



Canadian Space Agency
Agence spatiale
canadienne



JOHN H. CHAPMAN SPACE CENTRE

PROPERTY MANAGEMENT

WORK-AT-HEIGHT PROGRAM

APRIL 2013



Work-at-Height Program

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1) PURPOSE

The purpose of this policy is to establish safety instructions to protect workers who must work at height from the risk of falling, as well as protect workers who are working near areas where work at height is taking place from falling objects.

2) SCOPE

This Program applies to the Property Management Division at the John H. Chapman Space Centre (JHCSC), as well as to the employees of external contractors.

This policy applies to all work involving maintenance, servicing, repairs, construction, setting up/dismantling, installation and adjustment of structures or equipment and any other task to be performed at more than 2.4 metres above the ground or the nearest permanent safe level.

3) DEFINITIONS

Agency: Refers to the Canadian Space Agency.

Elevating devices: Any device designed and used to elevate workers, as described in Part IV of the *Canada Occupational Health and Safety Regulations*.

Work at height: Any work having to be done more than 2.4 m above the ground or the nearest permanent safe level.

4) DUTIES AND RESPONSIBILITIES

a) Property Manager

The Property Manager is responsible for implementing the JHCSC Work-at-Height Program and has the following duties and responsibilities:

- Implement the Work-at-Height Program related to the activities of the JHCSC Property Management Division;
- Ensure compliance with this Program.

b) CSA Operations Managers or Project Officers

CSA Operations Managers or Project Officers are responsible for the Work-at-Height Program as it pertains to activities under the responsibility of the JHCSC Property Management Division and have the following duties and responsibilities:

- Plan and control work to be performed at height;
- Ensure that the employees of various units have the training or information needed to implement this policy;

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- Ensure that all safety conditions are optimal before authorizing work at height;
- Ensure that any permanent restraint mechanisms are approved and inspected (architecture operations manager);
- Ensure that persons working at height know how to use their equipment safely (including their personal protective equipment) and are familiar with emergency procedures;
- Notify Agency sector heads when work at height will encroach on work areas where regular operations are taking place;
- Make regular visits to sites where work at height is taking place and require that improvements be made to optimize work safety, if necessary.

c) Contractor's project supervisor

The Contractor's project supervisor is assigned by CSA Property Management to carry out the work and must inform persons performing the work of the CSA's work-at-height policy. The Contractor's project supervisor has the following duties and responsibilities:

- Be familiar and comply with the Agency's work-at-height policy;
- Ensure that the employees of various units have the training or information needed to implement this policy;
- Ensure that own employees and subcontractors are familiar and comply with the said policy;
- Be responsible for planned shutdowns and large-scale work;
- Have the same responsibilities as an operations manager and ensure that contractors and contractors' employees and subcontractors are familiar and comply with the work-at-height policy when the work is not carried out by Agency employees;
- Appoint a responsible individual to make sure that the work-at-height policy is implemented on the worksite.

d) CSA contractor and subcontractor

The CSA contractor and subcontractor are the parties performing the work at height and have the following duties and responsibilities:

- Comply fully with the safety instructions stipulated in this policy;
- Inspect and handle equipment used in the course of the work safely;
- Halt work immediately if a hazard arises or upon noticing unsafe conditions;
- Promptly obey any instructions given by the line supervisor, the operations manager, the project officer or the Occupational Safety and Health Co-ordinator.

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5) GENERAL INSTRUCTIONS FOR WORK

a) Compliance

All work to which this policy applies must be carried out according to the following set of specific instructions as well as any other policy prescribed by the Agency.

Non-compliance with this policy will result in an immediate halt to the work in progress. CSA operations managers and project officers and the Contractor's project supervisor have the authority to halt the work.

Nothing in this procedure contradicts or is intended to limit the legal provisions of **Part II** of the *Canada Labour Code* or the *Canada Occupational Health and Safety Regulations* under **Part II** of the *Canada Labour Code*.

b) Movement at height

Where there is a risk of falling while working at height, any movement requiring a change of anchor point requires the use of two lanyards. One of the two lanyards must be attached to an anchor point at all times.

c) Safety perimeter

A safety perimeter must be established and indicated on the ground (with safety pylons, ropes, tape or any other mechanism approved by the Agency) in any sector where work is being performed at height. Perimeter boundary markings must not, however, impede access to firefighting equipment, emergency exits, first aid or first response equipment, service stairwells or electrical panels.

d) Transporting of tools

Tools needed for use on a ladder, stepladder or scaffolding to be hoisted from the ground to equipment or installations at height must be placed in a bag or container attached to the worker's belt. The tools must be hoisted or lowered by means of a rope.

e) Protection from falling

- (i) The Agency, or if required, the contractor hired by the Agency, must fully equip workers to protect them against falls;
- (ii) All equipment items must be compatible with one another and meet the following Canadian Standards Association standards:



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- (1) Z259.1-1976, Fall-Arresting Safety Belts and Lanyards for the Construction and Mining Industries;
- (2) Z259.2-M1979, Fall-Arresting Devices, Personnel Lowering Devices, and Life Lines;

(iii) The anchor of a fall-protection system must be able to withstand a force of 17.8 kN;

(iv) A fall-protection system that is used to arrest the fall of a person must prevent that person from falling freely for more than 1.2 m.

f) Protection from falling objects

Where there is a hazard that tools or other objects may fall onto a person from any raised installation, the Agency or, where appropriate, the contractor hired by the Agency, must install

