

# Mueller Electric(DivII) Ltd.

## Occupational Health and Safety Policy

January 1, 2006

At Mueller Electric we are committed to a safe, healthy life style and demonstrate this through care and concern for people. We believe that safety, quality and productivity are mutually dependent and when diligently managed will provide challenging and satisfying work experiences in a safe and healthy environment. In order to fulfill this commitment, our Directors, Executive, Managers, Supervisors, Employees and Contractors are responsible for the application of the following Health and Safety System:

### **Leadership and Administration**

Our Commitment to health and safety is communicated and implemented throughout Mueller Electric using the business planning and performance management processes.

### **Hazard Management**

Hazards are identified, risks evaluated and appropriate control measures established. Elements of this process are risk/hazard management, emergency planning, health & hygiene, personal protective equipment and work standards.

### **Competency and Training**

Through task analysis we identify the competencies our employees require and ensure they have the appropriate qualifications, training and experience to safely perform assigned tasks.

### **Promotion and Monitoring**

We monitor the effectiveness of our health and safety management system and implement changes to continually improve our performance. Element of this process are inspections and audits, incident investigation, claims management and promotion of a healthy and safe life style.

Mueller Electric (DivII) Ltd expects compliance with regulatory requirements, Mueller Electric standards, site procedures and the continuous improvement of these processes through the application of this policy.

# **Mueller Electric(DivII) Ltd.**

## **Occupational Health and Safety Rules**

### **Summary**

**January 1, 2006**

**ALL EMPLOYEES**

- Are obligated to comply with regulations, Mueller Electric standards, and site procedures.
- **Must** successfully complete a site orientation program.
- Are responsible to know the health and safety program information relevant to their work.
- Are obligated to actively participate in safe work planning prior to starting a job, to identify it's hazards, put in place hazard controls, communicate the plan to stakeholders and ensure they understand their role.
- Are responsible to familiarize themselves with the Emergency Plan and conduct themselves in an appropriate and expeditious manner. Contractors, students, or tour groups on site are the responsibility of the Mueller Electric personnel directly accountable for them.
- Are responsible to obtain and follow all requirements outlined on the Material Safety Data Sheets (MSDS) prior to working directly or indirectly with chemicals and/or hazardous materials. Requirements include, precautionary methods of use, possible harm/injury the product can cause, and emergency procedures in the event it is splashed, inhaled, swallowed, ignited, etc.
- Are responsible to obtain, maintain, and use the required Personal Protective Equipment (PPE) i.e.: hard hats, safety footwear, safety glasses, earplugs, etc.
- Are to attend monthly/quarterly safety meetings and actively participate.
- Are to attend health and safety training relevant to their job and ensure that they are competent or under direct supervision of a competent worker, prior to each task they perform.
- Are obligated to take immediate action to prevent events that may cause injury or illness to themselves or others. All incidents/accidents and/or unsafe situations/practices that they are directly and/or indirectly involved in, are to be reported to their immediate Supervisor. This information shall be forwarded to the Occupational Health and Safety (OH&S) Consultant and as appropriate to the Claims Management Personnel.
- Are obligated to report and Medical/Mental/Physical condition(s) that may affect job performance or breach safety regulations (i.e.: prescription medicine, injury, etc.) to their immediate Supervisor.

- Have the “Obligation” to refuse to work if such work presents an imminent danger to themselves or others present.

### MANAGEMENT AND SUPERVISORS

- Are accountable for the safety and health of personnel for whom they are responsible for and are obligated to provide the necessary resources to accomplish their goals.
- Are accountable for the orientation of any and all new employees on site (permanent, temporary, contractor or summer relief, etc.)
- Are responsible to ensure that work assigned is done by competent workers or under their direct supervision.
- Are responsible for recommending any required health and safety program changes and ensuring program compliance.

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### ***Occupational Health and Safety is A Shared Responsibility!***

AS A CONDITION OF EMPLOYMENT, ALL STAFF ARE EXPECTED TO CONDUCT THEIR DAILY TASKS IN A MANNER THAT IS CONSISTENT WITH THE PHILOSOPHY AND OBJECTIVES OF THESE RULES.





**Mueller Electric** (Division II) Ltd.

*Forest, Mining, Petro-Chemical & Co-Gen Industries*

# **Mueller Electric (DivII) Ltd.**

# **Safety Manual**

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## **DEFINITIONS**

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### **Competent Employee**

Means adequately qualified, suitably trained and with sufficient experience to perform work safely without or with only a minimum degree of supervision.

### **E.C.U.C.**

Electrical and Communication Utility Code

### **Fall Arrest Equipment**

A lanyard or other such device, approved under CSA standards, that provides a means of arresting the fall of an employee and which is used in conjunction with a full body harness.

### **Flammable Synthetic**

Means rayon/viscose, acetate, triacetate, nylon, polyester, acrylic, spandex and polypropylene.

### **Live Line Tools**

Work performed on energized electrical equipment or lines using protective insulating devices, live line tools or bare hand techniques.

### **Locked Out**

Means a mechanical arrangement that prevents the movement of a control device to the operating or “On” position by means of a locking device that physically holds the control device in the “Off” position.

### **Machinery**

Any combination of mechanical parts that transmits or otherwise modifies force, motion or energy from hydraulic, pneumatic, chemical or electrical reactions.

### **Manufacturers’ Specifications**

Written specifications, instructions or recommendations of the manufacturer of equipment which outline the manner in which the equipment is to be assembled, installed, operated, used, handled, adjusted, repaired or maintained.

### **Operator – in – Charge**

Means a designated employee assigned by an employer to coordinate the control of the electrical operation of an electrical utility system in accordance with the requirements of the safety rules and the operating procedures established by the employer.

### **Protective Equipment**

Equipment or clothing used or worn by an employee to protect them from health and safety hazards associated with working conditions and includes fall arresting devices.

**Qualified Utility Employee**

Means a power line or station utility employee trained and experienced to work safely on energized electrical equipment or lines in accordance with the requirement of the safety rules while performing duties assigned by an employer.

**Safety Boots**

Means boots that are approved under CSA standards. Class 1, green triangle or equivalent boots of 150 mm in nominal height that shall be laced up and tied above the ankle or higher if they are eyelet type boots. They shall be constructed of leather or material that is non-permeable to liquids and shall be a non-vented type.

**Safety Glasses (CSA Approved)**

Eyeglasses with attached side shields approved under CSA Standards.

**Safety Shoes**

Means shoes that are approved under CSA standards. They shall be constructed of leather or material that is non-permeable to liquids and shall be a non-vented type.

**Serious Injuries and Accidents**

An injury or accident that results in death, an injury or accident that results in worker's being admitted to a hospital for more than 2 days, an unplanned or uncontrolled explosion, fire or flood that causes a serious injury or that has the potential of causing a serious injury, the collapse or upset of a crane, derrick or hoist, or the collapse or failure of any component of a building or structure necessary for the structural integrity of the building or structure.

**Site Supervisor**

The supervisor in charge or their designate who is actually present on the worksite.

**Supervisor**

The person to whom you report.

**Utility Employee**

Means:

- a. An employee trained to recognize hazards associated with energized electrical equipment or lines and trained and experienced to work safely near energized electrical equipment or lines in accordance with the requirement so the safety rule while performing duties assigned by an employer; and,
- b. An employee trained and experienced to work safely on energized electrical equipment or lines operating at voltages below 750 V between conductors in accordance with the requirements of the safety rules while performing duties as assigned by an employer.

## **SECTION 100 – GENERAL REQUIREMENTS FOR EMPLOYEES**

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### **100 Purpose and Effectiveness**

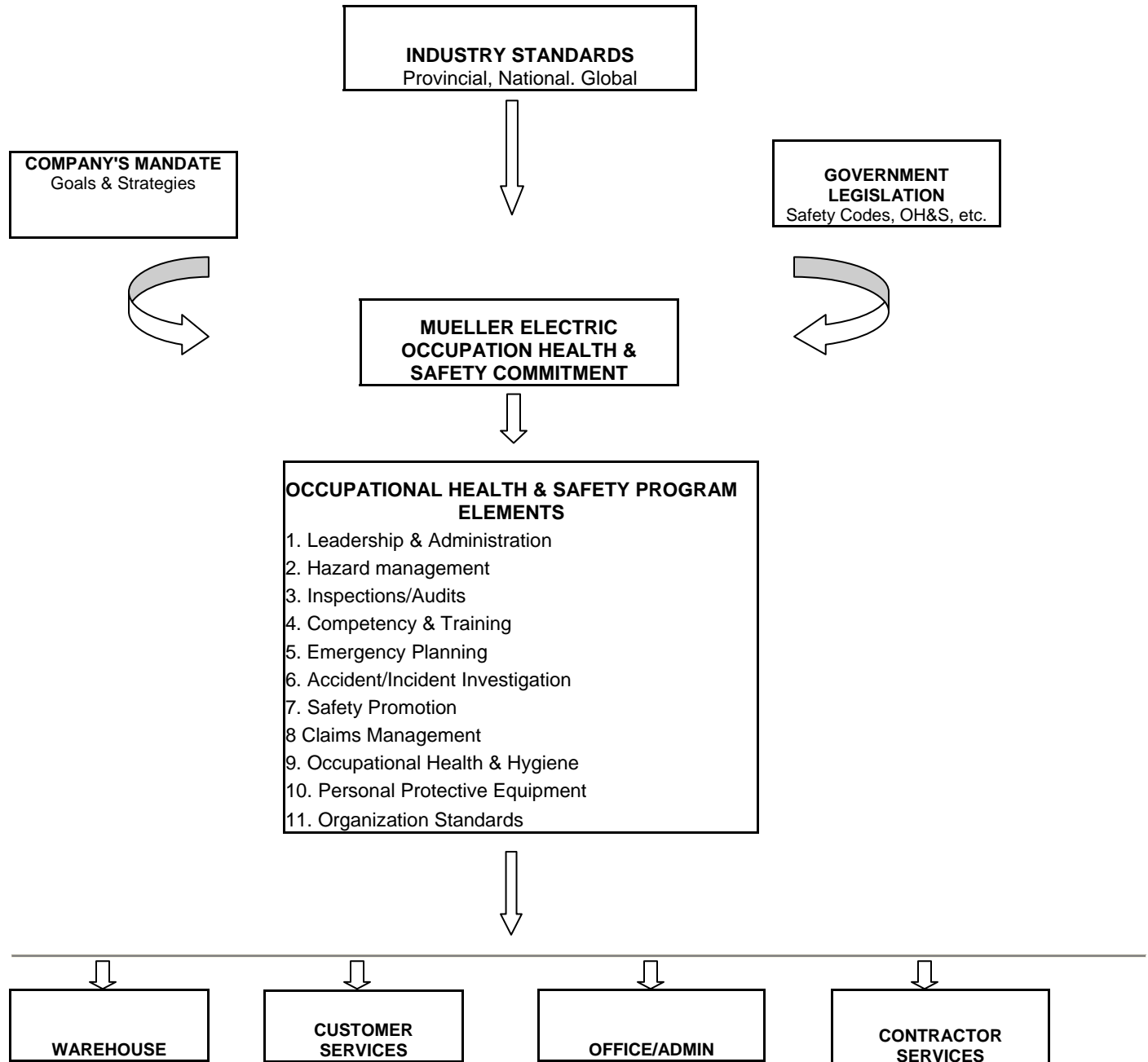
- 100.1 These safety rules have been compiled for the sole purpose of assisting in the prevention of accidents and for guidance to all personnel in carrying out their duties in safety.
- 100.2 The safety Codes Act and The Occupational Health and Safety Act are recognized in this manual as the principal guidelines for safe working practices and conditions in their respective fields. To a great extent this manual incorporates material from all of these sources, as well as long-term safety rules from our own Company. Where a conflict of two or more rules occurs, the most stringent rule shall prevail.
- 100.3 a) These rules shall become effective on the day they are issued and shall be complied with by every employee.  
b) Any employee violating these rules will be issued a “Notice of Investigation” and may be subject to discipline. A serious offence could be grounds for dismissal
- 100.4 a) It is the responsibility of Supervisors, Foreman or Persons in Charge to issue a “Notice of Investigation” to employees under their direction who fail to comply with these rules.  
b) Failure on the part of the Supervisors, Foremen or Persons in Charge to see that these rules are adhered to, will constitute a basis for them to be held in violation of these rules.

