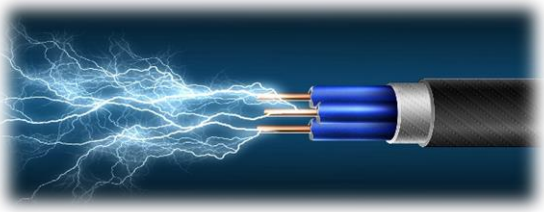
DOBBYN

Electrical Services Ltd.

www.dobbynelectric.com

Health & Safety Manual	*Doc Ref.*	*Section 11*
H & S Management	*Originated*	*Jan 2008*
	Revised	*June 2018*

DOBBYN
ELECTRICAL SERVICES



SAFETY MANUAL

DES
LIGHTNING PROTECTION

Table of Contents

Section 4 - Standard Operating Procedures

Note: The safety information in the corporate policies does not take precedence over Occupational Health and Safety regulations. All employees are familiar with the OH & S Act, Regulations and Codes

Section 1- MANAGEMENT INVOLVEMENT AND COMMITMENT

Section 1.1.1 Corporate Health and Safety Policy

Dobbyn Electrical Services Ltd. (DES) is an ethical safety conscious company committed to the following:

- The personal safety of our employees, subcontractors, worksite personnel and others who may interact with the company
- Protecting the environment
- Controlling and minimizing loss

Company management is responsible for providing strong leadership in safety. This leadership includes identification of existing and potential work hazards, provision and maintenance of protective equipment, and development of training programs. With this in mind, it is the intention of the company to establish and maintain effective policies, programs and procedures that will effectively eliminate work related accidents and injuries involving everyone, every day in every job.

DES believes that each employee and subcontractor is both responsible and accountable for the development of a safe working environment. The success of our accident prevention program depends on everyone being responsible for obeying all safety rules, following recommended safe work procedures, enhancing the policies and rules of our Customers and Government Regulatory Agencies, using personal protective equipment and participating in safety training programs. Compliance with all aspects of this program is a condition of working for DES and will be strictly monitored. Failure to comply will result in disciplinary action, dismissal or legal action.

DES believes that effective communications between all levels of the company are necessary to monitor and improve work performance and safety. All employees and subcontractors have the right and obligation to insist upon unsafe conditions being corrected before proceeding with the work. If you are aware of any unsafe conditions and/or work practices, report them to your immediate supervisor. Work must be done safely, correctly and efficiently. By fulfilling our safety responsibilities, everyone who works with and through DES will share the benefits of a safe workplace.

_____ _____

Darren Dobbyn Date

1.1.2 ENVIRONMENTAL POLICY

Environmental Policy Statement

Sound environmental management is one of the core values of Dobbyn Electrical Services. Pollution prevention, conservation and conformity to all applicable environmental laws, regulations and contracts are the cornerstone of this policy.

Environmental Policy

- Dobbyn Electrical Services is dedicated to the provision of electrical services and affirms its conviction that success can only be achieved through the respectful use of natural resources.

- DES is committed to helping its clients and employees continuously improve the integration of environmental protection issues into all their activities.

- As part of its commitment, DES will ensure that all of its activities are in compliance with municipal, provincial and federal environmental laws and regulations.

- DES will raise the awareness of its employees and manager's so environmental protections are an integral part of their activities.

- DES is committed to supporting the City of Calgary's Environmental Policy and in job planning during all phases of construction for control of erosion and sedimentation and in minimizing the amount of time that bare soil is exposed.

- Dobbyn employee's responsible for erosion and sediment control devices are provided training in accordance with the City of Calgary's Environmental Policy.

_____ _____

Darren Dobbyn Date

1.1.3 INSPECTION POLICY & PROCEDURES – (Revised, 2017)

Workplace Inspections

Policy

Workplace safety inspection will be conducted to identify and correct potential health and safety hazards. A standard inspection checklist will be used to conduct these inspections.

Senior or Middle Management will conduct a site inspection quarterly or on a project basis.

Dobbyn Electric conducts a detailed Hazard Assessment on each project under taken. Hazard assessments are recorded and updated, when required, during the project as on-site conditions change. All site personnel are made aware of site conditions prior to commencement work are notified of any condition changes. On large projects a Job Hazard Analysis is completed prior to commencement of work and any changes are indicated on that analysis if needed. Site foreman and all other workers will review this form each day in their safety tailgate meetings prior to commencement of work. Each worker onsite must sign off on a daily basis until project is complete.

Based on hazard assessments, equipment or tools, such as barricades or caution tape are provided to identify hazards inherent to the project and the work scope will be altered to minimize any risk.

Upon project completion, Dobbyn Electric personnel will re-grade affected areas as required, remove all unused, recyclable, or redundant materials and notify the appropriate authorities that project is complete and ready for final inspection.

The standards established by the Canadian Electrical Code will be adhered to on all projects.

Procedure & Responsibilities

<u>Senior Management</u>

1. Conduct a formal inspection of the workplace on yearly or quarterly basis using the workplace inspection checklist. Ensure corrective action is taken to address hazards identified.
2. Review middle management's inspections. Initialize and date the inspection report.

<u>Middle Management</u>

1. Conduct formal inspections quarterly using the Safety Inspection Checklist. Ensure corrective action is taken to address hazards identified. Provide a copy of your inspection to senior management.
2. Review site supervisor's Job Hazard Analysis Form. Ensure appropriate corrective actions are taken. Initialize and file it in job file (attached to work order).
3. Review and comment on quality of supervisor's Job Hazard Analysis Form.
4. Review quarterly with senior management the status of supervisor's inspection.

<u>Foreman</u>

1. Conduct formal inspections before commencement of work on large jobs, using the Job Hazard Analysis Form. Ensure corrective action is taken to address hazards identified. Provide a copy of your inspection to middle management at the end of the week.

All Workplace Parties

1. All workplace parties must conduct daily informal inspections of their workplace and take action to correct hazards.
2. All identified hazardous conditions should be eliminated or controlled immediately. When this is not possible:
    - Interim control measures should be implemented immediately.
    - Warning signs should be posted at the location of the hazard.
    - All affected employees should be informed of the location of the hazard and the required interim controls.
    - Permanent control measures should be implemented as soon as possible.

Training

All parties who conduct formal workplace inspections will be trained on their responsibilities and on how to complete the Job Hazard Analysis Form & Field Level Hazard Assessments.

Shop & Office Inspections Policy

Shop and office inspections will be conducted to identify and correct potential health and safety hazards. A standard inspection checklist will be used to conduct these inspections.

Middle Management will conduct a shop and office inspection quarterly. All corrective measures will be indicated on the inspection form and corrective action will be taken accordingly and signed off by senior management.

Procedure & Responsibilities

Senior Management

1. Review middle management's inspections. Initialize and date the inspection report. Ensure all corrective actions are completed and signed off.

Middle Management

1. Conduct shop & office inspections quarterly using the Shop & Office Safety Inspection Checklist. Ensure corrective action is taken to address hazards identified. Provide a copy of your inspection to senior management.

Appendix

Safety Inspection Checklist
Job Hazard Analysis Form
Field Level Hazard Assessment
Shop & Office Inspection Checklist

_____ _____

Darren Dobbyn Date

1.1.4 TRAINING & SAFETY MEETINGS

It is Dobbyn Electric's policy to provide training to all Employee's on our day to day procedures, including the use and operation, maintenance of our Bucket and Auger Trucks.

The minimum standards of the Canadian Electrical Code will be followed at all times for every task performed.

Tool Box meetings are held on site for employees and sub-contractors at commencement of work and weekly Shop Safety Meetings are held and chaired by supervisory personnel.

All meetings are documented with those in attendance and items discussed.

_____ _____

Darren Dobbyn Date:

1.1.5 POLICY FOR MAINTENACE PROGRAM

The maintenance program covers all electrical contracting equipment, personal protective equipment, electrical hand tools, service vehicles, bucket trucks and auger trucks.

All equipment is inspected prior to commencement of work on a daily basis. Personal protective equipment found deficient is discarded and replaced. Electric hand tools found deficient are removed from service and repaired or replaced as required. Each vehicle is inspected prior to use by the crew assigned for operation. Lights, tire pressure and fluid levels are maintained prior to usage and at completion of shift assignment.

All vehicles are serviced regularly and servicing recorded in vehicle maintenance binder.

Tools, equipment and machinery are maintained to standards contained in OH & S code section #25.

_____ _____

Darren Dobbyn Date

1.1.6 SUBSTANCE ABUSE POLICY

Dobbyn Electric is committed to providing its workers with a safe workplace and an atmosphere, which allows them to protect workers, inventory and other assets placed in their care. Employees are expected to be in suitable mental and physical condition while at work, allowing them to perform their job effectively and safely. Whenever use or abuse of any mood-altering substance (such as alcohol or other drugs) interferes with a safe workplace, appropriate action must be taken. Dobbyn Electric has no desire to intrude into its employee's personal lives. However, both on-the-job and off-the-job involvement with any mood-altering substances can have an impact on our workplace and on Dobbyn Electric's ability to achieve its objective of safety and security. Therefore, employees are expected to report to the workplace with no mood-altering substances in your body. While you may make your own lifestyle choices, Dobbyn Electric cannot accept the risk in the workplace that substance abuse may create. The possession, sale or use of mood altering substances at the workplace or coming to work under the influence of such substances is a violation of our rules and will be subject to disciplinary action, including possible dismissal. Workers undergoing prescribed medical treatment with a controlled substance that may affect the safe performance of their duties are required to report this treatment to their manager. Dobbyn Electric recognizes that alcoholism/drug abuse is a form of illness that is treatable in nature. Dobbyn Electric shall not discriminate against workers based on the nature of their illness. No workers shall have their job security threatened by seeking assistance for a substance abuse problem. The same consideration for referral and treatment that is afforded to other workers that have not-drug/alcohol related illnesses shall extend to them. Nothing in this policy is construed to prohibit the Company from its responsibility to maintain a safe and secure work environment for its workers or from invoking such disciplinary actions as may be deemed appropriate for actions of misconduct by virtue of their having arisen out of their use or abuse of alcohol or drugs or both. The information in this policy does not take precedence over applicable government legislation, with which all workers should be familiar.

_____ _____

Darren Dobbyn Date

1.1.7 HAZARD IDENTIFICATION POLICY

Dobbyn Electric provides service for a wide variety of projects, each of which has specific safety requirements that are dealt with on site, by assigned personnel.

Hazard identification, control and emergency planning are assessed and appropriate field level documentation is completed and reviewed with on-site personnel prior to work commencement.

_____ _____

Darren Dobbyn Date

1.1.8 POLICY FOR SPILL OR RELEASE INCIDENTS

Dobbyn Electrical Services operates two types of vehicles equipped with hydraulic tools. Each vehicle carries a spill kit designed to contain any spill or release of fluids contained on the vehicle.

During normal field operations no transfer of fluids is required on the vehicles and hazardous materials are not handled by Dobbyn Electric personnel, however, in the event of an accidental release or equipment failure, the prime contractor and site supervisory personnel will be informed immediately.

In the event that sub-contractors i.e.: hydro-vac units, utility locators etc.
are involved Dobbyn Electric activities, they will be considered Dobbyn Electric employees, and will be cognizant and compliant with Dobbyn Electric's safety policy in all matters.

Dobbyn Electrical Services will assist in containment and clean-up as deemed necessary by Alberta Environment.

_____ _____

Darren Dobbyn Date

1.1.9 TRAFFIC CONTROL POLICY

Dobbyn Electrical Services Ltd. engages in projects that require traffic control equipment and permits to satisfy each projects requirement.

