QUESTIONS AND ANSWERS ON NEW FALL PROTECTION LEGISLATION

50.4(1) An owner of a place of employment, an employer and a contractor shall each ensure that each component of a fall-protection system is inspected as follows to determine whether there are any defective or inadequate components:

(b) by a competent person before initial use and periodically as recommended by the manufacturer, installer or an engineer.

Question 1:
What does a competent person need to know to inspect an anchor?

First, it is important to be familiar with the definition of competent.

In *Regulation 91-191,* competent means

(a) qualified, because of such factors as knowledge, training and experience, to do assigned work in a manner that will ensure the health and safety of persons,

(*b*) knowledgeable about the provisions of the Act and the regulations that apply to the assigned work, and

(*c*) knowledgeable about potential or actual danger to health or safety connected with the assigned work.

Answer
The inspection program will depend on the type of system being used and the requirements established by the manufacturer or supplier for the installation, maintenance and inspections for the system. The competent person will need to be knowledgeable of those requirements.

Additional elements the competent person would require knowledge of include:

- Being able to recognize physical damage, cracks, wear or corrosion that will limit the ability of the system to sustain the loads that may be applied to it;
- Being able to recognize conditions in the roof or structure such as deteriorated wood, rot or decay that will limit the ability of the system to sustain the loads that may be applied to it;
- When the system being used is not a manufactured system such as a beam, pipe or HVAC system, being able to first recognize that when in good condition, the system will support the load that may be applied to it. Also, as indicated above the competent person should be able to recognize physical damage, cracks, wear or corrosion that will limit the ability of the system to sustain the loads that may be applied to it;
- Being knowledgeable of the regulatory requirements for the systems used.

130(2) If an employee is required to work from an elevating work platform described in paragraph (1)(a), (b) or (c), the employer shall provide and the employee shall continually use a travel restraint system or fall-arresting system attached to an anchor point on the elevating work platform.

Question 2:
Can you attach to an anchor point outside the elevating work platform when working from an elevating work platform?

Answer
The short answer is no. One common fall protection mistake is tying off to something outside the scissor lift. There is no reason to tie off outside the platform; remaining inside the guardrails and keeping both feet on the floor assures that you will not fall. When operators tie off outside the basket, they can be seriously injured should they, or a co-worker, decide to move the elevating work platform, causing them to be dragged over the rail. In the unlikely event of a hydraulic leak or failure, the basket will lower in a smooth, controlled manner. Should this occur, it is much better to descend with the platform rather than be left hanging from the rafters.

49(1) The employer shall provide and the employee shall continually use a fall-protection system when an employee works from

(a) an unguarded work area that is
(i) 3 m or more above water or the nearest permanent safe level,

(b) a work area that is 3 m or more above a permanent safe level and from which a person may fall if the work area tips or fails,

49(2) If an employee is required to work from a communication or power transmission tower or other similar structure 3 m or more above a permanent safe level, the employer shall provide and the employee shall continually use a fall-protection system when at rest and at the working level.

49(4) If an employee is required to work from a wood pole or other similar wood pole structure 3 m or more above a permanent safe level, the employer shall provide and the employee shall continually use

(a) a fall-arresting system when the employee is ascending, descending or at rest, and

(b) a work positioning system in addition to the fall-arresting system when the employee is performing work at the working level.

Question 3:
What is meant by permanent safe level in subsection 49(1)?

Answer
”Permanent safe level” means a permanent surface where work or activities can safely be carried out.

Examples include ground, floors, mezzanines, balconies, walkways or platforms, bridges and overpasses.

Permanent safe levels would not include work above objects or surfaces such as rebar, boulders, fences and other similar surfaces where the distance of the fall is secondary to the harm that will result from a fall.

50.2(1) An employer and a contractor shall each ensure that a fall-protection code of practice is written for a workplace if a fall-protection system is required for the workplace and

(a) the employees are working from a height of 7.5 m or more.

Question 4:
Do we need a code of practice when working from an elevating work platform at a height of 7.5 m or more?

Answer
The legislation requires a code of practice where a fall protection system is required and work is being carried out from a height of 7.5 m or above.

While the elevating work platform is not a fall protection system, it is normally equipped with such systems as guardrails for use when the system is stationary and with an anchor point for travel restraint or fall arrest system for use when the equipment is in motion.

Therefore if the elevating work platform is raised 7.5 m or more, a fall protection code of practice is required.

