Company Work Task Manual		Approved by	
Review Date	**Reviewed by**	Name:	Ken Crawford
		Position:	President
		Date:	January 31, 2023
July 30, 2020	Debbie Craig		
January 31, 2022	Kassandra Crawford		
January 31, 2023	Kassandra Crawford		

C&M Electric

Company Work Task Manual

Ken Crawford
President

C&M Electric
3038 Carp Road
Carp
K0A 1L0
613-839-3232

Contents

Work Task (WT) Manual

It is the objective of C&M Electric to develop safe work practices/procedures for work tasks regularly performed by our workers. Our goal is to eliminate or reduce workplace injuries and illnesses.

Policy

It is the policy of C&M Electric that workplace and job specific hazards be identified and once identified, a hazard assessment will be completed, controls developed, implemented and communicated to relevant workplace parties.

Work Task Manual

C&M Electric, after identifying hazards that apply to the work we perform, has developed a Work Task Manual which includes a Critical Task List, Hazard Ranking Procedures, PPE/Safety Device Selection Criteria Assessment and Work Tasks. Each work task has been documented and, should a specific work task be identified on the Critical Task list, it is noted to the right of the work task title. An endorsement box is used to identify the effective date, revision date and replaces date for the work task. The endorsement box also provides the signatures of those endorsing the hazard assessment, their position and the date. The Work Task Manual is found in every on-site safety binder which is readily available to every worker.

Hazard Assessments

Hazard assessment and risk reduction activities will be supported by management. This will be achieved through all or some of the following:

- Documented reviews.
- Assignment of resources to this activity.
- Using the services of third-party Health and Safety Consultants.
- Involvement in developing risk mitigation controls.
- Timely approvals of requested modifications to processes, equipment, procedures, etc.
- Reviews of the results of any actions taken.

The company will ensure that:

- Hazard assessments are conducted, documented and approved for all operations.
- Hazards are identified.
- Identified hazards are prioritized as an A, B or C risk ranking.
- The rank column indicates the risk level prior to the implementation of controls and expected level of riskonce the controls have been implemented. Note, for C rank hazards there will be no change.
- Controls are developed for all identified hazards.
- PPE requirements are provided for all work tasks.
- Training requirements are identified for all work tasks.
- Controls will be made available to appropriate personnel to be found in the on-site safety binder.
- Controls to be implemented in a timely manner.
- Hazard assessments are maintained.
- Appropriate personnel will be involved in the hazard assessment process.

Critical Tasks

- A Critical Tasks, work tasks associated with risks above an acceptable threshold value, are identified both in the table of contents and are identified to the right of the work task title.

Hazard Ranking

Hazard Ranking is a systematic way of ranking hazards that have the potential to cause injury. In all circumstances hazards are to be ranked using the following chart:

Ranking System		
Rank	**Consequence**	**Action Required**
A - Major	Immediately dangerous to life and health	Immediately
B - Moderate	Potential for non-life threatening injury or illness	As soon as possible
C - Minor	Potential for light injury or illness	As determined by the supervisor/management

Controls

C&M Electric will establish and implement preventative measures and controls to address identified high and medium risks. Controls will be established with the sole purpose of eliminating or controlling identified hazards using the most effective control measures such as elimination before using the least effective controls such as PPE. Appropriate workers will be informed of control strategies through training, safety talks, one-on-one discussions.

Personal Protective Equipment

The following CSA Standards will be considered for the PPE referenced within the Work Task Manual:

- Head Protection as per CSA Standard CSA Z94.1 – 15
- Foot Protection as per CSA Standard CSA Z195 – 14 & 16
- Eye Protection as per CSA Standard CSA Z94.3 – 15 and CSA Z94.3.1 – 16

Roles and Responsibilities

Senior Management

- Identify workplace tasks regularly performed on C&M Electric worksite.
- Keep a list of Critical Tasks and ensure that safety procedures are followed.
- Develop H&S policy, manual and procedures and review regularly as required.
- Ensure safe work practices and procedures are communicated to all workers.
- Provide training, when required, to ensure compliance to the OHSA and applicable regulations and industry standards.
- Provide and maintain a safe, healthy work environment.
- Provide competent supervision for all workers. Supervisors will be adequately trained with experience and knowledge in the work being performed by the workers.
- Ensure supervisors are aware of actual and potential health & safety hazards in their area of responsibility.
- Develop safe operating procedures.
- Review investigation, accident and incident reports and ensure corrective actions are taken and communicated.
- Review documentation on an annual basis or more often if required.
- Provide the required personal protective equipment, tools and materials needed for worker safety.
- Follow all health and safety regulations.
- Ensure workers receive adequate training.
- Keep records for the appropriate time.
- Ensure that workplace inspections are being conducted and any corrective actions are taken, if any.

Managers/Supervisors

- Recognize hazards and implement corrective measures to eliminate or control the identified hazard.

- Advise workers of actual and potential hazards on site.
- Ensure that only qualified/authorized workers operate vehicles, equipment/tools and perform designated work tasks. When required, train all personnel. Submit all documentation to management in a t imely manner.
- Instruct workers in:
    - Operating machinery.
    - The daily inspections and maintenance requirements.
    - Special conditions or limitations to any tool/equipment.
    - The location of emergency and safety devices.
- Ensure adequate rescue procedures are developed and communicated to workers. When required, provide written rescue instructions.
- Ensure workplace safety procedures are followed.
- Ensure that Personal Protective Equipment (PPE) is worn, as required, at all times.
- Review Safety Data Sheets (SDS) with crew before using a hazardous material.
- Inspect the workplace at least weekly and record findings on company inspection form.
- Inspect, or designate a competent worker to inspect safety equipment regularly. If necessary ensure the removal/replacement/repair of damaged equipment.
- Inspect, or designate a competent worker to inspect equipment/ tools and safety devices regularly. If necessary, ensure the removal/replacement/repair of damaged equipment.
- Perform regular Toolbox/Safety Talks.
- Ensure records are kept and submitted to management as required.
- Ensure subcontractors comply with the C&M Electric Policies and Procedures.
- Ensure that all barriers, warning signs, or other safeguards are put in place.
- Ensure that all parties involved in work to be performed are adequately trained in their roles and responsibilities.

Workers

- Work in accordance with C&M Electric company policy, program, health and safety act and regulations and applicable industry codes or standards.
- Inspect tools and equipment prior to use.
- Work in a manner that is safe for all.
- Perform tasks only when qualified, trained and competent to do so.
- Participate in health and safety training.
- Report immediately:
    - Any condition, practice or hazard that may cause injury or damage to equipment.
    - Any incident or accidents that occur at work.
    - Any defective tools or equipment.
    - Any observed infractions to health and safety policy or regulation.
- Wear and use all tools and equipment in a safe manner.
- Participate in health and safety training, orientation, toolbox talks, etc.

Operations / H&S Coordinator

- Ensure workers have adequate training for the work tasks they will be expected to perform.
- Ensure safe work practices and procedures are communicated to all workers.
- Ensure that records/reports are reported to authorities as required.
- Deliver or arrange for training when it is deemed a worker has inadequate training.
- Review training records regularly to ensure they are accurate and that worker training is current.
- Ensure all forms and records are systematically filed.
- Ensure that a competent and qualified person(s) delivers all training.
- Participate in the annual review of this policy.

H&S Consultants

- Assist management in the development and implementation of policy and procedures.

H&S Representatives / JHSC Members

- Be consulted on hazard assessments and training requirements for workers.
- Make recommendations to management on health and safety matters.
- Participate in the annual review of this policy.

Subcontractors

- Subcontractors will be required to ensure their workers are working in accordance with this policy.
- Subcontractors will be required to accept full responsibility for ensuring their workers are adequately.
- Report all unsafe conditions or acts to the C&M Electric supervisor.

Communication

This policy is to be communicated to all workplace parties through safety meetings, worker orientation, H&S Manual or by any other method determined by management.

Training

Training will be provided to employees through safety meetings, one-on-one training or by any other means when and where necessary.

Enforcement

The work tasks are developed with the sole intent of reducing injury and illness. It is essential that all parties comply with this policy and its procedures. Failure to comply may result in disciplinary action(s) taken against the worker(s) in accordance with the C&M Electric Enforcement Policy. Supervisors may be reassigned should they fail to meet their responsibilities. The appropriate consequence will depend on the facts of the case, including nature of the violation, the existence of prior violation(s), the response to prior corrective programs and the seriousness of the violation.

Access, Ramps and Stairs

B Hazard

Access, Ramps and Stairs				2 Pages	Approved by	
Identifier	**Revision**	**Original Date**	**Revision Date**	**Effective Date**	Name:	Ken Crawford
					Position:	President
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WT1	A	January 9, 2019	January 31, 2023	August 6, 2020		

Policy:
That all points of access/egress be kept in a clean condition, free from debris or similar obstacles.

That level travel surfaces be maintained where possible, when not possible, ramps or stairs will be provided utilizing adequate fall protection strategies to ensure all person are protected from slips, trips and falls.

Hazard Assessment

Hazards	Rank	Control	PPE	Training
All	C	• Only authorized workers in areas where they are to perform work.	Hard Hat "Class E", CSA Approved Fall arrest harness and lanyard, CSA Approved Grade 1 Safety Boots, CSA Approved Safety Glasses, CSA Approved	Access, Ramps and Stairs Work Task Policy and Procedures WAH Work Task
Entering an unauthorized area.	C	• Ensure clear signage is displayed. • When necessary or practicable, cordon the area off using tapes and appropriate barriers.		
Contact with hazardous substances	B→C	• Cordon off areas where hazardous substances are used/stored . • Store Hazardous substances in a secure location when not in use.		
Slips, trips and falls	B→C	• Work areas and all access/egress are maintained in a tidy condition. • Electrical cords are clear of pathways or taped securely in place. • Ensure water is cleared up to avoid slippery surfaces. • Areas where slips and trips are likely to occur are clearly marked with adequate signage or taping. • Install access ramps where rolling loads will be moved over floors of two different heights.		
Access ladders	B→C	• Access ladders must extend three feet above the upper level.		
Handrails	B→C	• Stairs with more than 4 risers must have continuous handrails on: • any open side of the stairway; • one side of enclosed stairways 112 cm (44 in) or less in width; • both sides of enclosed stairways over 112 cm (44 in) wide.		

Safe Work Practices:

- Ladders, scaffold, swing stages, ramps and runways should be constructed, erected and secured in accordance with the Regulations under the Act.
- When work areas are above or below ground, access to the egress from the work area will be by stairs, runway, ramp or ladder. All methods of access/egress must be provided and maintained in safe condition.
- There must be adequate methods of egress, to accommodate the necessity of an emergency evacuation.
- All access, egress, stair, corridor, elevator and hoist way areas are to be illuminated, maintained clean, clear and unobstructed at all times. Signage for identification of exits is required.
- If there is a possibility of material falling on a worker, overhead protection must be provided at every means of access and egress and/or above every area where work is being done.
- Obey signage-restricting access to work areas such as electrical rooms. If a worker is required to perform work in an area where access is denied, they must get permission from the supervisor and follow proper procedures.
- Any worker working in a restricted access area is required to ensure no other unauthorized workers enter the work area.
- Access/egress routes must be kept clear of debris, obstructions, snow, ice or other slippery materials. When it is not practical to remove ice, snow or other slippery materials then treat with a substance that will ensure a firm footing.
- When a ladder is used as a means of access it must extend three feet above the upper level. There must be no debris or obstructions at the bottom and top areas surrounding the ladder.

Procedures:

1. Install access ramps where rolling loads will be moved over floors of two different heights.
2. Install access ramps, or a temporary stair, where the heights of two different floors cause a hazard to workers.
3. Full size sets of stairs and ramps are calculated and made to determine rise, going and pitch of stairs to provide location of landings, stringers, treads and posts where specified.
4. Access ramps and temporary stairs are to be a minimum of 20 inches wide.
5. Stairs, ramps, or walkways that rise more than 1.2 meters (4 feet) above the ground must have proper guardrails.
6. Landing bearers and joists are placed, fixed and braced according to plans and specifications.
7. Ramps must not exceed a 20% slope.
8. If an access way is unsafe, it must be clearly identified and workers should be prevented from entering the area.

Handrails on Stairways Procedures

1. Stairs with more than 4 risers must have continuous handrails on:
    - Any open side of the stairway;
    - One side of enclosed stairways 112 cm (44 in) or less in width
    - Both sides of enclosed stairways over 112 cm (44 in) wide.
2. The top of a handrail must be 76 cm to 92 cm (30 in to 36 in) above the stair tread, measured vertically from the nose of the tread, and the height must not vary on any flight or succession of flights of stairs.
3. A handrail on an open side of a stairway must have a mid rail located approximately midway between the top of the handrail and the nose of the stair tread.
4. A handrail must be able to withstand a load of 1.3 kN (300 lbs.) applied vertically or horizontally at any point along the handrail.

All Terrain Vehicles

B Hazard

All Terrain Vehicles/Snowmobiles				2 Pages	Approved by	
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Policy:
It is the goal of C&M Electric to provide our workers with a set of guidelines to mitigate hazards associated with all terrain vehicles.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	B→C	• Perform a hazard assessment	Hard Hat "Class E", CSA Approved	All Terrain Vehicles
		• Operator to be adequately trained.	Grade 1 Safety Boots, CSA Approved	Work Task Policy and Procedures
		• Workers to receive written, oral and practical training.	Safety Glasses, CSA Approved	
			Seat Belt	
		• Follow manufacture's instructions	High Visibility Clothing	Operator's Manual
		• Operators manual to be with the equipment	First aid kit	Drivers License
		• Proof of regular maintenance must be available.	Two-way radio and/or cell	First Aid
		• Work in accordance with the company SJP	Water	
Equipment failure	B→C	• Operator Manual to be kept with the unit.	Tool kit	
		• Pre-use inspections to be conducted.	Noise protection	
Crush injuries	B→C	• Operator will use in accordance with operator's manual.		
		• Operator to be aware of their surroundings at all times.		
Roll over injuries	B→C	• Operator will use in accordance with operator's manual.		
		• Slope limits as per manuals instructions, will be followed.		
		• If slope limit is not specified, do not exceed a 5% slope.		
		• Seat belts to be worn when applicable.		
Loading and Unloading	B→C	• To be done in a safe manner.		
		• Ramps to be at a suitable angle, be wide enough & have a grip surface.		

Safe Work Practices (SWP):

- Dress appropriately for the conditions. Wind, cold, rain, and heat can make you tire quickly.
- Go at a speed that is proper for the terrain, visibility conditions and your experience.
- Do not carry passengers on a single rider they make the vehicle dangerously unstable.
- Keep a safe distance from each other.
- Don't ever drag your foot on or even near the ground while the vehicle is moving.
- Never ride the vehicle while reversing down a slope – either the ground, or a loading ramp.
- Always watch closely behind you when reversing.
- Drive with caution when driving through curves, crossing slopes, going up and down hills.
- Don't suddenly throttle (give it gas) or rev the motor.
- Ensure when carrying a load, that the vehicle is properly balanced and secured to a rack that is manufacturer's carriers.
- Thoroughly train with and understand the vehicle operator's manual prior to use.
- Operate the vehicle in a manner suitable for the terrain and weather conditions.
- Ensure equipment has been recently/seasonally serviced and suitably equipped - check fluid levels, tire/track condition and that all protective devices are in place and working properly.
- Plan enough fuel to travel to and from destination, and a reserve amount for unexpected requirements.
- Wear appropriate PPE and clothing while operating ATVs and snow machines.
- Carry survival items appropriate to season and conditions.
- Secure cargo items properly in the safest manner.

- Secure parking brake while stopped for a period of time.
- While negotiating terrain, ensure that the operators weight is shifted uphill at all times.
- Maneuver ATVs and snow machines on and off transport vehicles in a slow, and deliberate manner.
- Always secure loading ramps to transport vehicles for loading and unloading
- When crossing a road, bring vehicle to a stop, look both ways and ride in a controlled manner across it.
- Do not operate an ATV or snow machine while under the influence of drugs or alcohol.
- Do not overload the vehicle.
- Do not perform stunts on ATVs or snow machines.
- Don't ever try to drive an ATV through fast-moving or unfamiliar water.
- Ensure the tire pressure is the same on all four tires. If it's not, the ATV will pull towards the soft tire.
- When the vehicle has a winch, familiarize yourself with the methods to use this equipment safely.

Safe Job Procedures (SJP):

Operating

ATV's will be operated and maintained in accordance with manufacturer's recommendations.

Inspections

workers must follow the manufacturer's manual for a check list, and frequency for pre-ride and post-ride inspections. Document, sign and date the inspection log book and note any problems and any repairs completed.

Starting

1 Check that the transmission is in neutral or park (if equipped).
2 Set parking brake.

Parking

1 Always park on level ground, if at all possible. If there is no level ground, park crossways to the slope.
2 Always use the parking brake. If you're parking on a slope, use wheel chocks too, if necessary.

Towing

Refer to the manufacturer's manual for specific information about towing a trailer with your ATV.

Transporting and Securing

1 An ATV can be moved from place to place on a trailer or in the box of a full-sized pickup truck.
2 The ramps must have a non-slip surface, be sturdy enough to support the weight of the ATV and they must be securely attached to the truck or trailer.
3 When loading the ATV onto a trailer or truck, position the ramps for the ATV's tires, and secure the ramps with hooks and safety straps.
4 Centre the ATV at the ramps, and drive slowly up the ramps onto the trailer or truck.
5 Apply the parking brake and wheel chocks.
6 Always secure the ATV by tying it down, before driving off.
7 When unloading the ATV from a trailer or truck never ride the ATV backwards down the ramps. If a wheel starts to go off the ramp, you will not be able to jump off the ATV as it tips over.
8 From a standing position, with your hands on the handlebar controls roll the ATV backwards to the beginning of the slope of the ramps. Step down onto the ground alongside the ramp, and with your hands on the handlebar controls, continue to roll the ATV down along the ramps to the ground.

Unsafe Conditions

Workers must not ride an ATV that have been identified with unsafe conditions or acts and report it to their supervisor.

Preventative Maintenance

All maintenance or modifications of ATV's must be completed by an authorized dealer. Maintenance records/logs will be maintained and made available upon request.

Asbestos

Critical Task

Asbestos					2 Pages	Approved by	
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Policy:
The company ensure that an effective Asbestos Management Program is in place to actively manage and rigorously control all asbestos-containing materials that workers may be exposed to.

The company will have written, site-specific, Asbestos Control Program where friable material containing asbestos has been used in building construction. The program will comply with Ontario Regulation 837, R.R.O. 1990, and O. Reg. 838, R.R.O. 1990.

The company will be responsible for establishing the required Asbestos Control Program

The site-specific Asbestos Control Program documentation will be readily available on site.

Management will review the written Asbestos Control Program at least annually

Workers involved with asbestos operations will be trained in asbestos management procedures. Records of training will be readily available and will be retained for a minimum of four years.

Definition
Asbestos is any of the following fibrous silicates: actinolite, amosite, anthophyllite, chrysotile, crocidolite, or tremolite.

Asbestosis is a degenerative disease of the lungs.

Designated substance is a biological, chemical or physical agent or combination thereof prescribed as a designated substance to which the exposure of a worker is prohibited, regulated, restricted, limited or controlled.

Friable material is material that when dry can be crumbled, pulverized or powdered by hand pressure and includes such material that is crumbled, pulverized, or powdered.

Mesothelioma is an asbestos-related cancer of the chest and /or abdomen with diagnostic signs and symptoms similar to pleurisy.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All Asbestosis Mesothelioma Lung Cancer	A→C	• Perform a hazard assessment • Operator to be adequately trained. • Workers to receive written, oral and practical training. • Follow manufacture's instructions • Operators manual to be with the equipment • Proof of regular maintenance must be available. • Work in accordance with the company SJP	Hard Hat "Class E", CSA Approved Grade 1 Safety Boots, CSA Approved Respiratory Protection HEPA Vacuums Safety Gloves, A2 Glove Bags Safety Glasses, CSA Approved	Asbestos Work Task Policy and Procedures Operator's Manual Respirators Respirator Fit Test (Current and valid)
	A→C	• Perform a hazard assessment. • Only accredited professionals will work with Type II and Type III asbestos. • Wear PPE as required • When necessary, use High Efficiency Particulate Aerosol (HEPA) vacuums. • When required use glove bags • Ensure glove bags are strong and large enough to hold the materials being removed. • Ensure glove bags are not damaged or defective and that they make a proper seal. • When necessary, ensure that the work areas are separated from the rest of the jobsite using walls, barricades, fencing or other suitable means. • When necessary ensure the work area is sealed. • Work in accordance with the company Asbestos SWP		

Occupational Exposure Limits

There is no evidence of a "safe" level of exposure to asbestos, most jurisdictions have established occupational exposure limits for asbestos to be not more than 0.1 fibers per cubic centimeter (f/cm3).

Being exposed to 0.1 f/cm3 (or 100,000 fibers in each cubic metre of air) for an eight-hour day means that a worker can easily breathe in hundreds of thousands of asbestos fibers per day.

Sample List of Suspect Asbestos Containing Materials.

- Acoustical Plaster
- Adhesives
- Asphalt Floor Tile
- Base Flashing
- Blown-in (Loose fill) Insulation
- Boiler Insulation
- Breaching Insulation
- Caulking/Putties
- Ceiling Tiles and Lay-in Panels
- Electrical Panel Partitions
- High Temperature Gaskets
- HVAC Duct Insulation
- Vinyl Floor Tile
- Vinyl Wall Coverings
- Wallboard
- Joint Compounds
- Pipe Insulation
- Cement Pipes
- Cement Siding
- Cement Wallboard
- Cooling Towers
- Decorative Plaster
- Electrical Cloth

Health Effects

People are more likely to experience asbestos-related disorders when they are exposed to high concentrations of asbestos, are exposed for longer periods of time, and/or are exposed more often. Long-term inhalation of asbestos fibers also increases the risk of lung cancer and mesothelioma.

Regulation 838
Ontario Regulation 838 'Designated substance - Asbestos on Construction projects and in Buildings and Repair Operations is made under the Occupational Health and Safety Act' is made under the OHSA

This Regulation differs from the Designated Substances Regulation, by prescribing the methods and procedures that are to be used to protect workers rather than prescribing exposure limits.

Application
Regulation 838 applies to all workplaces to which the Occupational Health and Safety Act to include:

- Every project, its owner and to every constructor, employer and worker engaged in or on the project.
- The repair, alteration or maintenance of a building and to the owner thereof, and to every employer and worker engaged in such a repair
- Every building in which friable material that may contain asbestos has been used as fire proofing or as insulation and to the owner thereof.
- The demolition of machinery, equipment, ...,and to every employer and worker engaged in such a demolition.

Asbestos Types
Type 1 operations generally presents little hazard to workers or bystanders.
Type 2 operation may create exposure exceeding acceptable limits but work is of short duration.
Type 3 operation involves major exposures, exceeding acceptable limits, involving frequent or prolonged exposure, and posing serious risks to both workers and to bystanders.

Control Measures
The following four methods of controlling asbestos hazards will be used.:

D Preparation of the work area.
D Dust control.
D Personal protective clothing and equipment.
D Clean-up of the work area and waste removal.

Elements of an Asbestos Control Programs
The following are elements of an Asbestos Control Program that must be documented:

- A survey to identify all locations of concern and to determine asbestos type.
- The up-to-date record of all locations where friable material exists.
- A system to notify all workers and contractors who may disturb asbestos- containing materials about the potential asbestos risks.
- Procedures to implement Type 1, Type 2, or Type 3 operations as appropriate for maintenance, restoration, and renovation work by workers or contractors.
- Periodic inspections of friable materials to reassess conditions and the need for environmental sampling and remedial actions.
- Training and orientation programs for workers and contractors.
- The names of all persons trained and the dates of the training provided.
- An outline of any requirement for a medical surveillance program for asbestos workers.
- Workplace safety requirements, hygiene procedures, and PPE (e.g. disposable coveralls, respirators).
- Asbestos incident reporting procedures.
- Asbestos containment and disposal instructions.

Training
Workers who may work with or who may disturb friable or non-friable ACM in the course of their work will receive training prior to the commencement of work.

Every worker and supervisor of a worker involved in a Type 3 operation will successfully complete asbestos abatement training.

Workers will be trained in the selection, use, maintenance and storage of respirators.

Procedures for Type 1 and Type 2 Operations

TYPE 1 OPERATIONS

1 Visible dust removed from any surface in work area and the thing to be worked on by damp wiping or vacuuming with a HEPA filter-equipped vacuum before beginning work if dust on that surface is likely to be disturbed.
2 Specified drop sheets or other measures appropriate to work being done used to stop the spread of dust from the work area.
3 Wetting agent added to water used to control the spread of dust.
4 Wetting of less than one square metre of drywall in which drywall compounds containing ACM have been used unless wetting would create a hazard or cause damage.
5 No eating, drinking, chewing or smoking in work area.
6 Compressed air not used to clean up or remove dust from any surface .
7 Dust and waste cleaned up frequently and at regular intervals using vacuum with Hepa filter or by damp mopping or wet sweeping.
8 Drop sheets placed in dust-tight containers that are suitable for the type of waste, impervious to asbestos and identified as asbestos waste.
9 Rigid barriers and portable enclosures that can be cleaned thoroughly may be reused if they are cleaned using a vacuum equipped with a HEPA filter or by damp wiping.
10 Drop sheets, polyethylene sheeting and similar materials used for barriers and enclosures will not be reused and will be wetted and placed in prescribed asbestos waste containers.
11 Facilities for washing the hands and face will be provided to workers.
12 Every worker will use the facilities for washing the hands and face when leaving the work area.

Additional Requirements for Type 1 Operations Where a Worker Requests a Respirator or Protective Clothing

1 If a worker requests a respirator the employer must provide a CSA approved air purifying half-mask respirator with N-100, R-100 or P-100 particulate filter as set out in Table 2, and the worker must wear and use the respirator.
2 The respirator must be fitted so there is an effective seal between the respirator and the worker's face unless the respirator is equipped with a hood or helmet.
3 The respirator must be assigned to the worker for exclusive use, if practicable.
4 The respirator must be used and maintained as per the employer's written procedures that comply with the manufacturer's specifications.
5 A respirator issued for the exclusive use of one worker must be cleaned, disinfected and inspected after use on each shift, or more often if necessary.
6 A respirator that is used by more than one worker must be cleaned, disinfected and inspected after use.
7 Damaged or deteriorated parts must be replaced immediately.
8 A respirator must be stored in a convenient, clean and sanitary location.
9 If respirators are used in the workplace the employer must establish written procedures regarding the selection, care and use of respirators.
10 A copy of the procedures will be given to and reviewed with workers required to wear a respirator.
11 A worker will not be assigned to an operation that requires the use of a respirator unless he or she is physically able to perform the operation while wearing the respirator.
12 If a worker requests protective clothing the employer must provide clothing as required by section 15, paragraph 12 and the worker must wear it.
13 A worker who is provided with protective clothing will, before leaving the work area, decontaminate the protective clothing using a vacuum equipped with a HEPA filter, or by damp wiping, before removing the protective clothing.
14 Protective clothing that will not be reused must be placed in a waste container.

TYPE 2 OPERATIONS

1 Signs warning of an asbestos dust hazard must be posted and must be in sufficient numbers to warn of the hazard.
2 Clearly visible signs must say that access to the work area is restricted to persons wearing protective clothing and equipment and that there is an asbestos hazard.
3 Subject to paragraph 5 of section 16, drop sheets made of polyethylene or other material that is impervious to asbestos or other measures appropriate to the work must be used to control the spread of dust from a work area.

Note: The following 5 items apply only to the preparation of the work area for Type 2 operations i.e., the removal of a false

1 When removing all or part of a false ceiling where ACM may be lying on the top surface of the ceiling tiles (paragraph 1 subsection 12(3), friable ACM that is likely to be disturbed must be removed by damp wiping or vacuuming with HEPA filter-equipped vacuum once the space above the false ceiling has been accessed.
2 Before beginning work that is likely to disturb friable ACM , the friable material must be cleaned up by damp wiping or HEPA vacuuming.
3 If the operation is carried on indoors the spread of dust from the work area must be prevented, if practicable, using an enclosure made of material that is impervious to asbestos.
4 If the operation is carried on indoors the spread of dust from the work area must be prevented, if practicable, by disabling the mechanical ventilation system serving the area.
5 If the operation is carried on indoors the spread of dust from the work area must be prevented, if practicable, by sealing the ventilation ducts to and from the work area.

Additional Requirements for Type 2 Operations

1 A wetting agent must be added to water used to control the spread of dust and fibers.
2 Eating, drinking, chewing or smoking must not be permitted in the work area.
3 Friable ACM will be thoroughly wetted and kept wet unless wetting would create hazard or damage.
4 Before commencing work on friable ACM that is crumbled, pulverized or powdered and is lying on any surface, it will be cleaned up and removed by damp wiping or HEPA vacuuming.
5 Compressed air must not be used to clean up and remove dust from any surface.
6 Containers for dust and waste must be dust tight, suitable for the type of waste, impervious to asbestos and identified as asbestos waste.
7 Frequently and at regular intervals during the work and immediately upon completion of the work dust and waste must be cleaned up and removed by damp mopping, wet sweeping or HEPA vacuuming and placed in a prescribed asbestos waste container.
8 Prescribed containers for asbestos waste must be cleaned with a damp cloth or by HEPA vacuuming immediately before being removed from the work area.
9 Prescribed containers for asbestos waste must be removed from the workplace frequently.
10 When asbestos dust and waste have been cleaned up and removed upon completion of the work drop sheets must be wetted and placed in a prescribed asbestos waste container as soon as practicable.
11 Drop sheets must not be reused.
12 After the completion of the work polyethylene sheeting and similar materials used for barriers and enclosures will be wetted and placed in an asbestos waste container as soon as practicable.
13 Barriers and enclosures must not be reused unless they are rigid and can be cleaned thoroughly.
14 After the work is completed, barriers and enclosures that will be reused must be cleaned by damp wiping or HEPA vacuuming as soon as practicable.

Glove Bag Operations-Notifications

Before beginning a glove bag removal of one square metre or more of insulation the constructor or employer must notify an inspector at the office of the Ministry of Labour nearest the workplace orally and in writing

Glove Bag Operations-Preparation of the Work Area

1 The work area must be separated from the rest of the workplace by walls, barricades, fencing or other suitable means.
2 The spread of ACM from the work area must be prevented by disabling the mechanical ventilation system serving the work area.
3 The spread of ACM from the work area must be prevented by sealing all openings or voids, including ventilation ducts to and from the work area.
4 Surfaces below the work area must be covered with drop sheets made of polyethylene or other material that is impervious to asbestos.

Glove Bag Operations-Preparation of the Work Area

1 Glove bags must be made of material that is impervious to asbestos and strong enough to support the weight of material that the bag will hold.
2 Glove bags must have sleeves and gloves permanently sealed to the body of the bag to allow the worker to access and deal with the insulation.
3 Glove bags must maintain a sealed enclosure throughout the work and allow the worker access to deal with the insulation.
4 Glove bags must be equipped with valves or openings to allow insertion of a vacuum hose and the nozzle of a water sprayer while maintaining the seal to the pipe or other structure that is being worked on.
5 Glove bags must be equipped with a tool pouch with a drain.
6 Glove bags must have a seamless bottom and a means of sealing off the lower portion of the bag.
7 Glove bags must have a high strength double throw zipper and removable straps if the bag is to be moved during the operation.

Glove Bag Operations-Restrictions on Use

1 Glove bags must not be used to remove insulation from a pipe, duct or similar structure if it may not be possible to maintain a proper seal for any reason.
2 Glove bags must not be used if the glove bag could be damaged for any reason.

Glove Bag Operations-Work Practices

1 The insulation jacketing/coating must be inspected prior to the glove bag being attached.
2 Damage or defects in insulation jacketing or coatings must be repaired before the glove bag is attached.
3 Glove bags must be inspected for damage or defects immediately before it is attached to the pipe, duct or other
4 Glove bags must be inspected for damage or defects at regular intervals while it is in use.
5 Upon inspection glove bags that are found to be damaged before being attached to the pipe or other structure must not be used and must be disposed of.
6 If a glove bag is found to be damaged during use, the use of the glove bag must be stopped.
7 If a glove bag is found to be damaged during use the inner surface of the glove bag and its contents must be wetted.
8 Once the inner surface and the contents of the damaged or defective glove bag have been wetted the bag and its contents must be removed and placed in a prescribed asbestos waste container.
9 Once the damaged or defective glove bag has been removed and discarded the work area must be cleaned by HEPA vacuuming before the removal work continues.
10 When the removal has been completed the inner surface of the glove bag and the waste inside must be thoroughly wetted.
11 When the inner surface of the glove bag and the waste have been thoroughly wetted the air inside the bag must be removed through an elasticized valve using a HEPA vacuum.
12 When the air has been removed from the glove bag the pipe, duct or other structure must be wiped down and sealed with a suitable encapsulate.
13 Once the duct or other structure has been wiped down and sealed the glove bag with the waste inside must be placed in a prescribed asbestos waste container.
14 Once the glove bag has been removed and discarded the work area must be cleaned by damp wiping or HEPA vacuuming.

Protective Clothing and Equipment

1 Only persons wearing PPE may enter a work area where there is an asbestos dust hazard.
2 Protective clothing must be provided by the employer and worn by workers who enters the work area.
3 The protective clothing will be made of a material that does not readily retain or permit penetration of asbestos fibers.
4 The protective clothing must consist of head covering and full body covering that fits snugly at the ankles, wrists and neck.
5 The protective clothing must include suitable footwear.
6 The protective clothing must be repaired or replaced if torn.
7 Protective clothing must be decontaminated by damp wiping or HEPA vacuuming before leaving the work area.
8 Protective clothing that will not be reused must be decontaminated, placed in a prescribed container.
9 The employer must provide every worker who will enter the work area with a CSA approved respirator in accordance with Table 2 of the Regulation.
10 The worker must wear and use the respirator provided by the employer.
11 The employer must establish written procedures for the selection, care and use of respirators.
12 A copy of the procedures must be given to and reviewed with each worker required to wear a respirator.
13 A worker must not be assigned to do work requiring the use of a respirator unless the worker is physically able to do the work while wearing the respirator.
14 Respirators must be fitted so that there is an effective seal between the respirator and the worker's face, unless the respirator is a hood or helmet type.
15 Respirators must be assigned to a worker for his or her exclusive use, if practicable.
16 Respirators must be used and maintained in accordance with written procedures that are consistent with the manufacturer's specifications.
17 Respirators that are assigned to one worker must be cleaned, disinfected and inspected at least after use on each shift.
18 Respirators that are used by more than one worker must be cleaned, disinfected and inspected after use.
19 Damaged or deteriorated respirator parts must be replaced before the respirator is used by a worker.
20 Respirators must be stored in a convenient, clean and sanitary location when not in use.
21 Workers must receive training in the use, cleaning and disposal of respirators and protective clothing.
22 The respirator training must include the limitations of the equipment, inspection and maintenance, proper fitting and cleaning and disinfection.

Other Measures and Procedures Applicable to All Types of Operations

1 The employer must ensure that every worker who works on a Type 1, Type 2 or Type 3 operation receives training and instruction on the hazards of asbestos exposure, personal hygiene and work practices and the use, cleaning and disposal of respirators and protective clothing.
2 The JHSC or health and safety representative must be advised of the time and place of the training.
3 The employer must complete an asbestos work report (Form 1) for each worker working in a Type 2 or 3 operation at least once in each 12 month period and upon termination of the worker's employment.
4 The employer must give a copy of the asbestos work report to the worker and to the Provincial Physician, MOL.
5 A constructor for a project or employer may vary a measure or procedure if the varied measure or procedure affords protection for the health and safety of workers that is at least equal to the protection that would be provided by complying with the measure or procedure specified in the Regulation AND if the constructor or employer gives advance written notice of the varied measure or procedure to the joint health and safety committee or the health and safety representative for the workplace.
6 Any written notice required by the Regulation may be given to the Ministry inspector by delivering it to the office in person.
7 Written notice may be given to the Ministry inspector by sending it by ordinary mail, or by courier.
8 Written notice may be given to the Ministry inspector by electronic acceptable to the Ministry.
9 Required oral notice to the Ministry inspector may be given in person.
10 Required oral notice to the Ministry inspector may be given by telephoning the inspector.
11 Oral notice to the Ministry inspector may be given by electronic means acceptable to the Ministry.

Confined Spaces

Critical Task

Confined Spaces				2 Pages	Approved by	
Identifier	**Revision**	**Original Date**	**Revision Date**	**Effective Date**	Name:	Ken Crawford
					Position:	President
					Date:	January 31, 2023
WT4	A	January 9, 2019	January 31, 2023	August 6, 2020		

Policy:
It is the goal of C&M Electric to ensure that an effective Confined Space Program is in place to actively manage and rigorously control all work required to be performed within a confined space.

Due to the work performed there are occasions where workers must enter spaces that, due to various chemical and physical properties, may cause death or serious injury to workers who may enter them.

As of July 1, 2011, the confined space requirements that were found in four sector-specific regulations under the Occupational Health and Safety Act (OHSA) have been consolidated into the Confined Spaces Regulation (O. Reg. 632/05). Every effort will be made by the company to identify, evaluate and control such spaces and, more importantly, to detail procedures and responsibilities for entering and working within confined spaces.

Adherence to the policies and procedures outlined in this program is mandatory for all supervisors and workers. Supervisors and workers failing to follow this program are subject to disciplinary action and/or dismissal.

Definition:
Confined Spaces can be described as places that meet **all three** of the following criteria:

- Partially or fully enclosed;
- Not designed nor constructed for continuous human occupancy;
- In which atmospheric hazards may occur because of its construction, location, or contents or because of work that is

Occupational Exposure Limits (OELs):
OELs must be determined prior to workers being exposed to airborne concentrations of hazardous biological or chemical agents.