With safety of personnel and property as our prime focus, street or lane closure permits will be secured through the City of Calgary permit department and traffic control signage and/or barricades will be supplied, installed and removed by city services in co-ordination with the permitting department.
.
On all projects requiring traffic control devices deployed by City Services, Dobbyn Electric provides vehicles with directional flashing lights and beacons to maintain high visibility on site to augment controls supplied by the city.

Temporary traffic control manuals are on site at all times, as well as the original documentation acquired by the City Street Use Permit department.

Permit acquisition and traffic controls co-ordinated by Service Manager or Project Manager.
Site Supervision executed by Darren Dobbyn or Project Manager.

_____ _____

Darren Dobbyn Date

1.1.10 DISCIPLINE POLICY

Dobbyn Electric is committed to providing its workers with a safe workplace and an atmosphere, which allows them to protect workers inventory and other assets placed in their care. Employees are accepted to be in suitable mental and physical condition while at work, allowing them to perform their job effectively and safely.
Dobby Electric has implemented a system for consistently enforcing their Health and Safety Program.

DES Health and Safety Officer is responsible to train new employees and upgrade training to all employees when new policies are implemented or job procedures are changed for employee safety. Owners and Safety Officer's must ensure that their employees receive adequate training in the areas to be enforced (i.e. rules, regulations, practices and procedures). Violations should be handled in an objective, but firm manner and employees must be instructed during job orientation, what the enforcement policy is. Enforcement policies vary from organization to organization, but they often follow a similar progression.

DES handles violations in a similar manner unless otherwise specified.

1st offense- verbal warning
2nd offense – written warning
3rd offense – suspension
4th offense – dismissal

Documentation must be done at each stage of the enforcement policy.

_____ _____
Darren Dobbyn Date

1.1.11 EMERGENCY PROCEDURES POLICY

Emergency Procedures

It is Dobbyn Electric's policy to have certified First Aider's (contractor/subcontractor) on site with specific locations noted of same where workers can go or obtain help.

Tool Box/ Tail Gate meetings will set location and note appropriate certified site contact where workers can obtain help.

All DES vehicles are equipped with city maps highlighting hospitals and medical clinics.

Emergency services will be contacted immediately when required with personal injuries being given top priority. First aid assistance will be rendered until emergency services arrive on site.

Site supervisors will advise the Safety Officer and incident will be documented.

The emergency procedures provided in the Occupational Health and Safety Act, Part 7, 115-118 Are read and understood and carefully followed by every Dobbyn employee.

_____ _____
Darren Dobbyn Date

Contacts	Phone Numbers
Work Place Health & Safety Contact Centre	1-866-415-8690
Fortis Emergency	310-9473
Enmax Emergency/Trouble	403-514-6100
Ambulance Fire Police	911
Spill/Release Report	1-800-222-6514

1.1.12 PERSONAL PROTECTIVE EQUIPMENT PPE

Management of Dobbyn Electrical Services assumes responsibility for designing, planning and arranging work processes within the company so that safety hazards are eliminated or minimized. Where hazards cannot be completely eliminated through engineering controls, management will provide the listed personal protection to the workers. Management will ensure that each worker is properly trained in and knowledgeable of the hazards associated with his/her job tasks, the type of PPE required and its proper maintenance, care and use.

All personnel employed with Dobbyn Electric are required to wear and use the personal protective equipment that is necessary to protect them from hazards associated with the particular task at all times. Failure to comply will result in disciplinary actions. *(Please see 5.2 – Enforcement Policy)*

Items provided by Dobbyn Electric to the employee, are as followed:

- CSA approved Class E hard hat
- High visibility vest
- Safety glasses
- Fall restraint harnesses and lanyards
- Fire retardant coveralls – when required
- Arc flash clothing – when required

Employees are required to provide steel-toe boots, full pant and shirt combinations.

References

See Sections 3 and 6 for proper usage of PPE and Section 7 for maintenance of your PPE in the company safety manual.

Also, the Alberta OH & S legislation Part 18, section 228 Personal Protective Equipment.

_____ _____

Darren Dobbyn Date

1.1.13 NEW EMPLOYEE ORIENTATION POLICY – (Added New, 2017)

Dobbyn Electrical Services Ltd recognizes the importance of new employee orientation as a means of fostering a positive first impression and establishing employee loyalty and retention.
Orientation at Dobbyn Electric will educate new employees about the organizational culture, product and procedures, as well as provide a clear understanding of expectations.

New employees will participate in an orientation program in order to receive important information about the Company, basic policies, performance expectations, job descriptions, safety requirements etc. The orientation will occur before commencement of start date.

In order to ensure success, the employee orientation program should be managed as a proactive, ongoing process by the new employee's manager. New employees will be provided with a hard hat, high visibility safety vest and a pair of safety glasses.

The following areas will be covered during orientation:

- Orientation package with orientation quiz
- Completing paperwork
- Compensation benefits and tax forms
- Company background, values, goals, etc.
- Policies and procedures
- Working hours
- Lunch and break schedules
- Importance of regular attendance, punctuality
- Policy for phoning in absences and tardiness
- PPE & clothing requirements
- Scheduling time off
- Health and safety hazards
- Reporting incidents/accidents & near misses
- Safe working practices
- Safety / security procedures, location of emergency equipment, emergency exit routes
- Job descriptions
- DES Shop area & expectations
- Job board
- Work orders and time cards
- Introductions to co-workers

_____ _____

Darren Dobbyn Date

1.1.14 WORKPLACE HARASSMENT PREVENTION POLICY – (Added New, 2018)

The management of Dobbyn Electric is committed to providing a work environment in which all workers are treated with respect and dignity. Harassment will not be tolerated from any DES employee at or outside of the work site including people other than employees, such as customers and their employees, suppliers and members of the public, etc.

Dobbyn Electric as the employer is committed to eliminating or, if that is not reasonably practicable, controlling the hazard of harassment. Everyone is obligated to uphold this policy and to work together to prevent workplace harassment.

Workplace harassment means any single incident or repeated incidents of objectionable or unwelcome conduct, comment, bullying or action by a person that the person knows, or ought reasonably to know, will or would cause offence or humiliation to a worker, or adversely affects the worker's health and safety. It includes conduct, comment, bullying or action because of race, religious beliefs, colour, physical disability, mental disability, age, ancestry, place of origin, marital status, source of income, family status, gender, gender identity, gender expression and sexual orientation, and a sexual solicitation or advance.

Reasonable action taken by the employer or supervisor relating to the management and direction of workers or a work site is not workplace harassment.

In support of this policy, we have put in place workplace harassment prevention procedures. It includes measures and procedures to protect workers from the hazard of harassment and a process for workers to report incidents or raise concerns.

Dobbyn Electric will ensure this policy and the supporting procedures are implemented and maintained. All workers and supervisors will receive relevant information and instruction on the contents of the policy and procedures.

Supervisors will adhere to this policy and the supporting procedures. Supervisors are responsible for ensuring that measures and procedures are being followed by workers and that workers have the information hey need to protect themselves.

Every worker must work in compliance with this policy and the supporting procedures. All workers are required to raise any concerns about harassment and to report any incidents to the DES Safety Officer or Management in writing. A form will be located in the break room at the shop. Please fill out and give to the Safety Officer or Management.

Employer will investigate and take appropriate corrective actions to address all incidents and complaints of workplace harassment in a fair, respectful and timely manner.

Dobbyn Electric pledges to respect the privacy of all concerned as much as possible. DES will not disclose the circumstances related to an incident of harassment or the names of the parties involved (Including the complainant, the person alleged to have committed the harassment, and any witnesses) except where necessary to investigate the incident, to take corrective action, to inform the parties involved in the incident of the results of the investigation and corrective action taken, or as required by law.

No workers can be penalized, reprimanded or in any way criticized when acting in good faith while following this policy and the supporting procedures for addressing situations involving harassment. This harassment prevention policy does not discourage a worker from exercising the worker's right under any other law, including the Alberta Human Rights Act.

_____ _____

Darren Dobbyn Date

1.2 ASSIGNMENT OF RESPONSIBILITY AND ACCOUNTABILITY FOR SAFETY

All management, employees and subcontractors are trained in the DES Health and Safety Program. Subcontractors must meet or exceed DES program standards.

DES conducts regular Safety Meetings to convey responsibility and accountability to employees and subcontractors.

Manager

1. Establish a safety policy
2. Provide a safe workplace
3. Maintain a safety program
4. Ensure proper training of workers
5. Ensure PPE are available
6. Ensure regular inspections are done
7. Correct unsafe conditions
8. Provide first aid
9. Investigate all accidents
10. Report injuries to W.C.B.
11. Ensure compliance with regulations
12. Set a good example

Supervisor/Foreman

1. Promote safety awareness
2. Establish safe work procedures
3. Instruct workers
4. Correct unsafe practices
5. Detect troubled employees
6. Correct unsafe conditions
7. Enforce safety rules
8. Inspect for hazards
9. Investigate all accidents
10. Ensure proper maintenance
11. Comply with regulations
12. Set a good example

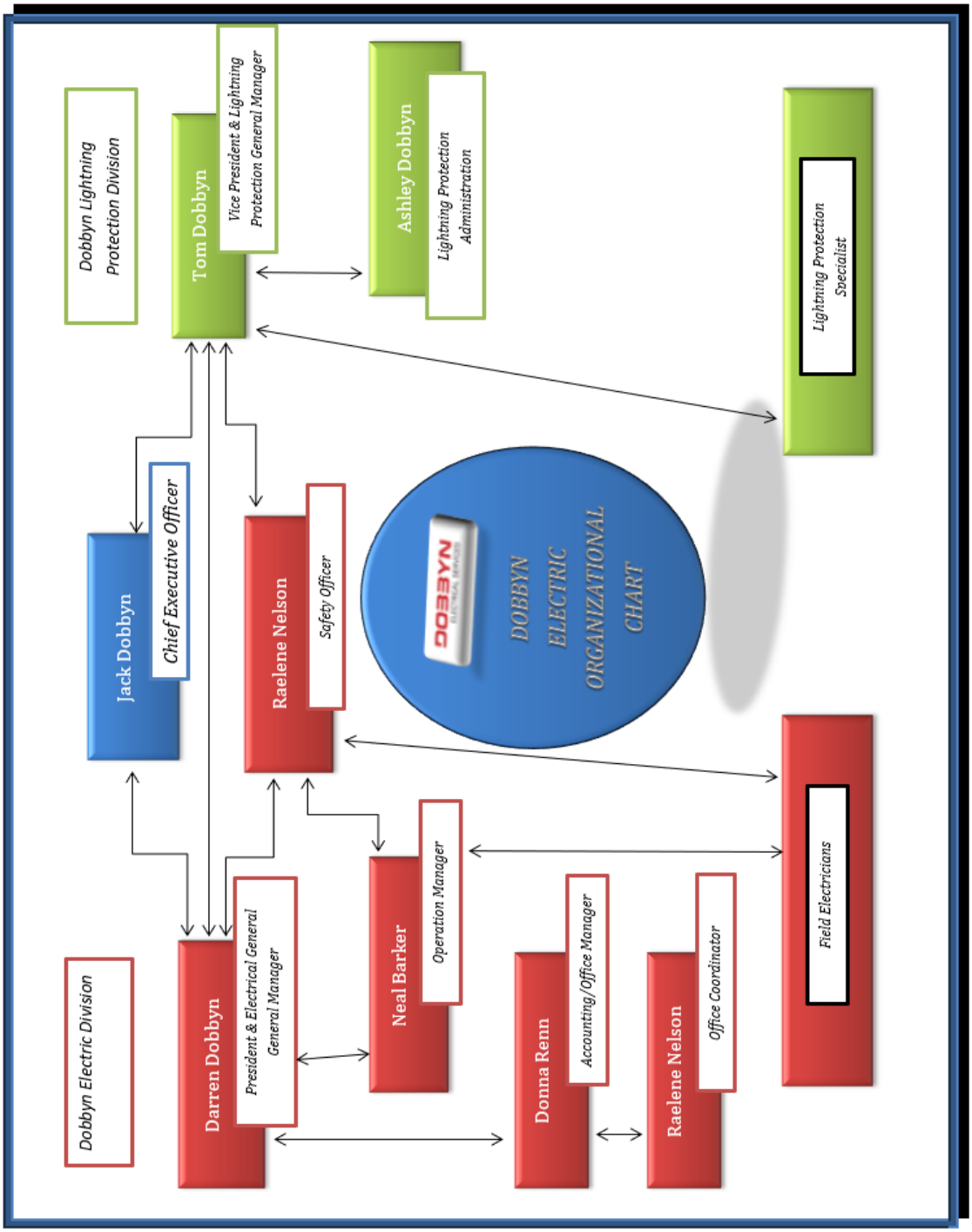
Worker

1. Use safe work procedures
2. Report unsafe conditions
3. Correct unsafe conditions
4. Report unsafe acts
5. Report any injury
6. Comply with rules and regulations
7. Make safety suggestions
8. Set a good example