49.2(1) An owner of a place of employment, an employer and a contractor shall each ensure that any fall-arresting system consists of the following:

(c) unless it is a horizontal life line, an anchor point that is capable of withstanding a 22 kN force or, if used under the direction of a competent person, four times the maximum load that may be generated in the fall-arresting system.

49.3(2) If a permanent anchor point has been provided, an owner of a place of employment shall

(a) prepare sketches showing the anchor point,

(b) provide a copy of the sketches to the employee who is using anchor points before the work begins, and

(c) ensure a copy of the sketches are posted conspicuously near the entrance to the roof.

Question 5:
Does the legislation require a sketch for permanent anchor points that are not used on a roof?

Answer
While it would be good practice to have sketches of all permanent anchor points whether they are found on a roof or other structures such as beams inside a building, the legislation only requires sketches of permanent anchor systems that are installed on roofs.

“Guardrail” means an assembly of components joined together to form a barrier that is designed to prevent an employee from falling off the edge of a surface, but excludes a permanent guardrail system.

Question 6:
I want to install permanent guardrails on my roof, what legislation do I need to follow?

Answer
If the structure to which the permanent guardrails system will have little or no public access, then the requirements found in section 97 of *General Regulation 91-191* should be followed. However, if the general public accesses the structure, then compliance with the provisions of the *Canadian Building Code* will be required.

140.1(1) An owner of a place of employment, an employer and a contractor shall each ensure that every employee who works on or from suspended equipment shall

(c) use a vertical life line that is
(i) suspended independently from the suspended equipment, and
(ii) securely attached to an anchor point so that the failure of one means of support will not cause the life line to fail.

Question 7:
Our workplace uses a boatswains chair anchored to a monorail. How do we provide fall arresting system for the users?

Answer
According to CSA standard Z271-98, which is not cited in Regulation, where a permanent support system such as a monorail is provided, a lifeline may be anchored to the support system structure except where the lifeline is offset by more than 3 m measured horizontally from a line running at a right angle to the building face at the point of suspension. The angle created by the offset distance must not exceed 25 degrees.

49.1(1) An owner of a place of employment, an employer and a contractor shall each ensure that the components of a fall-protection system

(a) are designed in accordance with good engineering practices.

Question 8:
How do we determine whether structural building components such as steel beams or HVAC systems are adequate to be used as anchors in a fall protection system?

Answer
Since the purpose of these components or structures found on buildings were not originally designed to be used as anchors in a fall protection system, there are no manufacture or supplier instructions which can used to determine the adequacy of such systems when used as anchors.

First, it should be noted that the Regulation requires that a fall protection system be designed in accordance with good engineering practices. As a result, one must rely on the expertise of an engineer or other competent persons to correctly ascertain the capacity of such systems to be used in that manner. It should be noted that the Regulation requires that anchor points be capable of withstanding a 22kN force or if used under the direction of a competent person, four times the maximum load that may be generated in the fall-arresting system. The above would apply where structural members or HVAC systems would be used as anchor points.

97(1) A guardrail shall

(a) be made of one of the following materials:

(i) if made of wood,

(A) the top rail, vertical supporting posts and intermediate rail shall be constructed of at least 50 mm × 100 mm No. 2 grade or better SPF, these measures being nominal.

Question 9:

Under the imperial system, wood is designated by its "normal" nominal size, for example, 2 x 4 inches. However, in reality, the wood measures 1½ x 3 ½ inches. Under the metric system, the wood is designated by its actual size. For example, a 2 x 4 is called a 38 x 89 mm. Under clause 97(1)*(a)*(i)(A) of *General Regulation 91-191*, "the top rail… at least 50 mm x 100 mm No 2 grade or better." Does this mean a planed 2 x 4 (38 x 89 mm) is not suitable due to its size, and that an unplaned 2 x 4 measuring 50 x 100 mm would not be acceptable since it would not be marked and it would be impossible to determine its quality?

Answer

In the publication *Standard Grading Rules for Canadian Lumber*, published by the National Lumber Grades Authority, the measurement basis is defined as follows: the board measure is the normal basis for measuring timber in these rules. The method for estimating the board measure of timber, rough or planed, is based on the corresponding nominal size. The following is the definition of "normal measurements":

The planed thickness and width, as indicated, are considered normal for corresponding nominal measurements shown. Timber of any size, whether it is rough or planed, is referred to as its nominal size in plain language and in these rules.

50.3(1) An employer shall ensure that a competent person trains an employee in the use, maintenance and inspection of a fall-protection system for the task being performed unless the fall-protection system is a guardrail.