The worker should not proceed without consulting the supervisor. The supervisor will not allow work to continue until adequate safety

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All Asphyxiation	A→C	• Perform a hazard assessment • Operator to be adequately trained.	Hard Hat "Class E", CSA Approved Grade 1 Safety Boots, CSA Approved Face Shield Safety Glasses, CSA Approved SCBA Communication Device Protective Gloves, A2 Full Body Harness	Confined Spaces Work Task Policy and Procedures Operator's Manual Confined Space Entry First Aid Working at Heights WHMIS
Presence of gases.		• Initial test at the start of each shift (O2, L.E.L. and CO).. • A log will be kept of all gas test results. • Initial test at the start of each shift (O2, L.E.L. and CO).. • Re – test at times determined on the Confined Space Permit. • Periodic inspections by supervision during shift.		
Fire		• Propane and Natural Gas appliances are prohibited from use in all confined spaces. • Fire protection to be readily available.		
Poisoning Hazardous materials exposure Flammable/explosive atmosphere High noise levels. Musculoskeletal injuries (MSI)		• Workers to receive written, oral and practical training. • Follow manufacture's instructions • Operators manual to be with the equipment • Proof of regular maintenance must be available. • Work in accordance with the company SJP		
High radiation levels.	A → C	• Perform a hazard assessment. • Upon the completion of the hazard a assessment a confine space plan and permit will be prepared.. • When required lockout procedures are to be used. • Entry into a confined s[ace will not be permitted without a Confined Space Permit. • Rescue equipment will be readily available at a Class "B" confined space. • Equipment to be inspected for defects prior to use. • Equipment to be maintained by competent person in accordance with manufacturer's instructions. • Adequate PPE to be worn. • Entry into a confined space is not permitted without the presence of an attendant. • The company confined space policy and procedures are to be followed at all times. • Only workers adequately trained and authorized will enter a confined space. • Only workers trained in first aid and CPR will work in or around a confined space. • At all times workers will have a suitable means of		
Presence of gases.	A→C	• Initial test at the start of each shift (O2, L.E.L. and CO).. • A log will be kept of all gas test results. • Initial test at the start of each shift (O2, L.E.L. and CO).. • Re – test at times determined on the Confined Space Permit. • Periodic inspections by supervision during shift.		
Fire	A→C	• Propane and Natural Gas appliances are prohibited from use in all confined spaces. • Fire protection to be readily available.		

Management Responsibilities:

Management will, as per the relevant plan, ensure workers entering a confined space are adequately protected:

- Against the release of hazardous substances into the confined space, by blanking or disconnecting piping (or if not practical in the circumstances for technical reasons, by other adequate means).
- Against contact with electrical energy inside the confined space that could endanger the worker by disconnecting, de-energizing, locking out and tagging the source of electrical energy (or if compliance is not practical in the circumstances for technical reasons, by other adequate means).

- Against contact with moving parts of equipment inside the confined space that could endanger the worker by disconnecting the equipment from its power source, de-energizing the equipment, locking it out and tagging it (or if compliance is not practical in the circumstances for technical reasons, by immobilizing the equipment by blocking or other
- Against drowning, engulfment, entrapment, suffocation and other hazards from free-flowing material, by adequate

Management will:

- Evaluate the workplace and identify confined spaces.
- Every worker who enters a confined space or who performs related work will be given adequate training for safe work practices, including training in the recognition of hazards associated with confined spaces. Training may be performed in-house or by a 3rd Party.
- Determine if and who will or will not enter the confined space. All workers involved in the plan must be competent workers.
- Designate a competent person as the supervisor of the *confined space entry plan*.
- Provide all specified equipment required for entry into the confined space.
- Ensure that the equipment is in good working order and that all entry workers are trained in its use.
- When more than one company will be sending workers into a confined space, coordinate *confined space entry plan* and procedures prior to entry. Document all aspects of the coordination.
- Before a worker enters a confined space, management will ensure that an adequate number of persons trained are available for immediate implementation of the on-site rescue procedures. Management will ensure that the rescue

Supervisor Responsibilities:

- Understand all elements of the *Confined Space Plan*.
- Ensure that all parties are adequately trained to perform their duties.
- Adequate PPE, testing & monitoring equipment & rescue equipment is available& in good working order.
- Ensure that air quality testing is ongoing whenever a worker is within the confined space.
- Ensure that no unauthorized workers enter the confined space.

Worker Responsibilities:

- Not enter or re-enter a confined space without proof that testing has been completed.
- Know the hazards that they may face upon entry. Know the route of exposure (i.e. inhalation or skin absorption),
- Attend and complete any scheduled training required by the supervisor and this program.
- Know how to properly use the equipment, including PPE and tools.
- Maintain communication with the attendant so that the attendant can monitor the workers' safety and be able to alert workers to evacuate the confined space.
- Alert the attendant when:
  - A dangerous condition is observed;
  - Any warning sign or symptom of exposure is recognized;
  - Any alarm is activated.
- Get out of the confined space immediately when:
  - A warning system indicates a ventilation failure is activated;
  - The attendant gives an evacuation order;
  - The worker recognizes any signs or symptoms of exposure;
  - Any person inside the confined space detects a dangerous condition.
  - An evacuation alarm is activated.

Attendant Responsibility:

Whenever a worker is to enter a confined space, Management will ensure that an attendant:

- Is assigned.
- Is stationed outside and near the entrance to the confined space, or if there are two or more entrances, the one that will best allow the attendant to perform his or her duties.
- Is in constant communication with all workers inside the confined space, using the means of communication described in the relevant plan.
- Is provided with a device for summoning an adequate rescue response.

The attendant will not enter the confined space at any time and will, in accordance with the relevant plan, (a) monitor the safety of the worker inside; (b) provide assistance to him or her; and (c) summon an adequate rescue response if required.

- Monitor the safety of the worker inside.
- Provide assistance to him or her.
- Summon an adequate rescue response if required.
- Be present whenever a worker enters a confined space.
- Never, under any circumstance, enter the confined space.
- Be in constant communication (visual or oral) with all workers within the confined space.
- Monitor the safety of the workers within the confined space.
- Provide assistance as necessary – but to remain outside of the confined space.
- Be equipped with a device for summoning help in case of an emergency i.e. air horn, whistle.
- Initiate an adequate rescue procedure in case of an emergency.

Rescuer Responsibility:

- Be present whenever a worker enters a confined space.
- Have training in:
  - The confined space plan.
  - The specific rescue plan.
  - Use of the rescue equipment required implementing the rescue.
  - First Aid/CPR.

Requirements for Competency

Management will appoint a person with adequate knowledge, training, and experience to perform adequate tests as often as necessary before and while a worker is in a confined space to ensure that acceptable atmospheric levels are maintained in the confined space in accordance with the relevant plan.

If the confined space has been both unoccupied and unattended, tests will be performed before a worker enters /re-enters.

The person performing the tests will use calibrated instruments that are in good working order and are appropriate for the hazards identified in the relevant assessment.

Management will ensure that the results of every sample of a test are recorded.

When the tests are performed using continuous monitoring, test results will be recorded at adequate intervals.

The tests will be performed such that does not endanger the health or safety of the person performing them.
The company will only authorize certain workers to enter a confined space. These workers will be deemed to be "competent" to enter the confined space only when the following criteria have been met:

- Training in all elements of the *Confined Space Program* has been successfully completed.
- Completion of a *Confined Spaces Awareness* course which includes:
  - All legal requirements concerning confined spaces as outlined in the OHSA and applicable Regulations - specifically Sections 221.1 – 221.19 as well as any other Sections that may apply.
  - All of the potential and actual dangers to health and safety that may occur within confined spaces.
- Training in:
  - The identification of hazards related to confined spaces.
  - Safe work practices concerning confined spaces.
  - Proper use of and need for PPE specific to confined spaces.
  - Proper use of equipment, such as monitors, communication equipment that will be used in confined spaces.
  - Emergency Rescue procedures and the equipment necessary to execute a rescue efficiently and in a timely manner.
- Experience in confined space work. If a worker has only received technical training experience through a training program and has no practical experience working in confined spaces, they will be teamed with a worker who has both technically and practically experienced.

Confined Spaces Program

Management will (for each identified confined space):

- Recognize and identify confined space work location.
- Identify and assess the hazards to which a worker **may** be exposed.
- Develop a plan for controlling those hazards and emergency rescue procedures.
- Provide confined spaces training for employees to ensure:
  - Identification of the hazards.
  - Communication of site-specific safe work practices.
  - Proper understanding and use of necessary PPE and other equipment.
  - Understanding and execution of the *Rescue Plan*.
- Establish an *Entry Permit System*.

Recognizing and Identifying a Confined Space

A work location is a confined space when it meets all of the following three criteria:

- It is partially or fully enclosed which might limit air movement and allows hazardous atmospheric conditions to develop within the space.
- The space where the work is to be done has not been designed or constructed for people to work or reside in on an ongoing basis. Vaults, chambers, vessels and tanks would be confined spaces while houses, apartment buildings and office buildings would not.
- Atmospheric hazards may be present. A hazardous atmosphere is one which contains any of the following:
  - An accumulation of flammable, combustible or explosive agents.
  - Too little oxygen (less that 19.5%) or too much oxygen (more than 23%)
  - An accumulation of any atmospheric contaminant(s) that could result in acute (short-term) health effects which:
    - Pose an immediate threat to life, or
    - Interfere with a person's ability to escape unaided from a confined space. For example mental confusion or temporary paralysis might limit a person's ability to escape.

If the work area in question meets any of the above criteria, then it has been identified as a confined space and a *Confined Space Plan* must be developed. If the work area in question does not meet the requirements of a confined space, then it may be considered a hazardous workplace that may only require ventilation in accordance with sections 46–48 in the Regulations for Construction Projects.

Assessing Confined Spaces Hazards

Once a confined space has been identified, C&M Electric will assess the confined space to establish if atmospheric hazards are

- Only trained workers, who have been authorized in writing, will be permitted to conduct a hazard assessment.
- Hazard assessments will consider existing and potential hazards - See Appendix "A".
- Hazard assessments will consider atmospheric and physical hazards.
- Results will be recorded on a C&M Electric Hazard Assessment Form.
- Completed *Hazard Assessment* Forms will be distributed to management, the supervisor, the site supervisor and any other party directly involved with or working in close proximity to the confined space.

Rescue Procedures:

Non-entry rescue is the preferred method for rescue of workers from a confined space. Workers will not enter a confined space for rescue unless they have been specifically trained and equipped for such rescue.

To facilitate non-entry rescue, retrieval systems or methods will be used whenever an authorized worker enters a confined space. If the retrieval equipment would increase the overall risk of entry or if it would be of no value to a rescue then it need not be used.

Retrieval System

- Each entrant will use a chest or full body harness, with retrieval line attached at the center of the back near shoulder level or other appropriate point.
- The other end of the retrieval line will be attached to a mechanical device or fixed point outside of the confined space to ensure immediate use.
- Wherever possible, a mechanical device will be used to retrieve workers from vertical type confined spaces more than five feet deep.
- If the injured worker has been exposed to any substance with a required SDS, that SDS will be made available to the medical facility treating the worker.
- If rescue should become necessary, the attendant will:
    - Using the designated method of communication, notify and summon the rescue team.
    - Attempt non-entry rescue procedures to the extent possible by the circumstances.
    - Monitor the situation and be ready to give rescuers information on how many victims and their status, what hazards, chemical types and concentrations, etc. are present.

- Executing the rescue:
    - Only designated workers will enter the confined space for rescue purposes.
    - A rescue will be executed as the plan dictates.
    - Rescue workers will be trained on:
        - Use of personal protective and rescue equipment necessary for executing a successful rescue from the confined space.
        - Performance of assigned rescue duties and will also be trained in the required work tasks of authorized workers.
        - Basic first aid and CPR.
    - Rescue team member will practice making confined rescues, at least once a year, by means of simulated rescue operations and in spaces representative of the types of confined spaces from which rescue is to be performed.

Rescue Equipment:

Rescue equipment will be:

- Readily available.
- Appropriate for each specific confined space.
- Of such size that it may easily be transported into the confined space, if necessary.
- Inspected by a competent person prior to entry of the confined space. A written record of the inspection will be kept readily available.

PPE and Protective Clothing:

The company will:

- Determine what PPE and protective clothing will be adequate to protect all workers while in or around the confined
- Provide the equipment and clothing necessary to protect the worker.
- Ensure that the workers are trained in the use of the equipment and/or clothing.
- Ensure the equipment provided is of the correct size and fit for each worker.
- Ensure that workers never use single strap dust masks in place of a more effective respirator.

Access and Egress:

Management will take into consideration the means of entry and exit into the confined space to ensure:

- Workers can safely enter and exit the confined space.
- If special equipment is necessary to provide entry, such as ladders or ramps, that the equipment is available and safely installed and used.
- That the method of access/egress is adequate to allow rescuers and required rescue equipment to perform a successful rescue.

Atmospheric Testing:
Management will ensure that explosive and combustible substances within a confined space are controlled through ventilation, purging, rendering the atmosphere inert, or other adequate means, in accordance with the relevant plan.

If the hazard assessment determines an atmospheric hazard exists, the company will ensure that:

- A competent person is assigned to perform air quality testing.
- Where multiple hazards or the potential for multiple hazards exist - i.e. explosive and atmospheric hazards - that testing will be performed for each possible hazardous condition. If multiple hazards are suspected then, when possible, a multi-gas monitor capable of measuring oxygen, combustibles and toxic gases simultaneously will be used.
- Testing equipment is properly calibrated and in proper working order before use.
- The tester is trained in the operation, calibration and maintenance of the testing equipment.
- Testing takes place prior to entering the confined space and periodically, as determined necessary, whenever
- Testing prior to re-entry is performed whenever a confined space has been unoccupied by workers.
- Tests are taken at multiple levels - i.e. bottom, mid-level, top and corners.
- Each and every result of all samples of a test is recorded on the *entry permit* .
- If test measurements are approaching hazardous levels, that the workers will be evacuated until acceptable

Combustible, Explosive or Flammable Atmospheres:
Management will ensure that explosive and combustible substances within a confined space are controlled through ventilation, purging, rendering the atmosphere inert, or other adequate means, in accordance with the relevant plan.

Management will ensure that no worker enters or remains in a confined space that contains or is likely to contain an airborne combustible dust or mist whose atmospheric concentration may create a hazard of explosion.

Management will ensure that no worker enters or remains in a confined space that contains or is likely to contain an explosive or flammable gas or vapour, unless one of the following applies:

- The worker is performing only inspection work that does not produce a source of ignition. In the case of an explosive or flammable gas or vapour, the atmospheric concentration is less than 25 per cent of its lower explosive limit, as determined by a combustible gas instrument.
- The worker is performing only cold work. In the case of an explosive or flammable gas or vapour, the atmospheric concentration is less than 10 per cent of its lower explosive limit, as determined by a combustible gas instrument.
- If the worker is performing hot work, the atmospheric concentration is less than 5 per cent of its lower explosive limit, as determined by a combustible gas instrument.

No worker will be allowed to enter a confined space if airborne combustible dust or mist is present in a concentration sufficient for explosion.

Ventilation/Purging:
If atmospheric hazards exist or are likely to exist in a confined space, the confined space will be purged, ventilated or both, before any worker enters it, to ensure that acceptable atmospheric levels are maintained in the confined space while any worker is inside. If compliance is not practical in the circumstances for technical reasons, a worker entering the confined space will use adequate respiratory protective equipment.

Management will ensure that explosive and combustible substances within a confined space are controlled through ventilation, purging, rendering the atmosphere inert, or other adequate means, in accordance with the relevant plan.

Management will ensure that no worker enters or remains in a confined space that contains or is likely to contain an airborne combustible dust or mist whose atmospheric concentration may create a hazard of explosion.

Management will ensure that no worker enters or remains in a confined space that contains or is likely to contain an explosive or flammable gas or vapour, unless one of the following applies: 1. 2. 3. If the worker is performing hot work, the atmospheric concentration is less than 5 per cent of its lower explosive limit, as determined by a combustible gas instrument.

- The worker is performing only inspection work that does not produce a source of ignition. In the case of an explosive or flammable gas or vapour, the atmospheric concentration is less than 25 per cent of its lower explosive limit, as determined by a combustible gas instrument.
- The worker is performing only cold work. In the case of an explosive or flammable gas or vapour, the atmospheric concentration is less than 10 per cent of its lower explosive limit, as determined by a combustible gas instrument.
- If the worker is performing hot work, the atmospheric concentration is less than 5 per cent of its lower explosive limit, as determined by a combustible gas instrument.

Whenever possible, ventilating or purging a work area to remove hazardous atmospheres will be the preferred method of controlling atmospheric conditions. The company ensures that:

- Only equipment adequate to suck out the bad air and push in good air, to establish and sustain a safe atmosphere, will be used.
- The expunged air is expelled in a way that it will not be discharged into another work space endangering other workers.

Entry Permits:

An entry permit may only be issued by the president of the company or any person designated by the company to do so. No entry will be permitted into a confined space before and until a permit is issued. In every instance, requiring work within an identified confined space, C&M Electric will develop a Confined Space Plan specific to the situation. Only when every aspect of the plan has been fully developed will a Confined Space Entry Permit be issued. Permits will only be issued to trained and qualified workers who have been identified in the plan and assigned to a designated role.

- Once a site-specific C*onfined Space Plan* has been completed in full, a worker will obtain an *entry permit* from the supervisor prior to entry of the confined space.
- The supervisor will ensure that all pre-permit actions required for entering the confined space, such as atmospheric testing, hazard assessment and control actions and rescue procedures have been accomplished.
- The supervisor will ensue that the *entry permit* has been completed infull.
- The supervisor will authorize entry, by signing the *permit* .
- A signed copy of the *permit* will be posted near the entrance to the confined space.
- Work will commence and continue in a manner consistent with the *plan*.

Management will ensure that a separate entry permit is issued each time work is to be performed in a confined space, before any worker enters the confined space. An entry permit will be adequate and will include at least the following: 1. The location of the

- The location of the confined space.
- A description of the work to be performed there.
- A description of the hazards and the corresponding control measures.
- The time period for which the entry permit applies.
- The name of the attendant.
- A record of each worker's entries and exits.
- A list of the equipment required for entry and rescue, and verification that the equipment is in good working order.
- Results obtained in atmospheric testing.
- If the work to be performed in the confined space includes hot work, adequate provisions for the hot work and corresponding control measures.

Record Keeping

Management will file and retain copies of completed Entry Permits for a minimum of four years.

Evaluation:

C&M Electric will keep any and all Confined Spaces Plans for not less than one year. These plans will be evaluated after the work for which the plan was developed is completed. Evaluations serve as helpful tools in the perfecting of future plans.

Safe Job Procedures (SJP):

Pre-entry Procedure

1 Perform a Hazard Assessment
   a All confined spaces must be identified and inventoried.
   b A hazard assessment must be completed for each confined space identified prior to any worker entering a confined space. The hazard assessment must take into consideration the atmosphere, all actual and potential safety hazards, the type of work to be performed, and human factors.
   c Controls & safe work procedures must be developed in writing prior to entering a confined space.

2 Work Permit
   a Workers entering a confined space must complete a work permit to verify that all hazards and protective measures are taken into consideration.
   b The completed Permit must be submitted to, and signed by the Supervisor prior to proceeding.

3 Lockout
   a All mechanical equipment in the confined space must be locked out to prevent accidental startup. This includes electrical, mechanical, steam, compressed gas, hydraulic, wind and radiation devices.

4 Blanking Off

Means the absolute closure of a pipe, line, or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.

   a Before a worker enters a confined space:
      i piping containing hazardous substances or substances under pressure, or so located to allow hazardous substances to enter such space, will be disconnected, blanked or blinded off; or
      ii where it is impractical to employ blanks or blinds, as in welded piping systems, written work procedures will be developed and implemented to ensure equivalent protection to all workers exposed to the hazard,
      iii the closing of a valve or any line will not be acceptable as a substitute for blanking or blinding
   b When blanking or blinding a piping system, blanks or blinds will be of sufficient strength and so installed as to provide adequate safety for the particular conditions of anticipated pressure, temperature and service.
   c Visual indication that a blank or blind has been installed will be provided at the point of installation.
   d When required, a gasket will be installed on the pressure side of blanks or blinds and flanges will be tightened to make the blanks or blinds effective.
   e Where threaded lines are used, threaded plugs or caps will be used to blank the lines.
   f Records will be kept which identify the blanked lines and the locations of blanks and blinds.
      i All lines and systems which may permit entry of hazardous materials into a confined space must be blanked off.
      ii If blanking off is impractical, written safe work procedures will be developed and communicated to ensure workers are trained and educated to conduct work safely.

5 Atmosphere Testing and Monitoring
   a Before entering a confined space, the atmosphere must be tested for the presence of hazardous materials such as explosive and toxic gases and oxygen levels.
   b The atmosphere within the confined space must be tested *from outside of the confined space*. Care should be taken to ensure that air is tested throughout the confined space – side-to-side and top to bottom. This must be conducted by a worker trained to use the monitoring equipment. Training must include instrument calibration, maintenance, interpretation of readings and warning signals.
   c Equipment service log books must be maintained for all pieces of monitoring equipment.
   d The results of the tests are to be recorded on the Entry Permit, along with the equipment or method(s) that were used in performing the tests. Atmosphere testing may need to be ongoing depending on the nature of the potential hazards and the nature of the work. Conditions can change while workers are inside the confined space and sometimes a hazardous atmosphere is created by the work activities in the confined space.
   e When the atmosphere tested indicates the presence of hazardous materials such as explosive and toxic gases and abnormal oxygen levels, workers are prohibited from proceeding with work until further action is taken.

6 Work Requirements
- a Confined spaces will not be entered unless absolutely necessary.
- b No worker will enter a confined space if working alone.
- c No worker will enter a confined space unless the hazards are identified, safe work procedures are followed, and a qualified worker, experienced and trained in all aspects of confined space work is present to supervise the work.
- d A standby worker must be available to monitor the worker(s) in the confined space at all times. If the standby worker must leave, even for a few moments, the worker s must leave the confined space unless a competent replacement stand by worker is present.
- e A communication system must be in place between the worker in the confined space and the standby worker.
- f A communication system must be provided from the worksite to Emergency Services.

7 Safety Equipment
- a A worker entering a confined space will be equipped with all safety apparatus, testing and monitoring equipment, relevant to the confined space.

8 Rescue
- a Confined spaces must be considered Immediately Hazardous to Life and Health unless demonstrated otherwise.
- b Emergency rescue procedures must be planned and prepared prior to confined entry work.
- c No employee will attempt a rescue of another person in a confined space unless they have been trained to do so and all safety measures and precautions are taken.

9 Training
- a Workers required to enter confined spaces must be trained in the associated hazards, control measures, and emergency procedures.
- b Training of workers entering and working in confined spaces is critical. To ensure safety of workers, training will be designed specifically for the type of confined space involved and will cover the following, where applicable:
  - i fundamentals of hazard/risk assessment
  - ii lockout/blanking off procedures
  - iii monitoring equipment and use
  - iv safety equipment use
  - v emergency entry/exit (rescue) procedures
  - vi communications
  - vii first aid and CPR
  - viii safe work practices and procedures
  - ix fire protection
  - x rescue drills

General Entry Procedure

1 Where the atmosphere testing and/or monitoring results indicate unsafe conditions, the confined space will be ventilated and/or cleaned and re-tested to ensure all parameters meet acceptable levels prior to a worker entering the confined

2 Where test results indicate unsafe conditions and it is not possible to provide a safe, respirable atmosphere, then:
- a the worker entering the confined space will wear respiratory protection equipment
- b the concentration of flammable substances will be maintained safely below the lower explosive limit (LEL) of that substance or substances, and determined by repeated testing
- c where flammable or explosive gases or liquids are present, all sources of ignition will be eliminated or controlled

3 A worker who is required and permitted to enter a confined space in which a harmful condition exists, may develop or
- a wear a safety harness of a type which will keep the worker in a position to permit rescue
- b have a life-line attached to the harness which is tended at all times by the trained standby worker, stationed outside the entrance to the confined space, who will be equipped for, and capable of effecting rescue

4 Where one or more workers enter a confined space, provision will be made to prevent the entanglement of life-lines and other equipment.

5 A worker entering a confined space will be:
- a attended by, and in communication with a trained standby worker who is stationed at or near the entrance, or
- b provided with a means of continuous communication with the standby worker outside, and
- c visually checked by the standby person at intervals as often as may be required by the nature of the work to be performed

6 Where work is carried out in any confined space:
   a the confined space will be ventilated continuously
   b tests for harmful or explosive substances, and for oxygen deficiency will be made and recorded immediately prior to entry, after any interruption in the work, and at regular intervals to ensure the continuing safety of the workers in the confined space.

Blinding Procedure:

1 Blinding before entry to a confined space
2 Piping containing hazardous substances or substances under pressure or so located to allow hazardous substances to enter such space will be disconnected, blanked or blinded off
3 Where it is impractical to employ blanks or blinds, written procedures will be developed and implemented to ensure equivalent protection to all workers exposed to the hazard
4 The closing of a valve or any line will not be acceptable as substitute for blanking or blinding
5 Blanks or blinds will be of sufficient strength so installed as to provide adequate safety for the particular conditions of anticipated pressure, temperature and service
6 Visual indication that blank or blind has been installed will be provided at the point of installation 7
7 Gaskets will be installed on the pressure side of blanks or blinds and flanges will be tightened to make them effective
8 Where threaded lines are used threaded plugs or caps will be used to blank the lines

Confined Space Entry Accident

1 Ensure confined space standby team is contacted and on site
2 Inspect the area for hazards and designate a top man
3 Test confined space for following:
   a Flammable or explosive potential
   b Combustible gases using a detector
   c Adequate natural ventilation and/or install explosion proof fans and ducts. If ventilation is still poor, breathing apparatus or air line respirator may be required
4 Check confined space for toxic or corrosive materials. If detected empty confined space and flush with pressurized water. All workers must wear respirator and eye protection if corrosive materials are present
5 Check equipment to be used and general conditions of the space, including:
   a Disconnect, blind, or lock entry ways that may allow hazardous materials in
   b Verify alarm devices indicating the presence of gas or oxygen deficiency are working
6 Determine the area is safe, all workers understand the procedures, proper signage and barricades are used, and that all workers are knowledgeable of the rescue plan in the event of an emergency.

Demolition

B Hazard

Demolition				2 Pages	Approved by	
Identifier	**Revision**	**Original Date**	**Revision Date**	**Effective Date**	Name:	Ken Crawford
					Position:	President
					Date:	January 31, 2023
WT5	A	January 9, 2019	January 31, 2023	August 6, 2020		

Policy:
It is the goal of C&M Electric to provide our workers with an understanding of the safety techniques and procedures needed to perform demolition activities safely.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	B→C	• Perform a visual hazard assessment.	Hard Hat "Class E", CSA Approved	Demolition
		• Operator to be adequately trained to ensure competency	Grade 1 Safety Boots, CSA Approved	Work Task Policy and Procedures
		• Equipment to be inspected for defects prior to use.	Safety Glasses, CSA Approved	
		• Damaged components should be repaired and, if necessary, replace	Protective Gloves, A2	WHMIS/SDS
		• Adequate PPE to be worn.	Respiratory protection	Noise
Falls	A→C	• Ensure guardrails or fall protection systems at all times.	Fall restriction system	
		• Wear fall arrest/restraint equipment when required.	Fall arrest system	
		• Keep work surfaces free from debris and slippery conditions	Hearing Protection	
Structure collapse	A→C	• Brace or shore up the walls and floors prior to demolition.	Barricades	
Falling Objects	B→C	• Suitable head protection to be worn when required.	High Visibility Clothing	
Chemical hazardous	A→C	• Work in compliance with applicable SDS.		
Noise	B→C	• Suitable hearing protection to be worn when required.		
Lack of fall prevention at	A→C	• Protect hopper and chute to ensure workers are unable to fall.		
Chutes being used as a	A→C	• Ensure adequately fencing and signage.		
Fire	B→C	• All toxic, flammable, or explosive substances will be removed.		

Demolition Where Asbestos Containing Materials (ACM) is Present
Demolition may only be carried out or continued when any ACM that may be disturbed has been removed to the extent practicable, however, demolition work must not be prevented in situations where the work is required to gain access to the ACM that must be removed. In these cases the workers must be protected from the hazards.

The owner must have an examination carried out to establish whether any material that is likely to be handled, dealt with, disturbed or removed, is present and whether friable or non-friable, is ACM. A copy of the report (Designated Substance Report - DSR) must be given to constructors and contain the following information:

- Whether a material is ACM.
- A description of the condition of the ACM and whether it is friable or non-friable.
- Drawings, plans and specifications showing the location of the material at issue.

No work must be done unless it is determined that the material is ACM or the work is performed in accordance with the Regulation as though the material is ACM or in the case of sprayed on material, as though it contained a type of asbestos other than chrysotile.

Safe Work Practices (SWP):

- Brace or shore up the walls/floors which have been damaged and which workers must enter.
- Inspect personal protective equipment (PPE) before use.
- Select, wear and use appropriate PPE for the task.
- Inspect all stairs, passageways, and ladders; illuminate all stairways.
- Shut off or cap electric, gas, water, and other service lines; notify appropriate utility companies.
- Guard wall openings and cover and secure floor openings.

- Use enclosed chutes with gates on the discharge end to drop demolition material.
- Demolition of exterior walls and floors must begin at the top of the structure and proceed downward.
- Structural or load-supporting members on a floor must not be cut/ removed until all stories above have been removed.
- All roof cornices or other ornamental stonework must be removed prior to pulling walls down.
- Do not work where structural collapse hazards exist until corrected by shoring, bracing, or other effective means.

Ventilation, Loads, Removal of Debris Obligations:
Adequate ventilation is provided for all machines when operating in an enclosed area.

Every floor, roof or other surface is of sufficient strength to safely support any of the following loads if required to be on them:

1. The load of a worker who is required or permitted to be on it.
2. The load of any equipment placed on it.
    - If workers are on the structure during demolition, ensure it is performed floor by floor form the top to the bottom.
    - Materials or debris is removed promptly and is not allowed to accumulate.
3. In an area that might result in the collapse of all or part of the building due to overloading.
4. On the ground immediately outside of the building or structure being demolished.
5. Unless it is being demolished at the time, no wall or other part of the structure is left unstable or in danger of collapsing.
    - Materials are recycled in accordance to regulations.
    - If a materials chute is used:
6. It cannot be at a greater angle that 45 degrees form the horizontal.
7. Workers cannot enter an area into which material is dropped, thrown or conveyed by materials chute.
8. Sufficient signs in the area advising of danger.

Safe Job Procedures (SJP):

1. Do a thorough inspection of the site
2. If possible enter the building with supervisor to look for:
    - People
    - Appliances containing Freon
    - Hazardous substance such as asbestos
    - Tanks, wells, flammable or explosive materials
3. Ensure that the proper permits have been obtained
4. Ensure all utilities have been disconnected
5. Notify property owner and adjoining property owners of time and date of demolition
6. Demolitions to bldgs. adjoined to another must be properly stabilized
7. Barricade or fence the entire area to keep bystanders and traffic out of area
8. Proceed with demolition
9. Sort and haul away waste and rubble to appropriate facilities
10. Clean up site as per local government regulations
11. Remove barricades

Demolition by Excavator

1. Ensure the proper permits have been obtained
2. Ensure all applicable utilities / services are disconnected
3. Perform a thorough inspection of the demolition site with the supervisor
4. If possible enter the building to check for:
    - People
    - Appliances containing Freon
    - Hazardous substance such as asbestos
    - Tanks, wells, flammable or explosive materials
5. Barricade demolition areas to restrict pedestrian traffic
6. Begin demolition starting at top of structure and working downward
7. Keep materials (wood, brick, insulation, etc.) separate
8. When completed demolition ensure if backfill is used it is compacted
9. Ensure site is cleaned up of all debris
10. Remove barricades

- Structural or load-supporting members on a floor must not be cut/ removed until all stories above have been removed.
- All roof cornices or other ornamental stonework must be removed prior to pulling walls down.
- Do not work where structural collapse hazards exist until corrected by shoring, bracing, or other effective means.

Driving

B Hazard

Driving					2 Pages	Approved by
Identifier	**Revision**	**Original Date**	**Revision Date**	**Effective Date**	Name:	Ken Crawford
					Position:	President
					Date:	January 31, 2023
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Policy:
It is the goal of C&M Electric to outline proficiency requirements and safety standards safe driving by workers.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	**A→C**	• Perform a visual hazard assessment. • Have a valid driver's license • Equipment to be inspected for defects prior to use. • Wear seatbelt at all times while driving. • Drive in compliance with MTO regulations. • Know and understand the capabilities/limitation of your vehicle. • Drive defensively	Hard Hat "Class E", CSA Approved Grade 1 Safety Boots, CSA Approved Seat belt	Driving Work Task Policy and Procedures Driver's License
Reckless driving	**A→C**	• Never speed, weave through traffic, ignore signs and signals, tailgate, and pass dangerously.		
Distracted driving	**A→C**	• Only hands held devices permitted while driving. • Texting while driving is prohibited.		
Fatigue	**A→C**	• Ensure you are well rested prior to driving. •Know how long you have been awake and driving. • Drink water, take a brisk walk and refresh.		
Maintenance	**B→C**	• Service vehicles regularly but at least annually. • Perform a circle check.		
Driving while under the influence	**A→C**	• Never drive while under the influence of alcohol • Do not operate heavy machinery i.e. vehicle until you a certain there are no side affects to prescription drugs you may be required to take.		

Safe Work Practices (SWP):
Vehicle drivers have an increased risk due to the nature of their work. They may be required to work off-hours and in unknown locations. They work alone and may be in areas easily accessible by the public.

- Ensure you have a valid operator's license.
- Be conversant with traffic laws and applicable regulations.
- Drive defensively.
- Back in when practical.
- Ensure the vehicle has an emergency road kit.
- Ensure you are not under the influence of alcohol or drugs.
- Avoid driving when fatigued.
- Ensure seat belts are worn at all times.
- Be familiar with the vehicle and its' capabilities.
- Offering rides to strangers or hitchhikers is prohibited.
- Perform a "walk around" inspection prior to traveling.
- Do not operate a cell phone while driving.
- Always shoulder check before changing lanes.
- Use & adjust all mirrors.
- Leave 4 seconds between vehicles for fast braking.

- Sound horn when backing up.
- Have passenger outside of truck to assist in reversing.
- Be aware of your vehicle size.
- Know the weight of load & stopping distances.
- Drive according to weather conditions.
- Always park in a safe area away from flow of traffic.
- Avoid distractions.

Fog

- Adjust your speed according to the density of the fog.
- If poor visibility, pull off the road. Leave headlights on and activate four way flashers.
- Use low beam headlights or properly aimed fog lamps.
- Use windshield defroster to clear "fog-up" from your inside front window.
- Use windshield wipers and washer as necessary to prevent moisture or ice build-up outside.

Snow

- Adjust speed according to the density of the snow.
- If visibility is too low to proceed safely, then find a place to pull off the road. Leave headlights on and activate four way flashers. Sound horn when you hear approaching traffic.
- Make allowances for reduced traction and other hazards associated with snow on the road.
- Do not start a trip in a snowstorm unless absolutely necessary.
- If caught in a blizzard, go to the nearest town or center and wait for conditions to improve.
- Keep windshield defroster and rear defogger on.
- Use windshield wipers as necessary to avoid snow and ice build-up.
- Ensure vehicle is in good operating conditions.
- Conduct thorough pre-trip inspections
- Have an adequate cold weather survival kit.
- Ensure your supervisor knows your route, destination and expected time of arrival.
- Maintain concentrations. If you are having difficulty maintaining your concentration, find a safe place to stop and rest.
- Avoid driving too close to the edge of the road, where the snow is deeper, may 'pull' a vehicle into the ditch.

Hydroplaning

Hydroplaning occurs when tires are riding on a film of water. It may occur any time standing water is on the road. The result is a significant loss of traction and steering control. This hazard can also exist in areas where the road has been oiled regularly for dust control. The surface can be quite hard and in wet conditions it becomes very slippery and subject to hydroplaning.

- When meeting traffic be prepared to have the windshield covered in mud. Turn on wipers before meeting the vehicle.
- Ensure an adequate supply of windshield washer fluid and wiper blades are in good condition.
- Stop as appropriate to clean your lights and markers.
- Slow down and show patience and courtesy to other drivers.

Operators:

- Obey the signaler or spotter. If more than one person is signaling, stop your vehicle and determine which one to obey.
- If possible, remain in the cab in areas where other equipment is likely to be backing up.
- Make sure that all mirrors are intact, functional, and properly adjusted for the best view.
- When no spotter is present, get out and walk around your vehicle. If the way is clear, back up at once.
- Stop the vehicle when a spotter, worker, or anyone else disappears from view.

Signalers:

- Stay alert to recognize and deal with dangerous situations.
- Wear a reflective fluorescent or bright orange vest and a bright hard hat for high visibility.
- Understand the maneuvering limitations of vehicles and equipment.
- Know driver and operator blind spots.
- Stand where you can see and be seen by the driver or operator.
- Make eye contact with driver or operator before signaling or changing location.

Truck Drivers

- All vehicles must be locked when not occupied and while driving.
- All truck drivers will carry a fully charged phone.
- Trucks be equipped with Vehicle H&S Binder containing emergency procedures and contact numbers.
- Park in a spot where there is adequate lighting and where they are visible to lower the risk of break ins.
- Services workers must report into the office at the commencement and at the end of the day.
- Should a worker suspect that someone is trying to steal the vehicle, they should shout out for the person to stop. If they do not stop, the worker should retreat to a safe place and call the police. Remain at the safe place until the police

Safe Job Procedures (SJP):

Pre-Operational Checks

1 Avoid backing up whenever possible
2 Always park so your first move is forward
3 Check clearances (Front, Back, Side and Overhead)
4 Sound horn frequently (even if equipped with back up alarm)
5 Back slowly (never at a speed faster than a brisk walk)
6 Use a spotter whenever possible
    - If you loose eye contact with the spotter, STOP immediately and locate that person before proceeding
    - If parked or stopped always use proper parking procedures
        - Set brake
        - Transmission in appropriate gear
        - Use wheel chocks when necessary/required.