_____ _____

Darren Dobbyn Date

1.2.1 COMPANY ORGANIZATIONAL CHART



1.3 MOTOR VEHICLE SAFETY POLICY

Dobbyn Electrical Services is committed to improving traffic safety and reducing collisions. The Traffic Safety Act sets out legislative requirements for the registered owners and drivers of both private and commercial vehicles. This policy will outline requirements and responsibilities for both owners and operators of all company vehicles. All employee's will provide DES with a copy of their Alberta Drivers Licence, a copy of a driver's abstract that is dated with in the last 30 days. A record of all training undertaken by a driver related to the operation of a commercial vehicle, such as equipment operation certificates (if applicable). The requirements to keep driver files applies to carriers who obtain an Alberta Safety Fitness Certificate, which will state either provincial or federal operating status. Motor Vehicle incidents that occur while on company business must be reported to Management or DES Safety Officer. Failure to report such an incident will result in disciplinary actions. (*Please see section 1.1.10 discipline policy*).

Purpose:
To establish a fleet loss-prevention program that will:

- Reduce costs related to the purchase, maintenance and repairs of, and
- Accidents involving, the organization's vehicles; and
- Assist in reducing vehicle accidents.

Responsibilities:
Owners shall:

1. Ensure that drivers are qualified, trained and certified.
2. Ensure that all employees are familiar with motor vehicle safety policies and Procedures and accident/incident reporting requirements, and frequently Check on their compliance.
3. Maintain all vehicles adequately for safe operation and ensure that only Authorized personnel are allowed to operate vehicles.
4. Ensure that unsafe vehicles are not driven until safety deficiencies have been Corrected.
5. Review each incident/accident report to determine if the employee's actions Were consistent with the firm's policies and procedures.
6. Determine what additional training or other positive action is required to deal With driver error.
7. Maintain complete records on fleet vehicle accidents/incidents and repairs.

Employees driving the organization's vehicles shall:

1. Operate motor vehicles in a safe and responsible manner.
2. The use of seat belts is mandatory in all DES vehicles/equipment as well as federal laws states that all persons must wear a seatbelt well vehicle is in motion.

3. Driving under the influence of drugs or alcohol are strictly prohibited. Anyone caught under the influence of such substances is a violation of our rules and will be subject to disciplinary action, including possible dismissal.
4. Smoking is prohibited in ALL company vehicles/equipment.
5. Become familiar with and obey all motor vehicle safety policies and procedures, and provincial highway traffic rules and regulations.
6. Inspect the vehicle that he/she is about to drive and report to his/her supervisor in writing all defects noted during the trip or pre - inspection.
7. Report all motor vehicle accidents/incidents immediately in accordance with the accident/incident reporting procedures.
8. Report immediately to the supervisor any suspension of driving privileges and cease to operate any fleet vehicle until his/her privileges are reinstated.
9. Follow all Speed limits, drive defensively, and make sure load is secure, and fueling vehicles/equipment in a safe manner.
10. All Cell phone use is prohibited while operating any company vehicle or equipment. That includes Hand held or hands free. If you are needing to talk on the phone, you are to pull off and stop the vehicle well talking.

Distracted Driving Legislation (Bill 16)
Restricts drivers from:

- using hand-held cell phones
- texting or e-mailing
- using electronic devices like laptop computers, video games, cameras, video entertainment displays and programming portable audio players (e.g., MP3 players)
- entering information on GPS units
- reading printed materials in the vehicle
- writing, printing or sketching, and
- personal grooming
- Complements the current driving without due care and attention legislation
- Applies to all vehicles as defined by the *Traffic Safety Act,* including bicycles
- Applies to all roads in both urban and rural areas of the province
- The fine for this new offence is $172

If a driver violates a new distracted driving provision and an existing provision in the *Traffic Safety Act* it would be up to the discretion of the officer as to if one or both charges would apply.

_____ _____

Darren Dobbyn Date

Section 2 Hazard Identification, Elimination & Control

2.1 WORKPLACE HAZARD ASSESSMENT AND CONTROL

Hazard assessments are the building blocks of an effective worksite health and safety program. A hazard assessment is process that looks at what could cause harm to employees at a worksite. Doing an assessment allows the district and its employees to decide whether enough precautions have been taken to prevent accidents and injuries. In its simplest form the hazard assessment asks the question “what if”?

All DES employees are provided training on hazard identification and risk assessment. Training is performed in house by DES Safety Officer.

Hazard assessments are performed at the beginning of each job to identify existing or potential hazards. Measures must be taken to eliminate or reasonably control the hazard, using engineering controls, administrative controls and the use of PPE (*see section 2.3 for the terms)*. Workers are informed and involved in the hazard assessment and the methods used to control or eliminate them, and the date on which the hazard assessment is prepared or revised is recorded on it. A hazard assessment must be repeated if

(a) at reasonably practicable intervals to prevent the development of unsafe and unhealthy working conditions,
(b) when a new work process is introduced,
(c) when a work process or operation changes, or
(d) Before the construction of significant additions or alterations to a work site.

A prime contractor must ensure that any employer on a work site is made aware of any existing or potential work site hazards that may affect that employer’s workers.

All Subcontractors must adhere to and follow Dobbyn Electrics policies and procedure when working on site. Subcontractors are obligated when working for or on DES sites that they conduct their own hazard assessments in accordance with Dobbyn Electrics policies and provide are employees with a copy. Subcontractors will have a tailgate meeting with our employees before commencement of work. *(Reference section 4.22 for more subcontractor requirements)*

2.2 SPILL RESPONSE AND CLEAN UP

For each work site, a hazard assessment plan is discussed and documented and includes spill response and clean up.

1. Identify all possible occurrences that could practically, occur from our actions.
2. Pre-determine way to contain and stop spill.
3. Have proper spill kit on each vehicle.
4. Each employee to contact job foreman when spill occurs.
5. Each job foreman to contact Prime Contractor immediately.
6. Contaminated material to be removed from site properly and shipped to authorized site disposal yard. Contact number for disposal 1-800-222-6514.

2.3 IDENTIFYING HAZARDS

Activity: Working near traffic - (street, parking lot, construction site)
Working around equipment - (ours, others)
Working on buildings - (above, around, behind)

Hazard Identification: Check and assess site before set-up, after set-up. Be aware of what is happening around you during operations. Monitor on a continuous basis for objects that could cause slips, trips or falls.

Precautionary Action: Wear reflective safety vest. Always be cautious of traffic. Use flashing beacons on trucks, portable barricades, flag persons. Always be aware of equipment in area. Be aware of objects on ground or protruding obstacles. Have pre-work hazard assessment meeting and follow DES Health and Safety manual.

No person may perform work within 7m of an overhead power line if the voltage is unknown and that the operator of an energized overhead power line must be notified before work may be performed within the safe limit of approach distance.

Summary of Hazard Types

Physical Hazards - Hazards generated by people, equipment, machinery, tools, facility characteristics or environmental factors. Examples: Cluttered work areas**,** Slips, trips and falls**,** Falls from heights**,** Struck by or against objects/people**,** Caught in, under or between objects**,** Cuts, punctures and abrasions**,** Burns from hot equipment**,** Fire/explosion (hot work, flammable materials) **,** Electricity and Static electricity, Extreme heat or cold**,** Noise**,** Confined Spaces**,** Vibration**,** Non-ionizing radiation (microwaves, infrared, RF, lasers, UV)**,** Ionizing radiation (alpha, beta, gamma, x-rays)**,** Poor lighting/visibility**,** Sunburn**,** Insect bites**,** Vehicles**,** And adverse weather conditions (rain, ice, snow).

Chemical Hazards - Agents (e.g. gases, vapours, mists, fumes, dusts, fibres) that can be inhaled, ingested or absorbed into the skin to cause (e.g. burns, irritation, long term health effects cancer) Examples: Cleaning products**,** Asbestos**,** Wood Dust**,** Paints Solvents**,** Disinfectants**,** Combustion gases**.**

Biological Hazards- Includes living organisms that can cause illness or disease Example: Fungi (e.g. molds), Viruses and/or bacteria**,** Blood/body fluids**,** Animals (rodents, insects).

Ergonomic Hazards- Characteristics of the job, tools, or physical environment that put physical stress and strain on the body. Examples: Lifting/lowering or carrying heavy loads**,** Pushing/pulling heavy objects**,** Bending/twisting motions**,** Above shoulder level work**,** reaching to lift or perform work, Grasping, clenching, and/or pinching with force**,** highly repetitive lifting or hand/arm motions**,** holding awkward positions for long periods of time**,** Poor workstation design and Working in tight areas

Psycho-Social Hazards - Working conditions that create stressful work environments or increase the potential for injury or illness. Examples**:** Working alone**,** Violence or abuse**,** Overuse of voice (e.g. vocal abuse and related physiological disorders)**,** Environmental/geographic conditions (work on slopes or grades; soil conditions)**,** Work related stress**,** Communicable disease/public health issues**,** Personal health issues or physical limitations and Language barriers.

Summary of Workplace Hazard Controls

Engineering Controls- These are the preferred methods of control as they control hazards at their source. They reduce exposure by removing the hazard or isolating the hazard from the worker. E.g. Store materials at lower heights to eliminate reaching and need for ladders**,** Fix or replace damaged equipment**,** Substitution with a less

product (e.g. use latex paint instead of oil based), Use adjustable chairs to reduce ergonomic risks, Eliminate extension cords by installing more electrical outlets, Install local exhaust ventilation to capture and remove welding fumes, Put a guard over moving machinery parts to prevent accidental contact, Using dilution control systems to eliminate contact with chemicals, Mechanical aids or lift devices to eliminate the need for manual lifting, Enclose damaged asbestos materials to prevent contact with them

Administrative Controls: -Administrative controls control the hazard at level of employee. They include practices that reduce likelihood of exposure by preventive maintenance or altering the time or way a task is performed. Examples of administrative controls include: training/education, policies, and safe work procedures, and rules, codes of practice, purchasing standards, supervision, signage, labeling, job rotation /scheduling, and housekeeping. E.g. A purchasing standard that requires emission controls on fuel burning equipment, WHMIS training for staff who use chemicals, Labels and current Safety Data Sheets for chemicals, posting hazard warning signs for confined spaces, A safe work procedure for handling asbestos containing materials, designing work schedules to provide micro-breaks during repetitive tasks

Personal Protective Equipment (PPE) - Controls hazard at level of employee. PPE is the least preferred method of control and should always be the last hazard control option to be considered. E.g. CSA approved eye protection, safety footwear, gloves, hearing protection etc. Respiratory Protection, coveralls.

