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PART 13 – TRADES AND MISCELLANEOUS

DEFINITIONS

13.01 In this part, the following definitions apply:

“helipad”

means a temporary structure, built on the ground, to enable a helicopter to land safely;

“heliport”

means a permanent, hardened landing site, laid out in accordance with the applicable requirements of Transport Canada;

“helispot”

means a clearing in which a helicopter can land safely.

LAUNDRY AND DRY-CLEANING ACTIVITIES

Dry-cleaning

- 13.02** (1) Dry-cleaning in an open vessel by immersion, agitation or spraying shall only be done as required for spot-cleaning.
- (2) Dry-cleaning equipment and systems shall be designed, installed, operated and maintained
- (a) in accordance with the manufacturer’s instructions,
 - (b) to prevent the escape of solvent, and
 - (c) to maintain concentrations of solvent vapour in the workplace below the exposure limits specified in the *Occupational Health Regulations*.
- (3) Dry-cleaning solvents shall only be used in transfer, dry-to-dry, or fully-enclosed refrigerated systems designed and installed for this purpose.
- (4) A dry-cleaning machine shall have a label specifying the chemical name of the solvent it has been designed to use.
- (5) Dry-cleaning solvents and additives shall be stored and handled in a manner that minimizes evaporation and spillage.
- (6) A dry-cleaning solvent bulk storage tank located inside a building or enclosure shall be vented to the outdoors.

Solvent vapour

- 13.03** (1) Where workers are exposed to solvent vapour above 50 percent of the applicable exposure limits there shall be an effective ventilation exhaust system on a transfer, dry-to-dry or fully-enclosed refrigerated system, which
- (a) operates whenever the loading door is open to create an airflow into the door opening of at least 0.5 m per second (100 fpm) averaged across the face of the opening, and
 - (b) maintains the concentration of solvent vapour in the workplace below the allowed exposure limits as established in the *Occupational Health Regulations*.
- (2) Dry-cleaning equipment shall be inspected regularly for liquid and vapour leaks and the leaks shall be promptly repaired.
- (3) Open-flame heating equipment shall
- (a) have corrosion-resistant flue and draft hoods to take the combustion products to the outdoors,
 - (b) not be located in the same area as dry-cleaning equipment, and
 - (c) not receive its combustion air from areas subject to contamination with dry-cleaning solvent vapours.

- (4) Vent pipes and ducts carrying solvent vapours from a dry-cleaning process, solvent recovery equipment or dry-cleaning area shall
 - (a) have vapour-proof joints,
 - (b) discharge to the outside atmosphere at least 1.8 m (6 ft.) above the roof peak and at least 3 m (10 ft.) from any door, window or other building opening, and
 - (c) not discharge into any flue used for combustion products, or into any building ventilation duct.
 - (5) A worker shall be provided with appropriate personal protective equipment to prevent inhalation and skin contact when servicing, maintaining or repairing dry-cleaning equipment, and where there is a potential for exposure to the dry-cleaning solvent liquid or vapours.
 - (6) Used filters or filter materials used in a dry-cleaning system shall be kept in a metal container with a tight-fitting lid and stored in a well ventilated area.
 - (7) Supplemental floor-level emergency ventilation equipment shall be
 - (a) available within 4.6 m (15 ft.) of the dry-cleaning equipment in the event of a spill, leak or accidental release of solvent liquid or solvent vapour, and
 - (b) capable of changing the air in the dry-cleaning area every five minutes (12 room-air changes per hour).
 - (8) The control switch for the supplemental emergency ventilation system in subsection (7) shall be easily accessible and clearly identified by signs or other similar means.
- Spot-cleaning** **13.04** (1) Where spot-cleaning is conducted, the spot-cleaning surface shall be designed to contain spills and minimize exposure.
- (2) Spot-cleaning chemicals shall be kept in containers that prevent skin contact.
- (3) A worker shall wear proper skin protection when engaged in spot-cleaning.
- Contaminated articles** **13.05** The employer, constructor, supplier and worker shall ensure that, when articles are sent to a dry-cleaning or laundry facility for processing, the operator of the facility shall be advised of
- (a) any materials in or with the articles that could pose a hazard to workers handling the articles,
 - (b) the nature of any hazard that may arise from the materials, and
 - (c) general precautionary measures to be taken when handling the materials.
- 13.06** Where articles to be dry cleaned or laundered may contain materials such as hazardous biological or chemical contaminants, sharp objects, or other material which may pose a hazard to the workers handling the articles
- (a) the nature of the hazard to the workers shall be determined,
 - (b) effective safe work procedures shall be developed and implemented to minimize the risk of injury and disease, and
 - (c) workers shall be instructed and trained to follow the safe work procedures developed under subsection (b).
- Laundry equipment** **13.07** (1) Feed rolls for a flatwork ironer shall have
- (a) a front mounted trip bar designed to stop the machine on contact, or
 - (b) a fixed guard that will prevent the operator's hands from entering the rolls.
- (2) A roller-type ironer shall have
- (a) a front mounted fixed guard designed to prevent the operator's hands from entering the rolls, and

