Techlectric Safety Policy & Procedures

Updated April 2011

Injury Prevention

General Personal Protection

For your personal protection on the job, do not wear:

- loose clothing or cuffs

- greasy or oily clothing, gloves or boots

- torn or ragged clothing

- rings or neck chains

Shirts and long pants shall be worn at all times

Head protection:

Workers must obtain and wear at all times on the job a CSA certified safety hat. Replace damaged or cracked hats immediately

Foot Protection

1. At all times on the job, workers must wear CSA certified footwear with toes and sole protection.
2. Work boots should be fully laced and tied
3. Replace badly worn or deteriorated work boots

Eye Protection

Cover goggles required for workers drilling overhead or into concrete, masonry or drywall, when using power and actuated tools, and when chipping, grinding or cutting.

Hearing Protection

It is recommended that each worker have hearing protection available for use at his or her work station since continuous exposure to excessive noise from certain construction activities can lead to hearing loss.

Personal Protective Equipment

In addition to mandatory hard hats and safety boots, other personal protective equipment such as eye protection, hearing protection and fall-arrest devices must be worn when required.

There may also be a requirement for gloves, respirators, or specially-designed protective clothing under certain hazardous conditions.

Personal Injury Reporting

Should you be involved in an incident which results in a personal injury while you are on the job, you are required to follow these directions:

- Contact your supervisor to report the incident, NO MATTER HOW MINOR. you are to call the office at any time to report the incident. There is voicemail to take a message should you need to call after hours.

- If you are leaving a message, please indicate that you are reporting a work-related accident and leave the telephone number where you may be reached in the next 48 hours.

- Note that YOU are responsible for contacting your supervisor yourself (if possible) of any work-related injury. You are also required to notify the client of the jobsite at which you are working.

- ALL injuries are to be reported within 24 hours, even if there is no lost time. You are to report any incident, which although not considered serious at the time, may be a cause for concern in the days following the accident. Late reports or injuries resulting from an unreported accident will be contested.

- When reporting, be prepared to offer the following information:

1. Your name and the name of the job to which you were assigned
2. Date, time and where you were when the accident occurred
3. The events surrounding the accident
4. The exact nature of the injury
5. Was medical attention required? By whom and where was it administered?
6. Will you miss work as a result of the accident? For how long?
7. Were there any witnesses? Was anyone else involved?
8. A telephone number where you may be reached

Accident Prevention

Ladders

Ladders present a major hazard. Three main causes of accidents must be guarded against"

1. Climbing or descending improperly
2. Failure to secure ladders at top and bottom
3. Broken or unsafely placed ladders

Ladders shall be set up one foot out for every 3-4 fee up

When climbing up or down, workers should always face the ladder.

Ladders should be set up on a firm, level surface. Portable ladders are to have non-slip bases.

Ladders with weakened, broken, bent or missing steps; broken or bent side rails; broken, damaged or missing non-slip bases; or otherwise defective parts shall not be used and should be tagged and removed from the site.

If a ladder is used for access from one work level to another, the side rails should extend a minimum of 90cm (3 feet) above the landing.

Watch for overhead power lines before attempting to erect any ladder.

Aluminum ladders must not be used near overhead power lines.

Always maintain three-point contact with ladders. Three-point contact means one hand and two feet, or two hands and one foot at all times. You chance of falling will be greatly reduced if you maintain three-point contact.

Don't carry anything in your hands while climbing a ladder. Carry your tools in a belt or pouch. Use a rope to lift and lower equipment and material.

Secure the ladder at top and bottom. Consider using ladder stabilizing attachments at the base and top.

Never over-reach. Take the time to re-position the ladder.