Risk Assessment Table

LOW RISK Minimal Controls
MED RISK Take action to minimize
RED RISK "Critical Task" take immediate action to eliminate hazard or reduce degree of risk

Consequences	Frequency - Probability				
	Very Remote 5	**Remote 4**	**Occasional 3**	**Probable 2**	**Frequent 1**
Minor E	LOW	LOW	LOW	LOW	MED
Moderate D	LOW	LOW	MED	MED	MED
Serious C	LOW	MED	MED	MED	HIGH
Major B	MED	MED	HIGH	HIGH	HIGH
Critical A	MED	HIGH	HIGH	HIGH	HIGH

Consequences	
Category	**Description**
E Minor	No injury, first aid, limited property damage.
D Moderate	Medical aid, minor injury/illness – no loss time.
C Serious	Lost time injury, temporary disability, and significant property damage.
B Major	Injury results in permanent disability, serious health effects or property damage.
A Critical	Injury results in a fatality, or there is serious property damage.
Frequency - Probability	
Category	**Description**
5 Very Remote	Not expected to occur
4 Remote	Potential to occur no more than once in any year.
3 Occasional	Potential to occur 3-5 times per year.
2 Probable	Potential to occur monthly.
1 Frequent	Potential to occur each daily/weekly.

2.4 MINOR OPERATION HAZARD ANALYSIS

Job #or Quote #:		JOB HAZARD/RISK ANALYSIS	DOBBYN ELECTRICAL SERVICES
Site Address:			
Company:			

Risk Level (*) 1. Imminent Danger 2. Serious 3. Minor 4. Acceptable 5. Not Applicable (N/A)

Activity or Task:		Date:	
Completed By:			

Work Steps and Tasks *Describe the tasks / steps involved in the work – in order*	Hazards Identified for each Task / Step	Risk Level *Use Risk Nomogram*	Control / Safe Work Procedures for each Task / Step *Controls to be implemented (consider the hierarchy of hazard controls)*

Hazards Checklist

• Can someone be struck or contacted by anything while doing this job?	• Can someone slip, trip or fall?	• Can someone fall into any thing?
• Can someone strike against or make contact with any physical hazards?	• Can someone strain or overexert?	• Can damage to equipment occur?
• Can someone be exposed to any hazardous conditions?	• Can someone be caught in anything?	• Can someone injure someone else?

Safety Officers Comments	Date:	Employees Signature: (Below)

2.5 FIELD LEVEL HAZARD ASSESSMENT FORM – (Revised, 2017)

Foreman/Supervisor: _____ Date: _____
Customer: _____ Customer Signature: _____
Site Address: _____ Work Order #: _____
Pre-& Post Trip Completed: _____ Nearest Medical Facility: _____
First Aider on Site: _____ Muster Area: _____
PPE Being Used: Safety Glasses ☐ Hard Hat ☐ Hearing Protection ☐ Reflective Vest ☐
Gloves ☐ Harness ☐ Lanyard ☐ Respirator ☐ Coveralls ☐ Arc Flash Equipment ☐

#1: Very Hazardous #2: Hazardous – Moderate Risk #3 Low Risk #4 Acceptable #5 Not Applicable

	Identified Hazards: *Activities / Condition*	**Priority Level:** **1 2 3 4 5**						**Identified Hazards:** *Activities/ Condition*	**Priority Level:** **1 2 3 4 5**				
1	Housekeeping						16	Overhead Hazards					
2	Lighting						17	Barricades & Sign in Place					
3	Ventilation						18	Power Lines					
4	Dust/ Fumes						19	Overhead Loads					
5	Spill Potential						20	Electrical Hazards					
6	Noise						21	Hot Work					
7	Hazardous Material						22	Working Near Energized Equipment					
8	Weather Conditions						23	Working at Heights Harness/Lanyard					
9	Traffic						24	Underground Hazards					
10	Ergonomic Hazards						25	Working Alone					
11	Slips/ Trips/ Falls						26	Lane Closures					
12	Aerial Lift / Man Basket						27	Confined Space					
13	Scaffold						28	Power Hand Tools					
14	Ladders						29	Other:					
15	Hoisting – Tools, Equipment, Materials						30	Other:					

Print and Sign when you understand and agree with FLHA. Stop Work and Review if Hazards Change. **Note:** All names must be legible

Worker Name: _____ Sign: _____

Worker Name: _____ Sign: _____

Worker Name: _____ Sign: _____

Precautions/ Control/ Measures Taken to Control Hazards

Comments:

Auditor: _____ **Work Site Inspected By Management**: _____ **Date:** _____

2.6 HAZARD ASSESSMENT CHECKLIST AND CORRECTIVE ACTION FORM

JOB HAZARD ASSESSMENT (JHA)

PPE CHECKLIST (Check all that apply)

EYE & FACE

- ☐ Safety glasses with sides shields
- ☐ Goggles
- ☐ Full face shield (worn over 1, 2, or 3 only)
- ☐ Welding Hood
- ☐ Other

HAND/(GLOVES)

- ☐ Cloth
- ☐ Leather
- ☐ Welding
- ☐ Metal mesh
- ☐ Elect. Insulated
- ☐ Rubber
- ☐ Neoprene
- ☐ Latex
- ☐ Vinyl
- ☐ Other

FOOT

- ☐ Hard toe shoes/boots
- ☐ Dielectric
- ☐ Rubber
- ☐ Other

HEAD

- ☐ Limited voltage hard hat

ELECTRICAL

- ☐ Electrical Permit
- ☐ Lock/Tag Out
- ☐ Other

EXCAVATION

- ☐ Excavation Training
- ☐ Sloping/Benching/Shoring
- ☐ Supervision/Competent Person
- ☐ Entry Permit
- ☐ Other

SCAFFOLDING

- ☐ Scaffold Training
- ☐ Supervision/Competent Person
- ☐ Scaffold Tag
- ☐ Other

HOISTING EQUIPMENT

- ☐ Hoisting equipment training
- ☐ Critical Lift Plan
- ☐ Other

WELDING OPERATIONS

- ☐ Fire protection
- ☐ Stand-by attendant
- ☐ Fire blanket
- ☐ Shields
- ☐ Other

JHA Instructions

1. Complete the heading information:

   Company and Site Address, Date, Task etc.

2. Foreman conducts a review of the job with affected employees to identify tasks, task steps and associated hazards. Forman then conducts a walk- through survey of the work area to identify any additional hazards.
3. In column 1, Task/Step, write down each step required to accomplish the task. If there are multiple steps to a task, name the task at the first step.
4. In column 2, Hazards, in the center of the form, write down how someone can get hurt doing this step. Slips/trips, falls, fire, burns, cuts, electric shock, rigging, struck by.
5. In Column 3, Identify with appropriate number to prioritize the risk level.
5. In column 4, Control Measure, on the right of the form, put down what will be done to control/eliminate the hazard. (Wear harness & lanyard, etc.)
6. Check out other operations in the area that may cause problems with your job. (Cranes, welding, painting, other trades in same area?)

- ☐ Hi-voltage hard hat
- ☐ Chin strap accessory
- ☐ Communications (radio, cell phone, etc.)
- ☐ Other

RESPIRATORY PROTECTION

- ☐ Natural &/or Mechanical Ventilation
- ☐ Fume/mist mask
- ☐ Dust mask
- ☐ Half face filters
- ☐ Full face filter
- ☐ Full face airline
- ☐ Fixed barricades
- ☐ Other

PROTECTIVE CLOTHING

- ☐ Coveralls
- ☐ Rain suit
- ☐ Other

HEARING PROTECTION

- ☐ Ear plugs
- ☐ Ear muffs
- ☐ Other

EMERGENCY EQUIPMENT

- ☐ Fire Extinguisher
- ☐ Eye Wash
- ☐ First Aid Kit
- ☐ Communications (radio, cell phone, etc.)
- ☐ Other

STAND-BY ATTENDANT

- ☐ Confined Space
- ☐ Traffic Area
- ☐ Other

BARRICADES/COVERS

- ☐ Warning barricade/tape
- ☐ Warning signs
- ☐ Cover(s)
- ☐ Railing(s)
- ☐ Other

CHEMICAL/ENVIRONMENTAL

- ☐ SDS required
- ☐ Airborne Contaminates
- ☐ Hazardous chemical(s)
- ☐ Hazardous product(s)
- ☐ Other

7. Include any hazards specific to the location of work, whether created by your work activity or previously existing.

8. Use the checklist to the left to review personal protective equipment needs and to refresh your memory.

9. Bring JHA to project Pre-Job Assessment for review with the Contractor Coordinator to ensure all significant risks have been addressed.

10. Review JHA with each employee and subcontractor employee prior to their starting work. Have each employee sign the attached log acknowledging that they understand the requirements relevant to their tasks.

11. During the day, as work progresses, use the JHA to identify additional hazards/problems while work is in progress (anyone on the crew can call a time out).

12. Review appropriate JHA tasks at all tailboard meetings.

13. Ensure that new employees are briefed on the JHA and sign the acknowledgement log.

14. JHA must be posted on the job site with the pre-job assessment for easy reference.

COMMENTS:

Employee Acknowledgement SIGNATURES (JHA)

Company Name	Printed Name	Signature	Date

2.7 FALL PROTECTION PLAN

Dobbyn Electrical Services engages projects regularly that require work to be done at heights in free fall and restricted areas.

Site supervisor is to inspect the work area at the beginning of the project and mark off fall hazards that apply. He is to also mark off the protection measures that will be applicable and go over same at the Tail Gate/Tool Box meeting with site workers.

Fall Hazard

1. Unprotected leading roof edge	2. Aerial work platform
3. Working on scaffolding	4. Ladder work
5. Fall protection - Bucket Truck	6. Slope of Roof

Protection Measures

1. Fall arrest rigging	2. Fall arrest body harness
3. Vertical lifeline	4. Rope grab
5. Restraint lifeline	6. Anchor sling
7. Guard handrails	8. Control zone
9. Barricade tape	10.Trained ground personnel

Rescue Plan

Follow procedures as per section 3.20 and DES training.

2.7.1 FALL PROTECTION SCHEDULE

Branch	*Date*	*Job Location*
Job No.	*Supervisor*	*Superintendent*

Supervisor to inspect the work area and at the beginning of the project and check-off the fall hazards that apply. A checkmark indicates a fall hazard that requires protective measures. Check-off the controls that apply. Explain below what additional control measures were implemented. All workers must be instructed in the following procedures and sign the back confirming their review and understanding of this Fall protection plan. Superintendent to review, revise if necessary, sign, date and forward to Risk Manager.

Fall Hazard

☐ *1. Working on unprotected leading roof edge*	☐ *2. Working off aerial work platform*	☐ *3. Assemble/dismantle of working off scaffold*
☐ *4. Working off ladder*	☐ *5. Holes in deck/roof*	☐ *6. Swing stage*
☐ *7. Sloped roof*	☐ *8. Assemble dismantle fall protection*	

Fall Protection Measures

☐ *13. Fall arrest protection*	☐ *14. Fall restraint protection*	☐ *15. Employees trained*
☐ *16. Full body harness*	☐ *17. Energy absorbing lanyard*	☐ *18. Vertical lifeline*
☐ *19. Horizontal lifeline*	☐ *20. Restraint lifeline*	☐ *21. Rope grab*
☐ *22. Retractable lanyard*	☐ *23. Anchor sling*	☐ *24. 5000 lb anchor point*
☐ *25. 90 lb anchor point*	☐ *26. Guard handrails*	☐ *27. Control zone*
☐ *28. Barricade tape*	☐ *29. Safety monitor*	☐ *30. Surface opening protection*
☐ *31. PR 600*		

Rescue Plan

☐ *34. Fire Dept. high angle rescue*	☐ *35. Additional AWP on site for rescue*	☐ *36. Competent ground man to bring AWP down*

Additional information, instruction, procedures

2.7.2 FALL PROTECTION WORK PLAN

FALL PROTECTION WORK PLAN

Company Name: _____

Jobsite name & Address: _____

_____

Job Task: _____

Supervisors are to ensure workers review and sign this fall protection work plan prior to starting work in an area where a hazard of falling exists. Workers must understand this plan and be trained in fall protection and the systems and equipment that will be used. This plan must be posted at the worksite for the duration of the work activities. This plan must be used in conjunction with a comprehensive and effective Fall Protection Program. Add additional pages as necessary.