- (b) the hot rolls guarded to prevent contact by workers.
- (3) A press-type ironer shall have
 - (a) an automatic device to prevent the application of injurious pressure when the operator's fingers are between the bed and the pressure head, or a device that requires both of the operator's hands to be removed from the danger zone when the machine is tripped,
 - (b) hand controls that
 - i. are effectively recessed or shrouded to prevent inadvertent activation,
 - ii. require concurrent use of both the operator's hands, and
 - iii. require both controls to be released before another machine cycle can be initiated, and
 - (c) pads and covers of a type that will not allow the garment or fabric to slip off the buck easily, with or without vacuuming.
- (4) Drum-type washing machines and dryers shall have devices that prevent the drum from rotating while the door is open.
- (5) A centrifugal extractor shall have devices that prevent the power being applied before the cover is closed and prevent the cover being opened while the basket is in motion.
- (6) A laundry chute shall discharge in an unoccupied area, or shall have baffles or other equally effective means to prevent laundry coming out of the chute from striking workers.
- (7) A laundry cart shall be maintained in good mechanical condition and free of sharp corners, edges or splinters.
- (8) Curbs or other equally effective means shall be provided to contain any spill from a washing machine, dry-cleaning machine or any associated equipment and operation.

WELDING, CUTTING AND ALLIED PROCESSES

General

- 13.08** (1) Welding, cutting and similar processes shall be carried out in accordance with the requirements of
- (a) *CSA Standard W117.2-01, Safety in Welding, Cutting and Allied Processes*, or other similar standard acceptable to the director, or
 - (b) the manufacturer's instructions and recommendations for the equipment being used.
- (2) Welding on a building or structure, equipment, pipeline or pressure containment system shall be carried out according to the standard and code specified by the authority having jurisdiction.
 - (3) Welding equipment, including regulators, reducing valves and hoses, shall be used only for the gas for which they are designed.
 - (4) Suitable devices to prevent reverse gas flow and to arrest a flashback shall be installed on each hose in an oxy-fuel system between the torch and the regulator and in accordance with the manufacturer's instructions.
 - (5) Arc welding shall not be carried out unless workers who may be exposed to radiation from the arc flash wear suitable personal protective equipment, including eye protection, or are protected by adequate screens, curtains or partitions.
 - (6) A screen, curtain or partition near an arc welding operation shall be made

of, or treated with, a flame resistant material or coating, and shall have a non-reflective surface finish.