### **101 Interpretation and Enforcement of Rules**

- 101.1 Where there is a difference of opinion as to the application or interpretation of these rules, the decision of the employer or agent till is final.
- 101.2 Where compliance with these rules will seriously impede work progress and where the hazard will not be materially increased, the employee in charge of the work to be done, subject to the notification of the Operator-In –Charge, may temporarily modify the application of any rule in this section.
- 101.3 Employees shall read and comply with the applicable safety rules in the Electrical and Communication Utility Code, the Occupational Health and Safety Regulations, Boiler and Pressure Vessels Act Regulations, and this manual, bearing in mind they may be required at any time to show their knowledge and/or familiarity of the rules to their supervisor.
- 101.4 The Company shall:  
a) ensure that a copy of these safety rules is available to each utility employee;  
b) ensure that each utility employee has received instruction in the application of these safety rules;  
c) take reasonable steps to ensure that each utility employee is qualified to perform their work in accordance with the Electrical and Communication Utility Code, Occupational Health and Safety Act Regulations, and the requirements of these rules, and  
d) ensure that each utility employee is qualified to perform work in accordance with these safety rules and in accordance with the utility employee’s ability and physical limitations.

## 102 Organization Chart

- 102.1 The Company shall communicate the organizational chart or statement clearly showing the division of responsibility between employees down to and including the grade of foreman.
- 102.2 A Mueller Electric Contract Administrator shall be assigned to each contractor. The Contract Administrator is responsible for the health and safety performance of the contractor.



### **103 Worker Competency**

- 103.1 Supervisors shall ensure that work is done only by employees deemed to be competent to do such work or employees under the direction of a competent employee
- 103.2 Supervisors shall ensure that Mueller Electric and contract employees work on a Mueller Electric site receive orientation training on the hazards that may be encountered on the worksite and how to control those hazards.
- 103.3 Employees, who are not competent, other than those working under the direct supervision of a competent employee, shall not do the work.

### **104 Impaired Employee**

- 104.1 An employee reporting for work, showing signs of impairment (influenced by alcohol, drugs, medication, fatigue or anything else that impairs the employee to the extent of not being able to safely carry out their duties) or any person in charge that knowingly lets a person work that shows signs of impairment may be subject to disciplinary action.
  - a) Employees shall not perform work, which may result in personal injury due to their known physical limitations.
  - b) Employees shall notify their supervisor of any known physical condition, which may limit their ability to perform work assigned.
- 104.2 In accordance with the Mueller Electric Drug and Alcohol Policy, where there is reasonable grounds to suspect drug/alcohol impairment or post incident, employees may be required to undergo drug and alcohol testing.
- 104.3 Hours of Work
  - a) Employee hours of work shall be confined within a period of 12 consecutive hours in any one work day, unless an incident occurs, urgent work is necessary to a plant or machinery, or other unforeseeable or unpreventable circumstances occur.
  - b) If hours of work have to be extended, they are to be increased only to the extent necessary to avoid serious interference with ordinary working of the business undertaking. The supervisor and area management must authorize extended hours of work.
  - c) At no time will an employee work more than 16 consecutive hours in any 24-hour period. The employee must have a minimum of 8 hours continuous off duty with that 24-hour period.
  - d) The Supervisor must allow each employee at least one day of rest in each work week (7 consecutive calendar days), or 2 consecutive days of res in each period of 2 consecutive work weeks, etc.

### **105 Safety of Persons**

Where workers, visitors or employees, unfamiliar with electrical or other work-site hazards, are permitted by an employer to enter normally restricted areas “where such hazards exist” the Company shall ensure that the workers, visitors or employees are continuously supervised by a qualified utility employee or a person, authorized by the employer, who is capable of ensuring their safety.

### **106 Safety Committee Meetings**

- 106.1 Safety Committee meetings shall be held at a Sectional level at minimum intervals of once monthly for each section’s safety representatives and once quarterly for all employees.
- 106.2 Section safety representatives who are unable to attend shall arrange for an alternate.

106.3 Items of concern to employees shall first be raised with section supervisory personnel to allow them the opportunity to resolve the concern; reports of action taken along with items not able to be resolved at the Section Supervisor level can then be discussed at regularly scheduled meetings.

### **107 Use of Radio System, Cellular Phones or Communication Devices**

107.1 The Operator-in-Charge has the authority to clear the channel for switching purposes or for emergency use. The reporting of an accident will always have top priority.

107.2 When using cellular telephones and/or communication devices while driving Mueller Electric vehicles or private vehicles while on Mueller Electric business, the following requirements shall be adhered to:

a)hand held cellular phone use is permitted only when the vehicle has been brought safely to a stop, out of the flow of traffic.

b)hands free cellular phones and/or two way communication devices may be used to receive calls, but dialing out or initiating a call is permitted only if utilizing a voice activated function (calls or communications are to be kept to a minimum)

### **108 Repeating Messages**

108.1 Where verbal messages are used by utility employees to facilitate operations on electrical equipment or lines;

a)a utility employee sending the verbal message shall ensure that the receiver repeats the message back to the sender so that the sender may acknowledge that the message was received correctly;

b)a utility employee receiving the verbal message shall immediately repeat the message back to the sender so that the sender may acknowledge that the message has been received correctly;

c)both the sender and receiver of the verbal message shall secure the full name of the other person.

### **109 Reporting Accidents**

109.1 Accidents to persons, fatal accidents to livestock, a powerline contact involving an electrical installation or electrical equipment, fires of electrical origin or suspected electrical origin, shall be immediately reported in accordance with Operating Procedures.

109.2 All employees shall report any work related accident, injury, environmental incident or near miss as soon as possible and shall cooperate with the Company in the investigation of the incident.

109.3 The employee's immediate supervisor shall be responsible for completion of the applicable forms and shall investigate the incident so that corrective action can be recommended to prevent reoccurrence.

109.4 Serious Accidents:

a)The worksite shall not be disturbed except to attend the injured, protect property or prevent further injury.

b)Accident Investigation shall be carried out according to Company procedures and Occupational Healthy and Safety legislation.

### **110 Housekeeping**

110.1 a)Good housekeeping is a mandatory requirement on any/all worksite(s), including Company vehicles for the prevention of accident to both personnel and equipment.

b)Failure to maintain a high standard of housekeeping will be deemed as a violation of these safety rules.

c)It is the duty of all personnel to report and conditions or potentially hazardous situation of which they are aware to their immediate supervisor for their attention and corrective action.

- 110.2 **Dripping and Spillage** –Oil pans, drip pans or absorbent materials shall be used wherever drips or leaks of oil, grease, or similar substances may cause hazardous conditions on equipment floors. All spillage shall be cleaned up immediately. Permanent repairs shall be affected where possible. Persons responsible for the spillage of oil, solvents, paints or any such substance that may present a safety or environmental hazard, shall immediately take measures to arrange to have the spill cleaned up completely to eliminate the hazard and to safeguard the area from personnel traffic.
- 110.3 Every work area shall be kept clean and free from any tripping hazard.
- 110.4 Scrap, refuse, nails and waste materials shall not be allowed to accumulate where they may create a hazard to employees.
- 110.5 Stacked material or containers shall be interlocked to provide stability and when this is impractical, stacked materials or containers shall be effectively secured or restrained against falling to prevent injury to workers, or damage to material and/or equipment.
- 110.6 Salvage lumber shall have protruding nails removed promptly and the lumber shall be piled safely.
- 110.7 Floors, platforms, stairs and walkways shall be maintained in a state of good repair and shall be kept clear to provide unimpeded access and egress at all times.
- 110.8 Rags that have been used for cleaning or wiping flammable or harmful materials from any surface shall be stored in covered metal containers and the containers shall be clearly labeled.
- 110.9 Flammable liquids or harmful substance shall be stored in approved containers and the contents shall be clearly identified on the outside in accordance with WHMIS/TDG requirements.
- 110.10 Clothing lockers etc. Shall be maintained in a clean condition. Clothing stored in lockers shall be cleaned and aired frequently. Flammable liquids, chemicals, paints and similar materials shall not be placed in personal lockers.

## **111 Spring Steel materials**

- 111.1 Employees who work with or handle materials under tension such as cutting steel guy wire, using bandit material, or unpacking metal strapped crates shall
- a) Position their body so as to reduce the possibility of injury caused by the whipping action of the material should it break under tension, and;
  - b) wear personal protective equipment that includes gauntlet gloves and eye protection.

## **112 Lifting Procedures**

- 112.1 Avoid back injuries by getting assistance if the load is too heavy or bulky to lift or move alone, or is required to be lifted or moved from an awkward position. **If in doubt, get help.**

## **113 Proper Use of Compressed Air**

- 113.1 An employee shall not use compressed air, or air operated equipment in such a manner as to create a hazard to themselves or other employees. (ie. Do not use compressed air to clear clothing).
- 113.2 **Whenever compressed air is being used, appropriate eye protection shall be worn. Note: Serious eye and flesh injury can occur when compressed air is directed toward the human body.**

## **114 Instruments and Testing Equipment**

- 114.1 Instruments may be dangerous if defective or not in proper calibration, therefore, particular care must be taken when carrying or transporting them. All instruments and equipment shall be used within manufacturer's recommendations and Company procedure.

- 114.2 If there is any doubt that an instrument or a piece of equipment may be defective, have it tested before using it.
- 114.3 All test equipment shall be left disconnected between work periods, except where prolonged tests are being made in which case, all instruction signs and safeguards must be secured before the test is put into operation.
- 114.4 Only approved instruments shall be used when testing for potential.

### **115 Unpacking Equipment or Material**

- 115.1 When unpacking equipment or material, employees shall handle it carefully, being aware of hazards such as broken glass, sharp edges, splinters, exposed nails, spring steel material, etc.
- 115.2 When stacking or storing material or equipment, be sure that it is firmly in place and cannot fall.

### **116 Fire Extinguishers**

- 116.1 a) All mobile equipment and buildings shall be equipped with fire extinguishers with an appropriate rating, stored in an accessible location, and permanently mounted wherever possible.  
b) A visible inspection shall be carried out monthly.
- 116.2 Care of Fire Extinguishers: All extinguishers shall be hydrostatically tested and recharged in accordance with the National Fire Protection Association Regulations.

### **117 Traffic Control**

- 117.1 Employees working in traffic shall wear high visibility clothing appropriate for the hazard.
- 117.2 Employees creating a hazardous area or condition shall be responsible for:
  - a) erecting signs and /or barricades to warn of worksite hazards; and
  - b) removal of these signs/barricades as soon as possible after the hazard no longer exists.
- 117.3 Employees shall assure that all signs/barricades follow guidelines established in the "On Street Construction and Maintenance Procedures Manual" (O.S.C.A.M.).

### **118 Hazard Area Protection**

- 118.1 Personnel whose duties do not require them to approach or handle electrical equipment and lines shall keep away from such equipment or lines.
- 118.2 Employees shall report as soon as practicable to their immediate supervisor or some other appropriate authority, any obvious hazards to life or property observed in connection with any electrical equipment or lines.
- 118.3 Imminently dangerous conditions shall be guarded until they can be made safe.
- 118.4 Employees working above ground shall reduce the hazard from falling tools and equipment by use of proper containers, holding devices or scaffolds equipped with proper toe boards.
- 118.5 Tools and equipment shall not be thrown to or from employees working above ground.
- 118.6 Employees shall not enter nor allow the public to enter the area directly below workers that are working above ground, unless the work above ground has been stopped.