With extension ladders, make sure the ladder is:

- Free of damage to rungs, side rails, and hardware
- Set up so that the base is level and the bottom can't slip
- Sloped between 1:3 and 1:4
- Tall enough to extend at least 90cm (3 feet) above the landing area at the top
- Secured at the top if it will be a regular means of access

With no-step ladders, make sure the ladder is:

- Free of damage (no cracks in rungs of side rails, no excessive play in hinges)

- Set up with legs fully-extended and spreader arms locked

- Tall enough to let you work while keeping your waist below the top of the ladder

Safety Talks

It is our intention at Techlectric to have our work force knowledgeable in all aspects of safety practices.

As our jobs change from day to day, it is mandatory that the following procedure is followed:

- Before starting a new job in the morning or a new procedure, the journeyman in charge of the job is to hold a safety talk. During this talk, he or she is to explain to the crew the safety practices they are to follow.

- At this time, it is the responsibility of the crew to voice any concerns they have regarding safety. You are obligated by Worksafe BC's OHS regulations to report any safety concerns

Examples:

- Hard hats and safety glasses must be worn at all times

- Safety harness must be worn while you are on a man lift

- All power equipment must be locked out and tagged only by personnel working on equipment

Scaffolds

Scaffolds are to be properly insalled and equipped as per the Occupational Health and Safety Act.

Scaffolds must be erected with all braces, pins, screw jacks, base plates and other fittings installed as required by the Act and Manufacturer.

Scaffolds must be equipped with guardrails.

Scaffolds over 2.5 m/8 feet high must be planked across their full width.

Scaffolds must be tied into a building at vertical intervals not exceeding three times the least lateral dimensions including the dimension of any outrigger stabilizing devices.

Wooden scaffold planks must be of good quality, free of defects such as loose knots, splits or rot; rough sawn 2" x 10" planks must be installed in a manner that prevents them from sliding

Wheels or casters on rolling scaffolds must be equipped with breaking devices and securely pinned to the scaffold frame.

Scaffolds must be equipped with a proper ladder for access

Guard Rails

Guard rails consisting of a top rails, mid rail and toe board must be provided around work platforms on all scaffolds, floor openings, ramps and open areas where a worker can fall from one level to another.

When guard rails or opening covers are temporarily removed, workers in the area must be protected by a safety harness and lanyard tied off to the structure. Barricades, guard rails and covers must be replaced in the proper manner immediately after work is completed.

Trenches and Excavations

Where personnel are required to enter a trench or excavation, it must be properly sloped or shored and trench boxes used where required.

Access to Work Areas

Ladders, scaffolds, swing stages, ramps and runways should be constructed, erected ad secured in accordance with the regulations under the Act. When work areas are above or below ground, access to and egress from the work area must be provided and maintained in a safe condition.

Housekeeping/Storage/Clean-up

1. Materials and equipment must be stored, moved, piled and transported in a manner that will not endanger workers.
2. Waste material and debris MUST NOT BE STORED in areas of access and degress. Waste material is to be lowered or carried from level to another and deposited in proper containers
3. Materials to be lifted by a crane or other lifting devices must not be stored under overhead power lines
4. Ensure that all tools, equipment, building supplies, hardware, etc. are securely locked or placed in a lockable storage area on a day-to-day basis.
5. Ensure that all lockups have proper locking devices and entrance to these areas is controlled by the supervisor

Tool Maintenance

It is the employer's responsibility to supply and maintain shop tools and other power equipment in good repair. It is the workers' responsibility to use such tools properly and to report any defects to the supervisor to ensure repair is initiated and proper tagging of defective tools is carried out.

Electrical tools and equipment must be properly grounded or double insulated.

Always be sure that guards are in place and working.

For gasoline and solvents use only CSA certified containers in good condition.

Block wheels when equipment is not in use.

Electrical cables, extension cords and air hoses must be kept in good condition. Electrical repairs should be done by a qualified electrician.

Lighting

Stairs and work areas should be adequately lit at all times.

Materials Handling/Lifting

1. Wherever practical, heavy lifts should be done with mechanical lifting devices.
2. When manual lifting is required, dollies, trucks and similar devices should be used where practical.
3. Workers should know their physical limitations and obtain help when a lifting task may be more than they can handle alone.
4. The Right Way to Lift: secure good footing with feet a comfortable distance apart, bend the knees – keep back straight and lift with legs
5. Use gloves when handling sharp, rough, heavy or hot materials.
6. Never carry a load so large that it obstructs vision.

