line as a visual indicator to verify the threaded connection remains properly torqued.
- For threaded connections, use Teflon tape or thread compound—do not use external securement.

Connection	Zip Tie Method	Electrical Tape Method
Manifold		
Hose-to-Hose		



CAUTION: Do not use zip ties, tape, or protective sleeves at the escape bottle connection. This connection must remain easy to disconnect manually in an emergency.

Protective Sleeves

Cover secured hose connections with protective sleeves to reduce snag hazards and improve reliability.

Protective Sleeve Before Installation



Protective Sleeve After Installation





Positioning Air Supply and Manifolds

Position the air supply cylinder racks and air manifolds to ensure safe operation, easy access, and protection from hazards. Follow these practices:

- Locate in a well-ventilated, low-traffic area, free from obstructions and operating equipment.
- Keep at least 6 m from contamination sources (e.g., vehicle exhaust).
- Ensure components are accessible for inspection, monitoring, and maintenance.
- Protect from weather and heat to maintain equipment integrity.
- Arrange manifolds to avoid overlapping or crossing hoses.
- Limit hose length to 300 feet per person from the breathing apparatus to the air distribution header.



CAUTION: Do not place air manifolds inside confined spaces or in hazardous areas. Manifolds must be accessible by the bottle watch.

System Pressurization/Depres surization

To pressurize and depressurize the system:

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	Step	Action				
	1.	Notify all workers in the area.				
	2.	Establish exclusion zones (Line of Fire Control).				
	3.	Open the supply bottle valve slowly.				
	4.	Ensure breathing air regulator is set to deliver pressure in accordance with the respirator manufacturer's specifications (typically 85-110 psi).				
	5.	Pressurize/depressurize the system per manufacturer's instructions.				
	6.	Isolate the air supply and depressurize, after use.				
	7.	Cover coupling ends to prevent contamination.				
	8.	Inspect all components and tag/report damage.				



NOTE: Remove, tag, and report all damaged or potentially affected air system components to the equipment owner.

Documentation Accessibility

The following documents should be readily accessible near the system:

- Manufacturer instruction manuals
- Latest breathing air analysis report.