Question 10:
I assume by the statement "Competent person provides training" that the online fall protection training provided by groups like the New Brunswick Construction Safety Association will no longer be valid after July 1, 2011, and training will have to be given face-to-face. Is that a correct assumption on my part?

Answer
As you have indicated, the training requirements have now been consolidated into *General Regulation 91-191* and you are asking for clarification of subsection 50.3(1), which states:

> **50.3**(1) An employer shall ensure that a competent person trains an employee in the use, maintenance and inspection of a fall-protection system for the task being performed unless the fall-protection system is a guardrail.

Specifically, you are asking if computer based training is acceptable or if the training need to be carried-out face to face.

The first requirement for fall protection training is for the provider to be competent. *General Regulation 91-191* defines competent as:

> "competent" means
>
> > *(a)* qualified, because of such factors as knowledge, training and experience, to do assigned work in a manner that will ensure the health and safety of persons,
> >
> > *(b)* knowledgeable about the provisions of the Act and the regulations that apply to the assigned work, and
> >
> > *(c)* knowledgeable about potential or actual danger to health or safety connected with the assigned work;

The term person in this section can be legally defined as "a human being or a corporation recognized in law as having certain rights and obligations." As such a person as well as an organization can deliver the training if they meet the three requirements for being competent.

That being said, there are a myriad of options available to employers who are considering how to deliver fall protection training. All options have their pros and cons. One training method takes advantage of technology and delivers fall protection instruction or education through computer-based training (CBT) programs.

Different media for fall protection training have existed for a long time, as evidenced by the number of training videos available. CBT programs also have been around for a

while, but only recently have they begun to be used to deliver fall protection training. Some even allow participants to download certificates when they have completed the training, which is a requirement of *General Regulation 91-191*, subsection 50.3(2). Using CBT for fall protection has its merits, but there also are concerns about fall protection CBT.

As the requirements for fall protection training changes from one employer to the next and within industries, depending on the work to be performed at heights, WorkSafeNB offers no direction about the specific amount of time that must be spent on fall protection training. Like any training program, employers should understand requirements of the work being conducted and plan their training accordingly. The ANSI/ASSE Z359 Fall Protection Code — specifically, ANSI/ASSE Z359.2-2007 (*Minimum Requirements for a Comprehensive Managed Fall Protection Program*) — provides employers with more direction about how to set learning objectives for fall protection training programs. Once an assessment of training needs is conducted, the manner in which the training is delivered can be addressed.

Fall protection training requires skill sets that CBT alone may not be able to provide. Not only are there theoretical concepts that a student must understand, there may also be hands-on requirements. The worker should be provided with the opportunity to touch, inspect, wear and use a harness during training. How to wrap an anchorage connector or install a beam clamp are further examples of skill sets that may be required, as are installing a fall arrestor on a vertical lifeline, attaching a ladder sleeve to the front of a harness, inspecting equipment before use and using a Y-lanyard to traverse structures and the list goes on and on. Using CBT is an excellent medium to disseminate information, but it may fall short when hands-on skills are required. Many successful training programs use a combination of CBT and instructor-led programs. The foundation of knowledge can be delivered through CBT, which offers consistency and cost-effectiveness, while instructor-led programs provide an opportunity for the student to participate in hands-on training to develop other skill sets.

49.2(2) An owner of a place of employment, an employer and a contractor shall each ensure that a fall-arresting system limits

(a) free falls to the shortest distance possible, which distance cannot exceed 1.8 m or a shock level on the body of 8 kN, and

Question 11:
I believe it gives the competent person the right to allow a fall greater than 1.8 m if the stress on the body is kept to 8 kN or less?

Answer
A 1.8 m (6-foot) free fall is the recommended upper limit for most standard energy absorbers (found in the manufacturer's literature).

Fall protection specialists accept 8 kN as the maximum force on the body to ensure no major injury. It is possible however to be injured in a fall that generates 8 kN, especially for smaller people. Therefore the free fall should be as short as possible.

Standard energy absorbers limit the shock on the body to 4 kN, however there are energy absorbers that allow for a 3.6 m (12-foot) free fall with the shock on the body limited to
8 kN.

129.1(1) In this section,

"forklift platform" means a work platform that is supported on the forks of an industrial lift truck.

Question 12:
We have an engineered and constructed forklift platform at one of our facilities. It is a highly specialized machine for a particular job. We don't use it for anything else. Essentially, it's a stock picker-style lift truck for which we have built a work platform attached to its forks (It is completely engineered).

The question arose regarding the platform inspection. Is there a specific requirement for the platform inspection and if so, what section of the Regulation would apply? (Section 50.4?) If there is no reference in the Regulations, could we ask the design engineer and follow his recommendations?

