

FALL PROTECTION PROCEDURE

Introduction:

It is the intent of the Turtle Mountain School Division (The Division) to provide maximum protection to its employees in the prevention of falls. Known fall hazards will be identified, inspected, and fall protection provided to ensure the safety of personnel. Engineering controls, administrative procedures, and the use of personal protective equipment will be utilized. *Manitoba Regulation 217/2006* must be followed where personnel can possibly fall a vertical distance of three (3) meters or more.

SCOPE

This procedure shall address the types of work situations where fall protection is required, and shall identify specific protection systems and safe practices intended to protect employees from falls that could result in injury.

3. RESPONSIBILITIES

3.1 Division Leadership Team

- 3.1.1 Provide resources and equipment necessary to carry out the Fall Protection Program.
- 3.1.2 Comply with the requirements of the Fall Protection Policy as outlined herein.
- 3.1.3 Ensure Supervisors and employees comply with the Fall Protection Policy as outlined herein.

3.2 Supervisors

- 3.2.1 Comply with the requirements of the Fall Protection Policy as outlined herein.
- 3.2.2 Ensure that employees are informed of the Fall Protection Program, Safe Work Procedures, and ensure the use of appropriate fall protection systems.
- 3.2.3 Ensure employees comply with the Fall Protection Policy as outlined herein.
- 3.2.4 Ensure that employees are provided with appropriate Fall Protection equipment and training.
- 3.2.5 Coordinate the correction of fall hazards brought to their attention.
- 3.2.6 Develop Safe Work Procedures as per policy XX-XXX Job Hazard Analysis/Safe Work Procedures.

3.3 Employees

- 3.3.1 Comply with the requirements of the Fall Protection Policy as outlined herein.
- 3.3.2 Complete scheduled Fall Protection training.
- 3.3.3 Report fall hazards observed to their Supervisor immediately.
- 3.3.4 Ensure that the equipment used as part of a Fall Protection system is inspected before use on each work shift by the employee who uses the Fall Protection system,

and is kept free from any substance or condition that could contribute to deterioration of the equipment.

3.4 Health and Safety Officer or designate

- 3.4.1 Assist schools and departments in implementing an effective Fall Protection Program.
- 3.4.2 Evaluate new and existing fall protection equipment to assure that applicable criteria for such equipment are met.
- 3.4.3 Evaluate fall hazards reported and recommend corrective actions.
- 3.4.4 Update the Fall Protection Program as needed for compliance with applicable regulations.

4. PROGRAM

4.1 Assessing the Workplace

4.1.1 *Manitoba Regulation 217/2006* must be followed when:

- a) Possibility of a fall from a vertical distance of three (3) meters or more.
- b) A vertical distance of less than three (3) meters where there is an increased risk of injury due to the surface or item on which the worker might land:
 - Into operating machinery or moving parts of the machinery;
 - Into water or another liquid;
 - Into or onto a hazardous substance or object;
 - Through an opening on a work surface;
- c) Vertical distance of more than 1.2 meters from an area used as a path for a wheelbarrow or similar equipment

4.1.2 Safe Work Procedures:

Safe Work Procedures shall be developed for all work that requires a person to work at a height as defined in 4.1.1.

4.1.3 Unprotected Sides and Edges:

A walking/working surface with an unprotected side or edge which is three (3) meters or more above a lower level shall be protected from falling by the use of guardrail systems, travel restraint system, or personal fall arrest systems.

4.2 Fall Protection Systems Used by The Division.

4.2.1 Any employees using the Fall Protection System must ensure that the system does not come into contact with sharp edges that could cut, chafe, or abrade any components of the system

4.2.2 Guardrails:

Guardrails are designed to protect employees from stepping off higher walking and working surfaces, and to alert employees to the presence of a fall hazard. Generally speaking, a guardrail is a permanent or portable structural system consisting of a top rail, mid-rail, and toe board secured to vertical posts intended to stop an employee from inadvertently stepping off a working level and falling to a level below.

- a) Guard railing consists of a top rail at a height of between 900 mm and 1060 mm (36 to 42 inches) above the working surface, with an intermediate rail midway between the top rail and the bottom level.
- b) The guard railing must be capable of resisting static loads of 900 Newton's (200 pound force) at any point along the rails. When guarding is constructed of wood, all members shall be at least nominal by 100 mm (2" X 4") with a span of no more than 2.5 meters (8') between posts.
- c) Where there is a high risk of materials or objects falling from the work surface to a working level below, a toe board of 125 mm (5") in height is required to be secured to the guardrail posts. Guardrail posts must be capable of supporting any loads applied to the top rail. They must be securely attached to the base and braced where necessary to remain solid and secure. Posts are not to exceed a maximum spacing of 2.5 meters (8') apart.

4.2.3 Covers:

Covers shall be used to protect employees from falling through or into surface openings, excavations, and other openings in floors, roofs, and other walking/working surfaces.

- a) Surface openings in floors and other walking surfaces where employees have access must be protected by guard railing or secured wood or metal covers. The covering must be capable of supporting all loads to which it may be subjected.
- b) When plywood is used to cover openings, the minimum thickness shall be 19 mm (3/4") with proper support for the plywood.
- c) If work must be undertaken near unprotected openings from which an employee could fall three (3) meters or more, access must be restricted to employees who are wearing full body safety harnesses and lifelines secured to proper anchorage. As soon as the necessary work is completed, the opening should be protected by guard railing or adequate covering.
- d) If a fixed barrier or surface cover is removed for any reason, proper travel restraint or fall arrest systems must be provided for any employee who becomes at risk of falling.
- e) All covers shall be color coded, or they shall be marked with the word "**HOLE**" or "**COVER**" to provide warning of the hazard.