### **119 Welding Equipment**

- 119.1 Only competent employees designated by their supervisor shall use the employer's welding equipment.
- 119.2 Arc welding shall not be performed where another person may be exposed to a flash from the arc unless that person is using suitable eye protection or is protected by a screen or barrier.

- 119.3 Compressed gas cylinders shall be identified as to their contents, stored in an upright position and secured to prevent them from falling
- 119.4 Cylinder valves shall be shut off and pressure in the hose released, except when welding or cutting is in progress.
- 119.5 Flashback devices shall be installed at the regulator end of all lines of welding equipment
- 119.6 Oil or grease shall not be allowed to contact any fittings of gas welding equipment as **an explosion may result.**
- 119.7 Gauges shall be removed and valve caps installed when cylinders are transported.

## **120 Safe Work Planning**

- 121.1 A safe work plan shall identify:
  - a) hazards associated with the job; and
  - b) hazard controls to be used.
- 121.2 The person in charge shall conduct a tailboard discussion prior to the commencement of work activities at every work location every working day to communicate the safe work plan.

## **122 Hazard Warning Signs**

Hazard warning signs shall be displayed where hazards exist. These shall include permanent warning signs forbidding entrance to unauthorized persons shall be displayed in conspicuous places at all entrances to electrical supply stations, substations, and testing rooms containing exposed current carrying parts or moving parts.

## **123 Protective Equipment**

- 123.1 The Company shall take reasonable measures that attempt to eliminate or reduce those hazards for which protective equipment is required or would otherwise be required.
- 123.2 Where worksite activities or conditions require that an employee use or wear protective equipment it shall be the supervisor's responsibility to ensure that the equipment be available at the worksite and that the equipment:
  - a) is maintained by the employee in a condition that will not endanger their health or safety;
  - b) will perform the function for which it was intended or designed;
  - c) is used by employees within its design limitations; and
  - d) is appropriate for the work being done.
- 123.3 Supervisors shall ensure that employees using the equipment:
  - a) have adequate training or sufficient experience and knowledge in the use and limitations of the equipment to perform the job safely; or
  - b) are under the direct supervision of an employee who has adequate training, experience and knowledge to use the equipment in a safe manner.
- 123.4 All employees are expected to know when, where and how to use protective equipment.
- 123.5 Employees shall use the equipment provided to them after first checking the equipment to ensure that it is able to perform the function for which it was designed.

## **124 Electrical Protective Equipment Devices**

- 124.1 Where electrical protective devices and equipment are required they shall be manufactured, maintained, inspected and dielectrically tested in accordance with the current regulations and standards.
  - a) Protective devices and equipment shall be made available to personnel when work on or around energized equipment will be carried out.

- b) Protective devices and equipment shall be removed from service immediately and sent for testing if doubt exists as to whether or not they will provide the required function.
- c) The equipment shall be periodically cleaned and tested to comply with the maintenance schedule set up by the **testing facility**.
- d) Devices and equipment shall not be used after the test expiry date marked on the equipment or device.
- e) Equipment without test dates shall be removed from service and sent for test.

#### **124.2 Care and Use of Rubber Gloves**

- a) Rubber gloves shall be used by only those employees authorized to do so by their employer.
- b) Rubber gloves shall be work by all authorized employees working on or near lines and equipment energized between 300 volt and 25, 000 volt phase-to-phase, in accordance with Company safe work routines.

Such work shall include, but not be restrict to:

- i. operating any switch, disconnect or breaker using a manually operated handle;
- ii. all work on circuits that are de-energized and not grounded which may be subject to inductive voltages or accidental energizing;
- iii. employees handling wood or steel poles that are being installed or removed in the vicinity of energized lines;
- iv. when removing, installing or repairing grounds attached to an6y normally energized equipment; and
- v. working on all energized circuits in vaults or manholes including switching.

c) Rubber gloves shall:

- i. be stored in proper protective gags when not in use;
- ii. be stored separate from tools or material that could cause mechanical or chemical damage to the gloves;
- iii. be used with proper protective covers of appropriate length (see Table 100-1);
- iv. be given a visual inspection and field air test each day prior to their use;
- v. be used within the limits of the “maximum use voltage” rating marked on the gloves;
- vi. be removed from service and sent for testing if there is reason to believe they have been damaged or are unable to provide the protection for which they were designed;
- vii. be used in conjunction with an insulating surface when live line work is done on voltages exceeding 5000 volts phase-to-phase;
  - eg. A) Insulated platform
  - B) Insulated bucket
  - C) Insulated mats
- viii. shall not be worn while ascending or descending the pole when climbing.
  - d) All rings, watches and other jewelry shall be removed before putting on rubber gloves.

e) **Table 100-1**

Class	Maximum Use Voltage	Minimum Distance Cover Cuff to Glove Cuff	
		In.	mm.
<b>0</b>	<b>1,000</b>	<b>1"</b>	<b>25</b>
<b>1</b>	<b>7,500</b>	<b>2"</b>	<b>51</b>
<b>2</b>	<b>17,000</b>	<b>3"</b>	<b>76</b>
<b>3</b>	<b>26,500</b>	<b>4"</b>	<b>102</b>

**125 Protective Clothing**

- 125.1 Every employee shall wear clothing suitable for the conditions and the work being performed.
- 125.2 The Company shall provide suitable protective clothing when employees are handling or using acids, caustics, asbestos or other harmful substances injurious to the skin and/or body.
- 125.3 Limb and body protection shall be provided by the Company and shall be work by all employees using chain saws or similar cutting devices.
- 125.4 Employees working on or around energized electrical equipment shall wear clothing manufactured with natural fibre or flame resistant (FR) fibres next to the skin and all outer clothing shall be FR. The garments shall be long sleeved and the sleeves shall be kept rolled down. **Exception:** Conductive clothing worn by crews performing hot stick work on transmission.
- 125.5 All employees whose clothing might come in contact with moving parts of machinery shall wear close fitting clothing.
- 125.6 Clothing shall be maintained in reasonably good repair and clean condition in order to eliminate hygiene or safety concerns.
- 125.7 Clothing which becomes contaminated with any harmful or flammable substance shall be removed immediately and shall not be reused until it has been decontaminated.
- 125.8 Personal effects such as dangling neckwear, jewelry, rings or other similar items shall not be worn when the wearing of the items would create a hazard to the employee. Long hair shall be contained in a hair net or inside clothing of hat.

**126 Head Protection**

- 126.1 Where a danger of injury to an employee's head exists or could exist the employee shall wear CSA Z94.1-92 Class E approved side impact industrial protective headwear.
- 126.2 Protective headwear and interior suspension shall be kept clean. They shall be replaced if they are cracked or otherwise damaged.
- 126.3 Protective headwear shall not be altered or defaced in any manner.

**127 Eye Protection**

- 127.1 Where danger of an injury or irritation to an employee's eyes exists or could exist they shall wear proper fitting CSA approved eye protective (safety glasses must be complete with side shields) equipment that is appropriate for the work being done and the hazard involved.

**128 Foot Protection**

128.1 Where danger of injury to an employee’s foot exists or may exist, they shall wear CSA approved safety footwear that is appropriate for the hazard of the particular work process.

128.2 The Company required the following standard of foot protection:

**Table 100-2**

**Minimum Standard of Footwear for All Employees (Site requirements maybe more stringent and shall prevail)**

	Designated Work-Sites			
	Construction Sites, Yards	Workshops	Bench Work	Office Environment
1.	A	A	B	C
2.	A	A	B	C
3.	A	A	B	C
4.	B	B	B	C
5.	See Visitor Categories			
6.	B	B	B	C
7.	C	C	C	C

**Legend**

- 1. Trades Persons
- 2. Labourers, Labour Foremen
- 3. Drivers, Ground-men, Trades Support and Related Classifications, Stores
- 4. Inspectors, Trades Foremen
- 5. Managers, Construction Supervisors, Engineers, Planners, Office Workers
- 6. Frequent Wok-Site Visitors
- 7. Occasional Work-Site Visitors (Guided Tour)

**“A” means Class 1 Green Triangle CSA-Certified Safety Boots, nominal height of 150 mm**

**“B” means CSA-Certified Safety Shoes**

**“C” means Non-Safety Footwear**

**129 Hand Protection**

Where danger to the hand exists or may exist an employee shall wear hand protection appropriate for the hazard of the particular job.

**130 Respiratory Protection**

Employees shall use respiratory protection in accordance with Muellers’s Safety Program “Respiratory Code of Practice” when they are or may be exposed to harmful concentrations of contaminates air or where a deficiency of oxygen exists.

**131 Hearing Protection**

Employee shall use adequate hearing protection whenever they are required to work in noisy areas or with noisy equipment that would cause them to be exposed to noise levels exceeding Occupational Health & Safety Act standards.

**Table 100-3  
Occupational Exposure Limits**

Sound Level (dBA)	Maximum Hours Permitted
80	16
85	8
90	4
95	2
100	1
105	½
110	¼
115	1/8
Greater than 115	0

**132 Fall Protection**

- 132.1 Where it is possible for an employee to fall a vertical distance greater than 3.5 meters from a temporary work area or more than 1.2 meters from a permanent work area, CSA approved fall arrest devices shall be worn by the employee if alternate protection from falling has not been provided to them (e.g. guard rails, cages, etc)
- a) Fall arresting device shall include a full body harness with shock absorbing lanyard attached to an approved anchor point.
  - b)The equipment shall be used in accordance with manufacturer’s recommendations and Mueller Electric standards
- 132.2 Employees shall ensure that:
- a)the lifeline or lanyard is protected where it passes over sharp edges or is exposed to heat, flame, abrasion or corrosive materials during use;
  - b)does not pass through any obstruction which would create danger to the employee should the platform on which the employee is working fail;
  - c)is attached to a safe anchor point capable of withstanding the shock load which may be applied should the employee fall.
  - d)a safety harness is properly adjusted to fit the employee and is attached to a fixed anchor point by means of a lanyard or lifelines of sufficient strength.

**133 Ladders**

- 133.1 The Company will provide a ladder where elevated or sub-level work is not accessible by any other means of safe access or egress.
- 133.2 All ladders shall comply with CSA standards or be constructed in accordance with the appropriate Occupational Health & Safety legislation.
- 133.3 **Portable ladders shall be:**
- a)equipped with non-slip devices at the foot;
  - b)equipped with locks that securely hold the sections if they are not extension ladders;
  - c)secured against movement(held by another working or ties off);

- d) placed so that the base of the ladder is no further from the wall or structure than  $\frac{1}{4}$  the length of the ladder, measured from the point at which the ladder contacts the wall or structure ;and
  - e) placed so that they extend at least 1 meter above any platform or landing when they are used as a means of access to the platform or landing.
- 133.4 Employees shall not work from either of the top 2 rungs of single, extension or stepladders except for "two steps" stepladders designed for that purpose.
- 133.5 No employee shall carry anything in his or her hands while climbing a ladder.
- 133.6 Metal ladders shall not be used in the vicinity of exposed electrical circuits or equipment.
- 133.7 Ladders with broken, cracked or damaged parts shall not be used and shall be tagged "Danger – Do Not Use". They shall be sent to the tool repair shop for repair or destruction.
- 133.8 Step ladders more than 3 meters in height shall be secured against movement or held by another worker.
- 133.9 Step ladders shall be so used that when in an open position the front section shall be no steeper than 6 to 1 and the legs are held in place by metal braces or equivalent rigid support.

### **134 Scaffold**

- 134.1 All scaffolds shall be erected, constructed, used and maintained in accordance with Occupational Health and Safety legislation and Mueller Electric standards.
- 134.2 Scaffold planks shall be unpainted and secured to prevent movement.
- 134.3 The scaffold shall be kept level on a stable surface.
- 134.4 The height of a free standing or rolling scaffold shall not be more than 3 times the smallest dimension of its base. Where outriggers are used to obtain this ratio they shall be firmly attached to the scaffold
- 134.5 Wheels used to move a scaffold shall be equipped with locking devices and these devices shall be engaged at all times when workers are on the scaffold
- 134.6 Workers shall not remain on rolling scaffolds when they are being moved
- 134.7 Scaffolds shall be equipped with adequate cross braces to prevent lateral movement.
- 134.8 Scaffold platforms over 2 meters in height shall be equipped with guard rails and 14 cm high toe boards.

