

**WorkSafe Services**

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August 7, 2008

"The Employer"

The Chief Compliance Officer is writing in response to the employer's letter dated July 22, 2008 in which the employer requests a deviation from *Occupational Health and Safety Act* General Regulation 91-191 section 136(1)(c) that states:

*136(1)(c) An employer shall ensure that a metal scaffold if 6m or greater in height is equipped with a continuous access stairway commencing at ground level.*

In the employer's letter, the employer requests a deviation to allow for the ongoing erection of metal scaffolds at the employer's premises for the duration of the project, without requiring the installation of the internal access stairways under the circumstances stated below:

**Background:**

In some cases, the deviation is required due to space restrictions or obstructions such as fixed equipment and piping either on the floor or at various heights that would negate the ability to erect a scaffold with an internal stairwell.

In other cases, such as during the re-tube and refurbishment work, the available floor space within the employer's premises is limited with every square foot being fully engaged with tooling and support utilities while allowing for material and pedestrian flow.

Every effort is being made to minimize the requirement for scaffold erection through the use of scissor lifts, man-lifts, cranes, etc. and, whenever possible, to erect scaffolds six meters or greater in height with an internal stairwell as identified in Section 136(1) of regulation 91-191. When internal access stairways are not possible, ladder access with fall protection, when appropriate, will be used.

The employer has provided the Chief Compliance Officer with the following information:

- 1) The contractor's Technical Sheet for Blockfor wire rope self-retracting lifelines dated February 2007;
- 2) The contractor's Certificate of Instruction indicating that an employee of the subcontractor has received instruction from the contractor on the Fall Protection Equipment Inspection Program dated January 30, 2008 and valid until January 30, 2010;
- 3) The contractor's Retractable lifeline inspections, inspected by an employee of the subcontractor dated July 22, 2008;
- 4) Correspondence of a National Engineering Manager – Product Applications of the subcontractor's Engineering Dept. dated March 18, 2008 to users and erectors of Rosette Modular Scaffold system supplied by the subcontractor regarding the use of Rosette Modular Scaffold as anchorage for Personal Fall Arrest Systems.

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The above-mentioned correspondence from the subcontractor dated March 18, 2008 states the following:

The subcontractor has conducted drop tests of Rosetta modular scaffold horizontal runner components to determine their suitability as an anchorage for a Personal Fall Arrest System (PFAS). These tests were conducted using 138 kg (300lbs) steel weight in accordance with requirements for dynamic strength testing.

The test results showed that the 3.05 m (10 foot) horizontal runner is capable of serving as a fall arrest anchor at any point along its length. Shorter length runners and ledgers are also suitable as an anchorage. The end connector remained intact with the load applied at any angle from 0 to 180 degrees. It is important that, in addition to the fall arrest equipment, all scaffold components (horizontal member and the standards to which it is connected) subjected to a fall arrest force must be removed from service due to physical damage that can occur which may or may not be visible.

The drop tests were conducted with the weight dropped at midspan of the tube to determine the tube's ability to act as anchorage and approximately 305 mm (12 inches) from the end connector to determine the connectors' ability. To simulate the possibility of a lanyard being obstructed by another scaffold component or other structure of equipment and exerting a force in a direction other than downward, a test fixture was devised to provide for testing the horizontal runner at rotated increments of 30 degrees. Tests were conducted using the longest horizontal runner, 3.05 m (10 feet). A new horizontal runner was used for each test.

A 1.83 m (6 foot) shock-absorbing lanyard with a pelican hook was used to connect the weight to the horizontal runner. A new lanyard and hook was used for each test. The weight was dropped from a height level with the horizontal runner. A quick release mechanism was used to release the weights.

In addition to the horizontal runner serving as a fall arrest anchorage, the standards may also be used. An appropriate connector must be used to attach to the standard. The maximum unbraced height to the anchorage point shall not exceed 1.5 m (5 feet) above a braced node point. A braced node is a rosette on the standard where there are at least two horizontal members at right angles. The coupling pin joint must be below the braced node.

Although the tests indicate that the components are capable of serving as an anchorage the scaffold structure as a whole must be evaluated to ensure it remains stable in the event of a fall. Scaffolds that would be suitable would be scaffolds tied into another structure, large area scaffolds and circular scaffolds completely surrounding (or within) a structure. Freestanding, cantilevered, hung or similar potentially unstable scaffolds need to be evaluated by a qualified person to assess their stability in the event of a fall.

Fall protection equipment attached to scaffolds must use a shock-absorbing lanyard or self-retracting lanyard attached at a location that will limit the free-fall distance to 1.83 m (6 feet) and limit the impact forces to 8 kN (1800 lbs). The PFAS must be used and inspected in accordance with all federal, provincial and local regulations and manufacturer's instruction.

On July 24, 2008 a Health and Safety Officer and the Chief Compliance Officer met with the employer's Implementation Safety Manager, the subcontractor's Conventional Safety Specialist - Construction Superintendent, a Field Technician – Mechanical, and a Safety Officer to review the employer's request.

- The scaffolds observed at the time of the visit were approximately twenty-four feet in height.
- Resting platforms were installed on each scaffold with the first platform at twelve feet six inches and subsequent resting platforms at six feet eight inch intervals.
- The contractor is responsible for the weekly inspection of the retractable lifeline and the fall arrest anchor.
- An area having a minimum footprint of seven feet by fourteen feet is required to set-up a stairway. This requirement cannot be met given the configuration of the reactor vault and the need to allow for material and pedestrian flow.

Further to the meeting, the following document was received in an email dated July 31, 2008.

- Vault layout drawing

The Chief Compliance Officer reviewed the information the employer had provided and has conferred with a Health and Safety Officer. Based on the information the employer has provided and the Chief Compliance Officer's observations at the site visit on July 24, 2008, a deviation, for the duration of the project, is granted to erect scaffolds with continuous ladders instead of stairways without applying for a deviation every time a situation arises on the following conditions:

1. Substitution of stairways for ladders on scaffolds that are 6 meters or greater in height will only occur when it is not feasible to install stairways such as in areas of the station with insufficient space;
2. The employer is to advise the WHSCC Health and Safety Officer (providing details of the location where the scaffold will be erected), the workers affected by the substitution, and the members of the employer's JHSC prior to erecting the scaffolds.

Please note that a breach by the employer of any of the conditions listed above could result in a reconsideration of this decision.

By copy of this letter, the Chief Compliance Officer has advised WHSCC staff of the decision.

Yours truly,

Chief Compliance Officer