Lockout Procedure

The following procedure is being instituted for your own personal safety. Locking-out is the only positive way or guarding against accidental start-up of equipment. REMEMBER…

NEVER WORK ON EQUIPMENT WITHOUT FIRST LOCKING OUT!!!!

Sometimes machinery or equipment has to be energized for a specific task – for example, when making fine adjustments or doing troubleshooting that can only be done with part of the equipment working. In those cases, only the parts that are vital to the maintenance process may remain energized.

Work on energized equipment may only be performed by workers who:

- Are qualified to do the work

- Have been authorized by the employer to do the work

- Have been provided with and follow written safe work procedures

Five Basic Steps to Locking-Out

1. Identify the machinery or equipment that needs to be locked out
2. Shut off the machinery or equipment. Make sure that all moving parts have come to a complete stop. Also ensure that the act of shutting off equipment does not cause a hazard to other workers.
3. Identify and de-activate the main energy-isolating device for each energy source, and ensure that all parts and attachments are secured against inadvertent movement. This could be as simple as unplugging the machine.
4. Apply a personal lock to the energy-isolating device for each energy source, and ensure that all parts and attachments are secured against inadvertent movement. If the plug is kept under the exclusive and immediate control of one worker at all times while the maintenance work is being done, then a lock may not be required. The worker should have the plug in sight an within reach so that no one else can accidentally plug in the equipment.
5. Test the lockout to make sure it's effective and to verify that each energy source has been effectively locked out. First ensure that all workers are in the clear and that no hazard will be created if the lockout is not effective. Lockout can be tested after each energy-isolating device is locked out or after a group of nearby devices is locked out.

Working Beside Unprotected Openings and Edges

A worker must wear a safety harness with the lanyard tied off to a fixed support whenever the worker is more than three metres/10 feet above the next level, or above operating machinery, hazardous substances or objects, regardless of the possible fall height.

Powered Elevating Work Platforms

In addition to the specific manufacturer's requirements for operating powered elevating work platforms and buckets, all operators of equipment should:

Be thoroughly familiar with all operating instructions and safe load limitations

Use three-point contact when mounting and dismounting equipment

Keep the equipment free of slippery substances at all times

Ensure no obstructions or workers are in the direct path of the equipment's operation

Keep all guardrails and gates secured during operation

Maintain proper distance from live electrical conductors or equipment at all times

Ensure safety belts or body harness are as required

Ensure the equipment rests on a firm level surface

Live Circuits

The following procedure is mandatory:

It is our intention at Techlectric to NOT work on live circuits, however, we acknowledge that certain circumstances leave us with no choice. In these instances the journeyman is NOT TO WORK ALONE and must call his/her supervisor to let him/her know that he/she is going to have to work "live."

Before the journeyman starts any "live" procedure, she/he must be wearing rubber safety gloves, face shield, and must lay down a high voltage rubber mat where he/she will be standing. Journeymen must evaluate if the task can be done safely. If not, arrangements to have the power shut down will be made.

The journeymen must be aware of their immediate surroundings, by asking questions such as the following:

1. Is there any potential for me to come in contact with live circuits?
2. Is there potential for me to ground myself when I am working on live circuits? If so, how do I minimize this risk?
3. Do I have the correct tools to do this job safely?
4. Do I need to block a door from opening?
5. Do I need to rope off the area?

Fire Protection

Precautions must be taken at all times to prevent fire in the workplace.

Fire extinguishers must be readily accessible, properly maintained, regularly inspected and promptly refilled after use.

In addition to being familiar with the operation and location of all firefighting equipment, all employees should be aware of the various categories or fire extinguishing equipment.

Class A Extinguishers – for fires in ordinary combustion material such as wood, paper or textiles, where a quenching, cooling effect is required.