- (7) An area where electric welding is carried out shall be kept clean and free of electrode stubs and metal scraps.
 - (8) An electric welding machine shall be located in a dry area according to the *CSA Standard C22.1-06, Canadian Electrical Code, Part 1*, current edition, or other similar standard acceptable to the director.
 - (9) Tables, jigs or any work bench used for support during welding, cutting, burning or soldering operations shall be made of fire resistant materials.
 - (10) All surfaces in welding, cutting, burning or soldering operations shall be made of non-reflective materials.
 - (11) Overhead welding or cutting operations shall be carried out in such a manner as to prevent slag or sparks from falling on persons or combustible materials located below.
 - (12) A fire watcher shall be assigned to monitor the work when welding is taking place in an area where combustibles may be affected by sparks and heat.
- 13.09** (1) Before gas welding or burning is carried out, the equipment shall be free from defects, leaks, oil and grease.
- (2) An electrical welding machine shall not be pulled by its electrical cable.
 - (3) A recently welded or flame-cut work shall be marked "HOT" or effectively guarded to prevent contact by a worker who has not been directly involved with the hot-work and is likely to enter the work area.
 - (4) Arc welding electrodes or ground leads shall not be hung over any compressed gas cylinder.
 - (5) Welding and cutting torches and their fittings and regulators shall be inspected before use to ensure they are in safe working condition.
- Hot-work** **13.10** When welding, cutting, burning or other hot-work is conducted on vessels, tanks, pipes, tankers, reservoirs or other containers or their components
- (1) Vessels, tanks, pipes, tankers, reservoirs or other containers or their components that hold or have held a combustible, flammable or explosive substance shall be thoroughly drained, cleaned, ventilated and tested before hot-work is performed.
 - (2) Where necessary, steam or an inert gas such as nitrogen shall be used to purge explosive or flammable substances that are or may be present.
 - (3) No work shall be done where the presence of flammable or explosive substance is likely to be present, until
 - (a) tests have been carried out by a qualified person to ensure the work can be safely performed, and
 - (b) suitable work procedures have been developed and implemented, including additional tests made at intervals to ensure the continued safety of workers.
 - (4) Where purging has been carried out and tests indicate the absence of flammable or explosive gases or vapours in containers or components, the hot-work shall be started without delay.
- Contaminants** **13.11** (1) Silver solder containing cadmium shall not be used until a safe work procedure has been developed and approved by a professional engineer or other competent person.

- (2) Any fixed workplace shall have effective local exhaust ventilation to minimize worker exposure to harmful air contaminants produced by welding, burning or soldering.
- (3) Work areas close to welding, cutting, burning or soldering shall be monitored to ensure that the concentration of the air contaminants are kept within the limits, as established by the *Occupational Health Regulations*.
- (4) No welding, cutting, burning or soldering operation shall be carried out until the requirements under subsection (3) are met.
- (5) A coating on metal that could emit harmful contaminants (such as lead, cadmium and chromium), organic materials, or toxic combustion products, shall be effectively removed from the base metal, whenever practicable, before welding or cutting begins.
- (6) Respiratory protective equipment shall be used only
 - (a) for short duration welding or burning operations if the use of effective local exhaust ventilation is not practicable, and
 - (b) during emergency work, if the installation of ventilation equipment is not practicable.

Fire prevention

- 13.12**
- (1) Welding, cutting, burning or soldering operations shall not be carried out at a workplace unless the surrounding area has been thoroughly inspected to ensure that all the combustible, flammable or other explosive materials (including dust, gas or vapour) have been removed, or other equally effective measures have been taken to prevent the possibility of a fire or explosion.
 - (2) Suitable fire extinguishing equipment in good working order shall be readily available where any welding, burning, cutting, soldering operation or any other allied process using heat application is performed.
 - (3) The location of the fire extinguishing equipment shall be marked and made known to the workers.
 - (4) The following protective clothing and equipment shall be used when involved in welding, burning or similar operations:
 - (a) flame resistant work clothing,
 - (b) gauntlet gloves of leather or other suitable material and arm protection,
 - (c) an apron of leather or other suitable material for heavy work,
 - (d) eye and face protection against harmful radiation, particles of molten metal, and while chipping and grinding welds, and
 - (e) substantial safety footwear made of leather or other suitable material.
 - (5) Only clothing made of cotton, wool or leather shall be worn when welding, cutting or burning.
 - (6) Ragged or oil-soaked clothing shall not be worn by a worker involved in or near welding or burning activity.

SPRAY PAINTING, COATING AND WORK WITH PLASTICS AND RESINS

Substitution

- 13.13**
- (1) A less hazardous substance or work process shall be substituted for a higher hazard substance or process wherever practicable
 - (2) A substitution for a paint containing toxic heavy metal components shall be used if an alternative product exists.

Restriction

- 13.14**
- (1) A toxic or flammable chemical or chlorofluorocarbon shall not be used as a propellant in spraying operations.