Operational Checks

1 Visual Inspection
    - Check vehicle condition & check for obstacles
    - Replace/fix damaged parts immediately
2 Prepare to Drive
    - Adjust mirrors and put on seat belt.
3 Start Vehicle
    - Check engine is not running, turn on ignition, and allow time to warm up in cool weather.
4 Drive
    - Obey Highway Traffic Act
    - Drive defensively,
    - Drive according to road conditions
    - Have your passenger assist you in reversing
    - Omit/limit distractions
    - Consider load to judge braking distances
    - Be courteous to other drivers.

5 Shut Down
    - Park in legal safe area and report any vehicle needing repair.

Reversing:

1 Avoid backing up whenever possible
2 Always park so your first move is forward
3 Check clearances (Front, Back, Side and Overhead)
4 Back slowly (never at a speed faster than a brisk walk)
5 Use a spotter whenever possible
    - If you loose sight or eye contact with the spotter, STOP immediately and locate that person before proceeding.
    - If parked or stopped always use proper parking procedures
        - Set brake
        - Transmission in appropriate gear
        - Lock the vehicle

Electrical Safety

Critical Task

Electrical Safety				2 Pages	Approved by	
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WT7	A	January 9, 2019	January 31, 2023	August 6, 2020		

Policy:
It is the goal of C&M Electric to outline proficiency requirements and safety standards for workers who are exposed to the risks of injury from electricity.

Definitions:
Electric shock is the passing of electric current through the body. The electrical current may:

- Prevent you from releasing your grip from a live conductor.
- Throw you into contact with a higher voltage conductor.
- Cause you to lose your balance and fall.
- Cause severe internal and external burns.
- Kill you.

Arc flash is a release of energy caused by an electric arc. It causes an explosive expansion of air and metal. The blast produces:

- A dangerous pressure wave.
- A dangerous sound wave.
- Extreme heat.
- Extreme light.
- Shrapnel.

Left Hand Rule is a rule in electricity: if the thumb and first two fingers of the left hand are arranged at right angles to each other on a conductor and the hand oriented so that the first finger points in the direction of the magnetic field and the middle finger in the direction of the electric current then the thumb will point in the direction of the force on the conductor.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	**A→C**	• Perform a hazard assessment	Hard Hat "Class E", CSA Approved	Electrical Safety
Electric Shock Burns		• Only trained electricians will work on electrical devices. • Tools will be CSA approved.	Grade 1 Safety Boots, CSA Approved Hearing Protection	Work Task Policy and Procedures
Explosions/Fire		• Work in accordance with the company SJP • LOTO procedures to be used	Eye Protection, CSA Approved	Lock Out / Tag Out Procedure
Arc Flash Arc Blast Diagnostic Testing	**A→C**	• No work will be performed on live conductors without authorization. • Workers to receive written, oral and practical training. • Utilize the "Left-Hand Rule" • Meet all requirements of NFPA 70E • A trained assistant will be on hand at all times. • Loose clothing/jewelry must not be worn.	Cat.3 minimum testers. Rubber gloves Warning Signs Fire Retardant clothing Face shields Cotton under layers	Electrical License

Working on or near electrical hazards is dangerous and can be fatal. Any work on or near energized equipment must be done only when measures are in place to provide protection from electric shock and burn.

Qualifications

- No worker will connect/maintain/modify electrical equipment/installations unless they hold a current electrical license.
- Worker may insert an attachment plug cap on the cord of electrical equipment or an electrical tool into, or remove it from, a convenience receptacle without holding a current electrical license.

- Only authorized workers will enter a room or other enclosure containing exposed energized electrical parts.
- Electrical work performed on or near to electrical transmission or distribution systems will be performed in accordance all applicable regulations.

Safe Work Practices (SWP):

- All entrances to a room or other enclosure containing exposed energized electrical parts will be marked by conspicuous warning signs stating that entry by unauthorized persons is prohibited.
- No worker will install, modify, adjust, test, or repair electrical distribution services unless the worker is a qualified electrician or an apprentice who works under the direct supervision of a qualified electrician.
- Electrical equipment that is capable of becoming live will be isolated, locked out, tagged, and tested before work is performed on the equipment.
- When equipment cannot be locked out, written procedures (including tag out, testing, and competent worker stand-by) will be developed to provide an equivalent level of safety to that provided by a LOTO.
- The locations of power lines and cables will be determined before digging or drilling work is commenced.
- Approved cabinets or enclosures will guard energized parts of electrical circuits and equipment.
- Electrical equipment and appliances will be CSA or Ontario Hydro approved.
- Ground fault circuit interrupters (GFCIs) will be installed on temporary circuits at renovation and construction sites.
- Electrical tools and equipment used in damp or outdoor environments must be protected. This is to be done by ground fault circuit interrupters (GFCIs) installed at the receptacle or panel.
- workers who work regularly around energized electrical equipment or distribution services will be qualified in cardio-pulmonary resuscitation (CPR).
- Electrical appliances and power tools must be CSA- approved. CSA- approval “for outdoor use” would be an appropriate standard for damp environments.
- Ensure that electrical panels and switches controlling a service supply, feeder or branch circuit are protected from physical or mechanical damage.
- Install Ground Fault Circuit Interrupters (GFCIs) in areas that are wet or damp
- Ensure you develop and implement safe work procedures for working near overhead electrical lines
- Ensure equipment is properly grounded using a three-prong plug or is double-insulated and labeled accordingly (CSA).
- Turn off equipment before connecting it to a power supply and disconnect the power supply before making adjustments or changing accessories.
- Inspect equipment for signs of damage before each use, especially electrical cords and switches. Tag defective equipment clearly with an "Out of Service" tag.
- Use only approved extension cords that have the proper wire size (gauge) for the length of cord and power requirements of the equipment that you are using.
- Ensure that a cable or wire used for temporary electrical distribution is adequately guarded or securely suspended overhead to provide adequate clearance.
- Keep power cords away from heat, water, oil, sharp edges and moving parts.

Cords:

- Only CSA approved extension cords of an appropriate design and rating for the job at hand will be used. Extension cords fabricated by qualified electricians, using approved materials, are also permitted.
- Inspect cords prior to each use. Defective cords will be tagged and removed from service.
- Check for damage such as frays and proper 3 prong end is on cord
- Extension cords will be handled so as not to damage the insulation. Kinking, excessive bending, excessive heat, oil, dragging over sharp edges or passing vehicles or material over them is prohibited.
- Pull out cord and ensure it is out of the way of walking path or worn workers to watch footing
- When plugging cord in to outlet, do not force
- Roll cord neatly once task is complete
- Do not lay your cords on floors. If possible, suspend them in the air so they will not be a trip hazard.
- Report any damaged cords and take them out of circulation
- Protect the cord. Keep it away from heat, and don’t yank on it to disconnect it from an outlet.
- Never cut off, bend back or cleat the ground pin on a three prong plug.
- Protect bulbs with cages.
- Use only cords of proper wire size to do a specific job
- Only use a receptacle or plug hooked up to proper fuse or breaker.
- When working in wet locations, always use a GFI plug.

Electrical Work

Critical Task

Electrical Work				2 Pages	Approved by	
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Policy:
It is the goal of C&M Electric to outline proficiency requirements and safety standards for workers who are exposed to the risks of injury from electricity.

Definitions:
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- Prevent you from releasing your grip from a live conductor.
- Throw you into contact with a higher voltage conductor.
- Cause you to lose your balance and fall.
- Cause severe internal and external burns.
- Kill you.

Arc flash is a release of energy caused by an electric arc. It causes an explosive expansion of air and metal. The blast produces:

- A dangerous pressure wave.
- A dangerous sound wave.
- Extreme heat.
- Extreme light.
- Shrapnel.

Left Hand Rule is a rule in electricity: if the thumb and first two fingers of the left hand are arranged at right angles to each other on a conductor and the hand oriented so that the first finger points in the direction of the magnetic field and the middle finger in the direction of the electric current then the thumb will point in the direction of the force on the conductor.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	**A→C**	• Perform a hazard assessment	Hard Hat "Class E", CSA Approved	Electrical Work
Electric Shock Burns		• Only trained electricians will work on electrical devices. • Tools will be CSA approved.	Grade 1 Safety Boots, CSA Approved Hearing Protection	Work Task Policy and Procedures
Explosions/Fire		• Work in accordance with the company SJP • LOTO procedures to be used	Eye Protection Protective Gloves, A2	Lockout / Tagout Procedure
Arc Flash Arc Blast Diagnostic Testing	**A→C**	• No work will be performed on live conductors without authorization. • Workers to receive written, oral and practical training. • Utilize the "Left-Hand Rule" • Meet all requirements of NFPA 70E • A trained assistant will be on hand at all times. • Loose clothing/jewelry must not be worn.	Cat.3 minimum testers. Warning Signs Fire Retardant clothing Face shields Cotton under layers	Electrical License

Working on or near electrical hazards is dangerous and can be fatal. Any work on or near energized equipment must be done only when measures are in place to provide protection from electric shock and burn.

Qualifications

- No worker will connect/maintain/modify electrical equipment/installations unless they hold a current electrical license.
- Worker may insert an attachment plug cap on the cord of electrical equipment or an electrical tool into, or remove it

from, a convenience receptacle without holding a current electrical license.

- Only authorized workers will enter a room or other enclosure containing exposed energized electrical parts.
- Electrical work performed on or near to electrical transmission or distribution systems will be performed in accordance all applicable regulations.

Safe Work Practices (SWP):

- All entrances to a room or other enclosure containing exposed energized electrical parts will be marked by conspicuous warning signs stating that entry by unauthorized persons is prohibited.
- No worker will install, modify, adjust, test, or repair electrical distribution services unless the worker is a qualified electrician or an apprentice who works under the direct supervision of a qualified electrician.
- Electrical equipment that is capable of becoming live will be isolated, locked out, tagged, and tested before work is performed on the equipment.
- When equipment cannot be locked out, written procedures (including tag out, testing, and competent worker stand-by) will be developed to provide an equivalent level of safety to that provided by a LOTO.
- The locations of power lines and cables will be determined before digging or drilling work is commenced.
- Approved cabinets or enclosures will guard energized parts of electrical circuits and equipment.
- Electrical equipment and appliances will be CSA or Ontario Hydro approved.
- Ground fault circuit interrupters (GFCIs) will be installed on temporary circuits at renovation and construction sites.
- Electrical tools and equipment used in damp or outdoor environments must be protected. This is to be done by ground fault circuit interrupters (GFCIs) installed at the receptacle or panel.
- workers who work regularly around energized electrical equipment or distribution services will be qualified in cardio-pulmonary resuscitation (CPR).
- Electrical appliances and power tools must be CSA- approved. CSA- approval “for outdoor use” would be an appropriate standard for damp environments.
- Ensure that electrical panels and switches controlling a service supply, feeder or branch circuit are protected from physical or mechanical damage.
- Install Ground Fault Circuit Interrupters (GFCIs) in areas that are wet or damp
- Ensure you develop and implement safe work procedures for working near overhead electrical lines
- Ensure equipment is properly grounded using a three-prong plug or is double-insulated and labeled accordingly (CSA).
- Turn off equipment before connecting it to a power supply and disconnect the power supply before making adjustments or changing accessories.
- Inspect equipment for signs of damage before each use, especially electrical cords and switches. Tag defective equipment clearly with an "Out of Service" tag.
- Use only approved extension cords that have the proper wire size (gauge) for the length of cord and power requirements of the equipment that you are using.
- Ensure that a cable or wire used for temporary electrical distribution is adequately guarded or securely suspended overhead to provide adequate clearance.
- Keep power cords away from heat, water, oil, sharp edges and moving parts.

Cords:

- Only CSA approved extension cords of an appropriate design and rating for the job at hand will be used. Extension cords fabricated by qualified electricians, using approved materials, are also permitted.
- Inspect cords prior to each use. Defective cords will be tagged and removed from service.
- Check for damage such as frays and proper 3 prong end is on cord
- Extension cords will be handled so as not to damage the insulation. Kinking, excessive bending, excessive heat, oil, dragging over sharp edges or passing vehicles or material over them is prohibited.
- Pull out cord and ensure it is out of the way of walking path or worn workers to watch footing
- When plugging cord in to outlet, do not force
- Roll cord neatly once task is complete
- Do not lay your cords on floors. If possible, suspend them in the air so they will not be a trip hazard.
- Report any damaged cords and take them out of circulation
- Protect the cord. Keep it away from heat, and don’t yank on it to disconnect it from an outlet.
- Never cut off, bend back or cleat the ground pin on a three prong plug.
- Protect bulbs with cages.
- Use only cords of proper wire size to do a specific job
- Only use a receptacle or plug hooked up to proper fuse or breaker.

- When working in wet locations, always use a GFI plug.
- If possible, when working outside, plug cords in a GFI outlet.

Worker Responsibilities:

- No worker, unless authorized, may test exposed energized electrical parts.
- Workers will ensure protection under the following conditions.
    - Removing covers off junction boxes.
    - Removal or opening of panel board covers.
    - Opening of disconnects, relay panels.
    - Opening motor control starters and switches.
    - Removal of wire connectors.

- Electrical equipment, installations, conductors and insulating materials will be suitable for their intended use and will be installed, maintained, modified and operated so as not to pose a hazard.
- The design, construction, installation, and inspection of electrical distribution services will meet the standards of the Canadian Electrical Code.
- All work performed will meet the standards of the *Canadian Electrical Code*.
- Plans and specifications for new electrical facilities and major alterations will be submitted to the appropriate building owners and municipal or provincial agencies for review and approval.
- Supervisors will take measures to protect workers from injury when workers work near live electrical equipment.
- Supervisors will appoint safety watchers when work must be done near live electrical equipment due to the nature of the work, the condition of the workplace, or the location of the job.
- Electrical disconnect switches/circuit breakers will be labeled. Access to electrical switches, control devices, and meters will be unobstructed.
- Working alone is prohibited on energized lines or equipment that exceeds 300 volts.
- Ensure that all electrical circuits and equipment are installed in accordance with legislation.

Temporary Lighting

- Avoid contact with the wires strung for temporary lighting. Frequent relocation of circuits can loosen connections, break insulation and create other hazards.
- Beware of tripping and shock hazards from stringers overhead and underfoot.
- Do not use temporary lighting circuits as extension cords.
- Take care that exposed wires do not contact steel doorframes in the final stages of work, when temporary lines often pass through door that may be accidentally closed on them.
- Replace missing or burned-out bulbs to maintain required levels of illumination in stairwells, basements, halls and other areas. Bulbs must be caged.
- Do not modify manufactured stringers.

PPE:

Minimum Requirements

- Live Circuits 500 volts and under:
    - Short or long sleeve cotton T- shirt (No Buttons)
    - Cotton long pants (denim jeans or equivalent)
    - Class '00' rubber gloves
    - Safety glasses
    - Safety boots
    - V- rated tools
    - Voltage and Amp testers rated Category 3 1000 volts

- Live Circuits 300 volts and greater and less than 600 volts
    - Long sleeve cotton T- shirt (No Buttons)
    - Cotton long pants (denim jeans or equivalent)
    - Class '00' rubber gloves
    - Safety glasses
    - Safety boots
    - V- rated tools
    - Voltage and Amp testers rated Category 3 1000 volts

Energized Overhead and Underground Electrical Hazards

- Contact Ontario One Call or contact the utilities in the area before excavating a site..
- No object is to be brought closer to an energized overhead electrical conductor as per the table below.

Minimum Distance from Live Power lines	
Voltage Rating of Power line	**Minimum Distance**
750 to150,000 volts	3 metres (10 feet)
150,001 to 250,000 volts	4.5 metres (15 feet)
Over 250,001 volts	6 metres (20 feet)

- If a crane, similar hoisting device, backhoe, power shovel or other vehicle or equipment is operated near an energized overhead electrical conductor and it is possible for a part of the vehicle or equipment or its load to encroach on the minimum distance permitted and C&M Electric is acting as the constructor then, the company will establish and implement written measures and procedures adequate to ensure that no part of a vehicle or equipment or its load encroaches on the minimum distance permitted and make a copy of the written measures and procedures available to every employer on the project.
- The written measures and procedures will include adequate warning devices, visible to the operator and warning of the electrical hazard, and will be positioned in the vicinity of the hazard.
- The operator will be provided with written notification of the electrical hazard prior to working.
- A legible sign, visible to the operator and warning of the potential electrical hazard, to be posted at operator's station.
- All written measures and procedures will be made available to the workers and explained thoroughly to the worker.
- Workers will follow the written measures and procedures
- A competent worker, designated as a signaler, will be stationed so that he or she is in full view of the operator and has a clear view of the electrical conductor and of the vehicle or equipment, and will warn the operator each time any part of the vehicle or equipment or its load may approach the minimum distance.
- The locations of power lines and cables will be determined before digging or drilling work is commenced.

Energized Electrical Equipment or Distribution Services

- The power supply to the electrical equipment, installation or conductor will be disconnected, locked out of service and tagged before the work begins, and kept disconnected, locked out of service and tagged while the work continues.
- If work is to be done on or near energized exposed parts of electrical equipment or of an electrical installation or conductor the company will establish and implement written measures and procedures for complying with this section to ensure that workers are adequately protected from electrical shock and burn.
- Hazardous stored electrical energy will be adequately discharged or contained before the work begins and will be kept discharged or contained while the work continues.
- Approved cabinets or enclosures will guard energized parts of electrical circuits and equipment.
- Electrical disconnect switches and circuit breakers will be labeled. Access to electrical switches, control devices, and meters will be unobstructed.
- Electrical equipment and appliances will be CSA or Ontario Hydro approved.
- Working alone is prohibited on energized lines or equipment that exceeds 300 volts.
- Workers who work regularly around energized electrical equipment or distribution services will be qualified in cardio-pulmonary resuscitation (CPR).

Lock Out/Tag Out (LOTO)

- The tag will be made of non-conducting material and will be installed so as not to become energized.
- The tag will be placed in a conspicuous location and will be secured to prevent its inadvertent removal.
- The tag will indicate,
  - Why the equipment, installation or conductor is disconnected,
  - The name of the person who disconnected the equipment, installation or conductor,
  - The name of the person's employer
  - The date on which the equipment, installation or conductor was disconnected.
- The tag will not be removed unless it is safe to do so.
- If more than one worker is involved in work , a means will be provided to communicate the purpose and status of:
  - The disconnecting, locking out and tagging of the electrical equipment, installation or conductor
  - The discharging and containment of any hazardous stored electrical energy.

The only times locking out is not required is if, and only if:

- In the case of conductors, they are adequately grounded with a visible grounding mechanism.
- In the case of equipment or installations,
    - The power supply is less than 300 volts, the equipment or installation was not manufactured with provision for a locking device for the circuit breakers or fuses, and a written procedure has been implemented that is adequate to ensure that the circuit is not inadvertently energized.
    - The power supply is 300 or more volts but not more than 600 volts, the equipment or installation was manufactured with no provision for a locking device for the circuit breakers or fuses, a written procedure as to how work is to be done has been implemented and the work is supervised by a competent worker to ensure the circuit is not inadvertently energized.
- When equipment cannot be locked out, a written SOP (including tagout, testing, and competent worker stand-by)

Diagnostic Testing

- Diagnostic testing on live electrical equipment is dangerous. A major cause of accidents involving electrical contact comes from the failure to identify the hazards associated with live electrical equipment and wiring. Making contact with a live circuit can result in serious injury or death. A 125-volt, 15 amp circuit can deliver many times the current flow that is capable of causing death. Current as low as 30mA (1 mA=1/1000 of 1 amp) could cause breathing to stop. Even minimal electrical contact can cause involuntary physical movements that could result in making contact with a higher voltage, or cause a loss of balance and a fall.
- Workers must always be aware of the hazards associated with their work. The company will do everything reasonably possible to ensure the safety of the workers.
- Safe work while testing electrical installations and equipment can be ensured if these minimum procedures are followed. In such situations, work must be performed in strict accordance with the company procedures.
- Workers will use mats, shields or other protective devices or equipment, including personal protective equipment, adequate to protect the worker from electrical shock and burn.

Live Wire Work

- Only in extremely rare situations will the company allow work to be done on energized electrical equipment, installations and/or conductors. Requests for working live must be submitted by the employer in writing using the Request for Live Wire Work Permit form. The employer will be required to submit in writing adequate proof that at least one of the following criteria be met:
    - It is not reasonably possible to disconnect the equipment, installation or conductor from the power supply before working on or near the energized exposed parts. For example, posing an inconvenience to building owners or occupants or necessitating the need for overtime is not an acceptable reason to allow live wire work to be done. If the equipment, installation or conductor has ever been disconnected, then it is reasonable to disconnect it again.
    - The equipment, installation or conductor is rated at a nominal voltage of 600 volts or less, and disconnecting the equipment, installation or conductor would create a greater hazard to a worker than proceeding without disconnecting it.
    - The work consists only of diagnostic testing of the equipment, installation or conductor.
- Should the employer successfully be able to demonstrate the need to work on live equipment, installations or conductors and if the equipment, installation or conductor is nominally rated at:
    - Greater than 400 amperes and greater than 200 volts or
    - Greater than 200 ampere and greater than 300 volts

  then the employer will have to provide maintenance logs proving that the equipment, installation or conductor has been maintained according to the manufacturer's specifications and that the employer has determined from the maintenance logs that the work on the equipment, installation or conductor can be performed safely without disconnecting it. These records must remain readily available on the jobsite.
- In all other circumstances energized electrical equipment, installations and/or conductors must be de-energized with the power disconnected or the energized electrical equipment, installations and/or conductors must be properly locked out of service and tagged before any work is done. It is the responsibility of the employer(s) to provide written *Lock Out and Tag Out* procedures.
- Only if and when the above mentioned criteria are adequately proven in writing, will a *Live Wire Work Permit* be issued .

Multi-Metres

- Use appropriate PPE.
- Ensure multi-meters that have been tested and calibrated prior to use.
- Follow the manufacturer's instructions and become familiar with the proper use and limitations of the multi-meter.
- Take steps to remove or protect against hazards such as slipping, which may result in electrical contact or arcing, created by snow, humidity or water in the work area.
- Use a ground fault circuit interrupter (GFCI) when using electric tools outdoors or in wet conditions. Only types "A" GFCI's are designed to trip at about 5mA, offering adequate protection to a worker.
- Observe the *Ontario Electrical Safety Code*. Section 2-300 requires operating electrical equipment to be kept in safe and proper working condition, and the repair or permanent disconnection of any defective equipment.
- Ensure that the work area is cleared of all workers and ensure that no other unauthorized worker enters the work area.
- Ensure work and travel areas are free of debris and that there is good lighting to provide good visibility.
- * V-rated tools are rated and tested for the maximum line-to-line voltage upon which work will be done.
- At no time does this allow any worker the permission to work on Live Electrical Components.

Pulling cables/wires

- Only trained and qualified electricians or apprentices under the supervision of an electrical to work on electrical devices.
- Wear appropriate PPE for the task.
- Loose clothing and jewelry must not be worn.
- Take precautions for lifting, ergonomic and manual material handling hazards that may occur.

Installation of Electrical Systems (Conduit, Panels, Fixtures, Temporary Lighting)

- Only trained and qualified electricians or apprentices under the supervision of an electrical to work on electrical devices.
- Wear appropriate PPE for the task.
- Loose clothing and jewelry must not be worn.
- Ensure lights are properly supported and that there are no open sockets or cages.
- Follow lockout tagout procedures.

Demolition of Electrical Systems

- Lockout tagout procedure to be used to ensure equipment/circuits/conduits remain de-energized.
- Make safe area, signs offs to be utilized.
- Follow standard proper tagging procedures as outlined below.
    - Pink = Danger Live
    - Gold = Safe for Removal
    - No Colour = Treat as Live
- Identify all conduit/wiring at panels, both sides of all and devices to be removed safely.
- Prior to touching an electrical system, test and verify zero energy.
- Remove junction boxes and wiring air gapped.
- Take required precautions for bulbs and ballasts that may contain mercury or PCB's.
    - Request information on location of hazardous products from building owner or constructor.
    - Conduct additional training if hazardous materials are suspected.
    - Wear appropriate PPE.
    - Follow all local requirements for disposal.

Safe Job Procedures (SJP)

Power Cords

1. Check power cord to be sure no frays and prongs are intact.
2. With dry hands, plug cord into power outlet.
3. If sparks are present unplug equipment and have it checked.
4. Place extension cords away from walkways and prevent any tripping hazards.
5. Unplug cords when finished.
6. Tie or wrap up cords when finished to prevent tripping hazards.

Fishing and Pulling Wire

1 Conduit may provide a path along which noxious, toxic, or flammable fumes and gases can travel. If using gases, glues, solvents or other chemicals that could produce a hazardous gas or fume, check locations where the gas or fume can exit the conduit. Ensure other workers are not exposed to the fume or gas, or that a hazardous condition is not created as a result of the fume or gas building up in another room.
2 Pulling in confined spaces is particularly difficult. Workers should use care and caution under such conditions. Get help when necessary and use mechanical means if possible.
3 When pulling heavy runs of steel cable, wear gloves for protection from sharp strands.
4 When using jet line, ensure that there is sufficient cross-ventilation to disperse carbon dioxide gas (CO2). Jet lines must not be used in manholes unless forced ventilation is provided at each end of the run.

Bending PVC Pipe with Heater Box

1 Remove the handle from the inside of the PVC heater and attach it to the cover.
2 When bending 2"or larger conduit, it is recommended using 859-series PVC plugs. Install one plug in each end of the conduit and tighten the wing nut until the conduit is sealed. Remove the plugs after the PVC has cooled.
3 Place the heater on a firm, flat surface.
4 Plug the cord in. Turn the heater ON. The pilot light will illuminate.
5 Place the conduit on the rollers and close the cover. Rotate the conduit by hand.
6 Check the PVC by lifting it at one end. When the PVC is flexible, open the cover and remove the conduit.
7 Place the PVC on a flat surface. Form the bend. Allow to cool or set the bend by applying cool water with a sponge.

Threading Pipe

1 Follow instructions in the Operator's Manual. When using it to power other equipment read and follow the safety and operating instructions provided with that equipment. Other uses may increase the risk of serious injury.
2 Never carry the tool by the cord or yank the cord to disconnect it from the receptacle.
3 Keep the cord away from heat, oil or sharp edges.
4 Disconnect tool when not in use, before servicing and cleaning, and when changing accessories.
5 Keep people not involved in the work a safe distance from the work area.
6 Secure work with clamps or a vise: leave both hands free to operate the tool.
7 When threading one inch or larger pipe, secure Power Drive using a # 775 Support Arm. Hold Power Drive firmly. If the Power Drive cannot be secured by a support arm, use other mechanical means such as a pipe wrench.
8 Do not use dull or damaged dies. Sharp cutting dies require less torque and the power drive is easier to control.
9 Avoid accidental starting; do not leave fingers on the switch when carrying a plugged in tool.
10 Do not use tool if the switch does not turn it on or off.
11 Wear proper PPE for the task. Loose clothing, hair, ties or jewelry can become caught in moving parts.
12 Keep proper footing and balance at all times. This enables better control of the tool in unexpected conditions.
13 Maintain tools with care. Keep bits sharp and clean for best performance.
14 Follow instructions in the user's manual for lubricating and changing accessories.
15 Remove all damaged portable electric tools from use and tag them "DO NOT USE".
16 Do not force the tool. Use the correct tool for the work.
17 Do not expose the tool to rain or wet conditions. Store tools in a dry place when not in use.
18 Grounded tools must be plugged into a properly grounded outlet. Do not remove the grounding prong.
19 Double insulated tools are meant to plug into a polarized outlet one way. If the plug does not fit, reverse the plug. Do not modify the prongs in the plug to fit in an outlet.
20 Do not operate power tools in explosive atmospheres. They may generate sparks and ignite flammable liquids/vapors or dusts.
21 Keep the work area clean and well lit and ensure a stable work surface.
22 Inspect tools for defects before operation.
23 When using to power equipment other than threaders, the 700 Power Drive may have to be secured to resist high handle forces. Handle forces that are developed will depend on the application. High handle forces may cause serious injury.

Testing

1. Other contractors, client workers etc. working in an area affected by a test will be made aware of the scheduled test.
2. Barricades and/or guards will be posted as required to protect from moving items, high-voltage or other potential
3. Determine the panels, boxes or other equipment which will be energized during the test.
4. Workers will be assigned and indoctrinated as to the methods to be used to terminate the test in case of an emergency.
5. Parallel and interconnecting circuits will be locked-out to prevent energization.
6. Tags will be placed on switches or equipment to indicate that such circuits are not to be energized.
7. Energized equipment or circuits will be tagged showing that they are energized.
8. The tags will not be removed until the test is complete and the item or area is placed in a safe condition.
9. Tests will be conducted or supervised by qualified workers
10. Observe all the safety precautions which are contained in the test procedure applicable to the item or system being
11. Safety equipment (e.g., rubber gloves, eye protection, grounding sticks, etc.) will be used by test workers as applicable.
12. Ensure that equipment or circuits are de-energized and discharged, prior to terminating the test activity.

Temporary Panels

1. Inspect condition before installing
2. Locate in a dry area or where there is good drainage
3. Must be securely mounted and protected from weather and water
4. Must be accessible to workers
5. Must be kept clear of obstructions
6. Check that panel covers are in place and kept shut
7. Make sure that all receptacles are Type A GFCI's
8. Use only fuses or breakers of the recommended amperage
9. Ensure that the ground rod is secured in place and connected to the panel
10. Have the panel inspected by the Electrical Safety Authority (ESA)
11. Identify and protect temporary panels from construction equipment and delivery vehicles
12. Follow regulated procedures for lockout and tagging

Elevating Work Platform (EWP) *Critical Task*

Elevating Work Platform (EWP)					2 Pages	Approved by	
Identifier	Revision	Original Date	Revision Date	Effective Date		Name:	Ken Crawford
						Position:	President
						Date:	January 31, 2023
WT9	A	January 9, 2019	January 31, 2023	August 6, 2020			

Policy:
It is the goal of C&M Electric to define work practices and inspection procedures to ensure that operators of elevating work platforms are protected from hazards.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	A→C	• Perform a hazard assessment • Operator to be adequately trained. • Workers to receive written, oral and practical training. • Follow manufacture's instructions • Operators manual to be with the equipment • Proof of regular maintenance must be available. • Work in accordance with the company SJP • Ensure that operator controls are at platform level and remain	Hard Hat "Class E", CSA Approved Grade 1 Safety Boots, CSA Approved Protective Gloves, A2 Safety Glasses, CSA Approved Fall arrest system, CSA Approved Travel Restrain System, CSA Approved High Visibility Clothing Fall Protection Harness, CSA Approved Lanyard, CSA Approved	EWP Work Task Policy and Procedures Operator's Manual WAH
Over reaching and falling	A→C	• Operator to wear fall arrest/restraint equipment		
Using lift to gain access	A→C	• Lift not to be used to gain access to higher levels.		
Climbing out of lift	A→C	• Worker is not to exit basket		
Using basket to carry large items.	A→C	• Do not carry large items in basket. • Ensure materials are firmly secured to the platform. • Overhanging loads must not be lifted with lift		
Overturning	A→C	• Platform to be used on firm level ground. • Do not use over drains, basements or large holes. • Lock wheels & use outriggers with adequate sole plates.		
Striking other equipment or worker	A→C	• Ensure the use of a traffic signaler. • Wear high visibility clothing to ensure visibility		
Defective Equipment	A→C	• Defects to be reported to the supervisor. • Defective equipment to be tagged and removed from service.		
Congested work area	A→C	• Use a traffic signaler to help guide.		
Weather	A→C	• Do not extend the boom or raise the platform when on uneven surfaces or during high wind/gusty conditions.		
Electrocution	A→C	• Use a traffic signaler to help guide.		

Safe Work Practices (SWP)
Prior to each work shift, conduct a pre-start inspection to verify that the equipment and all its components are in safe operating condition. Follow the manufacturer's recommendations and include a check of:

Vehicle components

- Correct loading capacity for the job,
- Loose connections or missing fasteners
- Damaged electrical wires, or hydraulic or pneumatic lines
- Proper fluid levels (oil, hydraulic, fuel and coolant);
- Wheels and tires;
- Battery and charger;
- Horn, gauges, lights and backup alarms;
- Overall frame condition
- Uncontrolled motion
- Cracked welds
- Adequate fuel supply
- Lower-level controls;
- Steering and brakes.
- Leaks of fluids;

Lift components

- Operating and emergency controls;
- Mechanical fasteners and locking pins;
- Hydraulic, air, pneumatic, fuel and electrical systems;
- Fiberglass and other insulating components;
- Outriggers, stabilizers and other structures;
- Loose or missing parts;
- Guardrail systems.
- Cable and wiring harnesses;
- Personal protective devices;
- Missing or unreadable placards, warnings, or operational, instructional and control markings;

Do not operate any aerial lift if any of these components are defective until it is repaired by a qualified person. Remove defective aerial lifts from service (tag out) until repairs are made.

Work Zone Inspections

- Drop-offs, holes, or unstable surfaces such as loose dirt;
- Other overhead obstructions;
- Overhead electric power lines and communication cables;
- Inadequate ceiling heights;
- Slopes, ditches, or bumps;
- Debris and floor obstructions;

Fall Protection

- Do not use planks, ladders, etc. as a working position.
- Do not belt-off to adjacent structures or poles while in the bucket.
- Tie-off to the boom or bucket.
- Ensure that access gates are closed.
- Stand firmly on the floor.
- Do not climb on/lean over guardrails.

Operation/Traveling/Loading:

- Do not drive with the lift platform raised.
- Do not exceed vertical or horizontal reach limits.
- Do not carry objects larger than the platform.
- Do not override hydraulic, mechanical, or electrical safety devices.
- Do not exceed load-capacity limits.
- Do not use the aerial lift as a crane.
- Do not operate lifts in high winds..

Overhead Protection:

- Be aware of overhead clearance and overhead objects, including ceilings.
- Do not position aerial lifts between overhead hazards if possible.
- Treat all overhead power lines and cables as energized, and stay at least 10 feet (3 meters) away.
- Ensure that the power utility or power line workers de-energize power lines in the vicinity of the work.

Overturning Protection:

- Set outriggers on pads or on a level, solid surface.
- Set brakes when outriggers are used.
- Use wheel chocks on sloped surfaces when it is safe to do so.
- Set up work zone warnings, such as cones and signs, when necessary to warn others.

Insulated aerial lifts offer protection from electric shock and electrocution by isolating you from electrical ground. However, an insulated aerial lift does not protect you if there is another path to ground (for instance, if you touch another wire). To maintain the effectiveness of the insulating device, do not drill holes in the bucket.

Minimum Distance of Approach

An aerial device must not be moved closer to a live line conductor than the minimum distances listed in the table below unless:

- A signal person is provided.
- The device being used is an approved insulated aerial device with an electric rating adequate for the live line voltage.

Minimum Distance from Live Power lines	
Voltage Rating of Power line	**Minimum Distance**
750 to150,000 volts	3 metres (10 feet)
150,001 to 250,000 volts	4.5 metres (15 feet)
Over 250,001 volts	6 metres (20 feet)

An aerial lift is any vehicle-mounted device used to elevate workers, including: extendable boom , aerial ladders, articulating (jointed) boom platforms, and scissor lifts

Articulating (jointed) boom platforms

- Perform visual and functional inspections of the lift before each use.
- All operator controls will be clearly marked.
- Equipment load capacities will be clearly indicated.
- All loads must be directly on the platform surface.
- Wear a full body harness with lanyard attached to the platform anchor point.
- Ensure a clear area above, below, and immediately around the lift at all times.
- Ensure surface can support the weight of the lift.
- Clear from holes, drop-offs, bumps, etc.
- Clear from overhead obstructions and overhead powerlines
- Level and stable surface.
- Most lifts are rated for use at a maximum wind speed of 25 mph.
- Lifts will not be used when adverse weather conditions develop.
- Ensure railing system is in place at all times.
- Do not attach hanging loads to any part of the machine.
- If the tilt alarm sounds, use extreme caution to retract the boom and lower the platform.
- When parking, retract and lower the boom to the stowed position when possible.
- Rotate the turntable so that the boom is between the non-steering wheels.
- Ensure a safe parking location.
- If at any point the operator does not feel safe, lower the lift and speak with your supervisor.

Buckets

- Always keep feet on the floor of bucket
- Do not sit, stand, or climb on the edge of the basket
- Do not place any item in the bucket for the purpose of increasing work height (ladders, step stools)
- Do not try to climb down from the bucket when it is raised
- Make sure bucket floor is clear of debris
- Always wear fall protection
- Do not push or pull toward anything while raised in the bucket
- No ladders, etc. in bucket
- Do not exceed the 300 lb. load capacity
- Do not move the truck when bucket is raised
- Do not operate in high winds
- Make sure truck is parked on even ground
- Make sure the outriggers are positioned properly
- Never use the bucket truck as a crane
- Watch for overhead obstructions
- Travel very slow on bumpy or sloped ground and when driving near other workers or pedestrians
- Maintain safe clearances from power lines and apparatus. No aerial platform, insulated or not , provides any electrical protection to the occupant if there is phase to phase or phase to ground contact
- Never leave the truck unattended unless the key is taken out and the truck is secured.