Class B Extinguishers – for flammable liquid and gas fires such as oil, gasoline, paint, or grease where oxygen exclusion where flame-interruption is essential

Class C Extinguishers – for fires involving electrical wiring and equipment where the non-conductivity of the extinguishing agent is crucial

Hazardous Material Identification and Handling

Definition: Hazardous material is material in a form, which, by its nature, may be flammable, explosive, irritating, corrosive, poisonous, or may react violently with other materials if used, handled or stored improperly.

Included are substances prohibited, restricted, designated or otherwise controlled by law.

All hazardous materials found in the workplace will be identified in accordance with the workplace hazardous material information system (WHMIS) requirements of the Occupational Health and Safety Act.

Safety Harnesses and Lanyards

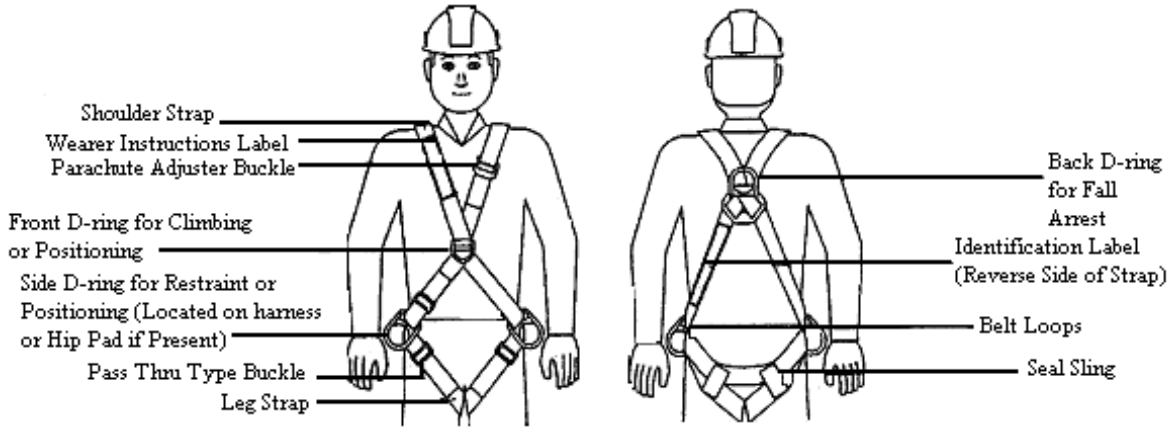
All safety harnesses and lanyards must be CSA Certified. Safety harnesses must be snug fitting and worn with all hardware and straps intact and properly fastened. Lanyards must be 16 mm (5-8") diameter nylon or equivalent.

The D-ring on the safety harness should be in the centre of the back. The lanyard should be secured to a rigid support or lifeline, preferably higher than waist level, and be kept as short as possible (no more than 1.5m/5 feet) to reduce fall distance. When the lanyard is wire rope or nylon webbing, a shock absorber must be used.

All Lifelines Must Be:

1. 16 mm (5/8") diameter polypropylene or equivalent
2. used by only one worker at a time
3. free from any danger or chafing
4. free of cuts, abrasions and other defects
5. long enough to reach the ground or knotted at the end to prevent the lanyard from running off the lifeline

The following must be taken into account when using safety harnesses:



Fall Protection

Full body harnesses are designed to be components used in personal fall arrest, restraint, positioning, rescue or climbing systems. These harnesses may be used in most situations where a combination of worker mobility and fall protection is needed.

The following application limitations must be recognized and considered before using this product:

Corrosion: do not leave equipment in environments where corrosion of metal parts could take place. Use near sea water or other corrosive environments, such as near sewage or fertilizer, may require more frequent inspections or servicing to assure corrosion damage is not affecting the performance of the product

Chemical Hazards: Solutions containing acids, alkalis, or other caustic chemicals, especially at elevated temperatures may damage full-body harnesses. Frequent inspection must be completed.