Effective period for plan (FROM) (TO)

(dd/mm/yy)_____ (dd/mm/yy)_____

Job location / description: _____

1. **Identify potential fall hazards**

- ☐ Elevating work platforms (boom operated)
- ☐ Excavations
- ☐ Floor openings / skylights
- ☐ Skeletal framing
- ☐ Hazardous processes / equipment
- ☐ Ladders (fixed or portable)
- ☐ Scaffold erection /dismantling
- ☐ Stairways
- ☐ Swing Fall
- ☐ Wall opening
- ☐ Reinforcing steel installation
- ☐ Other (identify)

2. **Describe the hazard(s) including specific dimensions, locations, levels, etc.**

2.7.2 Fall Protection Work Plan cont'd

3. Identify Fall Protection Systems to be used

- ☐ Guardrails
- ☐ Fall restraint
- ☐ Procedures
- ☐ Fall arrest
- ☐ Control zone with monitor
- ☐ Safety net
- ☐ Work platform
- ☐ Self-propelled elevated work platform
- ☐ Scaffold
- ☐ Catch platform
- ☐ Other (identify)
- ☐ Other (identify)

4. Describe the procedures for handling, storing and securing tools and materials

5. Identify the method of providing protection for workers who may be in or pass through the area below the overhead work activity

- ☐ Barricading
- ☐ Hardhats required
- ☐ Catch net
- ☐ Warning signs
- ☐ Toe boards /screens on scaffolds
- ☐ Toe boards/ covers on floor openings
- ☐ Other (identify)
- ☐ Other (identify)

6. Identify the method for prompt, safe removal of injured workers

- ☐ Written agreement with (identify Fire Department and attach agreement)
- ☐ Site First Aid
- ☐ 911
- ☐ Elevators / stairs
- ☐ Self-rescue (training documentation)
- ☐ Other employees of employer (training documentation)
- ☐ Other (identify)

7. Identify the method used to determine the adequacy of anchorage points

- ☐ Evaluation by a professional engineer
- ☐ Manufacturer's data
- ☐ Existing engineering / design documents
- ☐ Other (identify)

2.7.2 Fall Protection Work Plan cont'd

8. Describe and identify locations of anchor points

9. Name of project site safety and health representative: _____

10. Name of Safety Monitor if control zone used:_____

11.

Select system components	**Make / Model**
☐ Full body harness	_____
☐ Vertical lifeline	_____
☐ Horizontal lifeline	_____
☐ Lanyard	_____
☐ Boatswains chair	_____
☐ Connecting devices (identify)	_____
☐ Choker	_____
☐ Carabiner	_____
☐ Rope grab	_____
☐ Personal shock absorber	_____
☐ Beamer	_____
☐ Anchor points (identify)	

12. Identify total fall distance: _____

2.7.2 Fall Protection Work Plan cont'd

13. Describe the procedures for the assembly, maintenance, inspection and disassembly of the fall protection system to be used

14. Inspection checklist

- ☐ Identification tags
- ☐ Horizontal lifeline tension is correct
- ☐ Integrity of stitching in shock absorber
- ☐ Integrity of stitching in harness / belt / lanyard
- ☐ Manufacturer's assembly / disassembly instructions
- ☐ Locking capability of retractable lanyards assured
- ☐ Locking capability of carabiners assured
- ☐ Locking capability of snap hooks assured
- ☐ Connection methods do not weaken lifeline
- ☐ Lifelines installed and used under supervision of competent person and protected from cuts or abrasions
- ☐ Rope (wear, fraying, damage, mildew)
- ☐ Lanyard (wear, fraying, damage, mildew)
- ☐ Dee-rings have adequate strength, are not cracked or deformed
- ☐ Guardrails are sound and of adequate strength
- ☐ Devices are used to connect to horizontal lifelines lock in both directions
- ☐ Anchorage points provide adequate strength and are capable of meeting regulated strength requirements
- ☐ Safety monitor is competent, can see all workers, is close enough to communicate, and has no other duties
- ☐ Warning lines adequately marked and are at appropriate distance from fall hazard
- ☐ Hole covers secured, marked and capable of withstanding anticipated weight loads
- ☐ Other (identify)

2.7.2 Fall Protection Work Plan cont'd

WORKER REVIEW & SIGN-OFF:
By printing my name and signing I am acknowledging that I have reviewed this procedure in detail and understand the identified hazards, required tools/equipment and the safe work procedures as outlined here within. If I am unsure of anything in this procedure, I will ask for clarification from my Foreman/Superintendent.

Print Name	Signature	Date

Section 3 - Safe Work Practices

3.21 Handling & Storage of Combustible Products

3.22 Handling & Storage Compressed Gas Cylinders

3.23 Exothermic Welding

3.24 Traffic Control

3.25 Overhead Power lines – Added New, 2017

3.26 Crystalline Silica

3.1 LIFTING – HOISTING – (Revised, 2017)

Dobbyn Electric has a company safety manual which includes instructions and guidelines for tasks most commonly required on job sites. Safety is the primary focus in these instructions with alterations made as equipment and tools are changed or replaced.
An employer must ensure that a lifting device is only operated by trained, competent workers, authorized by the employer to operate the equipment. Workers to be:

1) Properly trained to safely operate equipment,
2) Demonstrate competency under a competent worker designated by the employer,
3) Be familiar with equipment operating instructions
4) Authorized by employer to operate the equipment.

Evaluating the Load

Determine the weight of the object or load prior to a lift to make sure that the lifting equipment can operate within its capabilities. The capacity of the lifting equipment is clearly marked with a Plate or weather-proof label permanently secured, and legible showing manufacturer's rated load capacity, manufacturer's name, model number, serial number and year of manufacture or shipment date. Lifting devices are also equipped with load charts conspicuously and permanently secured to the cab showing rate loaded capacity at all permitted angles and boom radius.

Balance the load

Estimate the centre of gravity or point of balance. The lifting device should be positioned immediately above the estimated centre of gravity.

Landing the load

Prepare a place to land the load, lower the load gently and make sure it is stable before slackening the sling or chain.

- Select only alloy chain slings and NEVER exceed the working load limits.
- Make sure the hoist or crane is directly over the load.
- Use slings of proper reach. Never shorten a line by twisting or knotting. With chain slings, never use bolts or nuts.
- Never permit anyone to ride the lifting hood or the load.
- Make sure all personnel stand clear from the load being lifted.
- Never work under a suspended load.
- Never leave a load suspended when the hoist or crane is unattended.
- Inspect all slings thoroughly and maintain them in good condition. Inspect each chain or sling for cuts, nicks, bent links, bent hooks etc., before each use. Worn, damaged or deformed hooks, chains, slings must be permanently removed from service as per specifications allowed by manufacturer and following OHS Code Section 305 – 309.
- Ensure the safety latches on hooks are in good working condition.
- Make sure a tagline is used to control the load.
- Use a signaler (properly identified) who understands techniques of proper signaling.

3.2 LIVE OR HOT EQUIPMENT

An employer must ensure that hot work is not begun until a hot work permit is issued that indicates the nature of the hazard and type and frequency of atmospheric testing required, safe work procedures and precautionary measures to be taken and protective equipment required.

The hot work location is cleared of combustible materials or suitably isolated from combustible materials. Procedures are implemented to ensure continuous safe performance of the hot work and testing shows that the atmosphere does not contain a flammable substance, in a mixture with air, in an amount exceeding 20 percent of that substance's lower explosive limit for gas or vapours or the minimum ignitable concentration for dust.

An employer must ensure that before a welding or allied process is commenced that area surrounding the operation is inspected and all combustible, flammable or explosive material, dust, gas or vapor is removed or an alternate method of rendering area safe is implemented.

If a welding or allied process is performed above an area where a worker may be present, an employer must ensure that adequate means are taken to protect a worker below the operation from sparks, debris and other falling hazards.

General

- All workers that may engage in "live" electrical work must be a Journeyman Electrician or Lineman, or an indentured Electrical Apprentice working under the direct supervision of a Journeyman Electrician.
- All work to be done within the guidelines of the Canadian Electrical Code.
- Panels or disconnects should be lock off.
- Access to electrical rooms to be locked if there is no means of locking the panel.
- Never work alone.
- Turn off "power" supply if possible.

3.3 USE OF AUGER TRUCK

Protective equipment must be worn at all times while being around, operating or working in the equipment.

- Hard Hats
- Steel-toed Boots
- Protective Gloves
- Safety Glasses and Safety Vests

Safe Operating Steps
Select location of truck.

- Park on as flat as ground as possible.
- Park where safe from traffic, check for overhead clearances.
- Check that Alberta First Call has been done before any digging.
- Position truck so as to move auger with proper clearance to complete job.

- Level Truck with outrigger.
- Inspect auger teeth, hoses and fittings.
- Inspect wire rope and chain before lifting Boom.
- Have ground an in place inspecting site/hole.

3.4 USE OF BUCKET TRUCK

Protective equipment must be worn at all times while being around, operating or working in the equipment.

- Hard Hats
- Steel-toed Boots
- Protective Gloves
- Safety Glasses and Safety Vests
- Fall protection/safety harness – must be worn while in the bucket.

Safe Operating Steps

- Decide on location of truck.
- Park on as flat as ground as possible.
- Park where safe from traffic
- Position truck so as to move boom as little as possible to complete job.
- Set emergency/air brakes
- Stay required distance from overhead power line.
- Use cones or barricades when on public property
- Level Truck with outriggers.
- Remove boom straps.
- Attach fall arrestor harness to boom.

3.5 USE OF HEAD PROTECTION

General

Safety headwear is designed to protect the head from impacts from falling objects, bumps, splashes from chemicals, or harmful substances, and contact with energized objects and equipment.
In construction, the recommended type of protective headwear is a hard hat, which has the required 'dielectric strength' and meets CSA requirements for Class G (general use) and Class E (electrical trades).
Most head protection has two parts, the shell – light and rigid to deflect blows and the suspension – to absorb and distribute the energy of a blow. Both parts of the headwear must be compatible and maintained according to manufacturer's instructions. Bump caps or laceration hats are not considered safety helmets. In Alberta they can only be used when the 'only hazard' is a strike to the head against a stationary object.

Inspection & Maintenance

Proper care is required for headgear to perform efficiently. The usual maintenance is simply washing with a mild detergent and rinsing thoroughly. Replace head gear that is pitted, holed or cracked or brittle.
Replace head gear that has been subjected to a blow or if it's serviceability is in doubt. Do not drill – remove peaks and/or alter the shell or suspension in any way. Do not use solvents or paints on the shell. Do not put chin straps over the brims of certain classes of headgear. Do not use any liner that contains metal or conductive materials. Do not carry anything in the hard hat while wearing the hard hat.

3.6 USE OF HEARING PROTECTION

General

An employer must ensure all reasonably practicable measures are used to reduce noise in areas of work site where workers are present. Continuous noise levels are not to measure more than 84 dBA or are as low as reasonably practicable as per schedule 3, table 1. Employers must ensure that affected workers wear the required hearing protection equipment.

> The "rule of thumb" for hearing protection is - use hearing protection when you cannot carry on a Conversation at a normal volume of voice when you are 3 feet (920 millimeters) apart.