Safe Job Procedures (SJP)

Pre-Operation Procedures:

1 Read and understand the manufacturer's operating instruction(s) and user's safety rules .
2 Understand labels, warnings and instructions displayed on the aerial platform.
3 Wear PPE as required.
4 Aerial ladders will be secured in the lower position by the locking device on top of the truck cab, and the manually operated device at the base of the ladder before the truck is moved for highway travel.
5 Use outriggers, stabilizers, or other stability enhancing means as per manufacturer instructions.
6 Guardrails are installed and access gates or openings are closed per manufactures instructions.
7 The load and its distribution are in accordance with the manufacturer's rated capacity.
8 All workers on the aerial platform have appropriate safety gear for the work and environment envisioned.
9 Articulating boom and extensible boom platforms, primarily designed as workers carriers, will have both platform (upper) and lower controls.
10 Upper controls will be in or beside the platform within easy reach of the operator. Lower controls will provide for overriding the upper controls.
11 Controls will be plainly marked as to their function. Lower level controls will not be operated unless permission has been obtained from the worker in the lift, except in case of emergency.

Prior to Each Elevation

1 Outriggers, stabilizers, or other stability enhancing means are used as required by the manufacturer.
2 Ensure area around lift is debris free, no overhead utilities are near and ground is level and stable.
3 Inspect fall protection equipment prior to putting in to use.
4 Ensure PPE is being worn.
5 Check the last performed pre-start inspection form for any notes or comments.
6 Perform a documentation pre-start inspection.
7 Follow manufacture's recommended starting procedures.
8 Mount properly using 3-point mount and dismount procedure.
9 Ensure all controls (ground and platform) have been tested prior to use.
10 Follow safe operating practices in operator's manual.
11 Ensure load being placed on lift (including weight of workers) are within the rated capacity of the lift.
12 Ensure all guardrails and safety equipment is in place and in working condition.
13 Watch out for others and be aware of what is going on.

Shut Down Procedures:

1 Travel to a suitable parking area.
2 Place platform in a stowed position.
3 Come to a full stop
4 Place controls in neutral
5 Idea engine for gradual cooling
6 Shut off engine or electrical power.
7 Take necessary steps to prevent unauthorized use.
8 Dismount using the 3-point procedure.

Fueling Procedures:

1 Aerial platform must be lowered to slowed position and all power turned off before fueling.
2 Do not attempt to fuel equipment when engine is hot or running. DO not smoke while refueling.
3 Remove fuel cap.
4 Visually inspect to see if fuel level is low.
5 Be sure to use correct type and grade of fuel.
6 Ground the funnel or nozzle against the filter neck to prevent sparks.
7 Replace fuel cap.
8 Clean up any spilled fuel immediately.

Hand Tools

C Hazard

Hand Tools				2 Pages	Approved by	
Identifier	**Revision**	**Original Date**	**Revision Date**	**Effective Date**	Name:	Ken Crawford
					Position:	President
					Date:	January 31, 2023
WT10	A	January 9, 2019	January 31, 2023	August 6, 2020		

Policy:
It is the goal of C&M Electric to outline proficiency requirements and safety standards for the use of hand tools by our workers. Every year in Ontario, workers become injured when they use tools or equipment that is either faulty or damaged. It is our goal to

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	C	• Perform a hazard assessment • Know how to properly use your tools • Inspect tools prior to use. Replace damaged tools. • Use tools in a well lit area. • Practice good housekeeping skills in work areas. • Use the right tool for the job. • Work in accordance with the company SJP • Participate in safety training • Wear required PPE.	Hard Hat "Class E", CSA Approved Grade 1 Safety Boots, CSA Approved Eye protection, CSA Approved Protective Gloves, A2 Hearing Protection	Hand Tools Work Task Policy and Procedures

Safe Work Practices (SWP):

- If there is a risk of an explosive atmosphere being ignited, hand tools will be of a non-sparking type.
- Always work in an area free of clutter and debris.
- Always work in a well lit area.
- Always store tools in a dry secure location.
- Proper hearing and eye protection must be worn at all times when cutting, sawing, drilling or grinding.
- Always use the proper tool for the job.
- Use hand tools with insulated handles and grips.
- Whenever required, wear protective equipment – safety goggles or insulated gloves.
- When using power tools, check cords.
- Never leave tools lying around which may cause a slip/trip hazard to others.
- Tools will be inspected regularly and replaced or repaired when found to be defective.
- Discard any hammer with a dented, chipped, or mushroomed striking face or with claws broken, deformed, or nicked inside the nail slot.
- With chisels and other striking tools, always wear eye protection. Gloves are recommended to help prevent cuts and bruises. Always check handles and heads. Make sure head is secure and tight. Replace damaged handles.
- Screwdrivers are not intended for prying, scraping, chiseling, scoring, or punching holes.
- Make sure all cutting and drilling tools are sharp. Dull tools can jam.

Things to Look Out For:

- Chisels and wedges with mushroomed heads
- Split or cracked handles
- Wrenches with worn out jaws
- Tools which are not complete, such as files without handles
- Broken or inoperative guards
- Insufficient or improper grounding due to damage on double insulated tools
- Cracked tool blade

Safe Job Procedures (SJP):

Chain Block

Pre- Operational Safety Checks

1 Check workspace and walkways to ensure no slip-hazards are present.
2 Ensure all guards and shields are in place
3 One person operation wherever possible
4 Faulty equipment must not be used. Immediately report suspect equipment.

Operational Safety Checks

1 Ensure material is slung correctly or fixed attachment point is used
2 Ensure hook has working safety catch
3 Keep non-essential workers clear of lifting and transfer area
4 NEVER lift load over persons
5 Use a safe working posture. Rotate task if long duration.
6 Clean up work area
7 Be aware of sharp edges

Adjustment/Maintenance

1 Chain block to be visually inspected prior to use
2 Chain block to be inspected and tested annually in accordance with manufactures instructions

Chisels

1 The cutting edge of the chisel must be sharp in order to cut. Sharpen it by dressing it on a grinding wheel, being careful that the original angle of the cutting edge is maintained as closely as possible. Avoid overheating and possible loss of hardness during dressing by moving the chisel against the wheel lightly and frequently dipping the end of the chisel in water to keep it cool.
2 Keep chisels free of dirt, grease, or burrs. Properly store chisel for your protection, as well as the chisel's.
3 Always use the correct type and size of chisel for the job. And be sure that you also use a hammer that is heavy enough and large enough for the chisel you select.
4 Always wear safety goggles when chipping, since one of the most common injuries from using a chisel is being stuck in the eye with a chip. Protect others by warning them to keep away from where you're working. Or by setting up a screen.
5 Keep your eyes on the cutting edge of the chisel when you are striking a blow.
6 First strike one or two light blows on the chisel to check your swing, to set the chisel, and to keep the swing of the hammer in the same plane as the chisel.
7 Increase the force as required.
8 If you're using a chisel on a small piece, clamp it rigidly in a vise. Avoid marring or otherwise damaging the finished surfaces on the piece in the vise. To do this, use copper covers or caps. Then chip toward the solid or stationary jaw of the vise and never toward yourself.
9 Large work may require an extra heavy duty cold chisel and sledge hammer. This calls for a two-man team, one using the sledge, and the other holding the chisel with tongs.
10 Remember: the time to plan on safety precautions is before you start the job. After you or someone else has been injured, it's too late.

Floor Jacks

1 Inspect the work area to ensure there are no hazards in the workspace
2 Inspect the machine and be sure that it is parked on level ground
3 Ensure that you know how the machine runs
4 Once on the deck, tie off on rail of floor jack
5 Constantly be aware of surroundings and hazards that may arise

Crimper

1. Depress the lower (retraction) trigger first to make certain that the tool jaws are fully opened.
2. Depress the upper (actuation) trigger until the jaws of the tool close, making an audible pop when the tool has reached maximum output and the crimp is complete.
3. Ensure that the ram is fully retracted by depressing the rear trigger.
4. Select and install the appropriate die set for the connector and cable combination being crimped an insert a battery into the tool.
5. Position the tool properly on the connector, making certain that the die is aligned over the crimp area indicators.
6. Insert the conductor into the connector; depress and hold the trigger forward to advance the tool.
7. Continue holding the upper (actuation) trigger forward until hearing the crimp is complete.
8. Dress and hold the lower (retract) trigger until ram fully retracts, or enough to move to the next crimp location.
9. Keep the tool exterior clean at all times. Remove dirt, debris, and other foreign substances for external surfaces daily, to help prevent corrosion and damage to the tool, the ram and piston mechanism as per manufactures instructions.
10. Inspect the tool for signs of leaks, cracks, wear or damage.
11. Lightly lubricate the external ram & piston surfaces, and die buttons with a high grade silicon lubricant.
12. Wipe the tool with a clean and dry rag before placing the tool into the storage case.

Cutters

1. The internal hydraulic power source achieves high pressure during normal operation. DO NOT disassemble this tool at any time. Disassembly of this tool may result in severe personal injury or tool damage.
2. Cutter blades move at high speed and force and can cause severe personal injury. Keep all body parts away from moving parts of the tool during operation.
3. Cutter blades have sharp edges that may cause personal injury while not in use or during blade replacement or installation. Use caution and personal protective equipment when handling tool and blades.
4. Carefully inspect each blade for fine cracks. A stress crack will normally develop after extended use around the lower portion of the blade's "U" shape and extend downwards.
5. Cutter blades may break during operation due to stress cracks or misapplication. Always carefully inspect blades before use to avoid serious personal injury. Replace damaged blades immediately.
6. Hydraulic fluid under pressure. Do NOT use any part of your body to locate a hydraulic leak. Escaping fluid under pressure can cause severe injury or death.
7. If injury results, seek immediate medical attention to avoid serious bodily injury.
8. Crimp ram operates at high speed and force and can cause severe personal injury. Keep all body parts away from moving parts of the tool during operation.
9. Clean blades of dirt and oils with a dry, clean cloth.
10. Tools are NOT insulated for use on or near energized conductors. Use of these tools near energized conductors may lead to electrical shock, causing severe injury or death.
11. Ensure that ram is fully retracted by depressing the upper trigger.
12. Make certain the latch bar is completely engaged and locked.
13. Be sure to cut only one conductor at a time
14. When cutting bare conductor, apply tape or wire around the cable being cut to hold the strands together.
15. Operator must clear all bystanders from the work area especially when cutting cable and rebar ends to avoid potential injury to bystanders.
16. With the head of the tool facing AWAY from your body, place the cable between the open blades in the cutter.
17. Depress the lower trigger; the ram will advance the lower cutter blade during the activation cycle to cut the cable. For best result make every effort to keep the cable perpendicular to the cable cutter tool.
18. Failure to do so will cause damage to the tool and may lead to serious personal injury.
19. When the cable is cut, release the trigger and depress the upper trigger to retract the ram.

Note: The hydraulic power system is located internally within the tool if the tool is not functioning properly DO NOT attempt to service or repair the tool. Send the tool out to a qualified repair person for servicing.

Hammers

1 Use the right type and size hammer for the job.
2 Keep hands and other body parts clear of striking points when using a hammer
3 Do not hammer on any part of another hammer or similar tool. The extreme hardness of these tools can cause them to splinter. Sending fragments flying at great velocity throughout the vicinity
4 Do not hammer on any part of the bar except the end intended for that purpose
5 Strike the surface squarely, always using the head of the hammer and never the side.
6 Control the hammer by holding it toward the end of the handle.
7 Wear safety glasses to protect your eyes against flying chips when striking objects such as chisels, punches, and drills.
8 Be sure the target is stationary and firm.
9 Keep hammers clean and in good condition.

Driving Nails

1 Be sure the hammer is in good condition.
2 The head must beset at the proper angle and fit good and tight
3 Handle must be smooth, straight grained, shaped to give a good grip, and the right length and weight for good
4 The hammer face is important. It should be in good condition and not chipped or worn away from the shape the manufacturer gave it.
5 Always use the right size hammer for the nail.
6 Drive the nail so that the center of the hammer face always meets the nail head.
7 Learn to groove your swing; that is, make the hammer head go through the same path to hit the nail head, always dead center and at right angles.

Pulling Nails

1 Pull these nails out immediately or bend them over.

Pipe Cutter

1 Inspect work area and be aware of surroundings
2 Unwind pipe cutter so pipe can be inserted
3 Ensure pipe end(s) are secured so they do not fall and roll after being cut
4 Hold pipe securely with one hand, ensuring fingers are out of the way
5 Begin to wind down the pipe cutter so the cutting wheel sits on the pipe
6 Make first revolution around pipe slowly and carefully. Be sure cutting wheel makes a complete cut around the circumference of the pipe
7 Continue tightening after each revolution until pipe is cut

Pliers

1 Do not attempt to force pliers by using a hammer on them.
2 Do not use pliers that are cracked, broken or sprung.
3 When using diagonal cutting pliers, shield the loose pieces of cut material from flying into the air by using a cloth or your gloved hand.

Pry Bars

1 Wear gloves and properly fitting safety glasses when using hammers or bars
2 Use only bars that are in good condition, bars that are not in good condition must be removed from service. Bars must be straight, free of sharp snags, and have ends that are not badly mushroomed.
3 Do not stand on or jerk bar to increase the force of the leverage. Do not straddle the bar. Keep clear of the bar's
4 Do not bar over the top of one object to reach another

Saw Horse

1. When lifting saw horse, use proper lifting techniques
2. Ensure saw horse spreaders are extended fully and locked.
3. Ensure all 4 feet have solid contact with firm level ground.
4. Ensure area is clean, dry and free of debris.
5. Never stack sawhorses to obtain extra height.
6. Do not overload saw horses.
7. Do not carry heavy or bulky loads up or down saw horses.
8. When using saw horses to support work platforms, planks or platforms must be 20" wide and extend a minimum of 6" and a maximum of 12".
9. Any saw horse that is over 32" is considered a trestle ladder and therefore ladder SWP's/SJP's must be followed including no standing on the top two rungs.

Screwdrivers

Proper Care Of

1. Repair screwdrivers that are badly worn or have bent or broken tips. Grind or file the blades square so that the sides that engage the screw are parallel. Be careful not to remove the temper from the blade during the grinding, or it will become soft. A sharp, square-edged blade will not slip as easily as a worn, dull, rounded one.
2. Replace a broken handle. A broken or damaged handle is not only difficult to hold, but you risk cutting yourself or getting a splinter or blister.
3. Keep the tool free of dirt, grease, or burrs.

Proper Use

1. Select the proper size screwdriver for the screw, so that the thickness of the blade makes a good fit in the slot. This not only prevents the screw slot and blade from being damaged, but reduces the force required to keep the tool in the screw head. Clean the slots out with a corner of the screwdriver if they are clogged with paint or other debris.
2. Keep the screwdriver square with the screw head. You will avoid damaging the screw and lessen the possibility of the screwdriver slipping.
3. Never use pliers on a screwdriver. Instead, use a square shank screwdriver that is designed for use with a wrench.
4. Always use a vise or place small work on a firm, flat surface. If you hold the work in your hands, you can get a painful injury if the screwdriver slips.
5. Never hammer with the screwdriver handle, nor use the screwdriver as a pry, punch, chisel or lever.
6. Never use screwdrivers for electrical work if they have the blade or rivet extending through the handle. Use only insulated screwdrivers designed for that purpose.
7. If you have a Phillips head screw, use a Phillips screwdriver. Don't use a small standard screwdriver or a large screw-driver held at an angle.
8. Screwdrivers come in various lengths for different jobs. Select the right length so that your hands are working in the clear and not in danger of striking obstructions as you turn the screwdriver.

Tape Measures

1. Visually inspect metal blade for cracks, rust, or tears.
2. Ensure lock functions properly.
3. Extend tape from point to point placing the end clip at wanted location.
4. While keeping a firm grip of tape measure, slowly retract metal blade keeping fingers away from blade edges and throat of housing.
5. Never let go of tape measure while blade is auto retracting.
6. Never retract a wet or dirty blade.
7. Discard tape if blade is cut or visibly damaged.

Tin Snips

1. Conduct a hazard assessment.
2. It is recommended to wear gloves.
3. Tin snips should be heavy enough to cut the material so easily that the worker needs only one hand on the snaps and can use the other hand to hold the material.
4. Jaws of the snips are to be kept tight and well lubricated.
5. Ensure the material is well supported you for the last cut brings you through the metal.
6. Cut away from your body to prevent possible impaling or cutting yourself.
7. Before finishing last cut, hold material as far away from you as possible to keep the material being cut from kicking back and possible cutting you.
8. Wear safety glasses when cutting notches in the corners of duct because small slivers of metal often come flying with considerable force at your face.

Utility Knife

1. Select the tool adequate to perform the job.
2. Use knives with retractable blades only.
3. Wear safety glasses, gloves, and steel toed footwear.
   Note: Be aware of banding when unwrapping materials, it can re-coil or 'snap' back causing potential for serious injury.
4. In the case of using an 'exacto' utility style blade tool, the blade need only be out approx. ¼ to a ½ inch, any more is too long, and results in a very high potential for unsafe blade breakage.
5. Work the packing or trimmed off material away from the blade with the protective gloved hand, in a controlled manner and pace.
6. Always cut away from your body, especially away from your free hand. When you're done with the knife, retract the blade at once. A blade left exposed is dangerous, particularly in a toolbox.
   Note: Also be aware of possible sharp protrusions such as nails, wires, or industrial staples, or metal banding, which can re-coil when cut.
7. Retract the blade on the 'exacto' style utility knife when not in use and prior to storing.
8. Once all material has been cut / removed, dispose in appropriate waste containers.
9. Return protective type glove to proper storage location for next use.
10. Keep the blade retracted when not in use
11. Keep your body away from the cutting line
12. Avoid talking or looking away when cutting
13. Work on a stable surface
14. Use gloves
15. Check the condition of the blade and handle frequently
16. Avoid using a utility knife for unsuitable tasks

Wheelbarrows

1. Place the load well forward, balanced and confined in size for safety. The load should clear safely through openings, aisles and roadways. You should be able to see over and around the load to guide it safely. The load should be secured, or held steady, against shifting or falling.
2. When picking up a wheelbarrow, spare your back by giving your legs their fair share of the lifting. Bend the legs for lifting instead of bending the back. Spare your back and the wheelbarrow by never overloading.
3. Always push a loaded wheelbarrow forward. This is the way to avoid being run over. Warn others out of the way. A walking pace is safer than running.
4. Cross over obstacles at the right angle, i.e. rails or planks which may divert the wheel causing the load to spill or fall.
5. Like all other construction tools and equipment, wheelbarrows should be stored so that they do not become obstacles and safety hazards for yourself or others.
6. If your wheelbarrow is powered by a gasoline engine, remember that gasoline is a fire and explosive hazard. Remember that gasoline engines produce carbon monoxide gas which can be fatal if the area in which you are working
7. The maintenance of a wheelbarrow engine is properly the work of an authorized and qualified mechanic.
8. The wheelbarrow wheels should be inspected and maintained regularly. Maintain proper lubrication according to directions. Inspect tires for damage. Keep tires properly inflated. Keep all bolts and fittings tight and secure.
9. Wheelbarrow handles are for your hands. Replace handles which are split or splintered. Use handle guards to protect your knuckles from scrapes, cuts and fractures.
10. Accessory wheelbarrow equipment, i.e. lines, rails and racks for loads, should be maintained in top condition.

Hoisting and Rigging

Critical Task

Hoisting and Rigging				2 Pages	Approved by	
Identifier	**Revision**	**Original Date**	**Revision Date**	**Effective Date**	Name:	Ken Crawford
					Position:	President
					Date:	January 31, 2023
WT11	A	January 9, 2019	January 31, 2023	August 6, 2020		

Policy:

It is the goal of C&M Electric to highlight the essential principles of safe lifting procedures to eliminate lifting incidents among our workers.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	B→C	• Perform a hazard assessment • Equipment to be inspected for defects prior to use. • Equipment maintained as per with manufacturer's instructions. • Follow manufacture's instructions • Operators manual to be with the equipment • Proof of regular maintenance must be available. • Work in accordance with the company SJP • Adequate PPE to be worn.	Hard Hat "Class E", CSA Approved Grade 1 Safety Boots, CSA Approved Protective Gloves, A2 Safety Glasses, CSA Approved	Hoisting and Rigging Work Task Policy and Procedures Operator's Manual
Struck by Falling Objects	B→C	• Use lifting beams to position members to ensure stability • Pass, do not throw, bolts and other equipment. • Do not pass loads over workers. • Ensure all workers are adequately trained. • Use bolt bags/baskets to prevent loose bolts or tools injuring		
Struck by the Load	B→C	• One crew member will be identified as the signalman. • Riggers will be "clear" before signaling the all clear to the • If a worker must hold the sling or choker in position, their hand must be clear of pinch points. • Workers must never be between material, equipment or any stationary object and the load swing and away from stacked material that may be knocked over by a swinging load. • No worker will stand under the load, and will keep from under the boom as much as possible • Assess the hazards of the situation and control • Immediately after drilling, the drill bit can be dangerously hot. Do not touch it with bare hands..		
Equipment failure	B→C	• Rigging equipment for material handling will be inspected daily prior to use by a competent person designated by the supervisor. Any defective rigging equipment will be removed from service immediately. • Rigging equipment will be used and maintained in accordance with Regulations for Construction Sections 168-190. • Rigging equipment will not be loaded in excess of its rated safe working load. The safe working load will be conspicuously marked on all rigging equipment.		

When there is excessive manual handling of materials over 50 pounds, or any time deemed appropriate by the Supervisor, then additional tools and equipment may be required for materials handling.

A variety of tools and equipment is available to assist in the handling of materials. They fall into the following categories:

- Manual Materials Handling Equipment
- Powered Industrial Trucks (rider operated and walker operated)
-
-

Manual Materials Handling Equipment:

Manual materials handling equipment is used for a wide variety of tasks. Each of these items should be used only for its designed task and kept in good condition. Selected manual materials handling equipment includes:

- Hooks
- Rollers
- Four wheel trucks
- Jacks
- Dollies

Cranes:

Refer to WT Heavy Equipment - Cranes

Powered Industrial trucks – also see Forklift SWP:

General Hoisting Safe Practices:

- Determine the weight of the object or load prior to a lift to make sure that the lifting equipment can operate within its capabilities.
- The lifting device should be positioned immediately above the estimated centre of gravity
- Prepare a place to land the load, lower the load gently and make sure it is stable before slackening the sling or chain.
- Select only alloy chain slings and NEVER exceed the working load limits.
- Make sure the hoist or crane is directly over the load.
- Use slings of proper reach. Never shorten a line by twisting or knotting. With chain slings, never use bolts or nuts.
- Never permit anyone to ride the lifting hook or the load.
- Make sure all workers stand clear from the load being lifted.
- Never work under a suspended load.
- Never leave a load suspended when hoist or crane is unattended.
- Ensure all slings are inspected by a competent person and are maintain according to manufacturer's specification.
- Ensure each chain or sling is inspected by a designated competent person. If in doubt, don't use it.
- Ensure that safety latches on hooks are in good working condition.
- Ensure that the signaler is properly identified and understands techniques of proper signaling.
- Make sure a tagline is used to control the load.

Safe Work Practices (SWP):

Rigging looks like an easy operation that requires no particular skill or experience. But, if you have an idea that just anybody can do

- Name one member of the crew to act as a signalman, and instruct the equipment operator to recognize signals from that person only. The signalman must be careful not to order a move until he has received the "all ready" signal from each member
- Each rigger must be sure he's in the clear before he gives an "all ready" to the signalman.
- When you have positioned the sling or choker you're using, release it, if possible, before you give the "all ready" signal.
- If you must hold the sling or choker in position, be sure your hand is clear of pinch points. If fact, your hand should be far enough away so there's no possibility of a frayed wire catching your glove.
- Watch out for the roll or swing of the load. Since it's almost impossible to position the hook exactly over the load centre, there will almost always be a swing or roll. Anticipate the direction of the swing or roll and work away from it.
- Never place yourself between material, equipment or any stationary object and the load swing. Also stay away from stacked material that may be knocked over by a swinging load.
- Never stand under the load, and keep from under the boom as much as possible.
- Remove unnecessary blocks or other objects that might fly up if struck by the load.
- When lowering/setting the load, be sure your feet and all other parts of your body are out from under.
- Identify the designated signalman by the use of distinctive vests, armlets, etc.
- Use tag lines to control the leads.
- Rigging equipment for material handling will be inspected daily prior to use by a competent person designated by the supervisor. Any defective rigging equipment will be removed from service immediately.
- Rigging equipment will be used and maintained in accordance with Regulations for Construction Sections 168-190.
- Rigging equipment will not be loaded in excess of its rated safe working load. The safe working load will be conspicuously marked on all rigging equipment.

Slings:

- Slings and all fastenings and attachments will be inspected prior to use each day by a competent person.
- Slings will be used and maintained in accordance with Regulations for Construction Section 172.
- Additional inspections will be made during use where service conditions warrant.
- Damaged or defective slings will be removed from service immediately.

Alloy Steel Chains:

- Only an alloy steel chain or a chain manufactured for the purpose will be used for hoisting.
- No alloy steel chain will be annealed or welded.
- Alloy steel chains will have an identification tag affixed stating size, grade, rated capacity, and sling manufacturer.
- All hooks, links, rings or other attachments will at a minimum have a rated capacity equal to the chain rated capacity.
- Job or shop hooks and links or makeshift fasteners will not be used.
- Alloy steel chains will be used and maintained in accordance with Regulations for Construction Section 177.
- A competent worker will visually inspect the chain as frequently as recommended by its manufacturer and, in any case, at least once a week when the chain is in service.
- Alloy steel chains are to be repaired/reconditioned/proof tested in accordance with the specifications of its manufacturer.

Wire Rope:

- Wire ropes will be inspected daily prior to use by a competent person designated by the supervisor.
- Wire ropes will be used and maintained in accordance with Regulations for Construction Section 168 (2).

Inspections:

- A thorough periodic inspection of the integrity of all rigging equipment and of alloy steel chain slings in use will be made and documented on any site.
- Such inspections will in no event be at intervals greater than once every 12 months, if applicable to job or contract duration.
- The supervisor will make and maintain a record of the most recent month in which each alloy steel chain sling was thoroughly inspected, and will make such record available for examination.

Safe Job Procedures (SJP):

1 Appoint one member of the crew to act as signalman,
2 Instruct the crane operator not to accept signals from anyone else.
3 The signalman must not order a move until getting an "all ready" from each crew member.
4 Each worker in turn must be in the clear before giving an "all ready" to the signal-man.
5 If you must hold on to the chain, sling, choker, or what ever to maintain tension, be sure your hands and feet are out of the way of pinch points before giving an "all ready."
6 If it isn't possible to release the chain, sling, or choker, be sure your hand is clear of pinch points.
7 Keep your hand far enough away so that a frayed wire or splinter on the chain can't catch your glove and jerk your hand into a pinch point.
8 It's almost impossible to position the hook exactly over the load center. So, watch out for a swing or roll.
9 Anticipate he direction of the swing or roll and work away from it.
10 Never place yourself between material, equipment or other stationary objects and the load.
11 Stay away from stacked material that may be knocked over by a swinging load.
12 Never get under a suspended load, and keep out from under the crane's boom too.
13 When it's necessary to guide a load, use a tag line or hook.
14 If you have to walk with a load, keep it as close to the ground as possible.
15 Before hand, look over the spot where the load is to be landed. Remove unnecessary blocks or the objects that might fly up when struck by the load.
16 When lowering or setting a load, keep your feet and all other parts of your body out from under.
17 Set the load down easily and slowly.

Housekeeping

B Hazard

Housekeeping					2 Pages	Approved by	
Identifier	**Revision**	**Original Date**	**Revision Date**	**Effective Date**		Name:	Ken Crawford
						Position:	President
						Date:	January 31, 2023
WT12	A	January 9, 2019	January 31, 2023	August 6, 2020			

Policy:
It is the goal of C&M Electric to inform worker about good housekeeping strategies and the necessity of implementation of these practices.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	B→C	• Management will have rubbish removed as required.	Hard Hat "Class E", CSA Approved	Housekeeping
		• Supervisors will assign clean up tasks.	Grade 1 Safety Boots, CSA Approved	Work Task Policy and Procedures
		• Work and travel areas must be kept tidy.	Dust masks	
		• Work in accordance with company Housekeeping SJP	Safety Glasses, CSA Approved	
Poor placement of materials	B→C	• Ensure defined storage areas.	Protective Gloves, A2	
		• Ensure separate storage areas away from drainage systems.		
		• Ensure procedures to prevent spills or leakage.		
		• Ensure spills are cleaned up immediately.		
		• Store/stacked materials to prevent them from falling over		
Accumulated Garbage	B→C	• Ensure waste materials are cleared up and disposed of correctly.		
Restricted or blocked access	B→C	• Area around equipment and machinery to be kept clean and tidy.		
		• Plan access routes and ensure they are kept clear at all times.		
Inadequate waste bins	B→C	• Ensure adequate waste bins are available.		
		• Ensure full waste bins are disposed of at regular intervals.		
Trailing cables	B→C	• Check that all cables/hoses are routed to avoid tripping hazards.		
Extension cords	B→C	• Keep extension cords from crossing access or work paths.		
		• If possible hang cords above. If not, tape the cords to the ground.		
Punctures from nails	B→C	• Ensure protruding nails are removed from scrap lumber.		

Safe Work Practices (SWP):

- Gather up and remove debris to keep the work site orderly.
- Plan for the adequate disposal of scrap, waste and surplus materials.
- Keep the work area and all equipment tidy. Designate areas for waste materials and provide containers.
- Keep stairways, passageways, ladders, and gangways free of material, supplies and obstructions.
- Secure loose or light material that is stored on roofs or on open floors.
- Keep materials at least 2m (5 ft.) from openings, roof edges, excavations or trenches.
- Remove or bend over nails protruding from lumber.
- Keep hoses, power cords, welding leads, etc. from laying in heavily travelled walkways or areas.
- Ensure structural openings are covered/protected adequately (e.g. sumps, shafts, floor openings, etc.)
- Do not permit rubbish to fall freely from any level of the project. Use chutes etc.
- Do not throw tools or other materials.
- Do not raise or lower any tool or equipment by its own cable or supply hose.

- Signs will be posted in prominent locations and in sufficient numbers to warn workers of a hazard on a project.
- A sign will contain the word "DANGER" written in legible letters that are at least 150 millimetres in height and will state that entry by any unauthorized person to the area where the hazard exists is forbidden.
- Signs will be posted,
    - Adjacent to a hoisting area
    - Under a boatswain's chair or a suspended work platform
    - At the outlet from a chute
    - At a means of access to a place where there may be a noxious gas, vapour, dust or fume, noxious substance or a lack of oxygen; and
    - Where there is a potential hazard from an energized overhead electrical conductor at more than 750 volts.
- Do not enter an area in which a sign is posted other than a worker authorized to work in the area

Lighting

- There will be adequate lighting where workers access/egress/work.
- A light bulb in a temporary lighting system will be enclosed by a mechanical protection device.

Ventilation

- There must be adequate ventilation where workers may be injured by inhaling a noxious gas, vapour, dust or fume or from a lack of oxygen or if a gas, vapour, dust or fume may be capable of forming an explosive mixture with air.
- If it is not practicable to provide natural or mechanical ventilation respiratory protective equipment suitable for the hazard will be available and will be used as required.

Vehicles

- All vehicles will be kept clean inside and out at all times.
- Fire extinguishers and first aid kits must be accessible at all times.
- Materials not required for a specific task must be removed from the vehicle when not in use.

Industrial Lift Trucks

Critical Task

Industrial Lift Trucks				2 Pages	Approved by	
Identifier	**Revision**	**Original Date**	**Revision Date**	**Effective Date**	Name:	Ken Crawford
					Position:	President
					Date:	January 31, 2023
WT13	A	January 9, 2019	January 31, 2023	August 6, 2020		

Policy:
It is the goal of C&M Electric to outline proficiency requirements and safety standards for the use of industrial trucks by company workers.

Records indicate that the majority of industrial truck accidents are caused by human error. It is for this reason that the company has implemented a strict Industrial Truck Policy that must be followed by all workers including those operating the industrial truck/slid steerer and those working around a mobile industrial truck/industrial truck.

Powered Industrial trucks come in two general classifications:

- Rider-operated (mostly industrial trucks and industrial trucks)
- Walker-operated (motorized hand trucks)

Industrial truck operation training and supervision are essential for a safe workplace environment. Under the Occupational Health and Safety Act and applicable Regulations, employers have an obligation to acquaint workers with the handling capacities of operating equipment. Management requires any person whom operates the industrial truck, at any time, to be completely trained by the company president or other qualified instructor recognized by the company.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	**A→C**	• Perform a hazard assessment. • Operator to be adequately trained to ensure competency • Follow manufacturer's instructions. • Operators manual to be with the equipment. • A pre-shift inspection must be performed and appropriately logged prior to equipment use. • Report all unsafe conditions to the supervisor immediately. • Equipment to be maintained by competent person in accordance	Hard Hat "Class E", CSA Approved Grade 1 Safety Boots, CSA Approved	Industrial Lift Trucks Work Task Policy and Procedures Operator's Manual
Poor maintenance	**B→C**	• All operators must wear a seatbelt. • Rollover protection must be provided on any industrial truck . • Routine maintenance must be carried out.		
Defective Equipment	**B→C**	• Defects to be reported to the supervisor. • Defective equipment to be tagged and removed from service.		
Reversing	**A→C**	• When possible, use designated reversing area. • When reversing areas are not practicable, ensure the use of traffic signalers when backing up. • Ensure all equipment is equipped with functioning back-up alarms when required. • When reversing a traffic signaler must be used.		
Site Conditions	**B→C**	• Operating conditions on site must be adequate to maintain the machine stability. • Never work on a steep gradient. • Ensure that the speed of travel is maintained to suit site conditions.		
Operating errors.	**B→C**	• Never allow others to ride in an unauthorized position on machine. • When machine is not in use the forks must be lowered. • Never carry passengers unless seating is provided. • Ensure keys are kept in a secure location when machine not in use.		

Safe Work Practices (SWP):

Ensure the operator:

- Has been informed of the hazards associated with operating an industrial truck in the workplace.
- Knows how to protect himself or herself and others from the hazards.
- Demonstrates to a an experienced operator the skills and knowledge necessary to operate an industrial truck safely.

Inform and instruct others in the workplace:

- Inform and instruct workers about the hazards not only of operating but also of working near industrial trucks, the procedures that they must follow to avoid harm, and where the written procedures are kept.
- For each hazard or potential source of harm, prepare written procedures for preventing accidents and injuries.
- Ensure supervisors and workers are informed of any changes to procedures as a result of changes to work.

Provide effective supervision:

- Supervisors of industrial truck operations must have training and experience, know the hazards associated with the type of industrial truck used, the loads handled, and the environment in which the industrial truck operates. Supervisors must also be able to identify unsafe acts and conditions and implement corrective measures.
- Encourage supervisors to watch for unsafe acts or conditions and to correct them immediately when detected.

Maintenance:

- Consult the manufacturer's manual for specific maintenance instructions.
- Have any defect that affects the safe operation of the industrial truck corrected immediately.
- Turn off the engine while fueling.
- Lock out control devices and secure all parts of the equipment (use chocks) against inadvertent movement before servicing equipment.

Daily Inspection:

The first driver to operate the industrial truck each day will be responsible to complete an inspection. The results are to be recorded in the company industrial truck Inspection Log book. Inspections will cover but are not limited to:

Visual inspection:

- Engine oil fuel level and radiator water level good – Propane, gas and diesel lifts.
- Electrolyte level up and battery plug connections not worn or dirty – Electric lifts.
- Bolts, nuts, guards, chain, hydraulic hose reels not damaged, loose or missing.
- Wheels/tires in good condition.
- Forks – positioning latches in working condition; carriage teeth not broken, chipped or worn.
- Chain anchor pins not worn, loose or bent.
- No damp spots or drips indicating a fluid leak.
- Battery – no exposed wires on the cables; electrolyte and water levels up; hold-downs working.
- Hoses secure, not loose or rubbing.
- Head and warning lights working.
- Industrial truck capacity place present and legible.

Operational Checklist:

- Foot brake - pedal holds, unit stops smoothly.
- Parking brake – holds against slight acceleration.
- Deadman seat brake holds when operator rises from seat.
- Clutch and gearshift shift smoothly.
- All lights and gauges on control panel are operational.
- Steering moving smoothly.
- Lift mechanism lifts smoothly to highest and lowest positions.
- Tilt mechanism moves smoothly and holds when mast is tilted fully forward and backward.
- Cylinders and hoses not leaking after above check.
- Propane cylinders properly secured.

Safety at Loading Docks:

Most accidents at loading docks are attributed to human error. Work organization and safe work procedures will reduce human errors and unsafe behaviours. The following safety procedures will prevent accidents:

- Block the wheels before entering a trailer.
- Obtain help from a signaler when visibility is difficult.
- Ensure adequate lighting.
- Keep access area free of congestion from incoming and outgoing loads, and free of refuse, snow and ice.
- Work safely and methodically; speed is not a measure of efficiency.

Safety Cage and Seat Belts:

- Lift truck seat belts are designed to keep you in the driver's seat should the machine tip over. If you ever feel the lift truck start to tip, grip the wheel, push back into the seat, lean away from the direction of fall, and let the safety cage cushion the impact. You will have a good chance of surviving the tip-over.

Loading and Unloading:

- Keep within the load capacity of the industrial truck.
- Space the forks correctly to support the load.
- Place forks as far as possible under the load.
- The forks should be spaced evenly from centre stringer.
- Straighten wheels when picking up or setting down a load.

Operating an industrial truck:

- Maintain a safe distance from the edges.
- Back down all grades when loaded.
- Avoid turning on ramps or inclines.
- Watch for overhead obstructions.
- Drive at a safe speed.
- Use the seatbelt.
- When the industrial truck is empty – drive FORWARD down the ramp and REVERSE up the ramp.
- When the industrial truck is loaded – drive REVERSE down the ramp and in FORWARD up the ramp.