### **135 Hand Tools, Power Tools and Shop Equipment**

- 135.1 a) Tool inspections shall be done prior to use. Supervisors shall designate persons responsible for carrying out inspections in each area.
- b) All tools and equipment found in an unsatisfactory condition shall be brought to the attention of the inspector's immediate supervisor who shall arrange repair or replacement.

#### **135.2 Powered Machinery and Tools(General)**

- a) Employees operating powered machinery or tools with rotating external parts shall ensure no one will be endangered by its starting or operation.
- b) Employees shall use the equipment only when they are trained in the proper operation of the equipment and authorized to use the equipment by their supervisor.
- c) The machinery shall be turned off when the work is finished and shall not be left unattended while in operation.
- d) Employees operating machinery with rotating external parts shall;
- i. wear tight fitting clothing;
  - ii. confine or cut head and facial hair; and
  - iii. avoid wearing dangling neckwear, jewelry, or similar items.

- e)The machinery shall only be used for the purpose for which it was intended.
- f)Guards shall not be rendered inoperative or removed from the tool or equipment.
- g)Only authorized and qualified persons shall make repairs to tools or equipment.
- h)Supervisors shall ensure that machinery and tools are operated and maintained in accordance with Company and legislated procedures.

### 135.3 **Grinding**

- a)The maximum r.p.m. of an abrasive wheel or disc shall be identified on the wheel or disc and the maximum r.p.m. of the grinder output shaft shall be identified on the grinder
- b)The grinder abrasive wheel or disc shall not be used if the r.p.m. of the output shaft of the grinder exceeds the r.p.m. rating of the wheel or disc.
- c)Tool rests must be adjusted within 3 mm of the face of the wheel.
- d)Tool rest shall not be adjusted while the grinder is in motion.
- e)Grinding on the side of an abrasive wheel shall not be done unless the wheel has been designed for that purpose.
- f)Grinders shall only be used if all guards are in place
- g)Eye and face protection shall be worn while grinding.
- h)Ventilation and/or respiratory protection shall be used as required.

### 135.4 **Saws – General**

- a)Depth gauges, angle gauges and guides shall not be adjusted while the saw blade is in motion.
- b)Eye protection shall be worn by the saw operator during all sawing operations.
- c)A push stick or assistance from another employee shall be used where required to keep the saw operator's hands away from a rotating saw blade.

### 135.5 **Chain Saws**

- a)Limb, body, eye and ear protection shall be worn by all persons operating chain saws.
- b)Chain saws shall be operated, adjusted and maintained in accordance with the CSA standard.
- c)Chain saws shall not be adjusted, sharpened or refueled while the motor is in operation.
- d) Fuel shall be kept in an approved container that is clearly labeled as to its contents. The container shall not be stored in the personnel carrying area of the vehicle.

### 135.6 **Explosive Activated Tools**

- a)The hazards encountered with these tools are similar to those of firearms. Instructions and recommendations of the manufacturer shall be strictly followed regarding operation and maintenance.
- b)These tools shall only be used by competent and authorized employees.

### 135.7 **Compressed Air Tools**

- a)Safety valves on compressed air equipment shall not be tampered with or made inoperative.
- b)Air hoses, valves, and fittings of correct pressure rating shall be used with air compressors and associated equipment.
- c)All airline connections shall be made with proper locking devices and shall be checked prior to the air pressure being turned on. Pressure shall be released prior to disconnection.
- d)High-pressure air shall never be bled off too fast as the high-pitch sound could be harmful to the ears.

### 135.8 **Hydraulic Pressure Tools**

- a)All hydraulic tools and devices shall be operated and maintained according to the manufacturers specifications.

b)As pressurized hydraulic fluids can cause serious injury, care must be taken to not expose the body to excessive pressures. Eye protection and hand protection shall be worn while operating tools or devices.

### **135.9 Jackhammer Operations**

a)Personal Protective Equipment(PPE) shall include:

- i. Class 1 safety boots
- ii. Eye protection
- iii. Gloves and
- iv. Hearing protection

b)Operators shall change off with other employees or take rest breaks when they become tired, to assist in the prevention of muscle strains.

c)Jackhammer points, which become struck, shall be loosened in a manner other than brute force, which may cause a strain injury to the employee.

### **136 Hoisting and Rigging**

136.1 Competent employees who are authorized to rig loads and operate hoisting equipment shall:

- a)become familiar with the manufacturer’s rated capacity of the hoisting and rigging equipment they are required to use or operate;
- b)determine that the load to be lifted is not in excess of the rated capacity of any of the hoisting and rigging equipment prior to starting any lift;
- c)inspect the hoisting and rigging equipment prior to use;
- d>tag and remove from service any jack, hoist or rigging equipment should its safe use be questionable and notify their immediate supervisor to arrange corrective action;
- e)not splice or repair cables, chains or slings by makeshift means(open links, bolts or wire);
- f)use and maintain hoisting and rigging equipment according to the manufacturer’s specifications;
- g)discuss and agree upon the signals to be used by the designated signal person prior to beginning the lift;
- h)remain at the controls while the load is in motion;
- i)do not pass loads over or near personnel. When it is necessary to do so, a warning shall be sounded to provide adequate time for personnel to move away;
- j)ensure that a safety latch is used with all hooks;
- k)ensure that shackle pins are never replaced with bolts;
- l)ensure that slings and cables are protected from sharp corners or lift points;
- m)install U-bolt type clips on wire rope so that the u-bolts section bears on the short or \_dead side) of the rope and the saddle bears on the long or “live side” of the rope;
- n)ensure that a minimum of 5 full wraps remain on the cable drum of a crane or hoist; and
- o)avoid passing loads over rotating or electrically energized equipment.

136.2 Employees shall use tag lines of sufficient length to prevent them being hit by a load that they are required to guide.

136.3 Oil barrels or similar containers shall not be used for hoisting purposes unless the barrel or container is lifted in a cage or device designed for that purpose and is identified as to the maximum load rating.

136.4 Employees shall not rely on jacks or hoists to support loads under which they are required to work. Adequate blocking or support the loads while personnel are working underneath them.

- 136.5 Employees shall not use any rigging that is not in compliance with Occupational Health and Safety Regulations.
- 136.6 Workers shall not have any part of their body under suspended loads.

### **137 Log Books**

- 137.1 Supervisors shall ensure that:
- a) a log book is provided to each crane or hoist that has a load capacity of 2000kg or more; and
  - b) the crane or hoist operator enters particulars in the logbook in accordance with Occupational Health and Safety legislations
- 137.2 Crane or hoist operators shall ensure that:
- a) they familiarize themselves with all recent entries in the log book before commencing operation of the crane or hoist; and
  - b) they enter particulars in the logbook and sign each entry.

### **138 Power Mobile Equipment**

#### **138.1 General**

Mobile equipment and vehicles shall be operated and maintained in accordance with:

- a) manufacturer's specifications;
- b) Mueller Electric vehicle procedures;
- c) Government legislation including the Highway Traffic Act, Transportation of Dangerous Goods Act, Occupational Health and Safety Regulation and other applicable legislation that may arise

#### **138.2 Use of Outriggers**

- a) Outriggers shall be extended to a firm stable surface prior to using the equipment for lifting personnel, materials or equipment
- b) Portable outrigger pads shall be used at all times.
- c) Booms shall not be used fully extended unless outriggers are fully extended. The use of additional outrigger pads may be necessary to level the vehicle
- d) The person in charge shall post an employee to assure the outriggers are lowered in safety.
- e) Outriggers shall be marked or guarded to prevent hazards to vehicle or pedestrian traffic.

### **139 Aerial Bucket Equipment**

#### **139.1 Riding in Aerial Buckets**

Riding in the buckets shall be allowed only under the following conditions:

- a) Where there is no hazard created by overhead obstructions or ground conditions, including uneven ground.
- b) The maximum distance involves moving the vehicle from pole to adjacent pole.
- c) The vehicle is moved no faster than 8km per hour.
- d) The vehicle boom remains on its rest in the lowered position.
- e) Rotating beacons and/or flashers are operating.

#### **139.2 Use of Aerial Bucket Equipment**

- a) Ground controls shall be tested for proper functioning prior to use.
- b) The ground person(s) shall be familiar with the ground controls and rescue procedures.
- c) Only personnel trained in the use of such equipment shall operate the equipment
- d) Safety harness lanyards shall be attached to a boom attachment designed for that purpose.

- d) On dual bucket equipment, personnel shall not transfer between buckets while the buckets are in an elevated position.
- f) The insulating value of the equipment shall not be relied upon to provide protection from electrical sources, but for backup protection only. Safety Rule #144 pertaining to clearances, use of electrical protective equipment including rubber gloves, shall apply.
- g) Power tools, cords, or other equipment shall not be taken aloft when they may compromise the insulating integrity, or overload the lifting capacity, of the aerial device.
- h) Personnel shall remain inside the bucket.
- i) Ground persons shall assure themselves that the vehicle body is not energized prior to touching, entering or leaving the vehicle. Ground persons should avoid unnecessary contact with the unit while it is engaged in work on energized conductors.
- j) Aerial bucket equipment that has been damaged or suspected of being damaged shall not be used for aerial work until the equipment has been inspected by the appropriate qualified persons and deemed safe for use.

#### **140 Mobile Cranes and Diggers**

- 140.1 Only “competent employees” authorized by the Company shall operate mobile cranes and diggers.
- 140.2 Operators shall request the assistance of “qualified utility employees” to de-energize, move or place electrical protective cover-up equipment in place, if adequate clearance from energized lines and equipment cannot be maintained.
- 140.3 Operators shall familiarize themselves with safety rules and Company operating procedures applicable to the safe operation of mobile cranes and diggers.

#### **141 Use of Seat Belts**

All employees shall use seat belts in vehicles so equipped.

#### **142 Climbing Spurs**

- 142.1 Climbing spurs shall be manufactured, maintained and inspected in accordance with CSA standards
- 142.2 Climbing spurs shall not be worn where they are not required.

#### **143 Pole Climbing**

- 143.1 Before climbing a pole, employees shall first determine:
  - a) that the pole is in such condition and supported in such a way as to be safely support the person doing the work on the pole;
  - b) the best climbing space to void pole attachments and possible hazards such as knots and cracks; and
  - c) which conductors and equipment are energized and at what voltage.
- 143.2 The employee shall avoid using pins, braces, brackets or other attachments for support as they may break loose and cause a fall.
- 143.3 An employee shall not start to climb or descend from a pole, tower or structure until the person ahead is safely out of the way.
- 143.4 Safety pole belts and fall protection shall be used from the ground up when pole climbing. The employee shall always, when pole climbing, be belted in using a secondary climbing belt as required.

#### **144 Electrical Safety Precautions(General)**

**144.1 Employees in Charge**

a) If more than one employee is required to work on or around the same electrical equipment or lines at any one location, the person-in-charge shall ensure that one person is designated as being in charge of the work.

b) The employee designated as being in charge of work shall instruct all other workers under their control regarding the work they are to perform.

**144.2 Identification of Equipment Lines**

a) The Company shall ensure that electrical equipment and lines are identified by location, number, letter or combination of same. Poles without attached apparatus will be identified by location.

b) Employees requesting or granting authorization to isolate, energize or work on equipment or lines shall use the location and/or marking to identify the lines or equipment.