4.2.4 Travel Restraint Systems:

A travel restraint system is intended to limit an employee's movement so the employee is unable to reach a location where there is a risk of falling. The restraint system is made up of a safety belt or safety harness, lifeline and/or lanyard, and anchor. The safety belt is secured to a lifeline having a fixed length, which is attached to a secure anchor. The length of the lifeline is such that the employee can only proceed to within approximately one (1) meter of an opening or edge. Under no

circumstances should a travel restraint system be rigged so that an employee is in a position to fall.

4.2.5 Personal Fall Arrest System:

A personal fall arrest system shall consist of a suitable combination of: **an anchorage, connectors, deceleration device, a lanyard, life line, or body harness.**

- a) A fall arrest system differs from a travel restraint system. Unlike travel restraint, a fall arrest system does not prevent a fall; it reduces the chance of injury when a fall takes place.

4.2.6 Specifications for a Fall Arrest System:

- a) Anchorage point - The anchorage must be capable of supporting a static load of 17.8 kN (4000 lbs.) in any direction, with proper provision to accept a lifeline connection. If the anchor is exposed to the elements, it must be corrosion resistant. (The minimum thickness of an eyebolt type anchor is 19 mm (3/4") with a 38 mm (1 1/2") opening diameter.)
- b) Lifeline - This is the part of the system that is attached to the anchor point and the user of the system. Lifelines must have a minimum strength equivalent to 60 mm (5/8") diameter polypropylene fiber rope. Lifelines must be properly secured to the anchorage point and be protected from abrasion or damage along their full length. Lifelines may run vertically or horizontally (installed between two or more anchors), depending on the application. Horizontal systems must be engineered properly due to the loading applied to the anchors. Temporary lifelines are made of wire or synthetic rope. Permanent systems may be made of rigid steel or aluminum rails, wire ropes, or similar materials.
- c) Fall arrestor (rope grab) - This is a device that automatically locks onto the lifeline when a fall occurs. It is fitted between the lifeline and lanyard, and normally slides freely on the lifeline until there is a sudden downward motion. When this sudden motion occurs, the fall arrestor "grabs" the lifeline and holds firmly. Fall arresting mechanisms are also built into retractable lifeline devices that play out and retract as necessary but hold fast in the event of a fall. (Similar to a seat belt in an automobile).
- d) Lanyard - A lanyard is an approved device located between the fall arrestor and the employee's safety harness. Lanyards should conform to CSA Z259.1 "Safety Belts and Lanyards".
- e) Shock absorber - This is a device that limits the force applied to the user when a fall occurs. It is designed to absorb the kinetic energy of the fall as the employee is stopped. The shock absorber prevents both injury to the employee and the amount of force transferred to the lifeline and anchor. A shock absorber may be a separate device or built into the lanyard design. Lanyards should conform to the latest edition of CSA Z259. 11 "Shock Absorbers for Personal Fall Arrest Systems".
- f) Full body safety harness - This is a device designed to contain the torso and pelvic area of an employee, and to support the employee during and after a fall. A Grade "A" full-body safety harness conforming to Canadian Standards

Association CSA-Z259.10-M90 “Full Body Harnesses” is the type to be used for a fall arrest system or travel restraint system.

- g) Lifelines may be of the fixed length type, adjustable with rope grab or self adjusting (retractable) type. Shock-absorbing mechanisms are available, either incorporated into the lanyard or as an add-on; and are recommended to be used to lessen the shock to the employee.
- h) A fall arrest system must be rigged to limit the fall of an employee to a maximum of 1 meter (3’).

4.2.7 Fixed Ladders

Vertical fixed ladders extending more than 5 meters (16’) should be provided with a means to protect an employee from falling. This may consist of a ladder cage or a fall arrest system. A ladder cage is a permanent structure attached to a ladder that provides a barrier between the employee and the surrounding space. It serves only as a support to an employee, if the employee needs to rest against the barrier. It does not provide complete fall protection on its own. However, it could be used in conjunction with a full body harness and lanyard. The employee would be able secure to the rung or side rail of the ladder at any time during the climbing of the ladder.

5. TRAINING

5.1 Fall Protection Training Programs

Training programs shall be designed to enable each employee to recognize the hazards of falling, and to instruct each employee in the procedures to be followed to minimize these hazards. Employees shall be trained in the following areas:

- 5.1.1 The nature of fall hazards in the work area.
- 5.1.2 The correct procedures for erecting, maintaining, disassembling, and inspecting fall protection systems.
- 5.1.3 The use and operation of guardrail, personal fall arrest, warning line, and safety monitoring systems.
- 5.1.4 The limitations on the use of mechanical equipment, and materials handling and storage, and the erection of overhead protection.
- 5.1.5 Employees’ role in fall protection plans.

5.2 Re-training

Re-training shall be required when:

- 5.2.1 Changes in the workplace render previous training obsolete.
- 5.2.2 Changes in the types of fall protection systems or equipment to be used render previous training obsolete.
- 5.2.3 Affected employees fail to retain the knowledge and skill provided by the training.