Carrying a Load Safely:

- Drive with the load against the load backrest.
- Operate in reverse if the load obstructs your view.
- Carry load as low as possible.
- Move only when the load is stable.

Using the industrial truck as a Work Platform:

- Ensure the platforms is securely fastened to the load basket.
- Do not move when workers are working on the elevated platform.
- Never lift a person on the forks/pallet.
- Lift workers using a workers cage.

Safety of Those Working Around an industrial truck:

- Stop when anyone crosses the route being travelled.
- Slow down and sound the horn where vision is obstructed.
- Look toward the travel path and keep a clear view of it.
- Keep trucks and people separated.
- Do not raise/lower forks while moving.
- Drive at a speed to ensure safe stopping.

Leaving the industrial truck:

- Tilt the forks with no load forward with tips touching the ground.
- Straighten wheels when picking up or setting down a load.
- Put the controls in neutral.
- Turn off the motor if leaving the industrial truck unattended.
- Straighten the wheels
- Lower stable loads flat to the ground.
- Don't park on an incline.
- Apply the brakes.

If the industrial truck Begins to Tip Over:

- Stay in the seat – do not attempt to jump clear.
- Hold on tightly to the steering wheel and brace yourself against the seat.
- Keep your body inside the frame of the machine and lean in the opposite direction of the overturn.

Drivers and Operators

- Always obey the signaler or spotter. If more than one person is signaling, determine which one to obey.
- If possible, remain in the cab in areas where other equipment is likely to be backing up.
- Make sure that all mirrors are intact, functional, and properly adjusted for the best view
- When no spotter is present, get out and walk around your vehicle. If the way is clear, back up at once
- Stop the vehicle when a spotter, worker, or anyone else disappears from view.

Signalers

1 Stay alert to recognize and deal with dangerous situations.
2 Wear a reflective fluorescent or bright orange vest and a bright hard hat for high visibility.
3 Understand the maneuvering limitations of vehicles and equipment.
4 Know driver and operator blind spots.
5 Stand where you can see and be seen by the driver or operator.
6 Make eye contact with driver or operator before signaling or changing location.

Safe Job Procedures (SJP):

Operation

1 Obtain Industrial Truck Operators certification.
2 Read the owners Manual before.
3 Perform pre-operation inspection.
4 Enter using 3 points of contact.
5 Adjust the Seat.
6 Fasten your seatbelt.
7 Lower the seat bar.
8 Put all controls in neutral position.
9 In a well ventilated area start the engine.
10 Operate the controls according to manufacturer's specifications.
11 Lift loads according to Rated Operating Capacity.
12 When parking, lower lift arms.
13 Stop the engine.
14 Engage the parking brake.
15 When exiting the Industrial Truck, lift seat bar.
16 Unfasten seatbelt.
17 Exit Industrial Truck backwards using three points of contact.

Backing Up

1 Avoid backing up whenever possible
2 Always park so your first move is forward
3 Check clearances (Front, Back, Side and Overhead)
4 Sound horn frequently (even if equipped with back up alarm)
5 Back slowly (never at a speed faster than a brisk walk)
6 Use a spotter whenever possible

Entering and Exiting:

1 Enter when the bucket or attachment is on the ground.
2 Face the seat when entering and maintain 3-point contact.
3 Do not use the foot or hand controls to step or hold while entering or exiting.
4 Before exiting, lower bucket or attachment to the ground, set the parking brake, and shut off engine every time.

Unloading from a Semi Trailer

1 Ensure the load does not exceed the industrial truck maximum weight tolerance
2 Check that there is adequate unloading space
3 Pull up to trailer, make sure forks are high enough so they do not hit trailer
4 Have a spotter to properly guide forks under the load
5 Slide forks under load gently, only lift one load at a time
6 Once load is secured on forks, ensure all workers are clear and back up slowly
7 Carry load to stable, level ground
8 Gently set load on ground and unhook

Ladders

Critical Task

Ladders				2 Pages	Approved by	
Identifier	**Revision**	**Original Date**	**Revision Date**	**Effective Date**	Name:	Ken Crawford
					Position:	President
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Policy:
It is the goal of C&M Electric to outline proficiency requirements and safety standards for the use of ladders by company workers.

Every year in the Ontario construction industry many lost-time injuries are caused by ladder accidents. Through proper training it is

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	B→C	• Perform a hazard assessment. • Visual inspections required prior to use. • Ladders must be CSA approved. • Metal ladders or ladders with wire reinforcing must not be used in the proximity of energized electrical conductors. • Supervisors will train workers in the use and maintenance of ladders. • Workers must work in accordance with the company Ladder Safe Work Procedures.	Hard Hat "Class E", CSA Approved Grade 1 Safety Boots, CSA Approved Protective Gloves, A2 Safety Glasses, CSA Approved Fall Arrest System, CSA Approved	Ladders Work Task Policy and Procedures Manufacturer's Instructions WAH
Defective ladders	B→C	• Defects to be reported to the supervisor.		
Falling hazard	B→C	• Only one person at a time on a ladder.		
Falling debris/materials	B→C	• Materials should not be stored near ladder access points.		
Poor foundation	B→C	• Ladders must be erected on a firm level base.		
Misuse, over-reaching	B→C	• Use ladders that are suitable for the work.		
Ladder unsecured	B→C	• Ladders must be secured both top and bottom.		

Causes of Accidents
Common causes of ladder accidents include:

- Over-reaching from ladders, rather than moving them.
- Standing ladders on boxes, etc., to gain additional height
- Too much haste in climbing or descending.
- Climbing one-handed while carrying something in the other hand.
- Standing at the very top of a short ladder.
- Hanging tools from ladder rungs, or leaving tools on the top of the stepladder.
- Throwing tools to a fellow worker on a ladder.
- Placing the ladder at an improper angle.
- Using metal ladders in locations where contact with electric wires is possible.
- Using worn or damaged ladders.
- Failure to secure (tie) the ladder in place.

When using platform ladders, specialty or multi-purpose ladders, always follow general safety procedures and read and follow the manufacturer's instructions.

If work must be carried out at height, a work platform should be used. Ladders should be used when working at heights only as a last resort. For example if location restrictions prevent the use of a work platform a ladder may have to be used. Ask yourself does a ladder provide the safest means of access and egress for the work location and type of work – or would stairs or a ramp be better, especially with respect to workplace emergency procedures or will I be able to maintain three-point contact (two feet and one hand or two hands and one foot in contact with the ladder at all times) when entering to or leaving the work location?

Safe Work Practices (SWP):

- All ladders will be designed, constructed and maintained so as not to endanger a worker and will be capable of withstanding all loads to which it may be subjected.
- Ladders must be set up on a firm level ground. If the base is to rest on soft un-compacted or rough soil, a mudsill will be used.
- Ladders will be inspected, prior to use, to ensure there is no damage such as defective or loose rungs. Damaged ladders will be taken out of service, destroyed or tagged and removed from site.
- Never use a ladders in an elevator shaft or a hoisting area when the shaft or area is being used for hoisting.
- Never straddle the space between a ladder and another point.
- When climbing up or down, workers must always face the ladder.
- Portable ladders include; straight ladders, extension ladders, platform ladders, single ladders, stepladders, step stools and trestle ladders.
- Keep ladders away from power lines.
- All portable ladders must be equipped with non-slip bases.
- Never tie ladders or ladder sections together to increase length.
- Never use ladders horizontally as substitutes for scaffold planks, runways or any other service for which they have not been designed.
- Non-self-supporting portable ladder will be situated so that its base is not less than one-quarter, and not more than one-third, of the length of the ladder from a point directly below the top of the ladder and at the same level as the base of the ladder, if the ladder is not securely fastened.
- The maximum length of a ladder measured along its side rail will not be more than six metres for a step-ladder.
- When a task must be done while standing on an extension ladder, the length of the ladder must be such that the worker stands on a rung no higher than the fourth from the top.
- Do not erect on boxes, carts, tables, a vehicle, elevating work platforms or on scaffold platforms.
- Metal ladders or ladders with wire reinforcing must not be used near energized electrical conductors.
- Clean off boot soles before climbing a ladder.
- Maintain 3-point contact at all times while climbing - two hands and one foot or two feet and one hand.
- Keep body between the side rails.

Ladder Rating

Ladders must be either type 1, 1A or 1AA

TYPE	DUTY RATING	LOAD
1	Heavy Duty	113 kg/250 lbs.
1AA	Extra Heavy Duty	137 kg/300 lbs.
1 AAA	Special Duty	170 kg/375 lbs.

Access Ladders:

A ladder used as a regular means of access between levels of a structure or building, the ground or grade level to a building or structure or different work surface levels, it must:

- Extend at the upper level at least 900 millimetres above the landing or floor.
- Have a clear space of at least 150 millimetres behind every rung;
- Have a landing space at the top and bottom of the ladder for access and egress
- Be secured at the top and bottom to prevent movement of the ladder.

Constructed Ladders

In the event that a ladder must be constructed on site, it will meet all requirements as set out in section 80 (1) - (5) in the Regulations for Construction Projects.

Fall Protection

Workers must wear a safety harness with the lanyard tied off to either a fixed support or a lifeline whenever they are:

- 10 feet or more above the floor or ground.
- Working above operating machinery.
- Working above hazardous substances or objects.

Ladder Inspection

Always inspect your ladder before using it. Check:

- Make sure all rivets and joints, nuts and bolts are tight and rung are secure
- Ladder extension locks and feet function and if necessary lubricate
- Rope properly affixed and in good condition
- Never climb a damaged, bent or broken ladder
- Ensure the ladder is clean, free from wet paint, mud, sow, oil and any other slippery materials
- Never make temporary repairs of damaged or missing parts
- All working parts must be in good working condition
- Stepladder spreaders are sturdy, tight and can be properly locked in place.
- Ladder hardware, nuts, bolts, spreaders, etc. for tightness and good repair with particular attention to locking
- Pulley are in good condition and properly lubricated. If pulleys are damaged, they should be replaced.
- Ropes on extension ladders and replace any frayed or worn ropes.
- For damaged or excessive wear on the non-slip feet.
- Wooden ladders for rot, decay, or warped rails.

If defects are found during your inspections:

- Tag and immediately remove from it service immediately.
- Management must ensure that a qualified person determine whether or not the ladder can still be used, repaired or destroyed.
- Repairs must be made in accordance with the manufacturer's instructions. If repairs are not possible, the ladder must be destroyed in a manner that will not allow it to be used again.

Maintenance and Storage

Proper storage of ladders will increase the life and ensure they remain safe and free from damage.

- Wooden ladders should be stored in dry areas to prevent moisture or water absorption.
- Wooden ladders must not be painted, since this may hide serious defects that may develop. A wood preservative or clear finish coating (e.g. varnish) should be used to protect the ladder.
- Do not attempt to straighten, or allow to remain in use, any bent or bowed metal ladder.
- Avoid painting the rungs/steps with anything, even clear coatings, unless a non-slip material has been added to prevent slipping.
- Ladders constructed from fiberglass should be cleaned and sprayed lightly with a clear or pigmented lacquer or paste wax once every three (3) months to reduce deterioration (weathering).

Stepladders

- Make sure that it is fully open and that its spreader bar is securely locked.
- NEVER stand on the top step or the pail shelf.
- Make sure the stepladder is placed on a firm and level footing to ensure that it doesn't slip.
- NEVER use a stepladder while leaning it against a wall or other vertical surface.
- Choose proper type and grade of stepladder for the job.
- Check the manufacturer's ratings and ladder markings to ensure it is suitable for the task.
- Inspect the stepladder to ensure no bent rungs or side rails and that all parts are in proper working order.
- Face the stepladder and climb using the 3 point contact rule at all times.

Straight Ladders

- When erecting ladders, check for overhead hazards, including power lines.
- Both railings of the top section of the ladder must be resting on a firm support.
- When using an extension ladder, the sections should overlap by at least 1 m.
- With straight or extension ladders, use the "4 to 1" rule to determine the necessary length and placement. This simply means that the ladder should be placed (1) foot away from the base of the object for every four (4) feet in height to the place where the top of the ladder rests.
- Make sure that the locking device is fully secured on extension ladder before using.
- When using a ladder for access to high places, securely "tie-off" to prevent it from slipping.
- When working with power equipment make sure it is firmly secured or "tied-off" at the top.
- NEVER slide down the side rails of ladders.
- For long ladders, get assistance when raising or lowering them. It basically requires at least two people to do it safely.
- Ensure that two workers are present when a ladder is being secured or released.
- Do not stand higher than the fourth rung from the top on straight or extension ladders.

- The sections of extension ladders are to be used together as a unit and are not to be taken apart and used individually as single ladders.
- When a ladder is used to climb onto a platform or roof make certain that it extends at least three (3) feet above the platform or roof edge contact point, to provide for support to the worker when getting off/on the ladder.
- Choose the proper type and grade of ladder for the job. Check the manufacturer's ratings and ladder marking's to ensure it is set-up and used properly.
- Hold the ladder in place or secure ladder at bottom and ensure the base is level, solid and stable.
- Locate the base of the ladder 1 metre out from the wall for every 4 metres of height.
- Before mounting a ladder, clean the boot soles if they are muddy or slippery.

Platform Ladders

- Ensure platform ladders are constructed from the appropriate materials for the job.
- Never use aluminum ladders when working on live electrical systems.
- Set up a barricade (caution tape, cones, etc.) around the work area.
- Position the ladder away from pedestrian, equipment or vehicular traffic, when possible.
- If the ladder has wheels or castors, ensure the brakes are applied.
- Inspect the site for hazards when moving the ladder into position.
- Ensure the ladder meets the applicable codes, regulations and manufacturer instruction manual.
- Set up ladder on stable and level ground.
- Never climb on the railings or use a step ladder to gain additional height.
- Ensure workers are trained and knowledgeable about platform ladders.
- Only one (1) worker may use the platform ladder at a time.
- Position the ladder as close to the work area as possible to avoid overreaching.
- Never overload the ladder with people, tools or equipment, ensure weight limits are respected.

Safe Job Procedures (SJP):

Extension Ladder Climbing

1 Inspect before each use as per inspection procedure
2 Follow proper set up procedure
3 Do not use ladder if you tire easily, are subject to faint, or are using medication that may impair your balance or vision
4 Never leave a ladder set up and unattended
5 Securely engage ladder locks before climbing
6 Ensure that the top and bottom ends of the ladder rails are firmly supported
7 Face the ladder when climbing up or down. Do not over reach. Keep body centered between side rails
8 Maintain a firm grip when climbing and working on a ladder (use 3 point rule)
9 Do not climb into the ladder from the side unless secured against side motion- or from one ladder to the other
10 Do not stand closer to the top than 3 ft. from the top. Never climb above the support point
11 Do not walk or shift a ladder while standing on it

Extension Ladder Inspection

1 Inspect before each use
2 Make sure all rivets and joints, nuts and bolts are tight and rung are secure
3 Ladder extension locks and feet function and if necessary lubricate
4 Rope properly affixed and in good condition
5 Never climb a damaged, bent or broken ladder
6 Ensure the ladder is clean, free from wet paint, mud, sow, oil and any other slippery materials
7 Never make temporary repairs of damaged or missing parts
8 All working parts must be in good working condition

Extension Ladder Set Up

1 Inspect before each use as per inspection procedure
2 Secure base when raising and never set up ladder when it is extended
3 Set extension ladder at proper 75.5 degree angle by placing ladder base a distance equal to 1/4 total working length of ladder away from base of vertical support
4 If the distance is less than 3 ft. place base of ladder a minimum of 3 ft. from vertical support
5 Set the ladder on firm level ground. Do not lean sideways

6 Erect ladder with minimum ft. extending above roof line or working surface: tie top at support points
7 Extend top section only from ground, never by bouncing or from the roof
8 Do not over extend, maintain minimum overlap of sections
   a Up to and including 32 ft. - 3 ft. overlap
   b B 36 ft. - 4 ft. overlap
   c C Over 36 ft. and including 48 ft. - 5 ft. overlap
9 Do not place on boxes, unstable bases or on scaffold
10 Do not tie or fasten ladders together to gain additional height
11 Do not place in front of a door that could open into the ladder causing it to fall
12 Do not lean the ladder against an overhead door - beware of automatic operation of the door
13 Whenever possible use a spotter to hold the ladder as added protection & security

Lifting

C Hazard

Lifting				2 Pages	Approved by	
Identifier	Revision	Original Date	Revision Date	Effective Date	Name:	Ken Crawford
					Position:	President
					Date:	January 31, 2023
WT15	A	January 9, 2019	January 31, 2023	August 6, 2020		

Policy:
It is the goal of C&M Electric to eliminate worker injuries caused by the use of improper lifting techniques.

Before you lift a heavy object, think through your task. Decide where you're going to place the object and how you'll get it there.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	B→C	• Perform a hazard assessment	Hard Hat "Class E", CSA Approved	Lifting
Object too heavy		• Worker to be adequately trained.	Grade 1 Safety Boots, CSA Approved Safety Glasses, CSA Approved Protective Gloves, A2	Work Task Policy and
Long Objects		• Avoid manual handling operations.	Back Brace	Procedures
Twisting while lifting		• Work in accordance with the company SJP • Hazard assessment to consider: ➢ The distance from the trunk ➢ Poor posture i.e. twisting or stooping. ➢ Excessive loads, pushing/pulling forces. ➢ Lifting/carrying distances etc. ➢ The risk of sudden movement. ➢ Whether the task is repetitive. ➢ Whether the load is heavy, unwieldy, sharp, unstable ➢ Space constraints leading to poor posture.	Lifting devices	Operator's Manual

Occupational Exposure Limits (OELs):
Although there are no legislated OELs for lifting, a basic starting point, one person should be able to lift an object weighing up to 51 pounds, if:

- The object is within 7 inches from the front of his or her body.
- The object is at waist height *and* directly in front of the person.
- There is a handle on the object.
- The load inside doesn't shift once lifted.

Safe Work Practices (SWP):

General

- Assess the object to be lifted for weight and awkwardness.
- Clear Pathway of all obstacles.
- Put on belt if needed.
- Bend the knees and crouch to lifting position with one foot in the direction of intended path.
- Back straight, firmly grip the object & lift slowly.
- Using firm grip, bring object in close to body, straighten legs and bring yourself to a standing position.
- Move to desired area, lower object in the same manner as to lift the object.
- Place object on surface so it won't fall.
- Raise yourself using your legs back to standing position.

Before the Lift

- Whenever practical, heavy lifting will be done with mechanical lifting devices.
- When manual handling is required, dollies, trucks and similar devices will be used if possible.
- Know your physical limitation and the approximate weight of materials you are trying to lift. Get help when a lifting task may be more than they can safely handle.
- Use gloves when handling sharp, rough, heavy or hot materials.
- Never carry a load so large that it obstructs vision or is too heavy to be safely lifted without assistance.

Safe Job Procedures (SJP):

Lifting

1. Plan your move - Size up the load and make sure your path is clear, get help as needed, or, Use a cart or other materials handling equipment if possible.
2. Use a wide-balanced stance with one foot slightly ahead of the other.
3. Get as close to the load as possible.
4. Tighten your stomach muscles as the lift begins.
5. When lifting, keep your lower back in its normal arched position and use your legs to do the lift.
6. Pick up your feet and pivot to turn. Do not twist your back.
7. Lower the load slowly, maintaining the curve in your lower back.
8. When doing repeated lifting, allow room to move your feet and avoid twisting your body.

Lifting Heavy Objects

1. Don't bend over and try to lift the object all at once.
2. Raise the object upright.
3. Put one knee down against the object.
4. Pull the object up your leg, using your leg for support.
5. If possible, rest the object on the edge of the knee.
6. Stand upright.

Use of Tuggers

- Ensure proper communication between workers.
- Conduct safety talks prior to use.
- Maintain adequate and safe distance.
- Follow all manufacturer recommendations for operations and PPE requirements.

Shoveling

1. Avoid twisting the body while shoveling.
2. Keep feet wide apart. Front foot close to the shovel.
3. Put weight on front foot. Use leg to push the shovel.
4. Shift weight to rear foot. Keep load close to the body.
5. Turn your feet in direction of throw.

Weight Transfer

1. Pull the material to be lifted towards you.
2. Transfer your weight to the leg the closest to the load.
3. Lift on to the level required. Do not over-lift.
4. Shift your weight to the other leg as the load moves towards that leg.
5. Push weight into position.

Long Load

1. Ensure the load is carried on the same side of the body and the path is clear.
    - Lift load from ground to waist height.
    - Lift load from waist to shoulder height.
    - When carrying long, flexible loads such as rebar, walk out of step to avoid excessive bounce.

Lock Out/Tag Out (LOTO) *Critical Task*

Lock Out/Tag Out (LOTO)				2 Pages	Approved by	
Identifier	**Revision**	**Original Date**	**Revision Date**	**Effective Date**	Name:	Ken Crawford
					Position:	President
					Date:	January 31, 2023
WT16	A	January 9, 2019	January 31, 2022	August 6, 2020		

Policy:
It is the goal of C&M Electric is the protection of our workers by ensuring that dangerous machines are properly shut off and not able to be started up again prior to the completion of maintenance or repair work.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	**B→C**	• Perform a hazard assessment •Workers will be adequately trained in LOTO • Work in accordance with the company SJP • Follow manufacture's instructions	Hard Hat "Class E", CSA Approved Grade 1 Safety Boots, CSA Approved Protective Gloves, A2 Safety Glasses, CSA Approved Locks and tags	Lock Out/Tag Out (LOTO) Work Task Policy and Procedures
Electrocution	**A→C**	• Supervisors will be in control of locks and will dispense as required. • All sources of energy will be identified prior to work commencing • An authorized worker will notify affected workers/persons what is going to be locked out, at what time and for how long.		
Unauthorized removal of locks	**A→C**	• The worker who has locked out the system will be in control of the key until which time the system is safe for re-energizing. • In the event that multiple locks on a lock out tag. Each lock will have its own key which is to remain with the worker who attached. • Only when all locks are removed is the system to be reenergized.		

Lockout is generally viewed as the most reliable way to protect an individual from hazardous energy because you are bringing the system to a zero energy state. When a system is in a zero energy state the hazard has been eliminated.

There are many types of potentially hazardous energy including, electrical, thermal, chemical, pneumatic, hydraulic, mechanical and gravitational energy. All such forms of energy must be locked out, blocked or released to ensure that machinery or equipment does not turn on or move during installation, repair or maintenance.

An energy isolating device can be a disconnect switch, circuit breaker, manually operated valve, blind flange, or other device used to ensure that power or energy cannot flow to a piece of machinery or equipment.

Safe Work Practices (SWP):

- The employer will provide information, instruction and supervision to workers on proper lockout procedures for each piece
- An initial review should be made to determine which switches, valves, or other energy isolating devices apply to the equipment being locked out. More than one energy source (electrical, mechanical, hydraulic, pneumatic, chemical, thermal, gravitational) may be involved.
- The employer should ensure that workers know which energy sources may need to be controlled. Workers should check with a supervisor or other knowledgeable person if in doubt about which energy sources may need to be controlled.
- When equipment is to be locked out, follow accepted lockout principles, including:
  - Pre-planning for the lockout by identifying all energy sources, switches, etc.
  - Where lockout is complex, a written sequence in checklist form should be prepared for equipment access, lockout/tagout, clearance, release and start-up.
  - All workers affected by the lockout should be notified.
  - Equipment should be shut down by normal means by turning of switches and closing valves etc.
  - Equipment should be isolated from energy sources by disconnecting or blocking the sources of energy.
  - Lockout and tag the energy isolating devices by padlock or some other locking device that the worker has control over as well as a tag indicating that the equipment has been shut down.

- When work is completed, release equipment from lockout.
- Verify that all energy sources have been isolated by attempting to cycle the equipment prior to working on it.
- Test equipment.

When more than one worker is involved in managing, administering or completing work on energized equipment, devices and systems - then each worker will apply a lock and tag to the locking device and only when all tags are removed will the equipment, device or system be re-energized. This procedure will afford the group of employees a level of protection equal to that provided by a personal lockout or tagout device. i.e. multiple groups of workers, shift changes, other contractors within the area, etc.

Safe Job Procedures (SJP):

Shutting Down

1 Notify all affected workers that a lockout is required and the reason for the lockout.
2 If equipment is operating, shut it down by the normal stopping procedure. Only workers knowledgeable in the operation of the specific equipment should perform shutdown or re-start procedures.
3 Operate the energy-isolating device(s) so that all energy sources (electrical, mechanical, hydraulic, etc.) are disconnected or isolated from the equipment.
4 Electrical disconnect switches should never be pulled while under load, due to the possibility of arcing or even explosion.
5 Stored energy, such as that in capacitors, springs, elevated machine parts, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc., must also be released, disconnected, or restrained by methods such as grounding, repositioning, blocking or bleeding-down.
6 Pulling fuses is not a substitute for locking out.
7 Equipment that operates intermittently, such as a pump, blower, fan or compressor may seem harmless when it is not running. Do not assume that because equipment is not operating at a particular point in time that it will remain off for the duration of any work to be performed on it.

Locking and Tagging

1 Lock out and tag the energy-isolating device with an assigned, individual lock. A worker will not be protected unless he/she uses his/her own padlock.
2 If more than one worker is working on the same piece of equipment at the same time, each one should lock out the equipment, by placing a personal lock and tag on the group lockout device when beginning work, and should remove those devices when you stop working on the machine or equipment.
3 Locks and tags should clearly show the name of the person who applied the device, the date, and the reason for the lockout. This identifies who is servicing the machinery or equipment. In a multiple lockout/tagout situation, it will also identify any worker(s) who may not have finished working.
4 Information on the locks and tags should remain legible.
5 Locks must be substantial enough to prevent removal without the use of excessive force. Tags must be substantial enough to prevent accidental or inadvertent removal.
6 For some equipment it may be necessary to construct attachments to which locks can be applied. An example is a common hasp to cover an operating button. Tags must be attached to the energy isolating device(s) and to the normal operating control in such a manner as to prevent operation during the lockout.

Verification of Isolation

1 After ensuring that no workers can be injured, operate the push button or other normal controls to verify that all energy sources have been disconnected and the equipment will not operate.
2 If there is a possibility of re-accumulation of stored energy, such as an increase in pressure to a hazardous level, isolation of the equipment must be periodically verified until the maintenance or repair is completed, or until the possibility of such accumulation no longer exists.
3 Return operating controls to neutral position after the test. A check of system activation (e.g. use of voltmeter for electrical circuits) should be performed to ensure isolation.
4 The equipment is now locked out.

LOTO Interruption

If a machine is locked/tagged and there is a need for testing or positioning of the equipment/process, the following steps should be followed:

- Clear the equipment/process of tools and materials.
- Ensure workers are a safe distance from any potential hazard.
- Remove locks/tags according to established procedure.
- Proceed with test.
- De-energize all systems and re-lock/re-tag the controlsbefore resuming work.

Release from LOTO

1. Before locks and tags are removed and energy is restored to the machine or equipment, inspect the work area to ensure that non-essential items have been removed and that machine or equipment components are operationally intact.
2. Ensure workers are a safe distance from any potential hazard.
3. Each lock and tag should be removed from each energy-isolating device by the worker who applied the lock and tag.
4. Notify affected workers that locks and tags have been removed.

Noise

B Hazard

Noise				2 Pages	Approved by	
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Policy:
It is the goal of C&M Electric to outline proficiency requirements and safety standards to ensure our workers are not harmed from the effects of noisy work environments.

Definitions:

NIHL refers to noise induced hearing loss
HPDs refer to hearing protection devices
dB is a unit used to measure the intensity of a sound or the power level of an electrical signal by comparing it with a given level on a logarithmic scale.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	B→C	• Perform a hazard assessment. • Adequate PPE to be worn. • Workers must be trained in the use and maintenance of PPE. • Work in accordance with the company Hearing Protection SWP. • Follow industry accepted standards.	Hard Hat "Class E", CSA Approved Grade 1 Safety Boots, CSA Approved Hearing Protection	Noise Work Task Policy and Procedures Operator's Manual
Non-construction noise	B→C	• Radios must be kept to a reasonable sound level.		
Extreme Noise	B→C	• For exposure levels over 105 dB(A), double protection may be required.		

Health Hazards - may include a temporary hearing loss after a loud sound has stopped or a ringing, buzzing, roaring or rushing sound in the ear, and it does not have a source outside of the ear, then you may be experiencing a condition called Tinnitus which can be either a temporary or permanent condition.

Occupational Exposure Limits (OELs):
The company will ensure that no worker is exposed to a sound level greater than an equivalent sound exposure level of 85 dBA.

For exposure levels over 105 dB(A), double protection may be required, that is, earmuffs and earplugs. It is also important to avoid overprotection. Using more protection than necessary can make workers feel isolated from their work environment. Take care to select protectors with sufficient, but not excessive, attenuation to keep noise below the safe limit of 86 dB(A).

Decibels (dB)	Tips on Identifying
85	If someone standing a meter away from you has to shout to be understood, the sound levels probably exceed 85 dBA. You face a significant risk of permanent hearing loss if you are exposed to these sound levels for eight hours or more per day.
88	
91	
94	If someone standing 30 cm away has to shout to be heard, the levels probably exceed 95 dBA. There is a significant risk of permanent hearing loss if you are exposed for 45 minutes or more per day.
97	
100	If someone has to shout into your ear to be heard, the sound levels around you probably exceed 105. This poses a significant risk of permanent hearing loss if you are exposed for just 5 minutes per day.

Exchange Rates

The risk of NIHL varies not only with the magnitude of the sound, but the duration of exposure. In general, a worker might not be exposed to the same sound level for a full 8-hour shift. Daily exposure often involves sound levels greater than and less than 85 dBA, for varying periods of time, depending upon the location of the worker and the changing sound level in the surroundings. Therefore, the exposure limit is based on a *Time-weighted average* (TWA) value and involves the use of an exchange rate.

Occupational Exposure Limits (OELs) for noise are typically given as the maximum duration of exposure permitted for various noise levels. They are often displayed in exposure-duration tables. The OELs depend on two key factors that are used to prepare exposure-duration tables: the criterion level and the exchange rate.

The criterion level, often abbreviated as Lc, is the steady noise level permitted for a full eight-hour work shift.

As the sound level increases above the Lc, the allowed exposure time must be decreased. The allowed maximum exposure time is calculated by using an exchange rate, also called a "dose-trading relation" or "trading ratio." The exchange rate is the amount by which the permitted sound level may increase if the exposure time is halved.

If the sound level is doubled, then the allowable exposure time should be cut in half. The allowable time should be halved for every 3 dB(A) increase in sound level.
The “exchange rate” is 3 dBA. This means that for every increase in sound level of 3 dBA, the allowable exposure time for the worker is halved.

dB	Allowable exposure time (hours)
85	8
88	4
91	2
94	1
97	0.5
100	0.25

PPE

PPE for noise reduction is referred to as Hearing Protection Devices or HPDs. There are a number of options when considering HPD. Two methods are adequate for generally all forms of noise prevention.

Hearing protection that is suitable for the work environment and provides adequate noise reduction is to be chosen.

Selecting the Proper Hearing Protection:

- Worker will be provided with adequate training and instruction tin the care and use of the device.
- It is the worker's responsibility to ensure proper fit of earplugs and to inspect earmuffs regularly.
- If the HPD you are using is made in several sizes, the worker must pick the right size for their ear.

Earplugs:

- Earplugs should conform to the latest issue of CSA Standard Z94.2.
- Workers will be trained on how to use and fit HPDs. Earplugs must be fitted snugly in the ear.
- Reusable earplugs should be washed with warm soapy water daily.
- Earplugs with torn or otherwise damaged flanges should be replaced.

Earmuffs

- Earmuffs should conform to the latest issue of CSA Standard Z94.2.
- The cup part of the muff should fit snugly over the entire ear and be held firmly in place.
- The cup and band should not be so tight as to cause discomfort.
- Cup, cushion and band should be checked for possible defects such as cracks, holes or leaking seals.
- Because band tension can be reduced over a period of time, the band may require repair or replacement.
- Defective or damaged parts should be repaired or replaced as needed.

The noise reduction rate (NRR) for a particular device is identified on its packaging. To attain the maximum rated protection, devices must be worn according to the manufacturer’s instructions.
For exposure levels over 105 dB(A), double protection may be required, that is, earmuffs and earplugs.

Training

The company will provide adequate training and instruction to workers who may be exposed to noise hazards and who may be required to wear HPDs

Safe Work Practices (SWP):

- Communicate noise hazards and measures to be taken to reduce noise exposure.
- Lay out the site to separate noisy activities from quieter ones.
- Schedule noisy activities when the minimum numbers of other nearby workers are present.
- Schedule workers to minimize exposure times.
- Ensure workers are adequately trained instructed and supervised in noise matters.
- Exchange equipment and/or processes for a quieter alternative or quieten the existing one.
- Ensure all noise control measures like silencers are intact.
- Monitor to ensure noisy work is carried out as specified.
- Ensure PHDs are adequate and worn and maintained correctly.
- Post on safety notice boards results of noise assessments conducted.

Safe Job Procedures (SJP):

1 Before entering noise filled area or using loud equipment put on ear protection.
2 Monitor time in this condition.
3 Leave condition at end of work or when noise level is bothersome.
4 Take off hearing protection at end of work.

Banded Earplugs:

Banded earplugs consist of two ear plugs held over the ends of the ear canal by a rigid headband.

1 Inspect ear pods for dirt, damage or extreme hardness — discard immediately if compromised.
2 Reach around your head and take hold of the back of your ear about half-way down.
3 Gently pull your ear outwards and upwards to straighten your ear canal.
4 Insert the plug into your ear canal with the other hand.
5 After use, wash pods and bands with mild soap and warm water only. Pat dry with a towel.
6 Replace pods every 2-4 weeks to ensure optimal protection and performance.

Foam Earplugs:

1 Inspect ear pods for dirt, damage or extreme hardness — discard immediately if compromised.
2 Roll the plug slowly and smoothly into a thin crease-free cylinder (depending on how small you roll the plug, it can take up to 30 seconds to do this, possibly longer if you haven't done it before).
3 Immediately insert the plug well into the ear canal and hold it in place until it has begun to expand.
4 Insert the plug into your ear canal with the other hand.
5 Both ear plugs and foam ear plugs can work loose and may need to be repositioned occasionally.
6 After use, follow manufacturer's instructions. Foam earplugs can be disposable or multi-use.

Ear Muffs:

1 Inspect muffs and note which way they are meant to be worn. Refer to manufacturer's instructions.
2 Extend the headband to its maximum length.
3 Brush as much hair as possible away from the ears.
4 Place the muffs over the entire ear, making sure that the ears fit right inside the cups.
5 Holding the cups in place and tighten the headband.
6 Run your fingers around the cushions to check that they are making a good seal.
7 If you are unable to get a good seal, try different muffs, change your spectacle frames to a thinner type or try earplugs instead.

Procedures for Care and Maintenance of Ear Muffs:

1 Regularly examine ear cups and ear cushions for cracks and leaks — discard if ear cups are visibly damaged or compromised. Replace ear cushions if damaged.
2 Wash ear cups and ear cushions regularly with mild soap and water. Do not dip into the water. Do not treat with any other substances, as the ear cushions may degrade and compromise use.
3 As ear cushions and foam inserts can degrade over time, replace these every 6-8 months under normal wear, or every 3-4 months with heavy use or in humid/extreme climates.

Office Safety

C Hazard

Office Safety					2 Pages	Approved by	
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						Position:	President
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Policy:

It is the goal of C&M Electric to outline proficiency requirements and safety standards for creating and maintaining a safe office work environment by our office workers.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	B→C	• Perform a hazard assessment • Operator to be adequately trained. • Workers to receive written, oral and practical training. • Follow manufacturer's instructions • Operators' manual to be with the equipment • Proof of regular maintenance must be available. • Work in accordance with the company SJP	Stepladder Trolley First id Kit Fire extinguisher	Office Safety Work Task Policy and Procedures Fire extinguisher awareness First Aid (1 in vicinity of first aid kit)
Slips and trips	B→C	• General good housekeeping. • All areas well lit, including stairs. • No trailing leads or cables. • Staff keep work areas clear, e.g. no boxes left in walkways, deliveries stored immediately. • Offices cleaned every evening.		
Material Handling	B→C	• Trolley used to transport boxes of paper and other heavy items when collecting deliveries etc. • High shelves for light objects only.		
Working at height	B→C	• An appropriate stepladder to be used to access heights.		
Electrical	B→C	• Report to office administration any defective plugs, discoloured sockets or damaged cable/ equipment. • Defective equipment to be taken out of service immediately. • Staff not to bring in their own appliances, toasters, fans etc.		
Fire	B→C	• Follow Emergency Preparedness WT		
Working Alone	B→C	• Follow Working Alone WT		
First Aid	B→C	• Never leave file cabinets open and unattended; someone could trip over or bump into them. • Paper cutters should be guarded and closed when not in use		
Ergonomic	B→C	• Keyboards to be adjustable to improve comfort and reduce strain. • Chairs to be ergonomic and include arm rests and an adjustable		

Safe Work Practices (SWP)

- Ensure you are conversant with emergency evacuation.
- Ensure that all electrical cords are in good condition and are not overloaded.
- Ensure that computer monitors are adjusted to correct height and kept clean.
- Ensure fans/space heaters are used to manufacturer specifications.
- Ensure floors and aisles are kept clear and not cluttered.
- Ensure that only one drawer of filling is open at a time and drawers are closed when not in use.

- When transporting materials of a heavy nature ensure that handcarts and trolleys are properly used.
- Ensure proper type of fire extinguisher is available.
- Operate microwave according to manufacturer's specifications.
- Ensure coffee makers are used according to manufacturer specifications.
- Ensure photocopier is maintained according to manufacturer's specifications.
- Ensure chairs are in good repair.
- Ensure rugs are kept clean and in good repair – free of tripping hazard.
- Ensure paper cutter blade is placed in closed lock position.
- Ensure all loose clothing is tied back when using paper shredder.