Heat: Full body harnesses are not designed for use in high temperature environments. Protection should be provided for the harness when used near welding, metal cutting or similar activities. Hot sparks may burn or damage the harness webbing.

Electrical Hazards: Due to the possibility of electrical current flowing through the hardware or connections, use extreme caution when working near high voltage power lines.

Capacity: Full body harnesses are designed for use by persons with a combined weight (person, clothing, tools, etc.) of no more than 310 lbs.

Normal Operations: The harness has been designed to disperse the impact forces throughout the body should a fall occur. Full-body harnesses subjected to arresting a fall or impact must be immediately removed from service and destroyed. Full-body harnesses showing excessive wear or deterioration must also be destroyed. Your supervisor is to be notified immediately.

System Requirements

Compatibility of Components and Subsystems: Full-body harnesses are designed for use with approved components. Use of this harness with non-approved components may jeopardize compatibility between equipment which could affect the reliability and safety of the complete system.

Compatibility of Connectors: Connectors must be capable of supporting 5000lbs. minimum. Caution must be taken o assure compatibility between connecting hooks and the connection point of the harness or anchorage. Non-compatible connectors may accidentally disengage (roll-out). Connectors must be compatible in size, shape and strength. The connecting subsystem (lanyard, self-retracting lifeline, rope grab and lifeline, shock-absorbing lanyard, etc) must be classified as suitable for use in your application. For fall arrest applications, the maximum arresting forces must not exceed 1800lbs. Refer to instructions supplied with connecting subsystem to determine suitability.

Anchorage Strength: Anchorages selected for personal fall arrest systems (PFAS) shall have a strength cable of sustaining static loads, applied in the directions permitted by the PFAS of at least 3600lbs where certification exists, or 5000 lbs in the absence of certification. When more than one PFAS is attached to the anchorage, the anchorage strengths set forth above shall be multiplied by the number of personal fall arrest systems attached to the anchorage.

Operation and Usage

Warning: Consult your doctor is there is any reason to doubt your fitness or ability to safely absorb the shock from a fall arrest. Age and fitness seriously affect a workers ability to withstand arrest forces. Pregnant women and minors must not use full-body harnesses.

Warning: Do not alter or intentionally misuse equipment; your safety depends on it. Consult when using this equipment in combination with components or subsystems other than those described in this manual. Some subsystem and component combinations may interfere with the proper operation of this equipment. Use caution when using this equipment around moving machinery and electrical hazards.

Before each use of fall-protection equipment, carefully inspect it to assure that it is in serviceable condition:

- check for worn or damaged parts

- ensure that all hardware is present, secure, and not distorted or has any sharp edges, burrs cracks or corrosions

- make sure that buckles work properly

- inspect webbing for cuts, burns, frayed edges or other damage

Plan your fall protection system before starting your work. Take into consideration factors that affect your safety before, during and after a fall.

Hoisting and Rigging

1. Never exceed safe working loads of slings and rigging hardware
2. Determine load weight before rigging it
3. Keep wire rope away from cutting and welding operations
4. Destroy defective hardware, slings, chains and tackle (notify your supervisor before you do this)
5. Rig loads to prevent them from loosening or coming apart
6. Use tiglons to guide heavy, long or awkward loads
7. Stand clear when loads are being lifted or lowered
8. Keep rigging, loads, and hoisting equipemtn away from overhead power lines
9. Communication between crane operators and workers should be clear and concise. Use a competent signal-person..

Confined Spaces

Only employees certified for confined space entry, action and egress shall be permitted to work in these situations.

All confined space work shall have a minimum of 2 people designated to complete the project. For every person in a confined space, there shall be a second person located outside the space to assist with egree.

The supervising employee must have at least Level 1 First Aid.

Employees entering a confined space where the atmosphere is hazardous shall wear the appropriate PPE at all times.

Employees requiring Self Contained Breathing Apparatus (SCBA) or Pressure Demand Supplied Air, must be certified in its use.