

Metro Safety Rail (MSR) System – New System Orientation

Purpose: Fall Protection Basics, Tie-Off Requirements, System Capacity & Emergency Response

Audience: Workers, Supervisors, and Safety Personnel unfamiliar with the MSR system

Recommended Duration: minutes

1. INTRODUCTION – WHY THIS TOOLBOX TALK MATTERS

The Metro Safety Rail (MSR) system is a **horizontal lifeline fall protection system**. Many workers may be unfamiliar with this type of system.

This toolbox talk is intended to:

- Introduce the MSR system in clear, practical terms
- Ensure everyone understands how the system functions
- Eliminate incorrect assumptions about the intended tie-off, capacity, and use
- Reinforce that incorrect use can lead to serious injury or fatality

No worker is permitted to use the MSR system until this toolbox talk has been completed and all questions are answered.

2. FALL PROTECTION BASICS

A fall hazard exists anytime a worker could fall from an elevated surface and suffer injury.

Falls remain one of the leading causes of serious injuries and fatalities in construction. Fall protection failures often occur not because equipment is unavailable, but because it is misunderstood or used incorrectly.

Key principles:

Fall protection must be in place **before exposure** to a fall hazard

Being “careful” or “experienced” does not replace fall protection

Tie-off must occur before approaching slab edges or openings

Workers must never rely on balance, experience, or awareness alone when exposed to fall hazards.

3. WHAT THE MSR SYSTEM IS

The Metro Safety Rail (MSR) system is an **engineered horizontal lifeline system** installed along slab edges that may be used for travel restraint or fall arrest and also serves as an engineered guardrail system to protect workers within its perimeter from approaching the unprotected edges.

The system consists of:

- Embedded or mounted steel posts
- Tensioned steel cables
- Engineered spacing, anchorage, and capacity limits

The MSR system allows authorized workers to connect approved fall protection equipment while performing work near unprotected edges that are outside the perimeter protected by the guardrail.

The system is designed to work **only when used exactly as engineered**.

4. WHAT THE MSR SYSTEM IS NOT

It is critical to understand the limitations of the system.

The MSR system is **NOT**:

- A work platform or staging area
- A ladder substitute
- A tool or material storage system
- A structural component for lifting or rigging

Leaning on the system, sitting on it, or attaching unauthorized equipment can compromise system integrity.

5. AUTHORIZED USERS & RESPONSIBILITIES

Only workers who meet **all** of the following requirements may use the MSR system:

- Current, valid fall protection training
- Site-specific orientation
- MSR system instruction
- Completed pre-use inspection of PPE and system

Workers are responsible for:

- Inspecting their own equipment
- Following tie-off requirements
- Stopping work if conditions are unsafe or unclear

Supervisors are responsible for:

- Verifying worker competency
- Ensuring capacity limits are not exceeded
- Enforcing safe work practices

6. REQUIRED PPE & CONNECTION EQUIPMENT

Only approved fall protection equipment may be used with the MSR system.

Minimum requirements:

- CSA-approved full body harness
- CSA-approved energy-absorbing Y-lanyard or approved self-retracting lifeline (SRL) with
- Locking snaphooks compatible with MSR cable diameter

Do no connect to:

MSR clamps or turnbuckles.

Improper connections can result in catastrophic system failure.

7. HOW TO TIE OFF – CLEAR STEP-BY-STEP GUIDANCE

Workers must follow this sequence every time:

- Inspect harness, lanyard, and snaphooks
- Identify the **MSR cable**
- Connect snaphook directly to the cable
- Ensure snaphook is fully closed and locked
- Confirm lanyard length matches the intended use (restraint or arrest)

8. TRAVEL RESTRAINT

Travel restraint is the **preferred method** whenever possible.

Travel restraint means: The system physically prevents the worker from reaching the slab edge.

Key characteristics:

- No free fall occurs
- Lower forces on the body
- Reduced injury risk
- No requirement for a Rescue System

To achieve restraint:

lanyard length must be set so the worker cannot reach or step over the edge

If the edge can be reached, restraint has not been achieved

9. FALL ARREST

Fall arrest allows a fall to occur and then stops it.

Important considerations:

- Free fall will occur
- Forces on the worker and system are higher
- Adequate clearance below is required

Fall arrest use is **only permitted when**:

- Identified on engineered drawings
- The available clearance below the edge is confirmed to be greater than the required clearance for the system.
- A site-specific fall rescue plan is in place

Workers must never assume fall arrest is acceptable without confirmation that all aspects required for it to be permitted, as listed above, are in-place.

10. SYSTEM CAPACITY – HOW MANY WORKERS CAN CONNECT

Horizontal lifeline systems have **strict capacity limits**.

Capacity is determined by:

- Engineered design
- Post spacing
- Cable configuration
- Worker weights within specified limits
- The number of workers permitted to use the system
- The use of the correct, specified PPE
- Whether the system is used for restraint or arrest

Rules:

- Never exceed engineered capacity
- Never guess or assume
- Never cluster workers on one section

If capacity information is unclear — **stop work and confirm**.

11. PANEL TRANSITIONS – HIGH-RISK ACTIVITY

Movement from span to span along the MSR system presents increased risk when moving between the perimeter of the system and the unprotected edges.

Workers must:

Use a Y-lanyard

- Keep one leg connected at all times
- Never disconnect both legs simultaneously
- Move deliberately and without rushing

Fall incidents may occur during transitions due to distraction or haste.

12. PRE-USE CHECKS – EVERY TIME

Before entering the zone between the edge and the MSR:

- Inspect PPE for damage or wear
- Inspect MSR posts, cables, and tension
- Confirm correct tie-off method
- Confirm mental readiness (focus, fatigue, stress)

If something does not look or feel right, **stop work**.

13. PSYCHOLOGICAL SAFETY & HUMAN FACTORS

Working near unprotected edges increases stress and anxiety, even for experienced workers.

Stress and distraction can lead to:

- Missed steps
- Poor decisions
- Rushing or shortcuts

Workers are expected to:

- Speak up if uncomfortable or unsure
- Watch coworkers for signs of distraction or stress
- Take micro-breaks during high-focus work

Psychological readiness is part of working safely.

14. EMERGENCY RESPONSE – FALL OR NEAR MISS

If a Fall Occurs:

- Stop all work immediately

- Call site emergency response or 911
- Activate the Fall Rescue Plan
- Maintain communication with the fallen worker

Do not reuse the MSR system after a fall occurs until after it has been thoroughly inspected by a qualified engineer.

After Any Fall or Near Miss:

- The MSR sections, from end anchor post to end anchor post and other sections that connect to the two affect end anchor posts must be removed from service
- Inspection by a qualified engineer is required
- Workers involved must receive confirmation that the system has been approved by the qualified engineer before returning to edge work in those sections affected by the fall.

15. STOP WORK AUTHORITY

All workers have the right and responsibility to stop work if:

- Tie-off is unclear
- Capacity is unknown
- Equipment is damaged
- Conditions feel unsafe or rushed

Stopping work is a safety action, not a disciplinary issue.

16. QUESTIONS & CONFIRMATION

Before work begins, the supervisor must confirm:

- Workers understand how to tie off correctly
- Workers understand restraint vs. arrest
- Workers know emergency procedures

No work begins until all questions are addressed.

Toolbox Talk



Worker sign off : I have read or have been instructed in the above procedures and agree to follow with them.

Name	Signature

Supervisor signature:

Date:

Toolbox Talk



PREPARED BY:

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DOCUMENT REVISION HISTORY

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