**144.3 Authorization to Work**

Prior to working on or around energized lines and equipment operating at voltages above 750 V between conductors or below 750 V on trolley or L.R. T. systems, qualified utility employees shall:

a) notify the “operator-in-charge” of the location, identifying numbers and/or letters, and the nature of the work;

b) request information as to the status of the lines and/or equipment;

c) request the circuit number and authorization to proceed with the work; and

d) check the physical status of the lines/equipment prior to proceeding with the work

**144.4 Limits of Approach (“Utility Employees”)**

a) “Utility Employees” shall not approach or allow conducting objects to approach energized electrical equipment or lines closer than the distances specified in Table 100-4 unless.

i. they are in the continual presence of and under the direction of a qualified utility employee; or

ii. the energized parts are protected by guards or barriers.

b) Utility employees who have not been trained to work on energized electrical equipment operated at voltages below 750 V between conductors shall maintain an approach distance of 800mm from such apparatus unless protective insulating devices have been placed on it.

**Table 100-4  
Limit of Approach Distances in Millimetres for Utility Employees**

Voltage Levels			Utility Employee
Nominal voltage to ground kV	Nominal voltage phase to phase kV	Maximum operating V phase to phase kV	Limit of approach to exposed energized parts mm
Column 1	Column 2	Column 3	Column 4(1)
0.6 (DC only)			800
0.3-2.4	0.6-4.16	4.58	800
8	13.5	15.18	850
14.4	25	27.5	950
19.9	34.5	37.95	1050
	69, 72	79.2	1350
	138, 144	158.4	1650
	230, 260	285	2150
	500	550	3450

Note: 1) Limit of approach distances in Column 4 have been calculated using IEEE

minimum tool distances plus 700 safety factor, rounded to the nearest 50mm.

**144.4 Limits of Approach (“Qualified Utility Employees”)**

- a) “Qualified utility employees” shall not approach or allow conducting objects to approach exposed energized equipment or lines closer than the distance specified in table 100-5 unless
  - i. the conducting object or equipment is being used for live line tools;
  - ii. the energized equipment or lines are covered with rated protective insulating devices or effectively guarded; or
  - iii. the employee is performing live line work using rated insulating rubber gloves.
- b) A utility employee-in-training that is in the continual presence of and under the direction of a “qualified utility employee” may perform work in accordance with this rule.
- c) “Qualified utility employees” performing live line work using rubber gloves from a rated insulated device shall maintain the approach distances specified in Table 100-6 unless rated insulated devices have been placed on the exposed energized parts, exposed structure or exposed ground parts.

**Table 100-5  
Limit of Approach Distances in Millimetres for Qualified Utility Employees**

Voltage Levels			Utility Employee
Nominal voltage to ground kV	Nominal voltage phase to phase kV	Maximum operating V phase to phase kV	Limit of approach to exposed energized parts mm
Column 1	Column 2	Column 3	Column 4(1)
0.6 (DC only)			500
2.4	4.16	4.58	500
8	13.8	15.18	550
144	25	27.5	650
19.9	34.5	37.95	750
	69, 72	79.2	1050
	138, 144	158.4	1350
	230, 260	285	1850
	500	550	3150

Note: (1) Limit of approach distance is Column 4 have been calculated using IEEE minimum tool distances plus 450mm safety factor, rounded to the nearest 50mm.

**Table 100-6****Limit of Approach Distances in Millimetres for Qualified Utility Employees Performing Live Line Work Using Rubber Gloves**

Voltage Levels			Qualified Utility Employee	
			Limit of approach for work performed From a rated insulated device	
Nominal voltage to ground kV	Nominal voltage phase to phase kV	Maximum operating V phase to phase kV	Unprotected body parts to exposed work	Unprotected body part to exposed adjacent phases, structure surfaces, or ground parts
Column 1	Column 2	Column 3	Column 4(1)	Column 5(2)
2.4	4.16	4.58	40(3)	500
8	13.8	15.18	120	550
14.4	25	27.5	210	650
19.9	34.5	37.95	290	750
	69, 72	79.2	(4)	(4)
	138, 144	158.4	(4)	(4)
	230, 260	285	(4)	(4)
	500	550	(4)	(4)

Note:

- (1) Limit of approach distances in Column 4 have been calculated using IEEE minimum tool distances rounded to the nearest 10mm
- (2) Limit of approach distance in Column 5 have been calculated using IEEE minimum tool distances plus 450 mm safety factor, rounded to the nearest 50mm.
- (3) Work performed directly from a pole or structure on electrical equipment or lines operating at voltages below 5 kV between conductors must be done in accordance with Rule 4-142.
- (4) Live line work using rubber gloves is not normally done at these voltage levels. Rubber insulating equipment may be required to handle isolated and grounded lines that normally operate at these voltage levels.

**145 Electrical Safe Work Practices****145.1 Switching Procedures**

Switching shall be done in accordance with Company operating procedures and these safety rules.

**145.2 Opening and Closing Switches**

- a) Manually operated switches shall be opened and closed in a single, unhesitating motion.
- b) Load break equipment shall be used to open all load-carrying switches that can accommodate their use.
- c) Eye protection shall be worn when opening or closing switches.

**145.3 Tagging**

- a) All switches opened for isolation of lines or equipment shall be tagged.
- b) The tags shall give the:
  - i. switching order or work permit number;
  - ii. time and date of isolation;
  - iii. the name of the employee who perform the isolation; and
  - iv. the name of the employee who requests the isolation.
- c) The operator-in-charge shall record the above information and notify the employee requesting the isolation that the lines or equipment have been isolated.

**145.4 Potential Test Before Grounding**

- a) A potential check shall be made before applying any ground whenever lines or equipment are being isolated for work purposes.
- b) An approved potential indicating device shall be used to test for potential
- c) The potential indicating device shall be tested immediately prior to the potential check to prove the device is functional.
- d) When the potential check indicates that the line or equipment is safe to ground then the ground may be installed.

**145.5 Installation/Removal of Working Grounds**

- a) The grounds shall be installed in accordance with Company Operating Procedures, safety rules, and the code of practice.
- b) A potential check shall be completed indicating that it is safe to install the grounding device.
- c) The operator-in-charge shall be notified of all installations or removals and the location of protective grounds.
- d) Live line tools shall be used to install or remove protective grounds from the isolated electrical equipment or lines that are normally energized.
- e) The ground connection shall be attached before any contact is made with the line or equipment being grounded.
- f) The line or equipment connection shall be removed before removal of the ground connection.

**145.6 Care About Energized Parts**

Employees Shall:

- a) Treat all lines and equipment as energized unless they have been directed to perform work on the isolated and/or grounded lines and equipment by a qualified utility worker;
- b) not work on any lines or equipment unless the employee knows their voltage;
- c) not depend on the insulating covering of wires;
- d) not use metal measuring tapes or ladders around energized parts;
- e) avoid working from any body position where, by reason of accidental fall or electrical shock, they would likely come in contact with energized parts; and
- f) where possible work from fellow, rather than from above.

**145.7 Connecting/Disconnecting Wires**

Employees connecting or disconnecting de-energized equipment or lines to an energized circuit by means of a connecting wire shall:

- a) attach the wire to the de-energized part before attaching it to the normally energized circuit; and
- b) remove the energized circuit end first, before disconnecting the wire at the de-energized end.

**146 Doble Testing/Phasing**

- 146.1 Employees shall follow Company and manufacturers' operating procedures.
- 146.2 No normally energized part shall be touched unless it is effectively grounded

- 146.3 Suitable protective devices and equipment shall be used when handling instruments used during double testing
- 146.4 Warning signs, ropes and/or other suitable barriers shall be put in place to prevent other employees from entering the test area.

#### **147 Battery Banks**

- 147.1 Employees Shall:
- a) wear personal protection including appropriate aprons, gloves, boots face shields and chemical goggles;
  - b) not smoke or bring open flame into an area where batteries are being charged; and
  - c) ensure that the correct electrolyte is used to prevent dangerous chemical reaction and equipment damage.
- 147.2 Battery installation and maintenance shall be done by competent workers.

#### **148 Protecting the Public**

Personnel have a great responsibility to protect the public from being injured due to our operations. Employees shall:

- a) discourage unauthorized persons from entering the work area
- b) make such persons who are required to be close to the work area aware of the hazards and how to avoid them.
- c) pay close attention to young children whose curiosity will often lead them into potential hazardous situations beyond their comprehension;
- d) immediately report any dangerous conditions to the appropriate authority; and
- e) guard the site until the conditions can be made safe.

#### **149 Worksite Inspection**

- 149.1 Supervisors shall inspect the worksite on a regular basis to determine the effectiveness of the health and safety management system. Feedback will be provided to employees by commending appropriate activity and/or determining a corrective action plan when there are opportunities for improvement.
- 149.2 Employees shall cooperate with the inspector and provide constructive input into corrective action plans

#### **150 Safety Performance Index**

- 150.1 Safety performance is measured both by pro-active activities done to prevent injuries and measurement of injury rates. Each site, Business Unit and overall Company performance will be measured to determine the effectiveness of the health and safety program in each area.

## Section 200 – Aerial

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### 200 Protecting the Public

Personnel have a great responsibility to protect the public from being injured due to our operations:  
Employees Shall:

- f)discourage unauthorized persons from entering the work area;
- g)make such persons who are required to be close to the work area aware of the hazards and how to avoid them.
- h)pay close attention to young children whose curiosity will often lead them into potential hazardous situations beyond their comprehension;
- i)immediately report any dangerous conditions to the appropriate authority; and
- j)guard the site until the conditions can be made safe.

### 201 Working on Energized Lines (above 750V)

- 201.1 The only employees authorized by the Company to work on electrical equipment and lines energized at voltages above 750 volts are:
  - a)qualified utility employees trained and familiar with rubber glove work techniques; or
  - b)qualified utility employees in training working under the direct and constant supervision of an employee who is trained and familiar with rubber glove work techniques.
- 201.2 A minimum of two qualified utility employees shall be used to perform live line work except to:
  - a)switch or replace fuses, or
  - b)eliminate hazards in an emergency in order to protect life or property.
- 201.3 All rubber glove work on lines or equipment energized at 5 kV or above shall be done from an insulated platform. This includes the installation of protective equipment
- 201.4 Electrical protective equipment shall be used and maintained in accordance with Section 124 of these safety rules.
- 201.5 Rubber gloves shall be work, used and maintained, in accordance with section 124 of these safety rules, but all qualified utility employees working on energized lines and equipment.
- 201.6 Rubber gloves shall be worn when applying protective equipment such as line hose, hoods and blankets.
- 201.7 When applying protective equipment the nearest energized part or conductor shall be covered first with the reverse order being used when removing protective equipment.
- 201.8 When working on de-energized lines located above or below energized circuits, adequate protective equipment shall be placed on the energized circuit, to protect workers or material from accidental contact
- 201.9 Long sleeved clothing, made of not more than 70% flammable synthetic material, shall be worn with the sleeves rolled down and snug at the cuffs.
- 201.10 Eye protection shall be worn when working on energized lines or equipment.
- 201.11 a)Rubber glove(hand contact) work will not be done during adverse weather conditions (i.e. rain, extreme cold, and high humidity). The alternative method of insulated hot line tools may be used to make the system safe until weather conditions improve to allow for continuation of rubber glove (hand contact) method.
  - b)The qualified utility employee in charge shall decide if weather conditions are favorable for rubber glove work.
- 201.12 Employees shall only work on one energized phase at a time when working on the same structure or structures within reach of each line

201.13 Employees shall not work on grounds or grounding when live line work is being done on the same structure or where there is a possibility of the ground becoming energized.

## **202 Stringing and Removing Conductors**

- 202.1 Personnel stringing or removing conductors located near energized lines shall:
- a) use suitable insulating ropes attached to the conductors to prevent contact with the energized lines;
  - b) consider the conductors being strung or removed to be at the same voltage as the adjacent lines;
  - c) install traveling grounds on the conductor being installed or removed;
  - d) block the reclosing feature on the circuit(s) of the adjacent energized lines
  - e) take measures to prevent the conductors from contacting the energized circuit(s)
  - f) not string or remove conductors from above energized circuits where there is a practical alternative;
  - g) not allow conductors to sag so that they may contact persons or property located below them;
  - h) attend the wire and the stringing or removal of equipment at all times;
  - i) wear rubber gloves and keep all parts of the body clear from contact with the wire and equipment;
  - j) keep unauthorized persons away from the wire and equipment in accordance with Section 118 of these safety rules;
  - k) post a flag-person to control vehicle traffic where there is a danger of accidental contact between the conductors and vehicles;
  - l) arrange radio contact or flag-person(s) to maintain contact between each end of the conductors so that operations can be stopped if hazardous conditions should arise;
  - m) not enter or leave the cab, deck or structure of the vehicle or equipment until there is no possibility that it is or could become energized;
  - n) not add or change the strains on a pole or structure until they are satisfied that it will withstand the altered strain; and
  - o) relieve the strain on conductors prior to cutting them.