Answer
What you have described is considered to be a "forklift platform" and is required to comply with sections 129.1, 129.2 and 129.3 of *General Regulation 91-191*, which state:

Forklift Platforms

2001-33

129.1(1) In this section,

"forklift platform" means a work platform that is supported on the forks of an industrial lift truck.

129.1(2) An employer shall ensure that a forklift platform

(*a*) is securely attached to the lift truck so as to prevent accidental movement of the platform or the tipping of the forklift,

(*b*) is designed and constructed of material of sufficient strength to support safely the loads to which it may be subjected, and

(*c*) if a manufactured platform, is erected, used, maintained and dismantled in accordance with the manufacturer's specifications.

129.1(3) An employer shall ensure that an industrial lift truck supporting a forklift platform

(*a*) is on a firm flat surface to ensure the truck's stability, and

(*b*) is operated by a competent person.

129.1(4) An employer shall ensure that a forklift platform is equipped with guardrails.

129.1(5) Despite subsection (4), if it is impracticable to install guardrails when an employee is required to work from a moving forklift platform, the employer shall provide and the employee shall use a travel restraint system or fall-arresting system attached to an anchor point provided by the manufacturer or approved by an engineer.

129.1(6) When a fall-arresting system is used, the employer shall ensure that the fall-arresting system does not interfere with the raising and lowering of the platform.

129.2 A person who operates an industrial lift truck with a forklift platform shall, if the platform is elevated more than 1.2 m and there is a person on the platform,

(*a*) not move the truck, and

(*b*) remain at the controls of the truck.

129.3(1) An employee shall not work on a forklift platform unless

(*a*) the industrial lift truck is on a firm flat surface, and

(*b*) the platform is equipped with guardrails or a travel restraint system or fall-arresting system.

You will note there are no specific regulations requiring inspections of the platform itself, however subsection 50.4(1) would apply to the fall-protection systems on the platform. The fall-protection systems could include a guardrail, a travel restraint system anchor or a fall-arresting anchor.

As for the platform itself, although not referenced in Regulation, CSA standard B335-04, *Safety Standard for Lift Truck* is silent on the requirement for inspecting platforms used for elevating personnel however the standard does reference ANSI/ASME B56.1 or B56.6 with respect to the design of the platform. In reviewing ANSI/ASME standard B56.1, *Safety Standard for Low Lift and High Lift Trucks*, we find this standard also is silent on the requirements for inspections of platforms.

Paragraph 9(2)(*a.1*) of the *Occupational Health and Safety Act* sets out the requirements for monthly workplaces inspections:

9(2) Without limiting the generality of the duties under subsection (1), every employer shall

(a.1) ensure that the place of employment is inspected at least once a month to identify any risks to the health and safety of his employees;

These inspection are to be done in accordance with the inspection program as required in subsection 9(3) of the *Occupational Health and Safety Act* and could include inspection of the forklift platform.

105(2) Despite paragraph (1)(a), a warning line may be 1 m from an unguarded edge at the dump point for snow removal or when an employee is engaged in weatherproofing, provided adequate precautions are taken to ensure the safety of the employee.

Question 13:
If you are removing snow from a rooftop and you are able to safely drop snow to the ground for the entire length of one side of the building, can the dump point be considered the entire length of the building and therefore have the warning line required at 1 m?

Answer
This section of the Regulation is silent on the maximum size of a dump point for snow removal. While this matter is not prescribed, the size of the dump point should be such that it makes it safe for workers carrying out the work (for example, it should not be the entire length of a building). It is more likely that the dump zone would move along the side of the building as the snow removal progressed. Should this be the case, then the areas where snow is no longer being dumped and the areas where snow is not yet being dumped would not be considered part of the dump zone. In these areas the control zone would be defined by placing the warning line 2 m from the unguarded edge.

121(2) An employer shall ensure that a fixed ladder that is more than 6 m in height is equipped with ladder cages.

121(3) Subsection (2) does not apply where an employee on the ladder uses a fall-arresting system.

Question 14:
With fixed ladders, subsection 121(2) requires a ladder cage on a ladder 6 m or more in height, however 121(3) says you don't need the ladder cage if you use a fall-arrest system. So if you were to use a double attachment system, where you attach to each rung, then wouldn't each rung have to meet the 22 kN strength requirement as an anchor point?

Answer
No, paragraph 49.2(1)*(c)* allows for an anchor point that can sustain a force of four times the maximum load applied to it when used under the direction of a competent person.