Lifting

- Use good lifting techniques. When possible, modify the work areas so routine lifting from high or low levels is not necessary.
- Plan moves and path of travel when you are going to move something. Clear obstacles away before you begin Get close to the object you are lifting, squat down to it, and bring the load against your body.
- Do not twist or jerk when lifting. Lift with your legs, maintaining the 3 natural curves of the spine Turn corners and change direction by moving your feet, not turning at the waist. Avoid carrying loads that block your view and take care when rounding corners. Get help lifting heavier objects such as computers or boxes of paper.
- Sit with good posture, face your work directly and arrange your work area so the most frequently used items are within easy reach.
- Relax your hands occasionally by dangling them loosely from your wrists and shaking them. Force a yawn to relax tight facial muscles.
- Look away from paperwork or your monitor periodically to reduce eye strain. Relax your eyes by refocusing them for 15 seconds on a point at least 20 ft. away and then closing them for 15 seconds .
- Position your monitor and document at eye level and about an arm's length away
- Move around, vary your work activities, and take frequent rest pauses during your shift

Computer Vision Syndrome

These days, many of us have jobs that require us to stare at computer screens for hours at a time. That can put a real strain on your eyes. Eye problems caused by computer use fall under the heading computer vision syndrome (CVS). It isn't one specific problem. Instead, it includes a whole range of eye strain and pain.

- Get enough sleep. Fatigue and eyestrain go together.
- Blink. When you are working intently at a computer, you may not be blinking as often as you should to keep your eyes lubricated. Dry eyes are uncomfortable and may even be more prone to infection.
- Look away from your screen frequently. Focus on a distant object.
- Move around, even if you must remain seated. Take your hands off the keyboard when there is a lull in the work. Relax and shrug your shoulders. Sit up straighter if you find yourself slumping in your chair or leaning close to the screen. If you are reading something on the screen, set your keyboard aside for awhile.
- Set up your work area for comfort, safety and productivity. Adjust your chair and desk to the correct height for you. Place the monitor at a distance where you can read it without squinting or leaning forward. Some experts recommend putting the monitor an arm's length from your face, but you're the expert who counts in arranging your work station for maximum comfort. Use a monitor stand to raise the screen, but make sure you are not tilting your head — and straining your neck — to see it.
- If you are reading data from hard copy, position a copy holder where you can see it easily, and use the place marker so you do not have to search for the spot where you left off when you glanced away.
- Arrange light so you can see your work without fighting a glare on the screen or desk surface. Shut window blinds, relocate lamps and reposition your computer if necessary. Consider a filter on your monitor screen to reduce glare.

Safe Job Procedures (SJP):

Computer Use

Chair:

- Adjust chair, comfort is important
- Adjust seat height so that your forearms are parallel to the floor or sloping slightly downward
- Relax shoulders and do not hunched and elbows and upper arms should be close to your body
- Adjust the backrest angle of your chair to feel comfortable
- Use a footrest if required so that the thighs are parallel to the floor or sloping slightly down

Monitor:

- Should be directly in front of you
- Screen should be approximately an arm's length away
- The top of the screen should be at eye height and free of glare and reflections

Mouse:

- Use a mouse pad close to the keyboard to prevent over reaching
- Use a straight wrist

Laptops:

- Whenever possible, connect to an external keyboard and mouse and position screen above desk

Breaks:

- Have a break to relieve the fixed posture and fixed visual focus.
- Varying the task throughout the day is best
- For extended computer work, take short frequent breaks for 2-3 minutes every 20-30 minutes

Maintenance:

- Keep your equipment in good working order
- Screen flicker, sticking keys on keyboards and rough running mice should be adjusted/repaired/ replaced

Electrical Equipment

- Never use machines you don't know how to operate.
- Always refer to the owner's manual and follow manufacturer's operation procedures
- Heed to all posted warning stickers.
- Unplug the machine before doing anything.
- Watch your hands and use caution.
- Watch for electrical hazards.
- Do not use a machine that smokes, sparks, shocks or appears defective in any way.
- Have a professional maintain photocopier on a regular basis.
- If you have to open the machine remember some parts may be hot.
- Unplug defective machines and have them repaired immediately.
- Keep liquids away from photocopier at all times.

Letter Openers and Utility Knives

- Obtain sharp instrument from stored area by grasping on the opposite end that is sharp.
- Use the sharp instrument for the manufacturers intended use.
- Cut away from any body parts including hands that may be holding the material.
- Return the sharp instrument back to original storage area after use.
- Replace sharp object after it begins to dull.

Supply or Storage Room

- Do not rely on chairs or shelves for support, use a ladder or step stool.
- Avoid carrying more than you can safely handle.
- Ask for help when lifting heavy objects or use a mechanical lifting device.
- Lift with your legs not your back.
- Do not store anything on shelves taller than 6 feet.
- Apply good housekeeping practices & procedures.
- Do not lift file or storage boxes weighing more than 5lbs more than shoulder height

Filing & Storage

- Be sure the filing cabinet is mounted to the wall before using it.
- Remove heavy storage material from the top of the cabinet.
- Use the handle of the door or drawer to open it.
- Close one drawer or door before opening another.
- Do not lay filing material on the drawer, place within easy reach.
- Look for hands & fingers as well as employees appendages before closing the door using the handle.
- Close drawers gently using handle.
- If a drawer or door is stuck get assistance and have it repaired.
- Remove any matter hanging out of the cabinet.

Copier Jams

- Read instructions carefully – Always follow the manufacturer's instructions for troubleshooting.
- Turn off & Unplug Photocopier.
- Open cabinets of jammed areas.
- Carefully remove jammed paper avoiding all the hot spots.
- Close cabinets once jammed paper is removed.
- Plug photocopier back in and turn on the machine.
- Allow machine to warm up & come to ready mode.

Doors

- Doors should be opened slowly to avoid striking anyone on the other side.
- Ensure that no one is left inside before closing doors on walk-in vaults.
- Report loose doorknobs, burrs, rough or sharp edges on doors to the Supervisor responsible for the correction of the problem.

Sharps

- Knives, scissors, letter openers, etc. should be kept in the front of desk drawer where they can be seen when drawer is opened and carried so points are not exposed.
- Razor blades will not be used unless fastened in a proper holder.
- When passing the sharp object keep sharp edge toward yourself and pass the handle.

Parking Lot Safety

Management Responsibility

- Ensure garbage containers emptied on a regular basis
- Ensure waste is stored in appropriate waste or recycling storage areas
- Keep property clear of litter, combustibles, hazardous materials, old batteries, etc.
- Keep parking areas free from trip hazards (e.g., no pot holes, cracks, etc.)
- Ensure adequate in the area and walkways at night
- Keep parking lot kept free of debris
- Keep the parking lot free from ice and snow
- Ensure stairs, stairwells, and landings kept clear and unobstructed
- Ensure stairs, stairwells, and landings kept clear from ice and snow
- Keep stairways adequately lit and in good repair.
- Ensure treads and landings have non-skid surfaces and they are in good condition
- Keep emergency exits, exit doors, landings, and steps from the building well marked, unblocked, and kept in good condition
- Keep exits kept free from ice and snow
- Ensure the roof area over the exits free of falling ice and snow hazards
- Keep walkways clear and in good condition
- Keep fencing is in good condition

Worker Responsibility

- Be on the alert for potential safety hazards, including cracks, fuzzy or nonexistent lot striping, missing or damaged signage, broken bottles, and potholes.
- In inclement weather, look for problems like snow, ice, and puddles of water.
- Park as close as possible to overhead lighting, particularly during evening hours.
- When exiting the vehicle, take the straightest route possible to the destination building.
- Do not linger or wander around the lot.
- Avoid texting, cell phone use, reaching into a purse or wallet, and other distractions while outside the auto.
- Try to park away from any visual obstructions, like shrubs, bushes, trees, and retaining walls.
- Keep your keys in hand as you walk to and from your vehicle. Not only will it be easier to enter and exit your car, but they can also serve as effective makeshift weapons in the event of an assault.

Powder Actuated Fastening Tools (PAFT) *Critical Task*

Powder Actuated Fastening Tools (PAFT)				2 Pages	Approved by	
					Name:	Ken Crawford
Identifier	Revision	Original Date	Revision Date	Effective Date	Position:	President
					Date:	January 31, 2023
WT20	A	January 9, 2019	January 31, 2023	August 6, 2020		

Policy:
It is the goal of C&M Electric to outline proficiency requirements and safety standards for the use of power actuated fastening tools by company workers.

Powder Actuated Fastening Tools use a powder charge to fire a fastener into hard materials such as concrete, mild steel and masonry.

There are a number of tools utilizing an explosive charge in use throughout the construction industry to drive fastenings. The manufacturers of these devices provide detailed instructions regarding their use and maintenance. These instructions, along with the legislation specifically set out for their use, will be closely adhered to at all times.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	B→C	• Perform a hazard assessment	Hard Hat "Class E", CSA Approved	PAFT
		• Operator to be adequately trained. • Workers to receive written, oral and practical training.	Grade 1 Safety Boots, CSA Approved	Work Task Policy and Procedures
			Hearing protection	
		• Follow manufacture's instructions • Operators manual to be with the equipment	Impact-resistant eye protection	Operator's Manual
		• Proof of regular maintenance must be available.	Face shield.	
		• Work in accordance with the company SJP		
Inadvertent firing	A→C	• Visually inspect for charge or fastener		
Tool failure	A→C	• Pull the trigger and listen for the firing pin to activate. Repeat		

Safe Work Practices (SWP):

- Only authorized workers may use powder actuated fastening tools. Authorized workers must have successfully completed a comprehensive training program. Proof of training must be carried with the worker at all times on a construction site.
- The operator of a powder actuated tool must wear hearing protection, impact-resistant eye protection and a face
- Prior to use:
  - Workers must ensure that the tool is not loaded.
  - Workers must perform a visual and practical pre-inspection of tools before use. Inspections must be thorough as outlined in training and in the operator's manual.
- Explosive loads for tools must:
  - Be marked as to strength
  - Be stored in containers separate for explosive loads of different strengths
  - Not be left unattended
  - Kept stored in locked containers
- Powder actuated tools must be used, handled and stored properly.
- The tool must be CSA standard approved for Explosive Actuated Fastening Tools.
- Do not use tool in an atmosphere containing flammable vapours.
- Never put your hand or fingers over the end of the muzzle for any reason.
- Never fire through pre-drilled holes.

- Only use an explosive load adequate for the job without excessive force.
- Never fire tool from a ladder.
- Ensure opposite side of wall is clear prior to firing.
- Load the tool immediately before firing.
- Don't walk around with the tool loaded.
- Do not use the tool in areas where there may be exposure to explosive vapours or gases.
- Never point the tool at anyone.
- Cartridges must be marked or labeled for easy identification.
- Misfired cartridges must be placed in water-filled containers until their safe disposal.
- Fire a test shot to verify correct shot is being used in a safe zone away from other workers.
- Explosive/powder actuated tools must never be used in an explosive atmosphere.
- When used, the tool must be held firmly and at right angles to the surface being driven into.
- To prevent free-flying studs, ensure that the material being driven into will not allow the stud to completely pass through it - i.e. glass block, hollow tile, etc.
- Always be aware of the other workers. Where a hazard to other workers is created by this operation, signs and barricades identifying the hazard area are mandatory.

Maintenance:

- Clean and maintain tools according to the manufacturers' instructions.
- Check tools before use to ensure that they are in good working order.
- Tag defective tools "Out of service" and remove from service until properly repaired.
- Store tools and cartridges in a locked container when they are not in use. Ensure that the tool is unloaded before storing it.

Use:

- Use the tool at right angles to the work surface.
- Check the chamber to see that the barrel is clean and free from any obstruction, before using the tool.
- Do not use the tool where flammable or explosive vapours, dust or similar substances are present.
- Do not place your hand over the front (muzzle) end of a loaded tool.

Projectiles:

- Use only the projectiles (fasteners, nails, studs, etc.) recommended by the tool manufacturer.
- Ensure that the base material has no holes or openings and is of sufficient consistency to prevent a projectile from passing right through.
- Do not load a tool until immediately before use.
- Do not force a projectile into a working surface that is harder than the projectile being used. If the base material is unknown, use a hand hammer to drive the projectile, using it as a centre punch.
- Use only cartridges recommended by the tool manufacturer.
- Check that the colour of the cartridge is appropriate for work being done. Charge cartridges are colour-coded to show their strength.
- Conduct a first trial by using the weakest or lowest strength charge cartridge.
- Provide adequate ventilation in confined spaces where powder-actuated tools are used.
- Hold the tool in the fixing position for no less than 5 to 15 seconds when a tool misfires. Keep the tool pointed in a direction that will not cause injury to you or others and unload a cartridge with extreme caution.
- Use caution when using tools near live electrical circuits. Make sure that the nails (etc.) do not enter live circuits buried or hidden in the base material.
- Keep cartridges in a lock up when not in use.
- Do not attempt to force a cartridge into a tool.
- Do not discard unfired cartridges carelessly.
- Do not carry cartridges loose or in a pocket. Carry them in the manufacturer's package.

Power Tools

B Hazard

Power Tools				2 Pages	Approved by	
Identifier	**Revision**	**Original Date**	**Revision Date**	**Effective Date**	Name:	Ken Crawford
					Position:	President
					Date:	January 31, 2023
WT21	A	January 9, 2019	January 31, 2023	August 6, 2020		

Policy:
It is the goal of C&M Electric to outline proficiency requirements and safety standards for the use of powered tools by our workers

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	B→C	• Perform a hazard assessment • Operator to be adequately trained. • Workers to receive written, oral and practical training. • Follow manufacture's instructions • Operators manual to be with the equipment • Proof of regular maintenance must be available. • Work in accordance with the company SJP	Hard Hat "Class E", CSA Approved Grade 1 Safety Boots, CSA Approved Eye protection, CSA Approved Protective Gloves, A2 Noise protection	Power Tools Work Task Policy and Procedures Manufacturer's instructions
Electric Shock	A→C	• Check condition of lead and plug before use.		
Fire/Explosion	B→C	• Do not use heat generating equipment without Hot Work Permit.		
Entanglement	C	• Loose clothing, jewelry and long hair to be kept clear of moving parts. • Use guards where appropriate.		
Eye, hand or facial injury	B→C	• Use protective eyewear or face shield.		
Hearing damage	B→C	• Wear hearing protection if above 85dB(A) or if uncomfortably loud (request assessment if in doubt). • Advise nearby persons of hazard. • Supervisors should inform users of risks from noise.		
Hand/Arm Vibration	B→C	• Select power tools with lowest vibration levels.		

Safe Work Practices (SWP):
Proper Use of Powered Tools:

- Study the manufacturer's instructions before operating any new or unfamiliar electric tool.
- Do not hold grounded conductors when using electric tools.
- Use only tools that are grounded or double insulated. Make sure the casings of double-insulated tools are not cracked or broken.
- Use a ground fault circuit interrupter (GFCI) with any portable electric tool operated outdoors or in wet locations.
- Keep cords out of the path of electric tools and equipment.
- Disconnect tools completely from power source before inspecting and maintaining them. Never bypass broken switches on tools or equipment by plugging and unplugging the cord.
- Any shock or tingle means that the tool or equipment should be checked and repaired if necessary.
- Wear or use PPE appropriate for the work and in compliance with manufacturer's instructions.
- Switch off the tools before connecting them to a power supply.
- If a power cord feels more than comfortably warm or if a tool is sparking, tag and remove from service.
- Disconnect power supply before making adjustments or changing accessories.
- Remove any wrenches and adjusting tools before turning on a tool.
- Inspect the cord for fraying or damage before each use. If defects are found, tag and remove from service.
- During use, keep power cords clear of tools and the path that the tool will take.

Use only approved extension cords that have the proper wire size (gauge) for the length of cord and power requirements of the electric tool that you are using. This will prevent the cord from overheating.

- Eliminate octopus connections: if more than one receptacle plug is needed, use a power bar or power distribution strip that has an integral power cord and a built-in overcurrent protection.
- Pull the plug, not the cord when unplugging a tool.
- Keep power cords away from heat, water, oil, sharp edges and moving parts.
- Ensure that cutting tools, drill bits, etc. are kept sharp, clean and well maintained.
- Store tools in a dry, secure location when they are not being used.

Tool Maintenance:

- If the ground pin is missing on the cord, get a qualified person to repair it.
- If the tool is double insulated (no ground pins on cord), inspect the tool casing for cracks.
- Make sure that all guards and safeties are in place and in good condition.
- Always store tools in a dry, safe place.
- Make sure all cutting and drilling tools are sharp. Dull tools can jam.

Inspections - Power Tools

1 The outside of the tool is free of grease, oil and accumulated foreign matter
2 Tool power-source shows no damage (cord, air line, battery, etc.)
3 Tool is double insulated and tool housing is not damaged
4 If so equipped, electrical cord third prong (ground) is intact
5 All shields, guards or attachments required by OSHA or manufacturer are present
6 Rotating or moving parts of tool are guarded to prevent physical contact
7 Tool is not leaking fluid such as gasoline, oil etc.
8 Blades or bits are not damaged, cracked, excessively worn, etc.
9 Tool appears to be in generally good condition
10 Proper PPE is available

Band Saw

1 Ensure saw is unplugged or locked out
2 Inspect work area to ensure clean
3 Inspect electrical cords, switches, blade and guards for defects
4 Inspect wood to ensure no defects or nail/ screws in wood
5 Place wood on work platform and measure height of wood
6 Adjust guard to 1/8 inch above height of wood
7 Turn on saw and inspect blade as it runs to ensure no defects
8 Push wood through blade very slowly
9 Shut off saw and wait until blade stops to remove wood from platform 10 Use a push stick if wood is small
10 Unplug or lock B Hold extinguisher upright
11 If there is a lot of saw dust, wear a dust mask while cleaning

Drill Press

1 Read and understand instruction manual before operating drill press
2 If you are not thoroughly familiar with the operation, obtain instruction from supervisor or other competent person
3 Do not operate will under the influence of medications, drugs or alcohol
4 Always wear eye protection
5 Guards and shield should be in place and used at all times
6 Secure the material to be drilled securely with clamps or vise
7 Adjust the speed of the drill as required
8 Remove the chuck key from the chuck before starting the drill
9 Make all adjustments with the power off
10 Securely lock the drill bit into the chuck
11 Shut off the power when you have completed drilling and remove the drill bit from the chuck
12 lean the table of debris before leaving the machine

Drills:

- Never remove or tamper with safety devices.
- When operating drills in confined spaced or for prolonged periods, wear hearing protection.
- Always plug in the drill with the switch OFF.
- Before starting work, run the drill momentarily to make sure that the shank is centered and the running true.
- Centre-punch a layout mark or drill a pilot hole in the material so the bit won't slip or slide when you start drilling. A
- With the drill OFF, position the point of the bit in the pilot hole or punched layout hole.
- Hold the drill firmly in one hand or, if necessary, with both hands at the correct drilling angle.
- Turn on the switch and feed the drill into the material with the pressure and control required by the size of the drill and the type of material.
- Don't attempt to enlarge a drill hole by reaming it out with the sides of the bit. Switch to a larger bit.
- While drilling deep holes, especially with a twist bit, withdraw the drill several times with the motor running to clear the drill cuttings.
- Never support material on your knee while drilling. Material should be firmly supported on a bench or other work surface for drilling.
- Clamp small work pieces before drilling. This will prevent them from spinning around. Don't try to drill with one hand and hold a small work piece with the other.
- Never lift or lower a drill by the chord.
- Take a breather now and then to relax your arms, shoulder and back.

Drilling From Ladders:

- The top and bottom of the ladder must be secured to prevent the ladder from slipping or sliding when the operator puts pressure on the drill. When drilling from a ladder, never reach out to either side. Overreaching can cause the ladder to slide or tip.
- Never stand on the top step or paint shelf of a stepladder. Stand at least two steps down from the top. When working from an extension ladder, stand at least three rungs down from the top.
- When drilling from a ladder, never support yourself by holding onto a pipe or any other grounded object. Electric current can travel from the hand holding the drill through your heart to the hand holding the pipe. A minor shock can make you lose your balance. A major shock can badly burn or even kill you.

Grinders:

- Abrasive wheels can cause severe injury. Proper storage of wheels, proper use of wheels and proper maintenance of wheels must be observed.
- Familiarize yourself with the grinder operation before commencing work.
- Always wear eye protection. Proper eye protection consists of spectacles with side shields and a face shield.
- Protect fingers and hands. Never adjust any part while the grinder disk or wheel is still turning.
- Ensure grinder is turned **OFF** before plugging it in.
- Ensure proper guards are in place and that safety glasses, face shields, gloves and safety boots are worn when using portable grinders.
- When turning grinder **ON**, keep clear of the wheel or disk. Let the grinder come up to full speed before making contact with the work surface
- For dry grinding, apply work gradually to the wheel, allowing the cold wheel to heat slowly. Never exceed the maximum wheel speed (every wheel is marked). Checks the speeds marked on the wheel of the grinder and compare it to the speed on the grinder.
- Always check the grinding wheel for cracks or chips before use and replace when damaged.
- Select machine and grinding wheels compatible with manufacturer's recommendation. Follow manufacturer's instructions for use, maintenance and changing grinding wheels or disks.
- When mounting the wheels, check them for cracks and defects, ensure that the mounting flanges are clean and the mounting blotters are used. Do not over tighten the mounting nut.
- Before grinding, run newly mounted wheels at operating speed to check for vibrations.
- Grind only on the face of wheels. Side pressure can break wheels not designed for such use. The cove grinder does have attachments and wheels designed for side grinding
- Use tool rests or guards provided by the manufacturer.
- Do not use grinders near flammable materials.
- Never use the grinder for jobs for which it is not designed, such as cutting.
- For terrazzo floor grinders, the water tank should be filled with clean water and the handle adjusted for operator

Floor grinders must have a steady supply of clean water through the grinding heads during operation. The machine should be cleaned and emptied of water after use. A valve handle at the top of the water tank can adjust water

- When a floor grinder has been emptied and cleaned, then refilled with fresh water for the next use, it is not necessary to throw additional water under the machine.
- Wheels on floor grinders will need grease at least six times yearly. Under heavy use, more frequent greasing is recommended.
- Operators should regularly check the oil level on the gearbox transmission. At least three times a year is recommended. If the machine is being heavily used, more frequent checks are recommended.
- Hold portable grinders firmly with both hands and grind with moderate pressure.
- Let portable grinders come to a complete stop before putting them down. Handle with care to prevent dropping.
- Guard against blows to the wheel, either from dropping or by engaging the wheel too quickly.

Bench Grinders:

- Check the tool rest for the correct distance from the abrasive wheel, maximum of 3 mm.
- Replace the grindstone when adjustment of the rest cannot provide of 3-mm clearance.
- If the wheel has been abused and ground to an angle or grooved, reface the wheel with the appropriate surfacing
- Protect your eyes with goggles or a face shield at all times when grinding.
- Each time a grinding wheel is mounted, the maximum approved speed stamped on the wheel bladder should be checked against the staff rotation speed of the machine to ensure the safe peripheral speed is not exceeded. A grinding wheel must not be operated at peripheral speed exceeding the manufacturer's recommendation.
- The flanges supporting the grinding wheel should be a maximum of a the diameter of the wheel, and must fit the shaft rotating speed according the manufacturer's recommendation.
- Bench grinders are designed for peripheral grinding. Do not grind on the side of the wheel.
- Do not stand directly in front of grinding wheel when it is first started.

Hammer Drill

1 Inspect tool before use.
2 Select correct fastener application
3 Select correct size drill bit.
4 Ensure bit is straight and properly secured.
5 Do not force tool while drilling.
6 Do not block vents while drilling.
7 Do not lift or lower drill by cord.
8 Do not modify cord.
9 Unplug before changing bits.
10 Take care when changing bits after drilling, (bits will be very hot.)
11 Use caution to avoid submerged pipes and conduit.
12 Use caution when pulling bit out of work, (dust blow back).

Hole Saw

1 Select the appropriate speed required. Never change speeds when the drill is running or coating.
2 Squeeze the trigger to turn on the saw.
3 Select the appropriate drill direction. F = forward, R = reverse
4 Insert the bit and tighten the chuck collar. Use the chuck key to tighten the bit in place. Be sure to tighten all three holes. To release the bit, turn the chuck key counter clockwise.
5 Use sharp drill bits only. For wood, use twist drill bits, spade bits, power auger bits, or hole saws. For metal, use high speed steel twist drill bits or hole saws. For masonry, use a carbide tip.
6 Drill bit may stall if overloaded causing a sudden twist Always expect the stall. Grip the drill firmly.
7 Keep the motor running when pulling the bit back out of a drilled hole to prevent jamming.
8 A racketing sound usually indicated that the clutch is disengaging due to a high load. Stop the work.
9 Ensure your step ladder is directly in front of hole being drilled. Do not overreach.

Impact Gun

1. Inspect tool and attachments before use.
2. Do not use extremely worn or damaged drill or driver bits.
3. Do not block air vents.
4. Ensure bits turn straight and true and are secured in the drill properly. Keep a firm grip and do not force tool. Keep wrist in the neutral position.
5. Ensure electrical components, cords and plugs are functioning properly and are not damaged. For battery powered, keep charger from getting wet. and store batteries in their case with protective caps on to prevent terminal shorts.
6. No loose fitting clothes.
7. Tie back long hair.
8. Do not overreach.
9. Use caution when drilling above shoulder or below knees.

Jigs

- Jigs can be used to secure and safely cut masonry units.
- With a brick jig the saw operator stands on the plywood sheet to prevent movement and the jig is sized to hold the brick with minimum clearance.
- The concrete block jig is slightly tipped so that the weight of the blocks helps hold each other in position.

Operation

1. Before starting the machine check that all safety devices and parts operate smoothly and efficiently.
2. Ensure you have the correct blade for the material being cut.
3. Ensure that the blade has been properly tightened, is free running and not damaged in any way.
4. Ensure that all devices designed to guard the blade are in position and functioning properly.
5. Make sure the work-piece is attached to a stable base.
6. Ensure that the path of the saw is clear and not obstructed by anything e.g. the saw's cable.
7. Set the saw to the correct speed for the material being cut.
8. Switch the Jigsaw on and wait till it is running at full speed before cutting.
9. Never reach your hands underneath the work-piece while the blade is moving.
10. Do not lift Jigsaw off until the blade has stopped!

Reciprocating Saw

- Task (e.g. Drawings, instructions, specifications etc.) is clearly understood.
- Be careful not to twist or bend the saw blade.
- Hold the saw only by the provided gripping areas. Grabbing it by the front metal parts can result in electrical shock if you accidentally cut into live electrical wires when sawing into walls or floors.
- If the handle of the unit is cracked or broken, don't use it. Electrical shock could occur if you touched anything metal that is grounded.
- Use clamps to hold pieces of work stationary.
- Press the shoe firmly against the material that you're cutting, especially if it's something hard like metal. If you don't, the blade will catch in the work piece, and you will find yourself reciprocating instead of the saw blade.
- Ensure guarding is in place (if applicable).
- Ensure the appropriate blade is being used for the task.
- Identify ON/OFF switch and emergency stop button (if applicable).

Operation

1. Check that blade runs 'true' and does not wobble.
2. Check that the cord is always well away from the blade.
3. Keep hands clear of work piece and away from blade.
4. Stop operation immediately if blade or cord is damaged.

Post Operation

1. Switch off saw before removing waste material from the table.
2. Ensure good housekeeping practices are in place to minimize dust build-up.

Screw gun

1. Inspect tool before use.
2. Ensure trigger lock is functioning properly.
3. Ensure long hair is tied back
4. No loose clothing.
5. Ensure cord is free from potential snags.
6. Never lower tool by cord.

Shop Vacuum

1. Inspect tool before use.
2. Do not modify cord.
3. Empty vacuum frequently, (a full bag can add 10-20lbs to vacuum).
4. Use appropriate attachment.
5. Keep elbows at or near your sides to minimize shoulder movement.
6. Avoid movements where your elbows are behind your body.
7. Avoid extreme ranges in wrists.
8. Maintain a neutral spine.
9. Move your legs and not your back
10. Avoid overreaching.
11. Utilize micro breaks/pauses if needed.

Repetitive Strain

C Hazard

Repetitive Strain				2 Pages	Approved by	
Identifier	**Revision**	**Original Date**	**Revision Date**	**Effective Date**	Name:	Ken Crawford
					Position:	President
					Date:	January 31, 2023
WT22	A	January 9, 2019	January 31, 2023	August 6, 2020		

Policy:
It is the goal of C&M Electric to provide guidance for workers who may be susceptible to Repetitive Strain Injury (RSI) due to the work they perform.

Definition:
Repetitive Strain Injury (RSI) is a general term used to describe a variety of painful injuries that affect tendons, tendon sheaths,

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	B→C	• Perform a hazard assessment • Operator to be adequately trained. • Workers to receive written, oral and practical training. • Follow manufacture's instructions • Operators manual to be with the equipment • Proof of regular maintenance must be available. • Work in accordance with the company SJP	Hard Hat "Class E", CSA Approved Grade 1 Safety Boots, CSA Approved Shoulder pads Knee pads Vibration reducing gloves Safety Glasses, CSA Approved	Repetitive Strain Work Task Policy and Procedures Operator's Manual
Carpal tunnel syndrome Tendonitis Tennis or golf elbow Bursitis	B→C	• Use platforms, lifts and forklifts • Use hoists or chain falls • Use carts and dollies • Make smaller loads • Use power tool instead of hand tools • Plan the work ahead of time • Deliver materials close to where they will be used • Have proper equipment at the job site • Minimize bending, reaching or twisting • Use the buddy system – get help • Participate in a worksite stretch and flex program		

Causes of RSI

Gripping, holding, bending, twisting, clenching, and reaching - these ordinary movements that we naturally make every day are not particularly harmful in the activities of our daily lives. What does make them hazardous in work situations though, is the continual repetition of the movements. And there are other work factors that may contribute to injuries, such as awkward postures and fixed body positions, excessive force concentrated on small parts of the body such as the hand or wrist, and a fast pace of work with insufficient breaks or recovery time.

Symptoms

- Tingling, numbness, or loss of sensation
- Heaviness: Do your hands feel like dead weight?
- Clumsiness: Do you keep dropping things?
- Frequent self-massage (subconsciously)
- Weakness in the hands or forearms
- Chronically cold hands
- Lack of strength in your hands
- Lack of control or coordination
- Fatigue or lack of endurance

Hand Tools

The best tool is one that:

- Fits the work space available
- Can be used in a comfortable work position
- Fits your hand
- Reduces the force you need to apply

Power Tools

- It should have low vibration and noise levels.
- It should be heavy enough to do the job, but not add strain.
- It should have a long trigger.

Safe Work Practices (SWP):

- If possible, eliminate the repetitive task.
- Rotate between tasks where you do something completely different, using different muscles groups.
- Configure your workstation to fit your body size and shape.
- Alternate work tasks to combine work in standing, sitting, or sitting-standing positions.
- Maintain tools and equipment to reduce the force needed to complete tasks and prevent muscle strain.
- Use tools or equipment to help with tasks that require holding elements (e.g. vises and clamps for woodworking and machining) can save workers from exerting a great deal of muscular effort in awkward positions.
- Use platforms, lifts and forklifts
- Use hoists or chain falls
- Use carts and dollies
- Make smaller loads
- Use power tool instead of hand tools
- Plan the work ahead of time
- Deliver materials close to where they will be used
- Have proper equipment at the job site
- Minimize bending, reaching or twisting – work at waist level whenever possible
- Use the buddy system – get help
- Participate in a worksite stretch and flex program
- Avoid using your wrist in a bent, extended or twisted position. Instead, try to maintain a straight wrist position. Also,
- Take periodic breaks to minimize repetition and rest your hands.
- Reduce the speed and force with which you do the repetitive movement.
- Do exercises to strengthen the hand and arm muscles.
- See a doctor if you feel tingling, numbness, or pain in the fingers, hands, wrists, or arms. The sooner RSI/CTS is

Safe Job Procedures (SJP):

Repetitive Work

1. Start by recognizing the repetitive tasks you do. If you feel pain or discomfort on a regular basis, consult with a professional. If you are having symptoms of repetitive strain injury, get it treated now or it may become far more serious.
2. Take scheduled breaks while you are performing repetitive tasks. Stretch and flex your muscles.
3. You might want to try specific exercises designed to help combat repetitive strain. Ask your supervisor or doctor for suggestions.
4. You can also try alternating your repetitive jobs with other tasks. For example, if you are keyboarding for a period of time, try reading or filing for a while before returning to your computer. If you are using a power drill, switch to another task periodically.
5. Consider rearranging your work station. Change the height of your chair and table so your back doesn't hurt and you don't have to bend and twist so much. Place your tools and supplies so you don't have to strain to reach them.
6. Relax your hold when using hand tools and power tools. Avoid awkward or strained postures while working.
7. Maintain good physical condition to help reduce your chances of suffering a repetitive strain injury.
8. Keep warm while you work. This helps muscles and connective tissues to stay flexible and can help reduce injuries. Wear gloves, if appropriate, for your work.

Respiratory Protection

Critical Task

Respiratory Protection				2 Pages	Approved by	
Identifier	**Revision**	**Original Date**	**Revision Date**	**Effective Date**	Name:	Ken Crawford
					Position:	President
					Date:	January 31, 2023
WT23	A	January 9, 2019	January 31, 2023	August 6, 2020		

Policy:
It is the goal of the company is to outline proficiency requirements and safety standards for the use of respirators, to include dust masks, air-purifying respirators and supplied air respirators, by company workers.

Wherever possible, work areas will be ventilated to reduce hazards from dust, fumes, gases or vapours. Where not practical, respiratory protection appropriate to the hazard will be provided to, and used by, the worker.

It is the company's responsibility to provide adequate respiratory protection.

Worker will be trained in the use and maintenance of the respirator and in the proper fit.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	**B→C**	• Perform a hazard assessment	Hard Hat "Class E", CSA Approved	Respiratory Protection
		• Ensure adequate training. • Workers to receive written, oral and practical training.	Grade 1 Safety Boots, CSA Approved Supplied-air respirators	Work Task Policy and Procedures
		• Follow manufacture's instructions	Dust masks	Operator's Manual
		• Operators manual to be with the equipment	Air-purifying respirators	Respirator Fit Test
		• Proof of regular maintenance must be available.	Safety Glasses, CSA Approved	
		• Work in accordance with the company SJP • Work areas should be ventilated to reduce hazards from dust, fumes, gases or vapours. • Where ventilation is not practical, respirators appropriate to the hazard will be provided to and will be used • Ensure proper fit. • Inspect respirators prior to use. • All hazardous materials must have supplier/workplace labels and SDS. • Hazardous materials must be stored as per the SDS.		

Safe Work Practices (SWP):

- Work areas should be ventilated to reduce hazards from dust, fumes, gases or vapours. Simple methods for ensuring good quality air include:
  - Whenever possible, windows and doors should be opened to allow harmful vapours to escape.
  - Heating and cooling system should be turned off to stop vapours from circulating through the work area and any common area.
  - A box fan can be used in an open door or window to draw vapours out or fresh air into a work area.
  - If possible water based products should be used (filler, varnish etc.).
  - Any fire hazards should be removed or eliminated from affected work areas.
  - There should be no smoking or open flames in the work area.
- Where ventilation is not practical, respirators appropriate to the hazard will be provided to and will be used by the worker and be trained to use and maintain the respirators properly.
- Respiratory protective equipment can prevent illness, disease and death from breathing hazards, but the equipment must be properly selected, fitted, worn and maintained to ensure maximum protection.

- Use the correct respirator for the job. Most respirators, are limited to certain types of hazards.
- Ensure proper fit. Respiratory Fit training is required for all respirators except dust masks.
- Most respirators, with the exception of disposable respirators, require regular maintenance.
- Never interchange parts from one manufacturer to another.
- Whenever possible, provide good ventilation as it is the best way of controlling respiratory hazards.
- Always inspect respirators prior to use. Refer to manufacturer's instructions.
- If protective goggles/glasses does not allow proper fit of the respirator, use a full-face mask.

Mask Fitting:
With respirators it is good practice to be clean-shaven, since even one day's beard growth can affect protection.

Two easy tests can indicate whether most respirators fit properly and do not leak.

- Negative Pressure Test
  1. Block the air inlet – usually the filter openings on the sides of the face piece.
  2. Breathe in. If there are no leaks, the face piece should collapse slightly and not let any air in.
- Positive Pressure Test
  1. Put on the face piece and adjust it to fit comfortably (snug, not overly tight).
  2. Block the exhalation valve – usually on the bottom of the respirator.
  3. Try to breathe out. The facepiece should pop slightly away from your face but should not let air out.

Either test will readily detect any significant leaks. After readjusting the face piece, test again and repeat until fit is satisfactory.

Respiratory Protection
To provide proper protection, respirators must be the right type, must be worn correctly at all times, and must be maintained properly. They are prone to leakage, depend on the correct behaviour of individual workers and may require much maintenance. For these reasons they are to considered as a last resort to protect employees from airborne chemical hazards.

Workers will leave the area where respirators are required for any of the following reasons:

- To replace filters or cartridges.
- When they smell or taste a chemical inside the respirator.
- When they notice a change in breathing resistance.
- To adjust their respirator.
- To wash their faces or respirator.
- If they become ill.
- If they experience dizziness, nausea, breathing difficulty, coughing, vomiting, fever or chills.

There are three main types of PPE that provide respiratory protection:

- Dust masks -A dust mask is a flexible pad held over the nose and mouth by elastic or rubber straps.
- Air-purifying respirators can remove contaminants in the air by filtering out particulates.
- Supplied-air respirators (SARs) supply clean air from a compressed air tank or through an air line.