		(2) Spraying a flammable or other hazardous product shall be prohibited within a general area unless effective controls have been installed to control the fire, explosion and toxicity hazards.
		(3) A coating shall not be applied to a material about to be welded.
Warning signs	13.15	A work area or enclosure where hazardous material is handled or used shall be posted with suitable signs or placards warning workers of the hazards within the identified restricted access area and stating the precautions for entry into the area.
Booths and enclosures	13.16	<p>(1) A ventilated spray booth or other enclosure designed to control worker exposure shall be used when</p> <p>(a) an operation or process involves spraying a paint or resin,</p> <p>(b) laying-up or moulding reinforced plastic or fibreglass, or</p> <p>(c) applying a paint, coating or insulation containing a sensitizer such as isocyanate compounds, or similar operation using toxic materials.</p> <p>(2) The air velocity through a horizontal flow spray booth, a vertical flow downdraft booth or other enclosure shall be at least</p> <p>(a) 0.5 m per second (100 fpm) if the cross-sectional area is 14 sq. m (150 sq. ft.) or less, and</p> <p>(b) 0.25 m per second (50 fpm) if the cross-sectional area is greater than 14 sq. m (150 sq. ft.).</p> <p>(3) In outdoor applications of materials listed in subsection (1), an air velocity across the area of at least 0.25 m/s (50 fpm) shall be assured, by mechanical means if necessary, to carry vapours and aerosol away from the breathing zone of a worker.</p>
Control of ignition sources	13.17	<p>(1) A ventilation system used to control airborne contaminants shall have electrical and mechanical systems designed to control all potential ignition sources and shall meet the requirements of the <i>Electrical Protection Act</i>.</p> <p>(2) No open source of ignition shall be permitted in or near any area where flammable materials are sprayed.</p>
Arrester filters	13.18	<p>(1) A ventilation system subject to heavy concentrations of overspray from the operation shall have an arrester filter.</p> <p>(2) An arrester filter shall be maintained in good condition and replaced when the pressure drop across the filter exceeds the designed value.</p>
Respiratory protection	13.19	Each worker who is or may be exposed to airborne contaminants generated by spray operations involving a sensitizing agent shall be provided with and wear air-supplied respiratory protection.
Disposal of isocyanate containers	13.20	Empty non-returnable containers that contained isocyanates shall be decontaminated by filling them with water and allowing them to stand for a minimum of 48 hours, without being sealed, stoppered, or closed, after which they shall be pierced to prevent reuse.
Authorized persons	13.21	<p>Only a qualified person authorized by the employer shall be permitted to operate</p> <p>(a) an airless spray unit of the type which atomizes paint and fluid at a pressure in excess of 7 MPa gauge (1,000 psig),</p> <p>(b) a spray paint unit powered by compressed air in excess of 70 kPa gauge (10 psig), or</p> <p>(c) a "chopper gun" spray unit.</p>
Airless spray equipment	13.22	<p>An airless spray gun shall have</p> <p>(a) a means to electrically bond the gun to the paint reservoir and pump,</p> <p>(b) a guard that will protect against trigger activation if the gun is dropped,</p>

- (c) the trigger configured to require two distinct operations by the user to activate the release of paint and fluid through the nozzle, or a safety device which prevents the nozzle tip from coming into contact with a worker, and
- (d) fittings, hoses and pressure vessels designed to withstand the pressure involved.

Heating plastic **13.23** A local exhaust ventilation system shall be provided to take away the emissions produced from heating plastic to high temperatures that may release thermal decomposition products and pose a risk of danger to workers.

Resin foams **13.24** (1) A foam installation process performed indoors shall be controlled or contained to prevent unprotected workers from exposure to the emissions by portable local exhaust ventilation, enclosure or scheduling arrangements.

(2) A foam installation process performed outdoors and relying on natural ventilation shall be done in a restricted area where only authorized personnel wearing personal protective equipment are allowed.

AIRCRAFT OPERATIONS

Pre-job planning and training **13.25** (1) Written safe work procedures shall be developed and implemented for workers who are exposed to hazards from aircraft operations.

(2) Workers shall be provided with adequate pre-job instruction and the instruction shall be documented.

(3) Workers shall be able to demonstrate the ability to safely perform their tasks as required.

Restricted practices **13.26** Written safe work procedures, which conform to Transport Canada requirements, shall have been developed where it is necessary to emplane or deplane a worker while an aircraft is in flight, or to carry a worker outside the aircraft.

Communications **13.27** (1) Effective communication between air and ground crews shall be established before initiating aircraft operations.

(2) Where hand signals are used to communicate between air and ground crews

- (a) only internationally recognized hand signals shall be used,
- (b) the designated signaller shall be identified to the pilot in command by means of high visibility apparel and position, and
- (c) all workers exposed to hazards from the airlifting operation shall know and understand the hand signals.