## **203 25kV Rubber Glove – Hand Contact Method**

- 203.1 Before work on energized lines begins, a “tailboard discussion” of working procedure, protective equipment required and potential hazards will be discussed with all workers involved to ensure a complete understanding of work to be done.
- 203.2 Re-closing features will be blocked on circuit(s) to be worked on.
- 203.3 Before each use, all protective equipment to be used will be visually inspected for damage and/or deterioration and verify that it is of correct type, class and by-pass jumpers are of correct ampacity rating for energized line involved.
- 203.4 All roped used (i.e. hand lines, straight lines, and rope blocks) will be inspected before each use. If any doubt exists as to mechanical or dielectric strength of the rope, it shall not be used.
- 203.5 If the pole to be worked on has a downhaul attached to it, a strain insulator of approved rating shall be installed before work commences on the energized line.
- 203.6 Not more than one span of conductor and no connected electrical equipment shall be connected or disconnected without the use of an approved pickup or lead-break tool, or hot line tool(s)
- 203.7 Grounding conductors, grounded equipment and/or bonded hardware within the work area shall be effectively covered with interrupting the grounding circuit.
- 203.8 When re-conductoring aerial lines, pulling unit, stringing trailers and new conductors shall be effectively grounded, either to an existing system neutral or an approved grounding electrode.

- 203.9 Where the neutral conductor is attached directly to the pole, it shall be detached from the pole, pulled clear of the work area and secured, thereby providing adequate clearance for rubber glove (hand contact) work.
- 203.10 All cover up protective equipment (line hoses, hose connectors, line hoods, blankets\_ and bypass jumpers shall be electrically tested at least once every six months.
- 203.11 The insulated boom, buckets and liners of aerial devices, portable platforms and extension arms shall be wiped down each day before work commences and shall be wiped down throughout the day as conditions warrant (i.e. change of job site, dusty conditions, industrial contaminates).
- 203.12 The inside of boom on insulated aerial devices shall be cleaned by flushing with high pressure water or stream at least once every six months, more frequently as conditions warrant.(i.e. dusty conditions, industrial contaminates). Note: If cleaning with stream, do not allow prolonged application directly to the hydraulic hoses.
- 203.13 If upper hydraulic hose leaks or breaks contaminating the inside of insulated boom, it shall be flushed with high pressure water (no detergent) or stream after repairs are made and before aerial device is put back in service.
- 203.14 In any case, if doubt exists as to the insulating ability of protective equipment, aerial devices, portable platforms or extension arms, it shall not be used and will be electrically tested for certification or rejection.

#### **204 Aerial Bucket Rescue(Squirt-Boom)**

- 204.1 Evaluate the situation and decide what must be done.
- 204.2 Ensure the vehicle is not energized if you are required to get on or off the vehicle.
- 204.3 A) Contact the operator-in-charge to de-energize the circuit or operate the lower boom controls; use the quickest method to clear a victim still in contact with energized lines.  
B)Advise the operator-in-charge of the situation, give your name, exact location and required assistance.
- 204.4 Operate the lower boom controls to bring the victim to the ground. Note: if the controls do not operate use the kill switch bypass switch, located on the right side of the boom support, and then try to operate the controls again.
- 204.5 A)If it is easier to remove a victim from the side opening of the bucket; set the bucket as close to the ground as practicable, detach the victim's safety belt and remove the victim from the bucket  
B)If it is easier to remove the victim from the top of the bucket; set the bucket as close to the ground as practicable, use the bucket leveling lever to tilt the bucket so that it is parallel to the ground, detach the victim's safety belt and remove the victim from the bucket.
- 204.6 Apply any necessary first aid and/or C.P.RE. until the victim is under medical care.
- 204.7 Every crew shall practice bucket rescue once each month.

#### **205 Pole Top Rescue**

- 205.1 Evaluate the situation and decide what must be done.
- 205.2 A)Contact the operator-in-charge to de-energize the circuit if the victim is still in contact with the energized lines.  
B)Advise the operator-in-charge of the situation, give your name, exact location and required assistance.
- 205.3 Ensure the conductors have been de-energized or use hot line equipment to clear the victim from the lines.
- 205.4 If the victim is unconscious, check for breathing.

- a)If they are not breathing, open their airway and give two full slow breathes prior to attempting to lower the victim to the ground;
- b)If the victim is breathing, proceed with handline rescue techniques.
- 205.5 If the victim is conscious:
  - a)reassure them and watch for symptoms of shock;
  - b)assist them to descend the pole or proceed with hanline rescue techniques.
- 205.6 split the handline, put the running end over a crossarm or other strong part of the structure and then wrap the running end of the line twice around the load line.
- 205.7 Pass the load line around the injured person under their armpits keeping it high on their back and chest.
- 205.8 Tie a bowline, three half hitches or other suitable knot.
- 205.9 Snug the rope around the victim while keeping the know near an armpit
- 205.10 Remove any slack in the load line; take a firm grip on the running line or have someone on the ground take a firm grip on the running line.
- 205.11 Cut the victim’s belt or unsnap it; whichever is the easier.
- 205.12 Lower the victim via a clear path to the ground.
- 205.13 Continue any necessary C.P.R. and/or first aid until the victim is under medical care.

**206 Aerial Bucket Rescue(Folding-Boom Type)**

- 206.1 Rescue Equipment
  - a)Rescue blocks in the ready to use position in a bin marked “Rescue Blocks”.
  - b)Rescue equipment shall not be used for any purpose except rescue or rescue training.
  - c)The double ”D” ring rescue boom strap shall be mounted approximately 2.3 meters from the bucket end of the boom.
  - d)The physical condition of the boom strap, its location and mounting tightness shall be checked each day prior to working aloft.
  - e)All rescue equipment shall be safety checked after each use.
- 206.2 If an employee is injured while working aloft:
  - a)Evaluate the situation and decide what must be done.
  - b)Ensure the vehicle is not energized prior to touching, entering or exiting the vehicle.
  - c)Contact the operator-in-charge to de-energize the circuit or operate the boom controls; use the quickest method to clear a victim still in contact with energized lines. Advise the operator-inc charge of the situation; give your name, exact location and required assistance.
  - d)Bring the buckets down to a position at the rear or side of the vehicle(so the end of the boom is in a vertical position)l Depending upon the situation a ground person may be required to operate the lower boom controls to bring the buckets down.
  - e)Remove the rescue blocks from the bin and attach the foul line end to a ring “D” of the boom strap and the other end to the lanyard loop at the victim’s safety strap.
  - f)Drop the foul line to the ground and detach the safety snap of the victim’s lanyard.
  - g)Raise the victim up and out of the bucket by pulling on the foul line of the rescue blocks. If two persons are available; one person remains on the truck deck to guide the victim clear of the bucket while the other person on the ground operates the foul line. First aid and/or C.P.R. shall be administered once the victim is on the ground.
- 206.3 Every crew working on an aerial bucket truck shall practice bucket rescue once every month.

## **207 Safe Use of an Ampact Tool**

### **207.1 Section of Shell and Takeoff Clips**

- a)
  - i. Select properly color shell, as specific in manual CM2106
  - ii. Use only red shells to remove red and blue coded taps.
  - iii. Use only blue shell to remove yellow taps. **WARNING:** Never use yellow shells to remove a tap.
- b) Use correct takeoff clip for tap removal.
  - i. Red code taps           Clip#69684
  - ii. Blue code taps        Clip#69685
  - ii. Yellow code taps      Clip#69847

### **207.2 Preloading Check**

- a) Check that the tool is cleaned and well lubricated. The ram and other moveable parts must move freely and easily. The ram and tool head should be checked for wear, cracks or distortion.
- b) Remove the breech cap assembly and remove any foreign objects from the too breech and breech cap assembly.
- c) Check that the properly color-coded shell has been selected.
- d) Check inside the shell casing to assure that the safety prongs extend beyond the percussion cap and that no foreign objects are inside the shell casing. **Warning:** Do not use a shell that has an irregularity.

### **207.3 Loading and Firing. **WARNING:** The tool shall not be loaded until immediately prior to the installation or removal of a tap. Never leave a shell in the tool if work is delayed.**

- a) Remove the breech cap assembly.
- b) Insert the shell into the tool while holding the ram in place with your thumb. Never attempt to force the shell into the tool breech by striking the end of the shell.
- c) Remove your thumb from the ram. Install and tighten the breech cap, then tighten the gas release knob.
- d) Mount the tool on the connector making sure to keep fingers clear of the ram travel area of the tool. **WARNING:** Never fire a tool while other people are standing in the line of action.
- e) Hold the tool by the knarled breech cap assembly when firing the tool and give the gas release know a sharp blow with a hammer. Never use a wrench or pliers.
- f) Wait 10 seconds after firing before loosening the gas release knob. **WARNING:** Never remove the breech cap assembly until the gas release knob is loosened.
- f) If tool does not function remove the tool from the tap before reloading with a new shell.
- h) If gas pressure does not release when the gas release knob is loosened. Re-tighten and again strike the knob sharply with a hammer. Loosen gas release knob.
- i) In the event that the gas is not properly released, the remaining gas Opressure may cause the shell to stick in the breech. Direct the breech away from personnel and towards the ground. Insert end of a screwdriver in between the ejector sleeve and the threaded portion of the breech and twist the screwdriver to eject the spend shell.
- j) Never abuse, drop or experiment with ampact tools or shells. Tool shall be properly stored after use to keep the tool clean and free of debris.

## **208 Pole Handling**

### **208.1 Preservative Treated Poles**

- a) Gloves and adequate protective clothing shall be worn to protect worker's skin from slivers and chemical burns.

b)Take care not to rub the eyes or wipe away perspiration with shirtsleeves or gloves that have been exposed to the preservative.

**208.2 Use of Tongs and Cant Hooks**

- a)Tongs and cant hooks shall be set in the pole so that their points will hold in the wood;
- b)Use slings or hook the hoist cable around badly rotted, extremely hard or frozen poles.

**208.3 Loading/Unloading Poles**

- a) Employees shall avoid standing in a position where they could be endangered by the movement of the pole should the lifting equipment fail or the pole pile shift.
- b)The vehicle or trailer wheels shall be blocked, braked or otherwise secured against movement prior to loading or unloading poles.
- c)Poles shall be loaded in pyramidal fashion with each layer containing one less pole than the last layer until a peak is reached.
- d)Pole trailers shall be attached to the vehicle with two crossed safety chains as well as the hitch connection.
- e)Pole trailers shall not be loaded in excess of their registered allowable weight.
- f)The load shall be properly secured prior to moving from one location to another unless the move can be done safely.
- g)Pole trailers shall not be moved unless the extended end of the longest pole has been marked with a “warning flag” by day and a “warning light” by night.
- h)Poles stacked or temporarily left exposed to the public shall be blocked or adequately secured to prevent them from movement.

**208.4 Setting/Removal of Poles(750V – 25kV)**

When poles are being set or removed within the limits of approach for utility employees or the movement of the pole may cause it to enter within these limits, then:

- a)the pole shall be covered with a pole guard;
- b)the lines and equipment being approached shall be covered by protective equipment;
- c)a qualified aerial crew shall be in attendance with the pole crew;
- d)a safety watcher shall be assigned to direct the movement of the pole; and
- e)employees controlling or handling the pole shall ensure that no part of their body touches the pole unless that part is protected by use of rubber gloves or other approved protective equipment.