Remember this is only a rule of thumb. Any sound over 80 dba requires hearing protection. Hearing loss can be very gradual, usually happening over a number of years.

No employee in any 24 hour period shall be exposed to an A-weighted sound pressure that exceeds 87 dBA. Employer must post signs warning of a potentially hazardous level of sound at that location.

Employers are to ensure employees are properly trained in the noise management program as to hazards of exposure to excessive noise and in the proper use of control measures and hearing protection. Workers are provided with training in the selection, use and maintenance of hearing protection equipment in accordance with the manufacturer's specifications as per CSA Standard Z94.2-02.

It is important to have different styles of hearing protection available. Different styles allow a better chance of a good fit. Each person's head and ear shape and size is different. One style may not fit every person on your ears. If hearing PPE does not fit properly or is painful to use, the person will likely not use it. If the hearing protection is not properly fitted, it will not supply the level of protection it was designed to deliver.

Most earplugs, if properly fitted, generally reduce noise to the point where it is comfortable (they take the sharp edge off the noise).

Workers should have their hearing tested at least every year, twice a year if they work in a high noise area.

Note: - If your hearing protection does not take the sharp edge off the noise, or if the workers have pain, headaches, discomfort or ringing in the ears, your operation requires the advice of an expert.

Where engineering controls are practicable for the control of noise levels this is the preferred method. Where engineering controls not practicable employers must provide hearing protection to ensure workers are not exposed to noise that exceeds 84 dba.

3.7 USE OF LIMB AND BODY PROTECTION

Due to the nature of the construction workplace and the number and kinds of hazards, it is not possible to cover specialized limb and body protection in detail.
These types of hazards are known as 'job exposure' (fire, temperature extremes, body impacts, corrosives, molten metal's, or cuts from sharp or abrasive materials.

PPE in this category would be items such as:

- Gloves
- Flame and chemical resistant clothing
- Steel-toed boots

- Trade job specialty guides can be obtained through Occupational Health and Safety.
- Follow manufacturer's instructions for use and replacement.
- Inspect PPE for defects before use.
- Wash off chemicals and fluids before removing clothing.
- Ensure that gloves fit properly.
- Do not wear hand PPE with metal parts near electrical equipment.

Note: Employees shall not use PPE that is not in a condition to perform the function for which it was designed.

3.8 USE OF PORTABLE LADDERS

General

Ladders can be used safely if they are given the respect they deserve. DES will ensure that all portable ladders meet the requirements of OH&S legislation and meet CSA Standards. All defective ladders will be tagged and put "Out of Service". DES will ensure all employees be trained in the proper use of a ladder in accordance to OH & S regulations as followed in the safe operating steps.

Legislation

The OHS regulations contain requirements for the construction, maintenance and use of portable ladders, such as step and extension ladders.

Portable Ladder Requirements:

1. Commercially made ladders must generally comply with designated voluntary standards from the CSA or ANSI;
2. Ladders made on site must comply with detailed construction requirements in the OHS regulations
3. You must ensure that ladders are well maintained and inspected before use for any defects that could endanger workers;
4. Ladders, especially extension ladders, must be properly positioned, generally maintaining a 1:4 ratio;
5. Workers must properly use ladders and not use them for unintended purposes; and
6. In some cases, workers working from ladders must wear fall protection

When working on or near energized electrical equipment use ladders made of non-conductive materials only. Before using any ladder, make sure that it is in good condition and is the right ladder for the job to be done. All defective equipment must be tagged and removed from service immediately.

Safe Operating Steps

- First Thing do a visual inspection before using the ladder. If there are no defects follow the safe operating steps to ensure safe use. If there are defects DO NOT use the ladder until all defects are rendered or put out of service.
- When setting up a ladder, secure the base and "walk" the ladder up into place.
- The ladder should be set at the proper angle of one (1) horizontal to every four (4) vertical.
- Before using a ladder, make sure it is secured against movement.
- When in position, the ladder should protrude one (1 meter above the intended landing point).
- Workers shall not work from the top two rungs of a ladder.
- Don't overreach while on a ladder. It is easier and safer to climb down and move the ladder over a few feet to a new position.
- Always face the ladder when using it. Grip if firmly and use the three-point contact method when moving up and down.
- The minimum overlap on an extension ladder should be one (1) meter unless the manufacturer specified the overlap.
- Keep both metal and wood ladders away from electrical sources, and use only non-conductive ladder when working on or near energized electrical equipment.
- No employee shall work from any of the three top rungs of any portable – single or extension ladder.
- Every portable ladder that provides access from one level to another shall extend at least 3 rungs above the higher level.

3.9 USE OF STEP LADDERS

General

As with all ladders, make sure that the step ladder is in good condition, perform a visual inspection *(as noted in section 3.8)* and that it is the right ladder for the job to be done.

Safe Operating Steps

- First Thing do a visual inspection before using the ladder. If there are no defects follow the safe operating steps to ensure safe use. If there are defects DO NOT use the ladder until all defects are rendered or put out of service.
- Step ladders are to be used only on clean and even surfaces.
- Do not work from the top three steps of any portable step ladder (counting the top platform as a rung)
- When in the open position ready for use, the incline of the front step section shall be one (1) horizontal to six (6) vertical.
- The step ladder is only to be used in the fully opened position with the spreader bars locked.
- Tops of step ladders are not to be used as a support for scaffolds.
- Don't overreach while on the ladder. Climb down and move the ladder over to a new position.
- Only CSA Standard Ladders will be used.

3.10 FIRE AND USE OF FIRE EXTINGUISHERS

Introduction

Good housekeeping is essential in the prevention of fires. Fires can start anywhere and at any time. This is why it is important to know which fire extinguisher to use and how to use it. Always keep fire extinguishers readily available while working. Fire extinguishers have to be properly maintained to do the job. Where temperature is a factor, ensure that care is taken in selecting the right extinguisher. Fire extinguishers are designed to put out or control small fires. A small fire, if not checked immediately, will soon spread out of control. In fact, most big fires start out as small ones. It is important, therefore, that we equip our workplace with the proper fire extinguishers as part of our fire protection plan.

For a fire extinguisher to be effective, the following conditions must be met:

- The extinguisher must be right for the type of fire;
- It must be located where it can be easily reached;
- It must be in good working order;
- The fire must be discovered while it is still small; the person using the extinguisher must be trained to use it properly.

Fire Extinguishing Methods

Fires can be extinguished in one or four ways:

1. By cooling: Water is used to cool the burning material below the temperature at which it starts to burn.
2. By smothering: Carbon dioxide (CO_2) or foaming agents are used to smother the burning material so that air is excluded.
3. By removing the fuel: This is usually very difficult to do. An example is turning off a fuel line.
4. By disrupting the chemical chain reaction or interrupting the flame: Dry chemicals are used to do this.

Types of Extinguishers & Types of Fires
To help in choosing the proper extinguisher, fires are classed A, B, C, according to the type of fuel (e.g., paper, grease, oil) that is involved in the fire. Extinguishers are available for use on one or more classes of fire, depending on the extinguishing agent they contain (e.g., water, chemicals).

Class A: These fires consist of wood, paper rags, rubbish and other ordinary combustible materials. Recommended Extinguishers - Water from a hose, pump type water can, or pressurized extinguisher, and soda acid extinguishers. Fighting the Fire: Soak the fire completely – even the smoking embers.

Class B: Flammable liquids, oil and grease.
Recommended Extinguishers: ACB units, Dry Chemical, Foam and Carbon Dioxide extinguishers.
Fighting the Fire - Start at the base of the fire and use a swinging motion from left to right, always keeping the fire in front of you.

Class C: Electrical equipment
Recommended Extinguishers: Carbon dioxide and dry chemical (ABC units) extinguishers.

Using the wrong extinguisher to fight a fire can have serious results. For example, if a water-based extinguisher is used on a flammable liquid fire (Class B fire), the fire may flare up, spread, and cause personal injury to the user and others. If a water-based extinguisher is used to fight a fire in or near electrical equipment (Class C fire), the user could suffer an electric shock.

****Fighting the Fire - Use short bursts on the fire, when the electrical current is shut off on a Class C fire, it can become a 'Class A' fire if the materials around the electrical fire are ignited.****

Follow these steps in selecting extinguishers for the workplace:

1. Conduct an assessment to identify your fire hazards and determine the type of extinguishers needed. The extinguishers you select must match the classes of fire most likely to occur. Remember to check your material safety data sheets (MSDS) to identify materials that could catch fire. The section on firefighting measures give information on the type of extinguishing agent needed to put out a fire involving the material.
2. Determine the size of potential fires in each area and how fast they could spread. Extinguishers for Class A and Class B fires are rated for the size of fire they can handle. This rating appears on the label and is expressed as a number from 1 to 40 for Class A fires and 1 to 640 for Class B fires. The higher the number, the larger the fire the extinguisher can put out. However, the higher the rating, the heavier the extinguisher. Extinguishers rated 2A:10B:C are suitable for home or office fires. Extinguishers for Class C fires depend upon such factors as the size of the electrical equipment, how it is constructed, whether it is enclosed, and the nature of the other combustible materials in the area.
3. Consider other factors that affect selection: Possible health and safety hazards from chemical reactions between the extinguishing agent and the burning materials, or when using certain types of extinguishers in unventilated areas. Extinguishers with long-range nozzles, for example, are available for use in confined spaces or other hazardous areas. Atmospheric conditions in areas where extinguishers are located. Extreme cold, for example, could make water-based extinguishers ineffective. Where there may be corrosive fumes, select fire extinguishers that can resist corrosion, or provide protection against corrosion. Physical abilities of the user. The size and weight of extinguishers should match the physical abilities of those who have to use them. Extinguishers shouldn't be too heavy for you to handle.
4. Make sure that your extinguishers: are approved by a recognized laboratory (replaced or new extinguishers must be approved by the Underwriter's Laboratories of Canada or ULC, and labelled as such); do not contain carbon tetrachloride, methyl bromide, or other toxic vaporizing liquids.
5. Do a reassessment whenever you make changes in your workplace, e.g., when you change a work process or the materials you are using.

Location
No matter how carefully they are selected, fire extinguishers won't be of any use if they can't be reached in an emergency. Locate extinguishers where they can be readily reached for use while a fire is still small. However, don't locate them where they could be a hazard to someone, or where they could get damaged.
Where highly combustible material is stored in small rooms or enclosed spaces: locate the extinguisher outside of the room (this will force the potential user to exit the room and then decide whether to re-enter it to fight the fire).
For service rooms that contain electrical equipment: locate extinguishers in or near the room.
On vehicles or in areas where extinguishers are subject to jarring or vibration: mounting extinguishers on brackets designed to withstand vibration. All DES Vehicles are equipped with and mounted with the appropriate fire extinguisher they also have signs to show the locations of fire extinguishers. The signs are large enough to be seen clearly from a distance.

Maintenance
Extinguishers must be properly maintained to ensure that they will work when needed, and that they are safe to use. A carbon dioxide extinguisher, for example, can build up a high static charge if it is used when there is a breakdown of the insulation around the discharge horn. This can cause electric shock Adequate maintenance of extinguishers consists of regular inspections, recharging as needed, and a complete annual checkup and servicing. Records must be kept of all maintenance work carried out, including inspections. Testing and servicing is usually carried out by a service agency.

Inspections
Fire extinguishers must be inspected at least once a month, and more often where needed. Inspections
Are visual checks to determine that:

- The extinguisher is well supported:
- Hangers are fastened solidly.
- It is accessible:
- can be easily reached;
- location signs are clear;
- class markings are clear;
- Operating instructions are clear.
- It is in working condition:
- discharge opening is clear;
- is fully charged;
- has not been tampered with;
- is not damaged;
- Hydrostatic testing has been done.
- The ring pin is in place.
- The seal is intact.