Dust masks and air-purifying respirators both remove particulates from the air you breathe. Particulate filters are rated by the National Institute of Occupational Safety and Health (NIOSH) according to what, and how much, they filter out. The rating have both a letter and number:

N Not oil proof **R** Oil resistant (up to 8 hours) **P**

Number: Particulate filters are rated 95, 97, or 100; which corresponds to the percentage of one-micrometer particles removed during clinical trials. A 95 rating means that the filter removes 95% of particles from the air. Filters rated 100 are considered High-Efficiency (HE or HEPA) filters.

Selecting the Proper Type of Respirator:

- It must be the correct type for the air contaminant.
- It must fit properly.
- It must provide adequate protection for the amount of chemical in the air. The more toxic or more concentrated the chemical is, the higher the level of protection the respirator must provide.

Chemical Cartridge Filters:
Types of chemical cartridge filters include:

- Chemical Cartridge: Block out vapors, but don't have a separate prefilter to remove particles.
- Dual Cartridge: Include a replaceable pre-filter for particulates, giving you both types of protection. The particulate pre-filter will be rated just like any other particulate filter
- PAPR (Powered Air-Purifying Respirator): Have a battery-powered fan that blows air through the filter to make breathing easier.

To choose the right cartridge respirator, workers need to check the SDS.

Supplied Air Respirators and Self-Contained Breathing Apparatus (SCBA)
Negative pressure or demand supplied air respirators will be equipped with a full face piece. To minimize the inward leakage of contaminated air, a minimum air flow must be maintained; six cubic feet per minute (170 L/min) for loose-fitting hoods or helmets and four cubic feet per minute (130 L/min) for tight-fitting face pieces.

Breathing Air Requirements
Compressed breathing air will meet the standards of CSA Standard Compressed Breathing Air and Systems.

Medical Evaluations:
Workers will not be assigned to an operation requiring the use of a respirator unless physically able to perform the work while using the respirator. Where there is doubt about a worker's ability to work with a respirator, the worker should seek the advice of a physician.

Training:
Worker will be trained in the use and maintenance of the respirator and in the proper fit. The instruction and training related to the use of respirators must cover the following:

- Inspection and maintenance of the equipment.
- Respirator cleaning and disinfection.
- Proper fitting of a respirator.
- The limitations of the equipment.

Safe Job Procedures (SJP):

Procedures for a Respirator Pre-Use Face Seal Check:
Before using a respirator, workers must perform a positive and negative pressure check. The wearer must ensure current facial condition will allow an effective seal (for example the wearer must be clean shaven).

1. Positive pressure check. Close off exhalation valve with palms and exhale gently. No leakage outward around the seal should occur.
2. Negative pressure check. Close off cartridges and inhale. The respirator should collapse slightly on the face. No leakage around the face seal should occur while maintaining a negative pressure inside the respirator for several seconds.

Procedures for Care and Maintenance of Respirators:
Respirators must be cleaned and disinfected after use, or more often if necessary when used exclusively by one worker. If they are

1. Disassemble respirator, removing any filters, canisters, or cartridges.
2. Wash in a mild detergent with warm water. Do not use organic solvents.
3. Rinse completely in clean warm water.
4. Wipe the respirator with disinfectant wipes (70% Isopropyl Alcohol) to kill germs.
5. Air dry in a clean area.
6. Reassemble the respirator and replace any defective parts.
7. Store in a clean, convenient, and sanitary location. Protect from dust, sunlight, heat, extreme cold, excessive moisture and damaging chemicals.

Selecting the Proper Dust Mask:

When choosing a dust mask, consider:

1. Masks with an adjustable nosepiece offer a tighter fit.
2. Disposable masks with foam face seals will be more comfortable and a little more effective.
3. Masks with an exhalation valve will make breathing easier.
4. For highly toxic particles (such as asbestos), choose a non-disposable mask with sealing gaskets.

Procedures for a 'Fit Test' for a Mask Without and Exhale Valve.

1. Open the mask out fully before performing a 'Fit-Test'.
2. Place the fingertips of both hands at the top of the metal nosepiece. Mould the nosepiece to the shape of your nose by pushing inward while moving your fingertips down both sides of the nosepiece. Pinching the nosepiece using one hand may result in less effective respirator performance.

Procedures for a 'Fit Test' for a Mask With and Exhale Valve.

1. Open the mask out fully before performing a 'Fit-Test'!
2. Using both hands mould metal nosepiece comfortably to shape of nose.

Procedures for Care and Maintenance of Dust Masks:

1. Store dust masks in a plastic bag or box in a secure location such as a locker or desk drawer, away from moisture and contamination.
2. Do not share dust masks with others.
3. Not use a dust mask that is torn, distorted, or dirty.

Inspection:

1. Sealing surface must be clean and free of cracks and holes
2. Rubber and elastic parts must have good pliability and no signs of deterioration
3. Inhalation and exhalation valves must be clean and seated properly
4. Straps must be sufficiently elastic and free of worn areas
5. Ensure the face shield is cleaned and clear.
6. Respirators that fail an inspection must be removed from service and replaced.
7. Repairs may will be done by experienced workers. No attempt may be made to replace parts or to make adjustments or repairs beyond the manufacturer's recommendations.

Scaffold

Critical Task

Scaffold					2 Pages	Approved by
Identifier	**Revision**	**Original Date**	**Revision Date**	**Effective Date**	Name:	Ken Crawford
					Position:	President
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WT24	A	January 9, 2019	January 31, 2023	August 6, 2020		

Policy:
It is the goal of C&M Electric to outline proficiency requirements and safety standards for the use of chainsaws by company workers.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	B→C	• Perform a hazard assessment. • Report any defects to the supervisor. • Scaffold erectors to be adequately trained to ensure competency. • Workers must work in accordance with the company Scaffolding • Any Fall Protection PPE involved in an actual fall must be replaced.	Hard Hat "Class E", CSA Approved Grade 1 Safety Boots, CSA Approved Fall Arrest - CSA approved fall arrest harness, shock absorbing Travel Restraint – CSA approved safety belt and lanyard Safety Glasses, CSA Approved Protective Gloves, A2	Scaffold Work Task Policy and Procedures Manufacturer's Manual WAH
Falls	B→C	• Use proper access. Do not climb the scaffold rails. • A suitable means for raising and lowering equipment and materials must be used. • Guardrails temporarily removed for the purpose of hoisting equipment or materials will be replaced immediately.		
Housekeeping		• Work areas on and around the scaffold should be kept clear of deb		
Scaffold Erection	B→C	• Scaffold erectors will be adequately trained to ensure competency. • Always use the Three-to-One rule. • When required, a suitable means of fall protection will be used during the erection of scaffolding. • When scaffold must be secured it will be done by: ➢ Tying it to a structure. ➢ Using outrigger stabilizers. ➢ Using guy wires.		
Scaffold Collapse	B→C	• No load greater that the design capacity will be placed on a scaffold.		

Safe Work Practices (SWP):

- A professional engineer or a competent worker designated by the supervisor of the project will inspect the scaffold before it is used to ensure that it is erected in accordance with the design drawings. The person carrying out an inspection will state in writing whether the scaffold is erected in accordance with the design drawings.
- Every scaffold will be designed and constructed to support or resist:
  - Two times the maximum load or force to which it is likely to be subjected, without exceeding the allowable unit stresses for the materials of which it is made.
  - Four times the maximum load or force to which it is likely to be subjected without overturning.
- A scaffold with structural components whose capacity can only be determined by testing will be designed and constructed to support or resist three times the maximum load or force to which it is likely to be subjected without causing the failure of any component. No scaffold will be loaded in excess of the load that it is designed and constructed to bear.
- The erection and dismantling of scaffolds must be carried out under the supervision of a competent worker knowledgeable and experienced in such operations.
- Workers erecting and dismantling a scaffold more than 2.5 meters (8 feet) high must be tied off with a full body harness and lanyard equipped with a shock absorber.
- Scaffolds must be adequately braced horizontally and vertically.
- Scaffolds must be equipped with guardrails consisting of a top rail, mid-rail and toe board.
- Scaffold platforms must be at least 46 centimeters (18 inches) wide and if they are over 2.4 meters (8 feet) height they must be planked across their full width.

- Scaffolds must be tied in to a building at vertical intervals not exceeding three times the least lateral dimension, including the dimension of any outrigger stabilizing devices.
- Where scaffolds cannot be tied in to a building, guy lines adequately secured should be used for stability.
- Scaffold frames must be properly pinned together where scaffolds are two frames or more in height or where they are used as a rolling scaffold tower.
- Scaffold planks must be securely fastened to prevent them from sliding.
- Scaffold planks must be of good quality, free of defects such as loose knots, splits or rot, rough sawn, measuring 48mm X 248mm (1 7/8" X 9 ¾") in cross section, and No. 1 spruce or better.
- Scaffolds must be erected, used and maintained in a reasonably plumb condition.
- Scaffold planks must be installed so that they overhang by at least 15 centimeters (6 inches) but no more than 30 centimeters (12 inches).
- Scaffolds must be equipped with a proper ladder for access. Vertical ladders must be equipped with 15-centimeter (6 inches) standoff brackets and a ladder climbing fall protection device or safety cage when they are more than 3 meters (10 feet) high.
- Frame scaffolds over 15 meters (50 feet) high and tube-and-clamp scaffolds over 10 meters (30 feet) high must be designed by a professional engineer and constructed in accordance with the design.
- Remove ice, snow, oil, grease and other slippery material from the platform, and apply sand to the surface.
- Unsafe equipment or conditions must be tagged out by a Competent Person, and must be complied with.

Baker Scaffolds

- Make sure that the floor is clear of all obstructions and all holes/openings are covered.
- If the platform is to be placed to the top, place additional rails lower to stabilize the end frame ladder to help prevent the bottom from racking inward.
- Do not try to pull or "scoot" yourself from one location to another while standing on the platform.
- Lock casters to prevent scaffold from rolling out from under you.
- Do not overreach. Keep your body within the boundaries of the guardrail and scaffold section.
- Do not place ladders, horses, buckets, chairs, boxes or other such objects to gain additional standing height.
- Utilize outriggers to help prevent tipping.
- Keep work platform clear of debris.
- Keep casters clean and oiled.
- Pin, spring and nipple must be lubricated as required.

Safe Job Procedures (SJP):

Operation procedures

1. Inspect scaffolds daily before you trust your life to them. Check guardrails, connectors, fastenings, footings, tie-ins, and bracing.
2. Check to see that platforms are closely boarded, fenced, and securely fastened.
3. Don't stockpile materials on scaffolds. Remove all tools and left-over materials at the end of the day.
4. Never overload scaffolds. Pile necessary materials over ledger and bearer points.
5. Ground yourself during storms or high winds. In winter, clear platforms of all ice and snow before using. Sand wet planking for sure footing.
6. Help protect scaffolds; don't bang into them with equipment or materials. When hoisting material from the ground, control it with a tagline.
7. Keep platforms and area near scaffold clear of debris, unneeded equipment or material, and anything else that might cause you to slip or trip.

Silica

B Hazard

Silica				2 Pages	Approved by	
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Policy:
It is the goal of the company to protects workers from overexposure to silica dust.

Silica (SiO2) exists in several forms, of which crystalline silica is of most concern. The best-known and most abundant type of crystalline silica is quartz. Other forms of crystalline silica include cristobalite, tridymite, and tripoli.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	B→C	• Perform a hazard assessment	Hard Hat "Class E", CSA Approved	Silica
Lung Damage Kidney Damage		• Worker to be adequately trained. • Workers to receive written, oral and practical training.	Grade 1 Safety Boots, CSA Approved Protective Gloves, A2	Work Task Policy and Procedures
Cancer Rheumatoid arthritis		• Read and follow SDS • SDS to be available on site.	Safety Glasses, CSA Approved	
		• Work in accordance with the company SJP • Avoid airborne dust generation. • Use enclosures and appropriate exhaust ventilation • Isolate workers from dusty areas. • Remove and wash soiled clothing • Wear safety glasses with side shields or chemical goggles. • Wear body-covering clothing. • Appropriate hand protection • Wash hands at the end of each work session • Remove and wash soiled clothing.		

Some commonly used construction materials containing silica include:

- Abrasives used for blasting
- Brick, refractory brick
- Concrete, concrete block, cement, mortar
- Granite, sandstone, quartzite, slate
- Gunite
- Mineral deposits
- Rock and stone
- Sand, fill dirt, top soil
- Asphalt containing rock or stone.

Activities that generate airborne dust include:

- Chipping, hammering, and drilling of rock
- Crushing, loading, hauling, and dumping of rock
- Sawing, hammering, drilling, grinding, and chipping of concrete or masonry structures
- Demolition of concrete and masonry structures
- Dry sweeping or pressurized air blowing of concrete, rock, or sand dust
- Sweeping, cleaning, and dismantling equipment

Health Effects
Dry chronic cough, sputum production, shortness of breath, wheezing, and reduced pulmonary function.
The prolonged inhalation may result in silicosis, a disease characterized by progressive fibrosis of the lungs. Symptoms include shortness of breath and impaired lung function which may result in death. The development and severity of silicosis depends on theairborne concentration of silica dust and duration of exposure.

Protective clothing and respirators. Workers will be trained in the selection, use and maintenance, of respirators.

Training

Training is to be delivered by a competent person. A record of training will kept. Training will cover:

- WHMIS training
- The hazards of silica, including health effects and symptom recognition
- Personal hygiene, respirator requirements, and work measures and procedures
- The use, cleaning and disposal of respirators and protective equipment
- The selection, use and maintenance, of respirators.

Handling and Storage

Do not breathe dust. Obtain special instructions before use. Do not handle until all safety instructions have been read and understood. Wear eye and respiratory protection. Avoid airborne dust generation.

Refer to the manufacturer's instructions and the SDS for proper handling and storage procedures.

Safe Work Practices (SWP):

- If possible, eliminate silica from certain processes by replacing it with a less toxic material.
- If possible, replace sandstone grinding wheels with ones using an abrasive like aluminum oxide.
- Use magnesite or aluminum oxide bricks in place of silica bricks in furnaces.
- Use wet methods to reduce dust whenever practical, i.e. cutting, grinding, and drilling operations.
- Modify an abrasive operation to produce a coarser dust that settles more readily.
- Isolate dusty operations and keeping workers not involved in the operation out of the area.
- Dust-generating tools can be equipped with dust collection systems to limit dust spreading.

Slips, Trips and Falls

B Hazard

Slips, Trips and Falls				2 Pages	Approved by	
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Policy:
It is the goal of the company to provide information and instruction to workers on slip, trip and fall hazards.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	A→C	• Perform a hazard assessment • Operator to be adequately trained. • Workers to receive written, oral and practical training. • Follow manufacture's instructions • Operators manual to be with the equipment • Proof of regular maintenance must be available. • Work in accordance with the company SJP	Hard Hat "Class E", CSA Approved Grade 1 Safety Boots, CSA Approved Safety Glasses, CSA Approved Protective Gloves, A2	Slips, trips and Falls Work Task Policy and Procedures Operator's Manual
Slippery work surfaces	B→C	• Routinely clean floors • Remove clutter from walking surfaces • Provide wet floor signage		
Seasonal slips	B→C	• Remove debris, snow and ice • If not possible to remove, cover with salt, sand etc.		
Spills	B→C	• Clean up spills immediately - See Spills Policy • wear adequate PPE - refer to SDS		
Unsecured mats	B→C	• If possible, ensure mats are secured and cleaned frequently. • Use slip-resistant mats		
Unsafe ladder use	A→C	• Always use ladders in a safe manner. • Use two hands to climb\descend ladders • Maintain three-point contact on ladders • If possible, avoid using ladders - use a lift/scaffold.		
Debris	B→C	• Practice good housekeeping strategies.		
Lack of guardrails	A→C	• Ensure guardrails are present where required and in good		
Poorly maintained equipment	A→C	• Inspect and ensure equipment is in good working order. If damage, remove from service immediately and report to the supervisor		
Poor lighting	B→C	• Replace burnt out bulbs immediately. • Have good lighting where work tasks are performed.		
Changes in walkway levels and slopes	B→C	• Ensure proper slope of surface (ramps, handrails) • Surface free of obstructions/holes		
Falls	B→C	• Maintain three-point contact on ladders		

There are three major factors that contribute to these injuries.

Slips	Trips	Falls
Bad footwear	Change in elevation by 1/4"	Unsafe area
A contaminated surface	Pathway obstructions	No safety equipment
Walking or running too fast	Poorly lit areas	Failure to follow safety rules

Safe Work Practices (SWP):

- Report slip, trip and fall hazards to the supervisor.
- Identify and assess the risk of job-specific slip, trip and fall hazards.
- Establish controls to eliminate or reduce workers' exposure to slip, trip and fall hazards.
- Ensure the control measures are working.
- Clean up spills promptly
- Remove debris, snow and ice
- Routinely clean floors with appropriate solutions
- Use two hands to climb\descend ladders
- Maintain three-point contact on ladders
- Remove clutter from walking surfaces
- Slip-resistant flooring and slip-resistant mats
- Slope of surface (ramps, handrails)
- Appropriate drainage
- Adequate lighting (minimize glare and contrast)
- Minimize environmental influences (blocking wind, preventing wet surfaces from icing, etc.)
- Guardrails for raised floors, mezzanines and balconies
- Sound footing for ladders and work platforms
- Provide wet floor signage
- Train workers to prevent slips, trips and falls
- Ensure prompt maintenance
- Ensure shovels, mops and buckets are readily available
- Report burned out lights promptly to the supervisor.
- Carry drinks in covered containers to prevent spilling.
- Secure loose floor coverings to floor to avoid tripping or slipping.
- Slow your pace when approaching a blind corner in a hallway.
- Use ladders/step stools instead of chairs to reach heights.
- Use an adequate fall protection system when on roofs or high surfaces more then 3 meters.
- Stack materials neatly and secure them so that they can't fall into pathways or work areas. Make sure the surface they are on can support their weight.
- Make sure that cords from power tools and lights don't pose a tripping hazard. Fasten the cords to the floor or keep them away from pathways and work areas. Unplug them when they aren't in use.

Guardrail Systems

A guardrail system is an assembly of components joined together to provide a physical barrier to prevent a worker from falling from the edge of a surface. (Section 1(1) of the Regulation for Construction Projects). Guardrails are passive which means they protect all workers who may exposed to the fall hazard while travel restraint systems, fall restricting systems, and a fall arrest systems only protect the worker who is wearing the system in the event of a fall.

A guardrail system must always be used if a worker may be exposed to a fall of 2.4 metres or more and has access to:

- The open side of a floor - including a mezzanine or balcony floor.
- A bridge surface.
- A roof while formwork is in place.
- A scaffold platform or other work platform, runway or ramp.

Temporary Removal

Sometimes it is necessary to temporarily remove guardrails perhaps for repairs or to allow for the landing or unloading of materials. If this is the situation, workers who may be exposed to the fall hazard must be adequately protected using a travel restraint or fall arrest system and signs must be posted.

Post Distance

As a rule, the distance between posts must be 2.4 meters however, under specific conditions, the distance may be increase. If you are not sure, ask you supervisor or employer

Wooden Guardrails

Wooden guardrails must :

- Be made of spruce, pine or fir timber.
- Be free from defects, and sharp objects that might harm the worker.
- Have posts 38 mm by 89 mm and spaced not more than 2.4 metres apart.
- Have both top and mid rails at least 38 mm by 89 mm.
- Be capable of supporting a live load of at least 2.4 kilonewtons without exceeding the allowable chapter stress for the material used at a minimum.

Wire Rope Guardrails

Wire rope guardrails must :

- Have top and mid rails made of rope that is at least 10 mm in diameter and is kept taut.
- Not have an outward deflection that exceeds the outer edge of the work surface.
- Have posts not be more than 2.4 m and horizontal supports not more than 9 meters apart.

Protective Covers

Protective covers are physical barriers used to prevent workers from accidently falling through an opening in a work surface such as openings in a floor surface or a roof surface. Always remember, that if you are installing a protective cover, you need to be adequately protected from the fall hazard while installing the cover.

A protective cover must:

- Completely cover the opening.
- Be securely fastened.
- Be adequate identified as covering an opening.
- Be made from material that is adequate to support all loads to which the covering may be subjected.
- Be capable of supporting a live load of at least 2.4 kilonewtons without exceeding the allowable chapter stress for the material used at a minimum.

Fencing

Fencing provides a physical barrier to protect workers, and in many cases the public, from the hazards of a construction project.

If a basement, cellar or excavation, left after a building or structure is demolished, dismantled or moved must be either backfilled to grade level or have fencing along its open side.

If a person could fall into an excavation that is more than 2.4 m deep, a barrier at least 1.1 m high must be provided at the top of every wall of the excavation that is not sloped.

Safe Job Procedures (SJP):

Personal Protective Equipment

1. Select appropriate footwear based on a risk assessment of the job task.
2. Wear proper-fitting footwear that may include slip-resistant soles.
3. Properly select, use and maintain fall protection equipment.

Guardrails

1. As you go about your job, get into the habit of checking guardrails.
2. If you discover a weakened or a missing rail or section , correct the situation if you can.
3. If you can't, report it so that the hazard can be eliminated.
4. If you bump a rail with material or equipment, check it at once - you may have weakened it.
5. If you discover you've broken a rail, upright, or toe board, repair it if you can.
6. If you can't, report it so that it can be repaired.
7. When repairing or replacing guardrails, use a proper fall protection system.

Guardrail Specification

Guardrails systems must have:

1. A top rail located at least 0.9 m but not more than 1.1 m above the surface on the system is installed on.
2. A toe board that extends from the attachment level to a height of 89 mm.
3. An intermediate rail located midway between the top rail and the toe board.

Guardrail Loads

Required guardrails loads include:

1. Top rails must be able to resist a point load of 675 newtons applied in a lateral direction and a point load of 450 newtons applied in a vertical downward direction.
2. Midrails must resist a point load of 450 newtons applied in the lateral or vertical downward direction.
3. Toe boards must resist a point load of 225 newtons applied in a lateral direction to the toe board.

The loads to which guardrails can be exposed to anywhere along its system is clearly spelled, however there is the condition that the loads allowable must never exceed the allowable unit stress for each materials used.

Floor Openings

1. Cover hole securely, with a cover big enough and rigid enough to prevent failure
2. Paint, label or mark with a danger or warning "DO NOT REMOVE"
3. Warne every worker on the job about it.

Snow and Ice

It is the constructor's responsibility to ensure workers are protected from the risk of injury due to snow and ice. Report to your supervisor any hazard created by snow and/or ice.

Things that can be done to reduce the risk of falling when slippery conditions exist include:

- Be alert for ice-covered areas; especially outside steps leading to the building.
- Wear boots or shoes with grip soles. Slick leather or plastic soles on shoes will definitely increase the risk of slipping.
- Don't walk with your hands in your pockets. It reduces the ability to use your arms for balance if you do slip.
- Take short shuffling steps in very icy areas.
- Don't carry or swing heavy loads, such as large boxes, cases or purses that may cause you to become off balance when you are walking.
- When walking, curl your toes under and walk as flat-footed as possible.
- Don't step on uneven surfaces. Avoid steps or curbs with ice on them
- Pay attention while walking. Being distracted while walking on ice or any slippery surface is dangerous.

Spills

Critical Task

Spills				2 Pages	Approved by	
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Policy:
It is the goal of C&M Electric to outline the steps to manage a chemical spill in order to minimize the potential for injury and damage.

If handled properly, a spill may be nothing more than a nuisance. If handled improperly, a spill can seriously disrupt your activities and the work of your colleagues. At worst, a spill can cause bodily harm or property damage. This booklet will help you

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	B→C	• Perform a hazard assessment	Hard Hat "Class E", CSA Approved	Spills
		• Worker to be trained in spill containment • Workers to receive written, oral and practical training.	Grade 1 Safety Boots, CSA Approved	Work Task Policy and Procedures
		• Follow instructions with spill kit.	Spill Kit Warning signs	Spill Kit awareness
		• Spill Kit instructions to remain with spill kit. • Inspect spill kits prior to the commencement of work.	Barriers, cones, caution tape	
		• Work in accordance with the company SJP	Protective Gloves, A2	
Health and/or Environmental contamination	B→C	• Have the appropriate spill kit readily available for the chemical in use.	Safety Glasses, CSA Approved	
		• Ensure a worker trained in this policy and procedures is on site.		

Spill Types – Minor or Complex:
- A minor spill is defined as: a spill that does not impose impact for health and/or environment.
- A complex spill is defined as: a spill that does impose impact for health and/or environment, a compound for which you have no PPE or not previously attended spill training.

Training:
- Employees must be instructed on the proper response procedures for spilled materials.
- Training should include materials available for use, proper waste disposal, and communication procedures.
- Training may be performed in-house or by a 3rd Party.

Spill Kits:
There is no 'one size fits all' rules. Spill kits that are used around oil, for example, will be different than those that would be used to clean up blood or other biological materials.

Learning about the different requirements that will apply to your specific facility is very important. In some cases you may need more than one kit to ensure you can properly clean up any spill that occurs. Take a moment to learn about the different types of spill kits available and when they should be used.

Universal Spill Kits
- Safety Gloves – These types of gloves are resistant to corrosion from chemicals.
- Eye Goggles – Keep your eyes protected with these goggles.

- Shoe Covers – Shoe covers will protect your shoes and your feet.
- Absorbents – Need to quickly absorb and hold in a variety of liquids.
- Handbook – Most spill kits contain a book to offer instruction.
- Disposal Bag – Can hold everything until it can be properly disposed of is absolutely essential.

Safe Work Practices (SWP):

- An appropriate size spill kit will be kept on site and stocked to original requirements to help contain and clean up spills of any size that may be expected on the operation.
- Spill kits will contain the appropriate supplies for materials that may be spilled.
- Supplies will be easily accessible when required, and considerations must be made for both the type and quantity of materials.
- Spill kits will be placed in easily accessible locations that are known to all workers.
- Spill kits will be adequately stocked containing absorbent materials, appropriate PPE, a container for spill residue and a poly dustpan and scoop.
- Once used, kits will be immediately replaced.
- The company will ensure the availability of adequate spill response supplies by periodic inspection to assess their availability and adjust inventory as necessary.
- Do not touch any harmful substance. Take precautions to protect yourself if necessary.
- Report all chemical spills to the supervisor immediately.
- If safe to do so, and required materials and PPE are available, clean up the spill.
- Before starting any work with chemicals, verify that all necessary safety equipment and spill cleanup materials are available and in good working order.
- Ensure that the individuals who may be involved in spill response are properly trained in equipment use and spill cleanup procedures.
- Regularly inspect all materials and equipment to ensure that they will function properly when needed.

Safe Job Procedures (SJP):
Procedures:

1 Determine the identify of the spilled substance
2 Refer to the SDS.
3 If the spill is relatively minor, cordon off the area and clean it up immediately wearing required PPE.
4 If the spill is complex, activate the pull station; notify others to evacuate the premises and call immediately to have the spill professionally cleaned up.
5 Have anyone who is injured or contaminated come away from the spill, administer first aid, and if necessary, use the eye wash station. If necessary, the worker should take a shower as soon as possible,
6 Notify the supervisor.
7 Limit access to the hazardous area.
8 Shut of possible ignition sources.
9 Environmental spills must be reported to environmental authorities. Reporting procedures will be based on type and quantity of materials spilled.

Vehicles - pick ups, cars, vans

B Hazard

Vehicles - pick ups, cars, vans				2 Pages	Approved by	
Identifier	**Revision**	**Original Date**	**Revision Date**	**Effective Date**	Name:	Ken Crawford
					Position:	President
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WT28	A	January 9, 2019	January 31, 2023	August 6, 2020		

Policy:
Vehicle safety is of extreme importance to C&M Electric. It is the goal of the company to maintain a high level of safety awareness and to promote responsible driving behaviour by its employees. Driver safety awareness and responsible driving behaviour will significantly decrease the frequency of vehicle accidents and reduce the severity of personal injury and property damage.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	B→C	• Perform a hazard assessment • Operator to have a valid driver's license • Workers to receive written, oral and practical training. • Follow manufacture's instructions • Operators manual to be with the vehicle • Proof of regular maintenance must be available.	Hard Hat "Class E", CSA Approved Grade 1 Safety Boots, CSA Approved	Vehicles Work Task Policy and Procedures Operator's Manual

All employees who operate C&M Electric vehicles must hold a valid driver's license applicable to the type of vehicle being operated, as a condition of employment.

A company vehicle, when not used for business purposes, may be driven for personal use at the discretion of the company. At no time should a driver allow unauthorized persons to operate the vehicle assigned to them. To do so would subject the assigned driver to disciplinary proceedings and may result in employment termination.

Motor vehicle incidents must be reported.

Pre-use inspections must be performed before operating a vehicle. This consists of a walk-around the vehicle to check for any defects to the vehicle and ensure there are no barriers blocking the path.

Seatbelt use is mandatory for the driver and passengers while operating a motor vehicle on company business.

As a condition of employment, and periodically thereafter, the company may ask drivers to produce a Ministry of Transportation (MTO) Driver History form. If this record indicates any of the following reported incidents, the driver may be immediately suspended or terminated at the discretion of management:

- Convicted of a drug or alcohol offence.
- Refusal to submit to a Blood Alcohol Content test.
- Conviction for reckless or dangerous driving.
- Any combination of three or more "at fault accidents" or "preventable accidents".
- Leaving the scene of an accident.
- At fault in a fatal accident.
- Felony committed involving a vehicle
- Three or more physical damage claims to a company vehicle within any twelve month period.

Management Responsibilities:

- All company vehicles carry adequate insurance to meet provincial requirements.
- Insurance coverage will include coverage for:
  - Personal injury
  - Property damage
  - Medical coverage to protect the technician.
- Authorized drivers carry current drivers licenses.
- Only authorized drivers operate company vehicles.
- Driver abstracts will obtained and reviewed for all drivers of company owned vehicles. A driver abstract contains information on the operator's license, conviction information, demerit points, and suspensions.
- Drivers are reimbursed for any expenses required to ensure the safety and maintenance of the company vehicle.
- A reliable source of two-way communication is available to each driver.

Worker Responsibilities:

- At no time alter or modify his/her vehicle in any manner.
- Remove, deface, obscure or obliterate any inscription or cause any other person to do so.
- Keep the vehicle clean orderly and in a presentable state at all times.
- Perform documented daily circle checks and complete logbooks when required.
- Report any and all mechanical defects to C&M Electric immediately.
- Be held responsible for any damage if proof is provided determining the technician is responsible for the defect as a result of abuse or neglect.
- Operate the vehicle, at all times, in compliance with the Ontario Highway Traffic Act and any other applicable laws and regulations.
- Pay all fines received during those times where they are deemed the authorized driver responsible for the vehicle.
- Report any traffic violations, both moving and parking, to management immediately.

Safe Work Practices (SWP):

- Ensure that all loads are adequately secured for transport.
- Ensure company vehicles are secure when left unattended. If the company vehicle is equipped with a burglar alarm, ensure the alarm is set whenever the truck is left alone. Report to management immediately the performance failure of the truck alarm.
- No driver is to exceed 13 hours of driving in a 24 hour period.
- Refrain from smoking in any company vehicle.
- Store equipment, materials, tools etc. in such a way as to prevent shifting in the event of sudden stops or sharp turns.
- Any cargo on or in motor vehicles must be adequately stored and secured to prevent unintentional movement of the equipment which could cause spillage, damage to the vehicle, or injury to the operator.
- Workers must follow all traffic laws and rules of the road while on company business.
- Workers are responsible for possessing a valid driver's license for the type of motor vehicle they operate.
- Workers are strictly prohibited from operating a motor vehicle while under the influence of drugs or alcohol. This includes; blood alcohol level at or above the local legal limit; illegal drugs; and prescription medications that cause drowsiness or other conditions that may cause impairment.
- Employees must not use handheld cell phones while operating a motor vehicle. All cell phone use, including hands-free, is prohibited while driving on customer/client property.

Weather

B Hazard

Weather					2 Pages	Approved by	
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Policy:
It is the goal of C&M Electric to outline proficiency requirements and safety standards for to workers exposed to weather conditions.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	B→C	• Perform a hazard assessment	Hard Hat "Class E", CSA Approved Grade 1 Safety Boots, CSA Approved Safety Glasses, CSA Approved Protective Gloves, A2 Wet weather clothing	Weather Work Task Policy and Procedures
Wet weather	B→C	• Limit or stop all slippery work at heights. • Keep electrical cords, cables, sockets, power points and power equipment • Preferred wet weather clothing for construction work is waterproof trousers, and jacket with hood (to be worn with hard hat)		
Lightening	B→C	• When the time interval between observing the lightning flash and hearing the thunder is less than 30 seconds (distance less than 10 kilometres to the lightning) work in open areas/structures and elevated positions must cease. • Where the time interval between observing the lightning flash and hearing thunder is less than 15 seconds (distance is less than 5 kilometres to the lightning) all remaining outdoor activity must cease and all personnel must immediately seek shelter. • All drilling rigs shall stop working and the rig masts shall be lowered, if practicable, and the crews shall evacuate to a safe location; • All elevated work platforms shall be lowered and crew located to safe areas • Cranes shall stop working and the booms shall be lowered, if practicable, and the operators shall evacuate to a safe location; • All electrical and working at height activities shall cease until storm passes/deemed safe. • Avoid water • Avoid high ground • Avoid open spaces • Avoid all metal objects, including electric wires, fences, machinery, motors, power tools, etc. • Unsafe places include: underneath canopies, small picnic or rain shelters, or near trees; • Where possible, find shelter in a substantial building or in a fully		
Hot weather	B→C	• When weather or work conditions are excessively hot, work activities may be affected and may lead to inattention or distraction due to effects of heat stress. (egg. Dehydration and heat stroke) • Provisions are to be put in place to provide cooling areas, rotation of work crews and water stations, where required.		
Cold weather	B→C	• When weather is excessively cold, work activities may be affected by reduced feeling in extremities. This may lead to inattention or distraction due to effects of cold stress (egg. Frostbite and hypothermia) • Provisions are to be put in place to provide warm clothing, warm shelters and rotation of work crews, where required.		

High Winds	**B→C**	The following activities should not be performed without a risk assessment being performed. • Crane lifting operations. • Work in elevated work platforms or crane hoisted work platforms • Erection of scaffolding where planks may be difficult to handle or may be dislodged. • Erection of tarpaulins or other covers that may dislodge or injure erection personnel; • Erecting roof materials or other material, which may be difficult to handle/control in high winds; and • Working on open/exposed elevated steel.		

Heat/Cold Stress

Workers required working in high/cold environments are exposed to the risk of developing a number of medical conditions.

Condition	Symptoms	Treatment
Heat Rash	• Red bumpy rash with itching	• Change into dry clothes • Avoid the heat • Rinse skin with cool water
Sunburn	• Red, painful or blistering and peeling skin	• If skin blisters seek medical aid • Use skin lotions • Work inside if possible
Heat Cramps	• Painful cramps in legs, stomach or arms.	• Move to cool area • Loosen clothing • Drink fluids
Fainting	• Sudden fainting • Cool most skin • Weak pulse	• Get medical aid immediately • Loosen clothing • When conscious give sips of water
Heat Exhaustion	• Pulse weak and rapid • Breathing rapid and willow • Blurred vision • Skin cold and clammy • Nausea and vomiting	• Move out of the heat • Rest • Loosen tight clothing • Keep head low, raise legs & feet • Get medical aid immediately
Heat Stroke	• Pulse rapid and progressively weaker • Breathing noisy • Lack of perspiration • Nausea and vomiting	• Sponge with cold water • Cover with wet towels • Using hands fan the worker • Get medical aid immediately
Frostbite	• Skin looks white and waxy • Skin is hard to touch • Skin feels numb	• Warm frost bitten area slowly using body heat • If there are blisters apply sterile • dressings and bandage lightly
Hypothermia	• Shivering • Slurred speech • Stumbling • Drowsiness	• Carefully move worker to shelter • Keep worker awake • Warm body using body heat • Give warm, sweet drinks • Call for medical help

Safe Job Procedures (SJP):

Procedures to Avoid Heat/Cold Stress:

When working in extreme cold environments:

- ***Stay warm –*** wear layers of clothing to trap body heat. Cover your head with a hard hat liner. Avoid tight fitting boots. Wear mittens instead of gloves.
- ***Stay dry –*** Avoid wetness due to sweating, rain or snow.
- ***Stay safe –*** limit exposure time.
- ***Avoid fatigue –*** rest periodically in a shelter.

Management/Supervisor Responsibilities:

- Provide rest breaks in a warm area.
- Monitor hot drinks.
- If possible provide heaters.
- Allow frequent breaks and monitor workers closely for signs of cold stress.

Worker Responsibilities:

- Wear proper clothing to include hats and mitts.
- Wear outer layer that will repel moisture.
- Wear extra socks but not if boots become too small.

When working in extreme hot environments:

Management/Supervisor Responsibilities:

- Give frequent breaks in a cool area.
- If possible use fans.
- Provide unlimited cool water.
- Make allowances for workers using PPE that might retain heat.
- Schedule hot jobs for cooler times of the day.
- Monitor workers closely for signs of heat stress.

Worker Responsibilities:

- Wear light loose clothing.
- Drink 8 oz. of water every half hour.
- Avoid tea or coffee.
- Avoid eating hot, heavy meals.

Heat Rash

1 Change clothes
2 Apply powder or medicated cream

Heat Cramps

1 Drink sports drinks to replace electrolytes
2 East snacks like pretzels or potato chips

Heat Exhaustion

1 Call 911
2 Drink plenty of water
3 Rest in shade or air conditioning

Heat Stroke

1 Call 911
2 Remove or wet the victims clothing
3 Cool the victim in air conditioning, shade

Wind

1 Securely tie or weight down supplies and materials.
2 When working on tall buildings, stay away from roof edges, floor openings, and similar drop-offs where the wind could blow you over.
3 Weight down or otherwise secure material or equipment that can be blown down.
4 Don't loiter on the leeward side of unbraced walls, lumber stacks or anything else that can be blown over

Rain

1 Cover equipment, materials, tools, supplies
2 Cover yourself
3 Sweep water out of low areas used as passageways inside of buildings under construction.