208.5 All underground utilities shall be located prior to operating power augers to dig holes for the installation or removal of poles.

**208.6 Estimated Weights of Red Cedar Pole (Treated)**

<b>LENGTH</b>	<b>CLASS</b>	<b>LB</b>	<b>KG</b>
<b>40'</b>	<b>3</b>	<b>970</b>	<b>440</b>
<b>45'</b>	<b>3</b>	<b>1145</b>	<b>519</b>
<b>50'</b>	<b>2</b>	<b>1585</b>	<b>719</b>
<b>55'</b>	<b>2</b>	<b>1760</b>	<b>798</b>
<b>60'</b>	<b>2</b>	<b>1935</b>	<b>878</b>
<b>65'</b>	<b>2</b>	<b>2200</b>	<b>998</b>
<b>70'</b>	<b>2</b>	<b>2640</b>	<b>1198</b>
<b>75'</b>	<b>2</b>	<b>3170</b>	<b>1438</b>
<b>80'</b>	<b>2</b>	<b>3695</b>	<b>1676</b>
<b>85'</b>	<b>2</b>	<b>3960</b>	<b>1796</b>

## SECTION 300 – UNDERGROUND

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### **300 Protecting the Public**

- 300.1 Trenches and other excavations shall be back filled each day or protected by use of fences, barricades or other suitable means to protect the public.
- 300.2 Open vaults and manholes shall be guarded by use of proper barriers.

### **301 Underground utility Location**

- 301.1 Prior to commencement of work on any excavation or trench, supervisors shall ensure that the location of all underground pipelines or cables have had their location adequately marked.
- 301.2 When the excavation or trench is to be within 600 mm of an existing pipeline or 300 mm of an existing cable the supervisor shall ensure that the pipeline or cable is exposed by hand digging prior to work being allowed to progress within the specified distance.
- 301.3 When work is to be done in the vicinity of a high-pressure pipeline then supervisors shall ensure that the Department operating procedure U-15 is followed.

### **302 Trenches and Excavations**

- 302.1 Employees shall not enter trenches or excavations more than 1.5 meters in accordance with Occupational Health and Safety Regulations; or
  - a) the walls of the excavation have been cut back to less than 1.5 meters in accordance with Occupational Health and Safety Regulations; or
  - b) temporary protective structures such as an approved cage or proper shoring is in place.
- 302.2 The site supervisor shall ensure that:
  - a) the spoil pile is kept at a minimum of one meter from the edge of excavations deeper than 1.5 meters; and
  - b) heavy vehicles or objects are kept away from the excavation a distance equal to the depth of the excavation unless the shoring has been certified as being able to withstand such weights.
- 302.3
  - a) Employees installing shoring, stringers or bracing shall use a ladder and work upward from the bottom of the excavation, removing each brace in ascending order.
  - b) Employees removing shoring, stringers or bracing shall use a ladder and work upward from the bottom of the excavation, removing each brace in ascending order.
- 302.4 Employees shall not place or stack tools/materials near the edge of the excavation where their falling could cause injury to the employees in the excavation.

### **303 Confined Spaces**

- 303.1 Supervisors shall ensure that employees are aware of and follow the requirements of the confined space “entry” code of practice” in this manual.
- 303.2 Employees shall not enter confined spaces in contravention of the confined space entry “code of practice”
- 303.3 The Company’s confined spaces include but are not limited to the following:
  - a) Vaults
  - b) Manholes
  - c) Deep shafts
  - d) Tunnels

### **304 Testing Cables Prior to Work**

- 304.1 Employees shall determine the electrical status of underground cables immediately prior to commencement of work.
- 304.2 Cables normally operated at 750 volts or less shall be tested using a voltmeter to determine if they are energized.
- 304.3 a)Lead jacket cable normally operated at more that 750 volts shall have a section of the sheath opened and then tested with a potential indicating device prior to sawing or cutting through the cable.  
b)On multiple conductor cables at least two conductors shall be tested.
- 304.4 a)Concentric neutral cable normally operated at more than 750 volts shall be identified by testing the cable isolation point with a potential indicating device.  
b)In multi-cable systems the cable(s) shall be identified by use of sound signal or other positive indicating devices/methods approved by the Company.  
c)The identified cable shall then be cut using a spiker device attached to a hot line tool.
- 304.5 Potential indicating devices shall be tested on known energized sources, to prove they are functional, prior to their use each day.
- 304.6 Cable shall be drained of any residual charges prior to handling it.

### **305 Underground System Switching**

- 305.1 Underground distribution and network switching shall be done in accordance with these safety rules and Company operating procedures.
- 305.2 Employees shall:
  - a) Use eye protection when they are switching energized cables or equipment;
  - b)where possible, use hot line tools, a minimum of 1.8 meters long when switching cable and equipment energized at more than 750 volts;
  - c)Use a load break adapter is the disconnecting device does not have load breaking capability; and
  - d)shall not remain inside a vault or manhole, when it is not necessary during switching or when energizing new installations.

### **306 Moving and Bending Cables in Manholes/Vaults**

- 306.1 Energized cables operating at less than 5000 volts may be moved at the discretion of the qualified utility employee, provided such movements do not require excessive bending or changing the existing bends in the cable
- 306.2 Energized cables operating in excess of 5000 volts shall never be moved while showing any warmth due to load.

### **307 Installing Cable in Duct**

- 307.1 Employees shall:
  - a) stand clear of the rodding string payout stand when pea line is being installed; and
  - b)stand clear of the ducts if compressed air is being used to install pea line.
- 307.2 When pulling ropes or cables are under tension employees shall stand in apposition where they would not be injured by the whipping action created by the rope or cable should it break.
- 307.3 Employees shall keep their hands clear of pinch pints created by moving rope or cable. If the cable requires location adjustment, stop the pulling operation prior to making adjustments.
- 307.4 Cable reels shall never be left unattended in public places, unless they are blocked against movement.
- 307.5 The worksite shall be protected by use of barricades or other suitable means.

307.6 Employees installing cable in vaults and manholes shall follow confined space entry procedures.

### **308 Lead Handling**

- 308.1 Lead shall be heated in open area with adequate ventilation and shall never be heated in a manhole or vault.
- 308.2 Employees shall avoid breathing vapors of molten lead and shall wear respiratory protection when wiping lead in confined areas of poor ventilation.
- 308.3 Gloves shall be worn when handling lead and good hygiene practices shall be followed, to prevent ingestion of lead when eating or drinking.
- 308.4 Particular care should be used when handling molten lead as severe burns can result if it contacts the skin.
- 308.5 Hot lead shall not be left unguarded where it could become a hazard to members of the public.

### **309 Pipe Pushers**

- 309.1 Pipe shall be stacked in such a manner that it cannot fall into the push hole.
- 309.2 Employees shall use a ladder to enter and exit the hole
- 309.3 The pusher shall be properly blocked, so it does not move as to create a hazard to the operator.
- 309.4 Employees shall remain clear of the action part of the pusher when it is in operation.
- 309.5 If something solid is hit, back off and check the distance compared to the underground utilities staked by that area.
- 309.6 If you smell natural gas, leave the hole immediately and ensure that the Gas Company is notified.
- 309.7 Exposure of underground utilities, by hand digging , prior to the push may be required in some situations.

### **310 Concrete Handling**

- 310.1 Employees handling or pouring wet pre-mix concrete shall:
  - a)wear gloves, eye protection and adequate protective clothing to protect the employees from chemical burns;
  - b)take care not to rub the eyes or wipe away perspiration with shirtsleeves or gloves contaminated with concrete.

### **311 Pole Handling, Installation and Removal**

- 311.1 a)Wood poles shall be handled, installed and removed in accordance with Safety Rule 208 of this manual.
  - b)Trolley poles, davit poles and other metal poles shall be handled, installed and removed in accordance with this safety rule
- 311.2 If the possibility of contact with lines, energized at more than 750 volts existing or could exist then the person-in-charge of the pole crew shall:
  - a)request the assistance of an aerial line crew, which will assume responsibility for the safety of the job until the energized line hazard is eliminated;
  - b)ensure employees controlling or handling the pole do not let any part of their body touch the pole unless that part is protected by use of rubber gloves or other approved protective equipment; and
  - c)ensure that nobody enters, leaves or approaches and touches the pole handling vehicle when the possibility of electrical hazard exists.
- 311.3 If the possibility of contact with lines energized at 750 volts or less exists or could exist then the person-in-charge of the pole crew shall;

- a)request the assistance of a qualified utility worker who will assume responsibility for the safety of the job until the hazard from energized lines is eliminated; and
  - b)ensure that safe practices as in 2(b)(c) above are followed.
- 311.4 Underground utility Location: All underground utilities shall be located prior to operating power augers to dig holes for the installation or removal of poles.
- 311.5 Employees shall avoid standing in a position where they could be endangered by the movement of the pole should the lifting equipment fail.
- 311.6 The vehicle or trailer wheels shall be blocked, braked or otherwise secured against movement prior to loading or unloading poles.
- 311.7 The load shall be properly secured prior to moving from one location to another unless the move can be done in safety.
- 311.8 Pole trailers shall not be moved unless the extended end of the longest pole has been marked with a “warning flag” by day and a “warning light” by night.
- 311.9 Base bolts shall be tightened or loosened by use of a proper tool designed for that purpose. Jerking motions should be avoided to prevent strain injuries. Get assistance, use powered tools or means other than brute force to loosen rusted bolts.

### **312 Asbestos Flameproofing Removal**

- 312.1 Safe work procedures developed for the removal of asbestos flameproofing tape shall be followed by all employees.
- 312.2 These procedures include:
- a)Personal Protective Equipment
    - i. Fit tested respiratory protection with a “HEPA” type filter.
    - ii. Disposable coveralls
    - iii. Leather gloves
  - b)Spray mist the flameproofing to wet the material to prevent dust.
  - c)Place the asbestos material in a 6-mil. Polyethylene bag, which has been labeled “Asbestos”, as the material is removed
  - d)Clean up the material (using a HEPA vacuum designed for asbestos clean up) that has fallen to the floor or elsewhere and place it in a poly bag.
  - e)Vacuum off the employees’ respirator, and other protective clothing.
  - f)Place the coveralls in a poly bag and seal the bag.
  - g)Remove the mask outside the location and wipe it down with a damp cloth to ensure no asbestos dust remains.
  - h)The bag containing the asbestos flameproofing shall be disposed as hazardous waste.

## **SECTION 400 – STREETLIGHT, TROLLEY, LRT**

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### **400 Traffic Control**

- 400.1 Rotating beacons, arrow boards, and/or 4-way flashers shall:
  - a) be used as vehicles slow down in anticipation of stopping on a roadway to begin work; and
  - b) they shall remain in operation for the duration of the work including traffic cone or road sign placement and removal.
- 400.2 Work on major thoroughfares shall be done when traffic volumes are lowest and flag-persons shall be utilized where needed
- 400.3 The “On Street Construction and Maintenance Procedures Manual” (O.S.C.A.M.) guidelines shall be followed by all crews.

### **401 Pedestrian Traffic**

- 401.1 Crews working in areas with high pedestrian traffic such as the city center or the vicinity of schools, shall ensure that the hazard area below aerial work is guarded so that members of the public cannot enter it.
- 401.2 Open underground vaults and manholes shall be guarded by use of proper barriers.

### **402 Streetlight Vault/manhole Entry**

- 402.1 The confined space code of practice in this manual shall be followed during all entries.
- 402.2 The code includes, but is not limited to , atmosphere testing procedures, ventilation procedures and rescue procedures.

### **403 Potential Indicating Devices**

Only approved indicating devices shall be used to test for potential. At no time shall a portable socket with a light bulb be used to indicate voltage.

### **404 Tower Trucks**

- 404.1 Shall be moved with the manlift in a raised position only if:
  - a) a safety watcher, in constant communication with the driver, is used to direct the move; and
  - b) at no time shall the speed exceed 3 kph.