Record keeping
A durable tag should be attached to each extinguisher that shows:

- dates of monthly inspections, recharging, and servicing;
- name of servicing agency;
- Signature of person who performed the service.
- Maintain a permanent record for each fire extinguisher that shows:
- serial number and type of extinguisher;
- location of extinguisher;
- inspection date;
- description of maintenance work or
- hydrostatic tests carried out;

- date of next inspection;
- date of scheduled annual servicing;
- inspector's comments;
- Inspector's signature.

If no tag is found on the extinguisher please notify the safety officer to get new tag.

Tips for safe extinguisher use:

- Test that the extinguisher works before you approach the fire.
- Protect yourself at all times.
- Take care. Speed is essential but it is more important to be cautious.
- Keep your back to the exit at all times and stand 2 to 2.4m (6 to 8 ft.) away from the fire.
- Follow the 4-step P-A-S-S procedure:
    1. Pull the pin (release the lock latch or press the punch lever).
    2. Aim the nozzle at the base of the fire.
    3. Squeeze or press the trigger.
    4. Sweep the extinguisher from side to side.

If the fire does not go out immediately or the extinguisher appears to be getting empty, leave the area at once. Back out with the lever squeezed and the nozzle pointed at your feet. This will help protect you until you are out of the area.

3.11 USE OF CHAIN SAW

Chain saws are used for many jobs in construction. Since this tool was primarily meant for use in the logging industry it can be an unfamiliar tool to some workers.
Workers must be trained in it safe use and the training must include a minimum of the following elements:
The proper personal protective equipment to be worn is set out by the manufacturer and Occupational Health and Safety Legislation.
Fuelling of the saw must be done in a well-ventilated area and not while the saw is running or hot.
An approved safety container must be used to contain the fuel used along with a proper spout or funnel for pouring.
The correct methods of starting, holding, carrying, or storage and use of the saw as directed by the manufacturer must be used.
Ensure that the chain brake is functioning properly and adequately stops the chain.
The chain must be sharp, have the correct tension, and be adequately lubricated.
When carrying/transporting a chain saw the bar guard must be in place, the chain bar must be toward the back and the motor must be shut off.
The chain saw must not be used for cutting above shoulder height.
Chain saws will comply with CSA Standards Z62.1-M-77.

3.12 USE OF EXPLOSIVE/POWDER ACTUATED FASTENING TOOLS

There are a number of tools utilizing an explosive charge in use throughout the industry to drive fastenings.
The manufacturers of these devices provide detailed instructions regarding their use and maintenance. These instructions along with the legislation specifically set out for their use, shall be closely adhered to at all times.
The following general recommendations apply to all explosive/powder actuated tools.
Only properly trained and qualified operators are to use this type of tool.
The tool must be CSA standard approved
The tool should be loaded just prior to use with the correct load for the job anticipated. Tools should never be loaded and left to sit or be moved to an alternate work site after being loaded.
The tool should never be pointed any anyone, whether loaded or unloaded. Hands should be kept clear of the muzzle end at all times.
Tools should always be stored in their proper lockable boxes.
Explosive/powder actuated tools must never be used in an explosive atmosphere.
When used the tool must be held firmly and at right angles to the surface being driven into.
Eye protection must be worn by the operator. Hearing protection is also worn in confined areas.
To prevent free-flying studs ensure that the material being driven into will not allow the stud to completely pass through (id glass block, hollow tile etc.)
Manufacturer’s recommendations should be consulted and followed whenever there is doubt about the material being driven into.

3.13 USE OF HAND-HELD POWER CIRCULAR SAW

This type of power hand tool is one of the most commonly used in construction. Because of this common use there are numerous accidents due to thoughtless acts. The following are the minimum accepted practices to be used with this saw. Approved safety equipment such as safety glasses or a face shield is to be worn. Where harmful vapours or dusts are created, approved breathing protection is to be used.
The proper sharp blade designed for the work to be done must be selected and used.
The power supply must be disconnected before making any adjustments to the saw or changing the blade. Before the saw is set down be sure the retracting guard has fully returned to its down position.
Both hands must be used to hold the saw while ripping. Maintenance is to be done according to the manufacturer's specification. Ensure all cords are clear of the cutting area before starting to cut.
Before cutting, check the stock for foreign objects or any other obstruction which could cause the saw to "kick back". When ripping, make sure the stock is held securely in place. Use a wedge to keep the stock from closing and causing the saw to bind.

3.14 LOCKOUT / TAGOUT - (LOTO)

No employee shall work on electrical equipment unless the equipment is isolated. No work is done till test is done to confirm isolation. Visual checks on all lockout tag out is in place or in the case of a draw-out type electrical switch gear, withdrawn to full extension from the contacts. Locked out tag/out bears a distinctive tag or sign designed to notify persons that operation is prohibited during performance of work or live test.
Where more than one employee is performing any work on or live test of isolated electrical equipment a separate tag or lock for each employee shall be attached to each control device and locking device. Employees who work in areas where lockout/ tagout procedures are used must understand the purpose of the procedures and are prohibited from attempting to restart machines or equipment that are locked or tagged out.

To provide the necessary guidance and direction to personnel in an effort to prevent injury and/or death during servicing or maintenance activities.

Management's responsibility - ensure that a Lockout/Tag Out site-specific procedure is developed for all work locations and that it is read and understood by all supervisors, employees and contractors who may be affected by it. It is the responsibility of management to provide the resources necessary for all work locations to effectively implement this safe work practice.

Supervisor's responsibility - Enforce this safe work practice. Supervisor's must ensure that employees and contractors have been thoroughly familiarized with the program and associated procedures and that management has been made aware of any deficiencies. Supervisors are also responsible for developing equipment-specific lockout procedures as detailed in this program.

Worker – Contractor/Sub-contractor's responsibility - Apply the conditions and requirements of this safe work practice and any associated site specific procedures, and to inform supervisors of any problems or deficiencies in its application.

Note: Only authorized personnel are allowed to remove lockout/ tag out devices. Personnel must at no time attempt to remove, bypass or disable these devices. If removal is required, supervisor will contact site worker and together they will make appropriate decisions as to removal of tag out devices.

Training

Service and maintenance employees or contractors - Authorized employees or contractors who are required to do servicing and maintenance on equipment require training related to site [specific lockout/ tag out procedures and equipment-specific LOTO procedures. They must be competent to apply LOTO and de-energize/isolate that particular equipment as per Safe Work Practice 3.15- Control of Hazardous Energy.

Affected Employees or Contractors - Employees or contractors who may be affected by the application of LOTO need to be familiar with this control program, particularly the meaning of locks and tags on operational controls. These personnel are referred to as affected employees.

Employees are prohibited to start maintenance on equipment which is not locked out/ tagged out.

3.14 Lockout / Tag Out (LOTO) - Continued

Resources and Equipment

Isolation Devices – Specialized lockout / tag out materials are commercially available from most safety supply vendors, and cover a wide range of products suited to most types of isolation devices.

1. Locks

- High quality pin type (combination locks are not acceptable) and each lock is to be keyed differently.
- Master keys are prohibited. The lock holder should be the only person in possession of the unique key to the specific lock.
- Each lock should be permanently marked with a number, color code, or name to allow for quick identification of the lock holder.
- Locks to be stored on a lock station.

2. Scissors and Lock Boxes

Scissors- can be applied to most hasps and other devices that can be secured with a padlock. The scissors allow more than one lock to be placed on a lockout, as would be the case if two or more workers were performing maintenance on the locked out equipment.

Lock Boxes – enable several workers to lockout a piece of equipment with one lock, place the key to that lock into the lock box, and then secure the lock box with multiple locks.

Circuit Breaker Lockouts – Each work location shall have at its disposal lockout supplies which are most suited to the types of equipment and energy sources that may need to be locked out at that work site.

3. Control Mechanism

A control mechanism must be devised and implemented that will ensure isolation of devices, locks and tags are accounted for on completion of the work activity. The control mechanism is typically in the form of a master control board and a log sheet / book.

Notification

1. Advance Notice

Prior to taking any piece of equipment offline, all workers who may be affected by the shutdown shall be notified in advance by the worker responsible for the lockout / tag out. Notification should include the equipment and the energy sources involved in the shutdown, length of time off-line, and the fact that the locks and tags will be applied. Employees who work in areas where lockout/tagout procedures are used must understand the purpose of the procedures and are prohibited from attempting to restart machines or equipment that are locked or tagged out.

2. Pre-Job Safety Meeting

For lockout jobs involving high hazard work or unusual circumstances, a pre-job safety meeting, shall be conducted for all affected workers before shutting down and prior to lockout/ tag out of affected equipment.

Withdrawal from Service

Only workers who are authorized may shut down equipment and apply LOTO. Authorized workers shall be specifically trained in the shutdown of that particular piece of equipment according to the manufacturer's specifications and/or the DES safe operating procedures.

Isolation of Energy Sources

A key component of LOTO is the isolation and/or zeroing of all energy sources associated with a particular piece of equipment. It is imperative that all energy sources are considered and blocked, isolated, or de-energized according to Safe Work Practice 3.15.

Locking and Tagging

1. Signs

   All lockout points should be appropriately identified so that workers are familiar with their position and condition. Preferably, signage is provided on both the equipment and the switchgear clearly stating which switchgear serves which equipment.

2. Isolation of Controls

   Where operator controls (e.g. local start/ stop stations) present the best solution for isolation of that piece of equipment.
   - Turn the controls to the "off" position.
   - Lock the control to the "off" position.

   Note: If the controls cannot be locked in the "off" position, then another source of lockable isolation must be found.
   - If the controls are reversing controls, then they should be locked in both directions.
   - If the controls are equipped with an override, then the override must be locked out rather than the controls and a tag indicating lockout placed on the controls.
   - If the power supply shut off is located away from the controls, then an assistant shall be placed at the controls to ensure that they are not operated while the power supply is being locked out.

3. Locking Out Power Supply

   When locking out the power supply is the best method of isolation, the following procedure shall be applied.
   - It is imperative the equipment to be locked out is first shut down at its controls. If the machine is still running when the power supply is turned off, an electric arc produced at the electrical junction box can result in serious injury.
   - Once the equipment is shut off, put on safety glasses and/or full face shield, ensure the correct switch is in hand, stand back from the electrical panel (power box), and turn head away before throwing the switch.

   Note: If the vehicle or mobile equipment is to be locked out for an extended period, arrangements for moving that equipment in the event of an emergency shall be made.

4. Motor Vehicle Ignition Keys

   When equipment to be locked out is a vehicle or other mobile equipment, the keys shall be removed from the ignition and, if only one person will work on that equipment, the ignition keys shall remain in that person's possession until work is completed.

If more than one person will work on the equipment, the ignition key shall be placed in a lock box, and each worker will place an individual lock on the lock box. In addition to isolating the ignition, the brake shall be applied and the wheels blocked to prevent the release of potential energy. If the equipment is to be jacked up, it will be blocked in the elevated position to prevent the release of potential energy.

Note: If the vehicle or mobile equipment is to be locked out for an extended period, arrangements for moving that equipment in the event of an emergency shall be made.

5. Valve Locks and Blinding Methods

When the equipment to be locked out requires the isolation of hydraulic or pneumatic energy, appropriate valve, locks and blinding methods shall be used. If more than one person will be working on the equipment, then the valve lock key shall be placed in a lock box, and each worker shall place their individual padlock on the lock box.

6. Tagging

Tags shall be applied at the point of lockout. In addition, a tag shall be placed on the equipment operating controls if they are located separately from the energy isolation point.
Tags shall:

- Have the name and signature of the worker installing the lockout and performing the work written on them. In the case of a group lockout, the supervisor will sign the tag.
- Show the date of the lockout and estimated completion time.
- Include the name of the equipment being serviced.
- Be legible and understandable.
- Be securely attached.