Aircraft landing areas **13.28** (1) Landing areas and assembly sites shall be located at a safe distance from trees, poles, power lines and other obstructions, and if the area or site is exposed to rotor or propeller wash, the employer shall ensure that all equipment, material and debris is secured against dislodgment and that all perimeter hazards are controlled.

(2) Heliports shall be constructed using established engineering principles.

(3) The maximum load capacity of a private heliport shall be marked or displayed so that it is visible to the pilot on approach to the heliport.

(4) Helipads shall be constructed to accommodate the type of aircraft being used.

(5) The pilot in command shall assess a helispot for safe access and egress for workers before it is used.

- Rigging** **13.29** (1) Except as provided in this section, rigging used to suspend loads from aircraft shall meet the requirements of Part 5 – Cranes, Hoisting and Lifting.
- (2) The length of sling legs shall be such that no sling leg makes an angle from the vertical greater than 45 degrees.
- (3) The breaking strength of each leg of a sling used to suspend a load from an aircraft shall be
- (a) for a single leg sling, 5 times the suspended load,
- (b) for a two-leg sling, 3.8 times the suspended load,
- (c) for a three-leg sling, 2.6 times the suspended load, and
- (d) for a four-leg sling, 2 times the suspended load.
- (4) The length and construction of taglines shall prevent their being drawn up into the aircraft's rotors.
- Airlifted loads** **13.30** (1) Airlifted loads shall not be flown over workers.
- (2) Workers shall remain in recognized safe areas when there is a hazard from airlifted loads.
- (3) Helicopter rotor wash shall not expose workers to undue risk.
- (4) Work areas shall be planned and maintained to avoid placing workers in hazardous proximity to unstable materials.
- Loads** **13.31** (1) Airlifted loads shall be stabilized and stationary before manually releasing load hooks.
- (2) Air and ground crew communications shall be initiated before and after manual load hook release.
- (3) The weight of external loads carried by aircraft shall not exceed the aircraft manufacturer's applicable load rating.
- Notification** **13.32** (1) Notice shall be given to the director at least two weeks before commencing any operation involving aerial transport of materials.
- (2) Notice to the director shall include
- (a) the name of the company involved and the person responsible for the operation,
- (b) the location, scheduled start date and expected duration of the operation, and
- (c) the type of activity to be done.
- Site supervision** **13.33** (1) A person on site shall be assigned responsibility for supervising and coordinating airlift operations.
- (2) Before loads are lifted by yarding aircraft
- (a) all workers shall be in a safe position,
- (b) ground workers shall give an "all clear" signal to the identified aircraft, and
- (c) pilots shall acknowledge the "all clear" signal.
- (3) Yarding aircraft shall be equipped with a siren or penetrator for emergency warning.
- (4) Landing drop zones shall be constructed, arranged and maintained to ensure that loads can be safely landed without endangering landing crews.
- (5) Loading areas shall be separate from drop zones.
- (6) Before accessing loading and drop zone areas, workers shall communicate their intentions to aircraft and equipment operators, and get an "all clear" signal to proceed from the operators.

PESTICIDE APPLICATION

Loading pesticides

- 13.34** (1) Aircraft engines shall be stopped while pesticides are being loaded into the aircraft.
- (2) Pilots shall not mix or load pesticides.
- (3) Pilots shall be protected from any exposure to pesticides during loading operations by
- (a) use of a properly functioning closed load system,
 - (b) maintenance of a safe distance between the pilot and the loading operation, or
 - (c) other equally effective means.
- (4) Flexible hoses carrying pesticides under pressure and passing through the cockpit of the aircraft shall be effectively shielded and restrained to protect the pilot in the event of hose failure.
- (5) When applying pesticides by aircraft, a pilot shall wear respiratory protection and protective clothing appropriate for the pesticide being applied, unless the aircraft cockpit has been sealed and has a ventilation system that prevents the entry of pesticide into the cockpit.
- (6) A flag person who may be exposed to pesticide spray or drift shall wear protective clothing covering the head, body, hands and feet, and a respirator appropriate for the pesticide being applied.

FIREARMS

Authorized persons

- 13.35** Where a worker is required to use, handle, or otherwise have control of firearms, the worker shall
- (a) have successfully completed the Canadian Firearms Safety Course, as given by an instructor who is designated by a chief firearms officer, and
 - (b) have demonstrated proficiency with that firearm to the employer.

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