- (i) a toe board that extends above the horizontal plane to a height of not less than 125 mm; and
- (ii) if the tools or other objects are piled to such a height that a toe board would not prevent the tools or other objects from falling, a solid or mesh panel from the horizontal plane to a height of not less than 450 mm.

g) Work on roofs

Where work must be carried out on roofs, the Agency shall ensure that

- (i) all existing anchor points, and such new anchor points as it may install, are capable of withstanding a force of 17.8 kN;
- (ii) all anchor points have been determined, designed, installed and tested before use by a duly qualified engineer. The Agency must keep a file of compliance certifications delivered by the engineer;
- (iii) all work that it intends to perform or have a contractor perform is subject to a work procedure specific to the work, providing, at a minimum, the following information:
 - (1) number and location of anchor points to be used;
 - (2) number, length, location, arrangement and fastening of lifelines and lanyards required to do the work;
 - (3) number and specifics of any other component of the fall protection system with which workers must be equipped; and
 - (4) number of workers required to perform the work.

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6) SPECIFIC INSTRUCTIONS FOR WORK

a) Elevating devices

- (i) All devices used to elevate workers off the ground or the nearest permanent safe level must meet one of the Canadian Standards Association standards below, as appropriate:
 - (1) CSA C225-00, Vehicle-Mounted Aerial Devices
 - (2) CSA B354.2-01, Self-Propelled Elevating Work Platforms
 - (3) CSA B354.4-02, Self-Propelled Boom-Supported Elevating Work Platforms
 - (4) B311-M1979, Safety Code for Manlifts
- (ii) Only trained and qualified workers may operate the elevating devices required to carry out work at height, whether provided by the Agency or by the Contractor.
- (iii) Before a contractor begins to work at height, the Agency will require proof of the necessary qualifications and will keep a copy on file for the duration of the work;
- (iv) When an elevating device must be used more than 2.4 m above the ground or the nearest safe level, workers on the device must be protected from falls as described in Section 5 of this policy.

b) Scaffolding

- (i) The erection, use, dismantling and removal of a scaffold must be carried out by or under the supervision of a qualified person;
- (ii) The footings and supports must be capable of carrying, without dangerous settling, all loads that are likely to be placed on them;
- (iii) Every scaffold must be capable of supporting at least four times the load that is likely to be placed on it;
- (iv) The platform must be at least 480 mm wide and securely fastened in place;
- (v) Ladders must be used to access scaffolds higher than 3 m;
- (vi) Solid floors and guard rails must be placed at the positions where work is to be performed. If this is not possible, workers must be protected from falls as described in Section 5 of this policy;
- (vii) Work must not be performed on different levels simultaneously, unless protection is provided for those working at lower levels to ensure that tools and other objects do not fall from above;
- (viii) When portable scaffolding 0.7 m in width is used, stabilizers must always be used when work has to be performed more than 2 m above the ground.



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c) Portable ladders and stepladders

- i) Ladders and stepladders used in Agency facilities must comply with Canadian Standards Association standard CAN3-Z11-M81, Portable Ladders and must be Type 1 (fibreglass);
- ii) When in use, portable ladders must
 - (1) rest on a firm base;
 - (2) have the upper part propped on both side rails;
 - (3) be firmly held in place or attached at the base if their length is equal to or more than 9 metres;
 - (4) be so inclined that the horizontal distance between the base of the ladder and the vertical plane of its top support is approximately between a quarter and a third of the length of the ladder;
 - (5) extend three rungs beyond the top storey and be firmly held in place, when used as a means of access;
- iii) It is prohibited for workers to stand on any of the top three rungs of a straight ladder;
- iv) Under no circumstances are side rails of ladders and stepladders to be painted;
- v) Ladders that have fallen to the ground or sustained an impact must be inspected carefully before they are used again;
- vi) Workers must only climb ladders one at a time.
- vii) When in use, stepladders must
 - (1) have all four feet securely planted;
 - (2) have all four side arms fully spread;
 - (3) not be used as straight ladders;
- viii) The top and the pail shelf of a stepladder must never be used as a step.

7) TRAINING

The employer's representatives, for whom known and foreseeable risks to health and safety are associated with the task or activity of an employee or any person working under their responsibility, must take training that specifically applies to the health and safety risk(s).

In accordance with regulatory requirements, the employer must provide all employees with the necessary information, training, coaching and supervision to ensure their health and safety. To fulfil their responsibilities, workers must familiarize themselves with the said Program and sign a register confirming that they have read and understood their

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responsibilities. In addition, workers must comply with the employer’s workplace health and safety instructions.

8) REVIEW

This policy must be reviewed and, if necessary, updated one year following its coming into effect, and subsequently, every two years thereafter.

9) REFERENCES

Part II of the *Canada Labour Code*;

Canada Occupational Health and Safety Regulations made under Part II of the *Canada Labour Code*;

CSA Z259.1-1976, Fall-Arresting Safety Belts and Lanyards for the Construction and Mining Industries;

CSA Z259.2-M1979 Fall-Arresting Devices, Personnel Lowering Devices and Life Lines;

CSA C225-00, Vehicle-Mounted Aerial Devices;

CSA B354.2-01, Self-Propelled Elevating Work Platforms;

CSA B354.4-02 Self-Propelled Boom-Supported Elevating Work Platforms;

CSA Standard B 311-M1979, Safety Code for Manlifts;

CSA/CAN3-Z11-M81-1987, Portable Ladders

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APPENDIX I APPROVAL DOCUMENT

Area of application: John H. Chapman Space Centre

JHCSC Property Manager: _____

mm/dd/yyyy