Ice & Snow

1 Clean and sand any work surfaces,

Falling Ice

1 It is the responsibility of the constructor, the employer and the supervisor to ensure that all of the sections of the Regulation for Construction Projects are complied with on a project under construction during wintertime conditions. Special attention
2 The walls of an excavation will be stripped of loose rock or other material that may slide, roll or fall upon a worker, to include accumulations of ice that might form on trench walls or on the shoring system during the wintertime.
3 Supervisors will inspect all buildings and other structures, temporary supports and means of access and egress at the project to ensure that they do not endanger any worker.
4 If material could fall on a worker, overhead protection will be provided:
    - At every means of access to and egress
    - Above every area where work is being carried out.
5 A work area, a route to and from a work area and a scaffold platform on which work is being performed will be maintained at all times in a condition that does not endanger workers and, without limiting the generality of the foregoing:
    - Will be kept clear of obstructions
    - Will be kept clear of snow, ice or other slippery material

WHMIS 2015

Critical Task

WHMIS 2015				2 Pages	Approved by	
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Policy:
It is the goal of C&M Electric to outline proficiency requirements and safety standards for the use of hazardous materials by company workers.

Definitions:
WHMIS stands for the Workplace Hazardous Materials Information System. It is a comprehensive system for providing health and safety information on the safe use of hazardous products used in Canadian workplaces.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	**A→C**	• Perform a hazard assessment • Always take time to read the WHMIS instruction labels.	Hard Hat "Class E", CSA Approved Grade 1 Safety Boots, CSA Approved Protective Gloves, A2 Safety Glasses, CSA Approved	WHMIS 2015 Work Task Policy and Procedure

Occupational Exposure Limits (OELs):
OELs must be determined prior to workers being exposed to airborne concentrations of hazardous biological or chemical agents.

The worker should not proceed without consulting the supervisor. The supervisor will not allow work to continue until adequate safety measures are in place.

There are OELs for over 725 substances under R.R.O. 1990, Regulation 833 (Control of Exposure to Biological or Chemical Agents) and Ontario Regulation 490/09 (Designated Substances) under Ontario's OHSA.

Supplier Responsibilities
Suppliers must ensure the appropriate classification of hazardous products. The supplier must label the product or container and they must provide a safety data sheet (SDS) to their customers.

Employer Responsibilities
- Educate and train workers on the hazards and safe use of products.
- Ensure that hazardous products are properly labeled.
- Provide access to up-to-date SDSs to workers.
- Ensure appropriate control measures are in place to protect the health and safety of workers.
- Make sure that the product is being used in the way the manufacturer intended.

Worker Responsibilities
Workers will participate in WHMIS education and training programs, take necessary steps to protect themselves and their co-workers, and participate in identifying and controlling hazards.

Consumer Products
Consumer products are those products that can be purchased in a store and are generally intended to be used in the home. These products are labeled according to other legislation.

Enforcement
WHMIS is enforced by the provincial or territorial government departments or agencies responsible for health and safety, or through the Labour Program for federally regulated workplaces.

Safety Data Sheets:
Safety Data Sheets (SDSs) are summary documents that provide information about the hazards of a product and advice about safety precautions. SDSs provide more detailed hazard information about the product than the label.

Every product that is classified as a "hazardous product" under WHMIS that is intended for use, handling or storage in a workplace in Canada must have an SDS.

SDSs are required to be accurate at the time of sale. An SDS will be required to be updated when the supplier becomes aware of any "significant new data". SDS must be updated when there is new information that changes how the hazardous product is classified, or when there are changes to the way you will handle or store or protect yourself from the hazards of the product.

Labels:
- In Canada, WHMIS legislation requires that products used in the workplace that meet the criteria to be classified as
- Labels are the first alert to the user about the major hazards associated with that product, and outline the basic
- In most cases, suppliers are responsible for labeling the hazardous products that they provide to customers.
- Employers are responsible for making sure that hazardous products that come into the workplace are labeled and to
- There are two main types of WHMIS labels: supplier labels, and workplace labels.

Supplier Labels
- A supplier label is provided or affixed (attached) by the supplier and will appear on all hazardous products received at a workplace in Canada. If the hazardous product is always used in the container with the supplier label, no other label is required.
- Supplier labels must be written in English and French. They may be bilingual (as one label), or available as two labels (one each in English and French).
- The supplier label must include the following information:
    - Product identifier - the brand name, chemical name, common name of the hazardous product.
    - Initial supplier identifier – the name, address and telephone number of the Canadian manufacturer or the Canadian importer.
    - Pictogram(s) – hazard symbol within a red "square set on one of its points".
    - Signal word – a word used to alert the reader to a potential hazard and its severity.
    - Hazard statement(s) - phrases which describe the nature of the hazard
    - Precautionary statement(s) – standardized phrases that describe measures to be taken to minimize or prevent adverse effects resulting from exposure.
    - Supplemental label information - some supplemental label information is required based on the classification of the product.

Workplace Labels
A workplace label is required when:
- A hazardous product is produced (made) at the workplace and used in that workplace,
- A hazardous product is decanted (e.g., transferred or poured) into another container, or
- A supplier label becomes lost or illegible (unreadable).

There are two situations when a workplace label is not necessary. When a hazardous product is:
- Poured into a container and it is going to be used immediately, or
- Being used by the worker who decanted it.

If the product is not used right away or if more than one person will be in control of the product, a full workplace label is required.

Workplace Labels Requirements
Workplace label will require the following information:
- Product name (matching the SDS product name).
- Safe handling precautions, may include pictograms or other supplier label information
- A reference to the SDS (if applicable).

Hazard Classes and Categories

WHMIS 2015 applies to two major groups of hazards: physical, and health. Each hazard group includes hazard classes that have specific hazardous properties.

- Physical hazards group: based on the physical or chemical properties of the product.
- Health hazards group: based on the ability of the product to cause a health effect.

Training and Education:

- The company will ensure that workers who works with or in proximity to a controlled product receive prescribed WHMIS training. Proof of training should be carried with the worker at all times.
- Training may be performed in-house or by a 3rd Party.
- Subcontractors will ensure that their employees have identification of completed WHMIS training.
- An annual refresher course will be provided to all workers.
- Workers will be required to acknowledge receipt of training.
- Accurate records will be kept of all current employee training qualifications.

Chemical Purchasing:

Chemical Storage:

- The company will maintain current inventories of all hazardous materials.
- Chemicals, when not in immediate use, will be stored an area designated for chemical storage.
- All chemical products are to be stored as recommended in SDS.
- Incompatible products should be separated such that, in the event of a fire or spill, they won't mix and compound the danger.
- Material Safety Data Sheets (SDS) will be readily available for each product.
- All containers will display a legible supplier or workplace label bearing the chemical name, reference to SDS, and cautionary phrase.
- Appropriate PPE must be worn at all times when handling/working with hazardous chemicals.

Chemical Spills

- If the spill is relatively minor, clean it up immediately.
- If the spill is complex, activate the pull station; notify others to evacuate the premises and call immediately to have the spill professionally cleaned up.
- Have anyone who is injured or contaminated come away from the spill, administer first aid, and if necessary, use the eye wash station. If necessary, the worker should take a shower as soon as possible.
- Limit access to the hazardous area.

Gas Cylinder Leaks

- If there is a flame present, do not extinguish the flame before the cylinder is turned off, it could be re-ignite.
- If possible move the leaking cylinder to a location where little or no harm can be done.
- Make sure there are no incompatible chemicals nearby.
- Do not take the elevator or go into an enclosed space.

Safe Work Practices (SWP):

Fire Protection:

- Fire extinguishers must be accessible when working with
- Fire protection is important when houses are framed and closed in for finishing or during winter.
- Recommended Fire Extinguisher rating is 4A40BC

Hazardous Waste Disposal:

- Never dispose of hazardous waste down drains (even if neutralized) OR placed in regular garbage. This includes any sink within a building or an outside drain.

Procedures

Workers will:

- Always check to see if there is a label on the product before using it.
- Read, understand and follow the instructions on the label and SDS. Follow any additional education, instructions, and
- Ask your supervisor if you are not sure about how to use or store it.
- Ask for a new label when the old one cannot be seen or read properly.
- Do not use a product that is not labeled or if the label is unreadable. Ask your supervisor for help (e.g., to replace the label).

Working Alone

B Hazard

Working Alone					2 Pages	Approved by	
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						Position:	President
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Policy:
It is the goal of C&M Electric to outline proficiency requirements and safety standards for our workers who may be required to work alone.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	B→C	• Perform a hazard assessment • Work in a manner that will not cause harm to self or others. • Be aware of surroundings and assess any likely or potential hazards •Report all accidents and incidents to the supervisor. •Take action to control or eliminate all identified hazards • Workers will be provided with a fully stocked First Aid Kit, fire extinguisher and eye wash station.	Hard Hat "Class E", CSA Approved Grade 1 Safety Boots, CSA Approved Safety Glasses, CSA Approved Protective Gloves, A2 First Aid Kit Fire Extinguisher Eye Wash Station	Working Alone Work Task Policy and Procedures Operators Manuals First Aid Fire Extinguisher use awareness
Injury	B→C	• If medical attention is required, contact your supervisor to arrange transportation or call 911. • All accidents are to be reported to the supervisor. • All first aid treatment is to be documented on the Treatment Log.		
Injury due to violence	B→C	• Any worker who must work alone must have received training in the company Violence and Harassment Policy. • Workers must be provided with a method of contact – phone or two-way radio. • All incidents involving violence are to be reported to the		
Unaccounted for	B→C	• A pre-arranged check-in schedule is to be set up between the worker and a competent person, which may include the supervisor, co-worker, spouse, friend etc. • Workers will report in at the pre-scheduled check-in times.		

Whether a worker is doing a small job or working alone from the service truck, we are committed to taking every reasonable precaution to provide for all workers performing services on our behalf.

Safe Work Practices (SWP):
Management Responsibilities:

- Know the whereabouts of each of its workers working alone.
- Keep in regular contact with workers working alone.
- Provide the worker with a method of contact – phone or two-way radio.
- Train all workers who may work alone in these procedures.
- Evaluate the effectiveness of this procedure to ensure worker and management compliance.
- Take the appropriate actions if a worker reports any hazards encountered while working alone.
- Provide a worker working alone and/or each vehicle with a first aid kit.
- Ensure the worker working alone has adequate first aid training.
- Develop emergency procedures specifically for workers working alone.
- Assess the hazards which might be encountered while working alone and develop corrective actions to minimize or eliminate these hazards.
- Provide each worker with all information that would be available to worker not working alone.

Worker Responsibilities:

- Report all hazards immediately to Head Office.
- Wear all personal protective equipment required by the employer.
- To report to head office at the pre-scheduled check-in times.
- Report all incidents to Head Office immediately.
- To work in a manner that will not cause harm to self or others present.
- Report any concerns of this program to the supervisor or Head Office immediately.

Safe Job Procedures (SJP):

Management

1 The time frame that this condition will occur.
2 The location(s) that work will take place in
3 Any specific concerns/hazards that will or may be encountered
4 The times to check on the worker or worker to check in
5 The procedure to be followed in case the worker cannot be contacted
6 The procedure regarding provisions for emergency rescue
7 Provisions for first aid for worker.
8 A check-in at end of work and leaving the site properly

Worker

1 Have access to a cellular telephone or similar means of communication.
2 Use an established check-in procedure.
3 Ensure that someone is aware of where and when you are expected somewhere.
4 Be alert and make mental notes of your surroundings when you arrive at a new or different setting.
5 Use a buddy system especially when you feel your personal safety may be threatened.
6 Exercise your right to refuse work in clearly hazardous situations.
7 Disclose feelings of discomfort or apprehension to your supervisor.
8 Do not enter any situation or location where you feel threatened or unsafe.
9 Do not turn your back on the person or enter a room first.

Working at Heights

Critical Task

Working at Heights					2 Pages	Approved by	
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Policy:

It is the goal of C&M Electric to outline proficiency requirements and safety standards for working at heights.

Hazard Assessment

Hazard	Rank	Control	PPE	Training
All	B→C	• Perform a hazard assessment • Operator to be adequately trained. • Workers to receive written, oral and practical training. • Follow manufacture's instructions • Operators manual to be with the equipment • Proof of regular maintenance must be available. • Work in accordance with the company SJP	Hard Hat "Class E", CSA Approved Grade 1 Safety Boots, CSA Approved Fall Arrest System Travel Restraint System Fall Restricting System Protective Gloves, A2 Safety Glasses, CSA Approved	Working at Heights Work Task Policy and Procedures Operator's Manual WAH Ladders Work Task Scaffold Work Task
Guardrails	B→C	• Guardrails must consist of a top rail, mid-rail and toe board. • Guardrails are to be maintained by competent worker. • Workers are not to lean on guardrails. • Adequate PPE to be worn.		
Guardrails impractical	B→C	• Where guardrails are not practical, alternative system of horizontal or vertical guarding and security will be used. • Covers must be strong enough to support all expected loads. • Covers must be marked in orange/red fluorescent paint.		
Floor Openings	B→C	• Floor openings must be completely covered, securely fastened and identified as such. • Covers must be made of material which is able to support all expected loads.		
Stairs	B→C	• Handrails are required on stairways.		
Falls from Ladders	B→C	• Access ladders to be secured top and bottom. • Ladders only to be used as a last resort. • When possible use a lift or scaffolding. • Ensure ladders are in good repair - pre-use inspections required. • Damaged ladders are to be tagged and removed from site. • The proper type and size ladder to be used. • Refer to Ladder WT		
Falls from heights	A→C	• Only workers trained in Working at Heights will be authorized to work with travel restraint, fall restriction and fall arrest system. • Pre-use inspection of PPE required. Damaged equipment must be tagged and removed from service. • Temporary guardrails will be installed as per regulation requirements where there is an open edge where workers could fall more than 3 metres.		

In construction, falls account for approximately 40% of all injuries. Legislation requires that all workers who are exposed to fall hazards must be adequately trained (OHSA Regulations Section 26). C&M Electric has developed a working at heights Policy that must be followed by all workers. The successful completion of a working at heights course is mandatory.

Working at Heights Strategies are Required When:

A worker at risk of falling certain distances must be protected when:

- They could fall more than 3 meters (10 feet) from any location.
- There is a fall hazard of more than 1.2 meters, if the work area is used as a path for a wheelbarrow or similar
- There are openings in floors, roofs, and other working surfaces not otherwise covered or protected.
- They could have access to the unprotected edge of any of the following work surfaces and is exposed to a fall of 2.4 meters (8 feet) or more:
  - A floor, including the floor of a mezzanine or balcony
  - The surface of a bridge
  - A roof while formwork is in place
  - A scaffold platform or other work platform, runway, or ramp.
- There are open edges of slab formwork for floors and roofs.
- They may fall into water, operating machinery, or hazardous substances.

Management Responsibilities:

- Ensure that a worker who may use a working at heights system is adequately trained in its use and given adequate oral and written instructions by a competent person.
- Ensure that the person who provides the training and instruction prepares a written training and instruction record for each worker and signs the record. The training and instruction record will include the worker's name and the dates on which training and instruction took place. Training may be performed in-house or by a 3rd Party.
- If a component of the travel restraint system is found to be defective on inspection, the defective component will immediately be taken out of service. If a component of the fall arrest system is found to be defective on inspection, the defective component will immediately be taken out of service.
- Before any use of a fall arrest system by a worker at a project, the company will develop written procedures for rescuing the worker after his or her fall has been arrested.
- Ensure workers have received adequate training.
- Ensure workers are working in compliance to working at heights requirements.

Supervisor Responsibilities:

- Ensure that workers using a working at heights system are trained in its use.
- Ensure the use of working at heights equipment as required.

Worker Responsibilities:

- Follow the regulations and wear working at heights gear as required.
- Report any fall hazards or potential for fall hazards to the supervisor.
- Report someone failing to ensure protection from falls.

Priority Approach for working at heights Strategies:

1. Eliminate the fall-from-height risk;
2. Prevent a fall-from-height using barriers, guardrails, protective coverings, work platforms, or travel restraint systems;
3. Employ fall-arrest systems when the first two approaches are not feasible.

A worker will be adequately protected by a guardrail system. If it is not reasonably possible to install a guardrail system, a worker will be adequately protected by:

- Travel-restraint system
- Fall-restricting system
- Safety net
- Fall-arrest system.

In the event of a fall, these systems must keep a worker from hitting the ground, the next level below, or any other objects below.

Working at Heights:

Travel Restraint:

- A travel restraint system will consist of a full body harness with adequate attachment points or a safety belt. The full body harness or safety belt will be attached by a lifeline or lanyard to a fixed support. A fall arrest system will consist of a full body harness with adequate attachment points and a lanyard equipped with a shock absorber or similar device. The fall arrest system will be attached by a lifeline or by the lanyard to an independent fixed support. The fall arrest system will be arranged so that a worker cannot hit the ground or an object or level below the work. The fall arrest system will not include a shock absorber if wearing or using one could cause a worker to hit the ground or an object or level below the work. The fall arrest system will not subject a worker who falls to a peak fall arrest force greater than
- Travel restraints systems prevent workers from getting too close to an unprotected edge.
- They incorporate a full-body harness and a lanyard attached to an anchorage point. Self-retracting lifelines or horizontal lifelines are used in travel restraint systems.
- Two methods of travel restraint are commonly used in construction:
    - Connecting an adequately anchored lifeline directly to the D-ring of the worker's full body harness. It is absolutely critical that the length of the lifeline, measured from the anchor point, is short enough to restrain the worker from any fall hazard.
    - Attaching a lanyard from the D-ring of the worker's full body harness to a rope grab on an adequately anchored lifeline. There must be some means—such as a knot in the lifeline—to prevent the rope grab from sliding along the lifeline to a point where the worker is no longer restrained from falling.
- Whether method 1 or 2 is used, the system must be adjusted so that the fully extended lifeline and/or lanyard prevents the worker from reaching any point where the worker may fall. The system must also be securely anchored.
- The travel restraint system will be inspected by a competent worker before each use. The fall arrest system will be inspected by a competent worker before each use.

Fall Restricting System

A fall-restricting system is designed to limit a worker's free fall distance to 0.6 metres (2 feet). One type uses a belt grab or belly hook that attaches to a safety rail on a fixed ladder.

Safety Net

A professional engineer must design a safety net system. The system is installed below a work surface where a fall hazard exists.

Fall-Arrest System

Fall Arrest Systems are used when travel restraint systems are not feasible. These systems are professionally designed to provide vertical fall arrest, horizontal travel restraint, or a combination of both for work on sloped surfaces. Users of this protective equipment still face the fall hazard; it is the impact force at the end of a fall that is being controlled. **A fall does not injure or kill; rather it is the sudden stop at the end that causes the damage!** The distance of any free fall must be minimized in order to minimize the fall arrest force on the body. The prescribed free fall distance is 1.5 meters.

Fall Arrest System Requirements

Full Body Harnesses, Lanyards and Shock Absorbers

- Full body harnesses, lanyards and shock absorbers must be CSA-certified. Look for the CSA label.
- Full body harnesses must be snug-fitting and worn with all hardware and straps intact and properly fastened.
- Lanyards must be 16 millimeters (5/8") diameter nylon or equivalent.
- Lanyards must be equipped with a shock absorber.
- All components of a system must be removed from service if used to arrest a fall.
- Safety belts are only to be used for travel restraint.

- All lifelines must be:
  - 16 millimeters (5/8") diameter polypropylene or equivalent
  - Free from any danger of chafing
  - Free of cuts, abrasions and other defects
  - Long enough to reach the ground or knotted at the end to prevent the lanyard from running off the lifeline.
  - Secured to a solid object
- Only one person at a time may use a vertical lifeline
- Horizontal and vertical lifelines must be free of knots
- Lifelines must be long enough to touch to ground or knotted or otherwise provide a positive stop to prevent the lanyard from running off the vertical lifeline.

Rope Grabbing Devices

To attach the lanyard of a full body harness to a lifeline, use a mechanical rope grab that has been CSA-certified. Look for the CSA certification stamp.

Anchor

- A permanent anchor that meets the Building Code should be the primary consideration when selecting a fixed support to tie off working at heights systems.
- An anchor must be able to support 3,500 lbs.

Training

Workers who are exposed, or may be exposed, to any of the following hazards will be required to successfully complete an MOL

- Falling more than 3 meters.
- Falling into operating machinery.
- Falling more than 1.2 meters, if the work area is used as a path for a wheelbarrow or similar equipment
- Falling through an opening on a work surface.
- Falling into water or another liquid.
- Falling into or onto a hazardous substance or object.

Ensure that certain workers complete a working at heights training program that has been approved by the Chief Prevention Officer (CPO) and delivered by an approved training provider before they can work at heights.

The training requirement is for workers who use any of the following methods of working at heights:

- Travel restraint systems
- Fall restricting systems
- Work belts or safety belts
- Fall arrest systems
- Safety nets

Management will do the following to ensure we comply with the new training requirements:

- Ensure worker's complete an approved working at heights training program
- Ensure the training provider is an approved Working at Heights Training Provider Standard
- Ensure worker's training is valid and has not expired;
- Maintain a training record for worker's that includes the worker's name, the approved training provider's name, the date the training was completed and the name of the approved training program.
- Make the training record available to a Ministry of Labour inspector on request.

Worker training will be valid only for three years and retraining will be required every three years thereafter.

A worker must provide the CPO-issued proof of completion card to prove that their WAH training is valid.

Enforcement

A training record available to an inspector on request.

An inspector may ask an employer for copies of training records related to working at heights training of workers.

Safe Work Practices (SWP):

Floor Openings

Guardrails are the preferred method for protecting workers but may not always be practical. Narrow access routes, for example, may rule them out. In such cases, securely fastened covers – planks, plywood, or steel plates – may be the best alternative.

- Use 48 mm x 248 mm (1 7/8" x 9 3/4") full-sized No. 1 spruce planks.
- Make opening covers stand out with bright paint. Include a warning sign – DANGER! OPENING – DO NOT REMOVE! DO
- Fasten the cover securely to the floor to prevent workers from removing it and falling through the opening.

Guardrails and Barricades

In most cases guardrails are the most reliable and convenient means of working at heights. Areas to be protected by guardrails, when a worker has access to an unprotected edge and is exposed to a fall of 8 feet or more, include but are not limited to:

- A floor, including the floor of a mezzanine or balcony.
- A roof while formwork is in place.
- A scaffold platform or other work platform, runway or ramp.
- Openings in floors, roofs and other working surfaces.
- Edges of slab formwork for floors and roofs.
- Location where a worker may fall into water, operating machinery or hazardous substance.

Guardrail Construction:

- Guardrails must consist of top rail, mid rail and toe board secured to vertical supports.
- Top rail must be between 3' and 3'6" high.
- The toe board must be 3-1/2" wide and be installed flush to the bottom surface.
- Upright posts must be no more than 8' apart.
- Guardrails must be able to support a force of 150 lbs.
- Posts extending to top rail must be braced and solidly fastened to the floor or slab.
- Shoring jacks used as posts should be fitted with plywood softener plates top and bottom.
- Guardrails may be strengthened by reducing the distance between upright posts.
- When guardrails need to be removed, open edges should be roped off and marked with warning signs or yellow "danger "tape. Workers in the area must use a fall-arrest or travel restraint system until guardrails are re-installed.

Fall Protection Systems

- The supervisor is responsible for ensuring that all workers are trained & understand this procedure.
- The supervisor will ensure that all employees under their direction use a complete fall arrest system when a hazard of falling 1.3 meters or more exists.
- All employees who require a fall arrest system will be instructed in the inspection, donning and use of all components before the worker uses the system.
- The employee is responsible for ensuring that a complete fall arrest system is used where there is a hazard of falling 1.3 meters or more & that this procedure is followed as directed by the supervisor.
- Fall arrest equipment must be used by trained workers only, & all equipment should be inspected by the user before each use.
- The fall arrest system consists of an approved full body harness and an approved lanyard.
- All fall arrest system components will be CSA approved and readily identified.
- The length of the lanyard or the location of the anchor will be so arranged that the worker can fall no farther than 1.2 meters. A retractable harness- mounted lanyard is the most acceptable method.
- All fall arrest components will be stored properly and kept in good condition.
- Safety belts, harnesses, lanyards and lifelines will not be knotted and will not be allowed to become knotted or
- Never wrap lanyards around sharp or rough anchor points
- Fall arrest equipment must not be altered in anyway.
- Any equipment subjected to a fall must not be used again.
- All synthetic materials must be protected from slag, hot sparks, open flames or other heat sources.
- Maximum working load is 310 pounds, unless otherwise labeled.
- The anchor or tie off point must be capable of supporting 5,000 pounds per worker.
- Equipment used to work at heights will be set-up, used and maintained in accordance to the manufacturer's instructions and to meet the requirements of the Occupational Health & Safety Act and other applicable legislative requirements. The fall protection equipment and systems must be appropriately selected for the type of work their workers or contractors may perform.

- Workers working from a height of three meters 3 m (10 feet) or greater will wear an approved fall protection device:
  - Workers using a ladder as a work platform will wear and use a fall restricting system, work positioning system (i.e.,; line belt or harness with a fall restrict strap).
  - Workers climbing with spurs will wear and use a fall restricting system, work positioning system to ascend, descend and work aloft (i.e. line belt or harness with a fall restrict strap).
  - Workers climbing on temporary or permanent scaffolding, platforms and walk-ways without adequate fall restraint will wear and use a fall arrest system, a fall restricting system, and/or work positioning system to ascend, descend and work at heights.
- Fall restrict and fall arrest system components will be inspected and re-certified by the manufacturer after a worker's fall is arrested, in accordance with the manufacturer's instruction and Ontario OHSA regulations.

Safe Job Procedures (SJP):

Fall Prevention

1 Travel restraint system
2 Proper use of worksite access such as ladders and scaffolds
3 Protective covers over floor and roof openings
4 Warning barriers and bump lines
5 Guardrail systems

Fall Arrest

1 Fall restricting system
2 Fall arrest system
3 Safety net

General Procedures

1 The supervisor is responsible for ensuring that all workers are trained & understand this procedure.
2 The supervisor will ensure that all employees under their direction use a complete fall arrest system when a hazard of falling 1.3 meters or more exists.
3 All employees who require a fall arrest system will be instructed in the inspection, donning and use of all components before the worker uses the system.
4 The employee is responsible for ensuring that a complete fall arrest system is used where there is a hazard of falling 1.3 meters or more & that this procedure is followed as directed by the supervisor.
5 Only trained workers may use fall arrest equipment, & all equipment should be inspected by the user before each use.
6 The fall arrest system consists of an approved full body harness and an approved lanyard.
7 All fall arrest system components will be CSA approved and readily identified.
8 The length of the lanyard or the location of the anchor will be so arranged that the worker can fall no farther than 1.2 meters. A retractable harness- mounted lanyard is the most acceptable method.
9 All fall arrest components will be stored properly and kept in good condition.
10 Safety belts, harnesses, lanyards and lifelines will not be knotted and will not be allowed to become knotted or
11 Never wrap lanyards around sharp or rough anchor points.
12 Fall arrest equipment must not be altered in anyway.
13 Any equipment subjected to a fall must not be used again.
14 All synthetic materials must be protected from slag, hot sparks, open flames or other heat sources.
15 Maximum working load is 310 pounds, unless otherwise labeled.
16 The anchor or tie off point must be capable of supporting 5,000 pounds per worker.

Essential Principles for Users of Fall Arrest Systems:

1 Inspect your equipment before every use.
2 Don and adjust your harness properly.
3 Use your shock absorber or your shock-absorbing lanyard whenever possible.
4 Connect all components of your FAS using only compatible connecting hardware.
5 Attach your FAS only to a suitable anchorage.
6 Keep your fall distance to a minimum.
7 Consider the conditions of your workplace when choosing your equipment.
8 Care for your equipment as you would care for yourself.
9 Know the rescue procedure and equipment in case you should fall.
10 Be properly trained to use any working at heights equipment.

All fall protection equipment will be inspected:

1 Before each use, and
2 After each fall arresting service, and
3 Yearly, regardless of use, or
4 More frequently if equipment is being used extensively in hostile environment (refer to manufacturer's instructions).

Equipment Service Life

As a rule fall arrest equipment should not be kept in service beyond 5 years. For any equipment using synthetic fibers apply the "rule of 5 years". There may be exceptions for some equipment. If the worker is not sure they should consult with their supervisor. Exceptions include but may not be limited to:

1 Harness used when painting steel structures with anticorrosion paints – 6 months
2 Harnesses which passed tests for aging after 10 years – 10 years
3 Fall Arrester (with no synthetic fiber elements) - no limit
4 Lifeline (Vertical/horizontal-wire rope or rail) - No limit if passed periodic inspection
5 Self retract Lifeline – wire rope - No limit if passed periodic inspection. Rope to be replaced at least 10 yrs.
6 Self retract Lifeline – synthetic rope or web - No limit if passed periodic inspection. Rope to be replaced at least 5
7 Connecting Hardwar (carabineers, hooks, D-rings, buckles) - No limit if passed periodic inspection
8 Anchorage Device (hitching post, tripod) - No limit if passed periodic inspection. Web slings to be replaced at least every 10 years.
9 Anchorage Structures - No limit if recertified periodically by a P. Eng.
10 Control Descent Device - No limit if passed periodic inspection. Rope to be replaced at least 5 years
11 Height Rescue Device - No limit if passed periodic inspection. Synthetic to be replaced at least every 5 years. Wire rope with synthetic jacket to be replaced at least every 10years
12 Fall Protection Systems for Ladders/Towers which use rail or wire strand (min dia. 3/8") - No limit if passed periodic inspection. Replace wire rope every 10 years.
13 FPS for Ladder/Towers which use wire rope (dia. 5/16" or 3/8") - 10 years
14 Fall Restrict Equipment for Wood Pole Climbing if equipped with synthetic material or load bearing components i.e. Pole Choker, Poleshark, Stopfall, and Sabre Tooth (Boa) - 5 years.
15 Energy Absorbers – metal for horizontal lifelines - 10 years
16 Linemen's Belts - May exceed 10 years if records of Periodic Inspections kept on file. May require testing of selected used belt taken from the batch of similar age belts.

Rescue Procedures

Training

All site workers must attend a site-specific safety training session where they will review emergency response procedures and receive instruction on alarms and assembly areas.

Train a designated crew to perform the rescue. This crew must know how to use the equipment that is available to them at the jobsite and where they can find it. They should review the rescue procedure every two weeks with the crane crews.

Emergency Response Plan

If a worker falls and is suspended by a safety harness, implement the emergency response plan by following the steps below.

1 The site supervisor (or alternate foreperson) takes control of the situation.
2 The site supervisor sounds the emergency alarm—three long blasts from a horn. All workers in the immediate vicinity will stop working. The site supervisor quickly evaluates the situation and identifies any further hazards that could arise.
3 The site supervisor or their designate goes to get help if workers are close by. If no one is close enough, the site supervisor calls for help.
4 The site supervisor calls 911 to notify local police, fire, and ambulance if required.
5 The crane operator remains on standby. The operator frees the hook and waits for further direction in case the designated rescue team must perform a basket rescue.
6 The site supervisor (or a worker assigned to the task) isolates the accident zone and its perimeter to limit further exposure.
7 The site supervisor (or a worker assigned to the task) moves all non-affected workers to a safe zone or directs them to remain where they are.

8 The site supervisor enables radio silence on the jobsite, except for crisis communications from emergency responders to be conducted on a pre-selected "emergency only" radio channel.
9 The site supervisor sends a designated worker to the site gate to meet the response team (police, medical, fire, etc.) and ensure that they have a safe access path to the accident scene.
10 The site supervisor assembles the emergency rescue team at the accident site as quickly as possible to determine the best rescue procedure for the situation.

Rescue Procedures

The following rescue procedures are ordered (A) through (D), with (A) being the preferred method and (D) being the method used when there is no other means of rescue.

A. Elevated Work Platform Rescue—If an elevating work platform (EWP) is available on site and the suspended worker can be reached by the platform, follow the procedure below.

1 Bring the EWP to the accident site and use it to reach the suspended worker.
2 Ensure rescue workers are wearing full-body harnesses attached to appropriate anchors in the EWP.
3 Ensure EWP has the load capacity for both the rescuer(s) and the fallen worker. If the fallen worker is not conscious, two rescuers will probably be needed to safely handle the weight of the fallen worker.
4 Position the EWP platform below the worker and disconnect the worker's lanyard. When the worker is safely on the EWP, reattach the lanyard to an appropriate anchor point on the EWP if possible.
5 Lower the worker to a safe location and administer first aid.
6 Arrange transportation to hospital if required.

B. Ladder Rescue—If an elevating work platform is not available, use ladders to rescue the fallen worker with the procedure outlined below.

1 If suspended from a lifeline, move the worker to an area that rescuers can access safely with a ladder.
2 Set up the appropriate ladder(s) to reach the fallen worker.
3 Rig separate lifelines for rescuers to use while carrying out the rescue from the ladder(s).
4 If unconscious or cannot reliably help with the rescue, at least two rescuers may be needed.
5 If suspended directly from a lanyard or a lifeline, securely attach a separate lowering line to the harness.
6 Other rescuers on the ground (or closest work surface) should lower the fallen worker while the rescuer on the ladder guides the fallen worker to the ground (or work surface).
7 Administer first aid and treat the person for suspension trauma and any other injury.
8 Arrange transportation to hospital if required.

C. Rescue from Work Area or Floor Below—If the fallen worker is suspended near a work area and can be safely reached from the floor below or the area from which they fell, use the following procedure.

1 Ensure that rescuers are protected against falling.
2 If possible, securely attach a second line to the fallen worker's harness to help rescuers pull the worker to a safe area. Use at least two strong workers to pull someone up to the level from which they fell.
3 Take up any slack in the retrieving line to avoid slippage.
4 Administer first aid and treat the person for suspension trauma and any other injury.
5 Arrange transportation to hospital if required.

D. Basket Rescue

For basket rescues, the basket must be designed by a professional engineer in accordance with good manufacturing processes to withstand all loads to which it may be subjected. It must be kept on site at all times in an accessible location where it is clear of material or other equipment. Fit the rescue basket with appropriate rigging for quick hookup by the crane operator.

Always keep the following items in the rescue basket.

1 First-aid kit
2 Three lanyards equipped with shock absorbers
3 One full-body harness
4 Tag line attached to the basket at all times
5 Descent controller rescue device in good working condition
6 Secondary safety line to tie the basket above the headache ball of the crane.

To perform a basket rescue, follow the steps below.

1 Make sure preferred methods A, B, and C are not possible.
2 Notify the crane operator right away to position the crane to attach the basket.
3 While the basket is being attached, the crew leader checks that all safety rigging is done and all the required safety equipment is available.
4 With two rescuers in the basket, hoist it to a position that is above and as close as possible to the fallen worker. A designated worker on the ground guides the basket with a tag line. The designated worker must make sure that when the rescue basket reaches the right elevation, the door of the basket is facing the structural steel to provide an easy exit for rescuer #1.
5 Rescuer #1 exits the rescue basket and gets into a position to reach the fallen worker. When doing this, rescuer #1 must be tied-off at all times to either the structure or the rescue basket.
6 Rescuer #2, who is still in the rescue basket, lowers the line that will be used to retrieve the worker. Rescuer #2 attaches an extra lanyard to the line if required.
7 Rescuer #1 assesses the fallen worker for injuries and then decides how to proceed (i.e., treat injuries first, guide the fallen worker into the rescue basket, or lower the basket to the ground with the fallen worker attached to it).
8 Once the fallen worker has been brought to a safe location, administer first aid. Treat the person for suspension trauma and any other injury.
9 Arrange transportation to hospital. A worker must accompany the injured worker to hospital.

If the basket rescue is the method used, keep the following points in mind.

1 Perform a basket rescue only when it is not possible to use conventional equipmentto rescue the fallen worker in a safe manner.
2 Never exceed the maximum number of workers in the basket as indicated on the nameplate.
3 Ensure that a competent worker inspects the crane and equipment being used prior to lifting rescuers.
4 Always equip the crane with a fail-safe mechanism to prevent the boom from descending in the event of a power source or system failure.
5 Maintain an adequate means of communication between the rescuers in the basket and the crane operator at all times.
6 Ensure that workers in the rescue basket wear full-body safety harnesses attached to a lanyard and anchored to appropriate points in the basket at all times.
7 Make sure that all rigging used to attach the rescue basket to the hook of a load line has a safety factor of 10 against failure. There should be a safety line attached to the load line directly from the basket.
8 Do not allow cranes to travel while rescuers are in the basket.
9 Do not use suspended rescue baskets during high winds, electrical storms, snow, ice, sleet, or other adverse conditions that could affect the safety of workers on the platform or in the basket.

Post-Rescue Procedure

All non-affected workers should remain in the designated safe gathering zone until the site supervisor notifies them to do otherwise.

The site supervisor and health and safety representative should

1 Begin the accident investigation.
2 Quarantine all fall-arrest equipment that may have been subjected to fall fatigue effects and/or shock loading for further investigation.
3 Secure the area.
4 Determine whether or not the jobsite-specific rescue and evacuation plans were followed as designed.
5 Record modifications or additions to the plans that the rescue team deems necessary.
6 Record all documented communications with fire, police, MOL, and other contractors involved.
7 Record all documented statements from employees, witnesses, and others.
8 Save all photographs of the incident.
9 Record all key information such as dates, time, weather, general site conditions, and specific accident locales including sketches of the immediate incident area, complete with measurements if applicable.