### **405 Broken Streetlight Bulbs**

Bulbs with broken outer sleeves emit ultraviolet radiation while they are energized. Employees shall de-energize the bulbs or shield their uncovered skin from exposure to the radiation when replacing the bulbs.

## **SECTION 500 – SUBSTATIONS**

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### **500 Protecting the Public**

- 500.1 Substation buildings and switchyards shall be kept locked unless the employees at the site can maintain a direct visual sight of any open door or gate.
- 500.2 The safety of site visitors and contractors shall be the responsibility of the site supervisor.
- 500.3 All employees shall receive sub-station orientation prior to working without direct supervision in a sub-station.
- 500.4 Standard personalized protective equipment requirements in sub-stations are:
  - Safety Glasses
  - Hard Hat
  - Safety Footwear
  - FR Clothing

## SECTION 600 – METERS

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### **600 Safety on Customer Premises**

#### **600.1 Load Surveys / Meter Testing**

- a) Employees shall install warning signs or danger tags on meter cabinets and test equipment if energized parts are left unlocked.
- b) The cabinets and electrical rooms shall be locked where possible. At no time shall energized parts be left exposed where there is a danger of children having access to the exposed parts.

#### **600.2 Dogs / Animals; Employees shall watch out for dangerous animals and seek medical attention immediately if an animal bites them.**

#### **600.3 Construction Sites**

- a) Employees shall follow the safety rules of the construction site while on the site.
- b) Be on guard against falling material, protruding nails, unprotected openings, rotating machinery, opening in the floors and dangerous work areas.

### **601 New Meter Installations (All Voltages)**

#### **601.1 Employees shall:**

- a) check the meter socket for grounds, back feed and correct voltage rating prior to meter installation; and
- b) check that the meter being installed is the same voltage rating as the installation.

### **602 Meter Installation / Removal (Above 240V)**

#### **602.1 Employees shall ensure the meter socket is not energized prior to installation or removal of the meter by:**

- a) de-energizing the meter socket from the main switch prior to meter removal; and
- b) energizing the meter from the main switch on the line side of the meter after the socket was checked for grounds, back fee, correct voltage rating and the meter has been installed.

### **603 Broken / Damaged Meters**

#### **603.1 Employees shall protect themselves by:**

- a) wearing leather gloves; and
- b) de-energizing the feed to the meter base if there is a possibility of electrical arcing upon removal of the meter.

### **604 Limits of Approach**

#### **604.1 Where secondary services are to be installed in the vicinity of aerial lines energized in excess of 750 volts the limits of approach in Table 100-4 of these safety rules shall be observed.**

#### **604.2 If the distance in Table 100-4 cannot be observed the assistance of an Aerial Section qualified utility employee shall be request to do the work or to place electrical protective cover up equipment on the high voltage parts.**

**605 Farm Services**

- 605.1 The assistance of an Aerial Section qualified utility employee shall be requested to de-energize the transformer if work is to be done on the transformer or its grounding system.
- 605.2 Employees shall be aware that the open ground connections on the transformers are particularly dangerous and they could be exposed to full line voltage.

## **SECTION 700 – OFFICE SAFETY**

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### **700 General Office Safety**

#### **700.1 Injuries**

Employees shall:

- a)report all injuries, regardless of severity, to their immediate supervisor; and
- b)obtain first aid treatment for all cuts and punctures no matter how slight.

#### **700.2 Hazards**

Employees Shall:

- a)immediately correct hazardous conditions or situations of which they are aware; and
- b)report the condition or situation to their supervisor if they are unable to correct it immediately.

#### **700.3 Stairs**

- a)Employees should use the handrail provided when walking up or down stairs.
- b)Employees shall avoid running when ascending or descending stairs.

#### **700.4 Opening Doors**

Employees shall take care to open doors slowly to avoid striking anyone on the other side of the door.

### **701 Lifting and Carrying**

#### **701.1 Employees shall:**

- a)obtain assistance when lifting heavy or awkward objects;
- b)carry bulky objects in such a way as to not obstruct their view ahead or interfere with the use of handrails in stairways; and
- c) move large boxes or bundles of supplies using a hand cart, or unpack them to create smaller parcels which can moved easily.

#### **701.2 Supervisors shall ensure employees are trained in proper lifting techniques.**

### **702 Ladders**

#### **702.1 Employees shall:**

- a)use a ladder or set of steps to place or obtain object in elevated locations;
- b)examine that the ladder or platform for defects prior to use;
- c)ensure that the ladder feet and step treads are covered with non-slip material; and
- d)not use boxes, chairs, etc. as ladders

#### **702.2 Supervisors shall ensure that a ladder or set of steps is made available for employee's to use.**

### **703 Sharp Instruments**

#### **703.1 Employees shall:**

- a)store knives, scissors, letter openers, pens and pencils, and other sharp instruments in the front of desk drawers where they can be seen when the drawer is opened;
- b)store blades or paper cutters in the closed position; and
- c) exercise care when using staplers, hole punches or paper cutters.

### **704 Filing Cabinets**

#### **704.1 Employees Shall:**

- a)keep desk and filing cabinet drawers closed when not in use

- b)only open one drawer of a tiling cabinet at a time to prevent over-balancing or trip hazards; and
- c)report unstable filing cabinets to their supervisor so that they can be securely fastened to the wall or other cabinets

**705 Office Equipment**

705.1 Employees shall:

- a)remove from service and report unsafe electrical cords, faulty equipment or equipment requiring repair to their supervisor;
- b)shut off powered equipment and disconnect it from its power source if possible prior to cleaning, adjusting or lubricating the equipment; and
- c)handle chemicals used in office copiers and other such equipment in accordance with the requirements listed on the material safety data sheet for the product.

705.2 Supervisors shall ensure that material safety data sheets are available to employees for the chemicals used in the office

**706 Working Outside Areas**

Office employees called upon to work in operating areas of the Company shall observe the safety rules of that area. These include, but are not limited to, eye protection, safety footwear and head protection.

**707 Fire Protection**

707.1 Employees shall:

- a)become familiar with the evacuation plan developed for their building; and
- b)evacuate the building in accordance with the plan.

707.2 Supervisors shall provide a copy of the fire evacuation plan or ensure employees have been provided with instruction on the plan.

**708 New Employee Orientation**

Supervisors shall ensure that all new employees are given a safety orientation which is available as a computer based training packet in the Mueller Electric Safety Program.

## SECTION 800 – OCCUPATIONAL HEALTH AND HYGIENE

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### **800 Chemical Hazards Program(General)**

- 801.1 This program governs the requirements for safe handling, use, storage, transportation and disposal of chemical products.
- 801.2 Worksite supervisors are responsible to ensure:
- a) all employees at their worksite are trained in the proper storage and handling of chemical products;
  - b) personal protective equipment is provided to employees and they are trained in its proper use, care, and maintenance;
  - c) an inventory list of all chemicals is kept at the worksite; and
  - d) material safety data sheets for the chemicals are available to employees at the worksite.
- 802.3 Worksite employees are responsible to ensure:
- a) they become familiar with the products that they are using on their worksite;
  - b) they ask for material safety data sheets for the products they are not familiar with;
  - c) they follow any special work procedures that may be required; and
  - d) they use the necessary protective equipment and follow instructions on its use, care and maintenance.

### **801 Chemical Handling**

Any chemical product, no matter how toxic, can be handled safely provided proper work procedures are followed.

- 801.1 Chemicals can enter the body by inhalation, ingestion, skin contact (or skin absorption) and eye contact. Inhalation and skin contact are the most common routes of exposure.
- 801.2 There are four key elements in reduction or eliminating excessive exposure to chemicals. These are careful handling, properly designed tools and equipment, correct use of personal protective equipment and ensuring adequate ventilation.
- 801.3 When handling any chemical product be sure you:
- a) know what you are working with, the potential hazards, ventilation requirements, chemical spill procedures and chemical storage requirements;
  - b) have the necessary tools and equipment, and all the personal protective equipment required; and
  - c) follow proper worksite housekeeping practices. Check the material safety data sheet for this information
- 801.4 Chemicals should be removed from the skin by rinsing with water, then washing with soap and water. Never use solvents to clean your hands.
- 801.5 Respirators
- a) Respirators are approved specifically for certain purposes – some are for dusts only and others are for vapours or mists. Make sure you are using the right type. They are not for use in oxygen deficient atmospheres.
  - b) A respirator does not last forever. You must change the respirator or respirator carried if you smell a chemical or have trouble breathing through it.
  - c) Three key factors when using a respirator are selection, fit and maintenance. These are essential for the proper performance of the respirator shall be fit tested.
  - d) All respirators, unless disposable, must be properly cleaned after every use.

## **802 Hazardous Waste**

- 802.1 Hazardous wastes are substance intended for disposal which, wither in the long or short term, can cause hard to people, plants, animals, or the environment.
- 802.2 They are those wastes which cannot be disposed of safety into the sewer, by controlled burning or by municipal landfill.
- 802.3 Supervisors shall contact the Company “hazardous Waste Coordinator” to coordinate the disposal of hazardous waste materials in accordance with “Hazardous Waste Guideline Manual”.

## **803 Transportation of Dangerous Goods**

- 803.1 Dangerous goods are:
  - a)materials which pose an inherent risk to life, property or the environment; and
    - i. are listed in Schedule II of the Transportation of Dangerous Goods Regulation; or
    - ii. are otherwise classified as dangerous goods through application of Part III of the Regulation.
- 803.2 All employees who transport, handle, shop or receive goods identified as dangerous goods shall be trained and shall receive a certificate of training, which they may be required to show to an inspector at any time.
- 803.3 Supervisors shall ensure all goods identified as dangerous goods by the Company are handled, shipped, received and transp0roted according to Company and Transportation of Dangerous Goods Regulations.

## **804 Polychlorinated Biphenyls (P.C.B.’s)**

- 804.1 P.C. B.’s are chemicals found in liquid dielectrics used in electrical apparatus.
- 804.2 P.C.B.’s cannot be broken down by natural forces and could remain in the environment for decades.
- 804.3 The long term effects to the environment and to man are unknown so special handling and disposal procedures must be followed by all employees.
- 804.4 Supervisors and other employees shall ensure that Company operating procedure for the handling, storage and disposal of P.C.B. contaminated material is followed at all times.

## **805 Sulfur Hexafluoride (S.F.6)**

- 805.1 Pure sulfur hexafluoride in a non-toxic, heavier than air gas used within high voltage breakers to aid in extinguishing the arc.
- 805.2 If arcing occurs within a breaker toxic byproducts are formed
- 805.3 Is SF6 arc products are detected by a characteristic rotten egg odour the station shall be evacuated immediately via the nearest exit.
- 805.4 All persons entering SF6 switchgear substations shall follow Company operating procedures.

## **806 Asbestos**

- 806.1 Airborne asbestos fibres that enter the lungs can cause respiratory occupational diseases such as asbestosis, mesotheomia and lung cancer. These diseases do not show up in the short term and symptoms may not appear until after several years
- 806.2 Supervisors shall ensure that:
  - a)Company guidelines and Occupational Health and Safety Asbestos Regulations are adhered to at each worksite; and

b)site specific procedures are developed for individual worksites where asbestos is being handled, disturbed or removed.

806.3 Employees Shall:

- a)wear respiratory and other protective equipment as required by the procedures of the worksite;
- b)participate in the medical assessment program if they are designated as an exposed employee by the Company; and
- c)follow the site specific procedures where asbestos is being handled, disturbed or removed.

**807 Eye Wash and Shower**

Supervisors shall ensure that readily accessible facilities for washing the eyes and/or body are provided where the employee's skin or eyes may be exposed to harmful chemical substances.

**808 Ambulance request**

The attending first aider is responsible to determine as to whether an ambulance will be called in a particular instance; however, nothing shall prevent supervisory personnel from making the decision to call an ambulance even though one has not been requested by the attending first aider.

**809 Sanitary Facilities**

Supervisors shall ensure that toilet facilities, washbasins and drinking water are provided on worksites in accordance with Occupational Health and Safety Regulations