Note: Tags and/or plastic tie straps shall never be used as a lockout device.

Test Start

Once equipment has been locked out and tagged, the “authorized worker” shall ensure all personnel and tools are clear, then test (bump) start the locked out equipment as a final check to ensure that the lockout is successful.

Work on operating equipment (Other Control Methods)

On occasions, it may be necessary to work on equipment that remains operating, because the procedure of a lockout would prohibit the completion of specific tasks, such as lubrication, tool changes, minor cleaning, clearing, troubleshooting, adjustments, inspections and set up.

In addition, lockout may also affect tasks that are essential to production. In order to be considered essential to production, maintenance tasks are to exhibit the following characteristics.

- Of short duration
- Relatively minor in operation
- Occurs frequently during the shift or production day
- Usually performed by operators
- Represent pre-determined cyclical activities
- Have minimum interruption of the production process
- Exist even when optimal operating levels are achieved
- Require task specific personnel training

The option of not performing a lockout is only justifiable if;

- It is not reasonably practicable to render the equipment inoperative

The process which arrives at a decision not to perform lockout includes the carrying out of a risk assessment, which concludes that existing safeguards are adequately controlled against hazardous energy to which workers are exposed. A risk assessment may identify that other methods are required to adequately control any hazardous energy, such as blocks, racks, support or pin, and where such device is needed, it should be designed and built using appropriate safety factors.

The risk reduction techniques are listed below, with examples, in order of preference;

- Elimination (design)
- Substitution (with less hazardous materials or substances)
- Engineering controls (guards, hold to run device, area scanning, pressure mats)
- Administrative controls (information, instruction and training, warnings/alerts)
- Personal Protective Equipment

Restoration to Service

The process for returning equipment to service is just as important as the lockout process. All personnel shall apply the following steps when returning equipment to service:

- Check that all work has been completed. This is particularly important in the case of a group lockout.
- Ensure all tools, parts, equipment, debris, and personnel are clear of the work area.
- Close any open pressure relief valves or bleed lines, and ensure the integrity of any impacted fitting or piping connections.
- Where possible, remove blocking. In some cases, removal of blocking may have to wait until power is restored.
- Remove blanks and blinds from lines.
- Replace guards and shields.
- Ensure that the controls are off and stay off while locks are removed. Use a second worker to assist in this process, if necessary.
- Allow each worker to remove their individual locks.
- Replace electrical fuse or reset breaker.
- Warn all affected workers, put on safety glasses and/or face shield, stand clear, turn face away and turn power on.
- Warn all affected workers prior to function testing. Test operator controls and equipment operation.
- Remove all lockout tags from the system.

The equipment is now considered in-service and the lockout concluded.

3.15 CONTROL OF HAZARDOUS ENERGY

Purpose

To manage the control of hazardous energy and to safely protect workers and the environment.

General

The Main types of energy sources are:

1. Electricity
2. Hydraulic Energy
3. Pneumatic Energy
4. Potential Energy
5. Kinetic Energy
6. Thermal Energy
7. Chemical Energy

Employees and/or contractors who are required to utilize the lockout/tag out procedure (Safe Work Practice 3.14) must be knowledgeable of the different energy sources and the proper sequence of shutting off or disconnecting energy means.
More than one energy source may be utilized on some equipment and the proper procedure must be followed.

Procedures

Electricity
Electricity is a common energy source and can be isolated in a number of ways:

- Shut off and lock the breaker.
- Pull and lock the plug.
- Shut off and lock then generator.
- Pull and lock all fuses.
- Ground/discharge capacitors.

Hydraulic Energy
Hydraulic energy (fluid under pressure) is another energy source that may need to be isolated. Hydraulic energy can be isolated in the following ways:

- Lower moving parts to lowest energy position (if work to be done requires parts to remain in a raised position, and then the parts must be securely blocked).
- Shut down and lock out the prime mover for the pump.
- Open pressure bleed lines and lock them open.
- Blind/block pipe ends or flanges upstream of work to be done.
- Close and lock hand wheels, butterfly valves, or ball valves upstream of the work.

Pneumatic Energy
Pneumatic energy is air (other than gas) under pressure. Compressed air can be a hazardous source of energy. Compressed air systems can be isolated in the same way that hydraulic systems are. Care must be taken to ensure that all residual compressed air is bled from the system after isolation is in place and prior to maintenance work commencing.
Note: Some oil and gas processing facilities utilize compressed natural gas for instrument and valve operation. The following isolation precautions must be applied:

- Isolate the gas supply.
- Open pressure bleed lines and lock them open.

3.15 Control of Hazardous Energy- Continued

- Ensure that the atmosphere is safe to conduct the work activity, and continually monitor the atmosphere to identify any change in conditions.

In the event that a process system containing any substances under pressure is to be serviced, repaired, tested, adjusted, or inspected, the flow must be stopped or regulated to a safe level, and the location at which the work is to be carried out must be isolated and secured.

All hazardous flammable or toxic products and inert non-hazardous products over 350 kpa pressure must have:

- Installation of clearly marked and identified blinds/blanks or
- Double block and bleed system of isolation between the work and any source of pressure or source of hazardous products. The isolation valve system must provide a double set of seals with a bleed-off between the seals. All sealing units must be secured in the closed position, and the bleed-off systems must be secured in the open position. All bleed-off systems must be monitored for flow and piped to a safe location that will not endanger the workers.

Inert non-hazardous products under 350 kpa pressures must have:

- Installation of clearly marked and identified blinds/blanks or
- Single block and bleed system of isolation from all sources of pressure.

3.16 RESPIRATORY PROTECTIVE EQUIPMENT

Legislation

In part 18 section 244(1) of the Alberta OH&S code an employer must determine the degree of danger to a worker at a work site and whether the worker needs to wear respiratory protective equipment.

Dobbyn Electric strives to protect the health and safety of our employees. Whenever possible, suitable engineering or administrative controls will be used to prevent an exposure to harmful chemicals, dust or reduced oxygen in the air. When the atmosphere has or may have an oxygen concentration of less than 19.5 percent by volume or a worker is or may be exposed to an airborne bio hazardous material.

In Part 18 section 244(2) of the code it states in making a determination under subsection (1), the employer must consider:

- The nature and exposure circumstances of any contaminants or bio hazardous material, the concentration or likely concentration of any airborne contaminants, the duration or likely duration of the worker's exposure, the toxicity of the contaminants, the concentration of oxygen, the warning properties of the contaminants, and the need for emergency escape.

When DES employees are working for a company that may expose our employees of any of the above circumstances, DES will make sure our, employees are provided with the appropriate equipment and will ensure that it is properly fitted for each individual employee and is maintain and stored appropriately. Each employee that is working in such environment will have to perform an emergency escape plan that will be documented on their Job Hazard Assessment form.

Proper Selection of Respiratory Equipment
All personnel who may be required to use respiratory protective equipment shall be properly trained in the selection, use and care of all the types of respiratory protective equipment which they may be expected to use in their work activities.
Supplied Air Respirator Systems (SCBA, SABA)

SCBA (self-contained breathing apparatus) or SABA (supplied air breathing apparatus) must be used in work tasks or in emergency situations when breathing atmosphere is made toxic by any substance including, but not limited to:

- Presence of hydrocarbon gas
- H2S concentrations above 15 ppm (Alberta)
- The concentration of oxygen is less than 19.5% by volume.

Air Purifying Respirators

Air purifying respirators work on the principle of removing contaminants from the air but cannot be used:

- When the breathing atmosphere contains less than 19.5% oxygen.
- When the toxicity of the breathing space exceeds the protection factor of the respirator.
- For protection against Hydrogen Sulphide.

The following is the colour coding standard for air purifying respirator cartridges:

Black	-	Organic Vapors (hydrocarbons)
White	-	Acid gases (which combined with water in human tissue will form an acid)
Green	-	Ammonia, Methylamine
Yellow	-	Organic vapors and acid gases
Purple	-	HEPA (High Efficiency Particulate Air) filter

3.17 USE OF EYE PROTECTION

General

All employees are required to use safety glasses provided on all projects undertaken by Dobbyn Electric.

Safe Operating Steps

- Safety Glasses will be equipped with side shields and retainer straps provided by Dobbyn Electric.

3.18 WOOD POLE TRANSPORT ON TRAILER – (Revised, 2017)

General

Wood poles hauled on trombone trailer will be adequately secured for transport, with ratchet straps at two points, front and rear of the load.

Safe Operating Steps

- Total overall length of truck and trailer will not exceed 30.5m (100ft) with effective rear overhand maximum of 6.5 m.

- Any pole load that extends 1.5m or more beyond the rear of trailer will be marked with a highly visible marker 30cm x 30cm (12" x 12") red or orange in color.

- Any Pole load that requires a marker will have a highly visible light operating when transporting at night.

3.19 Loads Secured

As per Alberta Commercial Vehicle Safety Regulation Section 17(4). Cargo transported by a vehicle shall be contained, immobilized or secured so that it cannot leak, spill, blow off, fall or otherwise be dislodged or shift upon or within a vehicle to the extent that the vehicle's stability or manoeuvrability is adversely affected.

Vehicle shall not exceed posted road speed limited.

3.20 - Fall Protection Plan- working at heights

The Management of Dobbyn Electric is committed to the health and safety of its employees. DES requires fall protection plan be implemented for a worker at the work site if a worker at the worksite may fall 3 meters or more and then worker is not protected by guardrails.

DES ensures that the fall protection plan is available at the work site and is reviewed with workers before work with a risk of falling begins.

DES ensures that the plan will be updated when conditions affecting fall protection change.

A fall protection plan must specify

a) The fall hazards at the worksite,
b) The fall protection system to be used at the work site,
c) The anchors to be used during the work,
d) That clearance distances below the work area, if applicable, have been confirmed as sufficient to prevent a worker from striking the ground or an object or level below the work area,
e) The procedures used to assemble, maintain, inspect, use and disassemble the fall protection system, where applicable, and
f) The rescue procedures to be used if a worker falls and is suspended by a personal fall arrest system or safety net and needs to be rescued.

If the task requires fall protection, Dobbyn Electric will provide employees with a CSA approved and up-to-date fall arrest equipment. This is to include safety harness, lifeline, anchor systems and lanyard.

In all cases, fall hazards will be eliminated where practicable, or controlled through use of restraint equipment in conjunction with aerial work platforms, scaffolding or safety harnesses. Workers are fully trained and familiar with equipment utilized for fall protection for restraint, and safety harness usage. Fall protection is required where workers are exposed to a potential fall of 3m (10ft) or greater.

All fall restraint/safety harnesses are inspected regularly and inspections are documented. Fall restraint/safety harnesses are inspected & checked before each use for wear/tear and damage.

Defective, worn or damaged fall protection equipment must be removed from service and either returned to the manufacturer or destroyed, or if it has come into contact with excessive heat, a chemical, or any other substance that may corrode or otherwise damage the fall protection system.

Mandatory Fall Protection

All supervisors and workers must make themselves familiar with Part 9 of the OH&S code on *Fall Protection* which outlines the circumstances where fall protection is required.

Fall protection application applies where a worker is exposed to any of the following hazards:

a. Working at a vertical distance of 3 meters or more,
b. Working at a vertical distance of less than 3 meters if there is an unusual possibility of injury, or
c. Into or onto a hazardous substance or object, or through an opening in a work surface.

Always remember that if you are not certain of what type of fall protection is required for a particular situation, ask your supervisor for direction.

3.20.1 Fall Protection Policy

- Engineering controls such as guardrails are the best method of fall protection.
- Guard rails and toe boards shall be installed at the open edges. Guard rails shall be highly visible.
- A standard guardrail consists of a top rail located between 92cm (36in) and 107 cm (42 in) above the work surface, and a mid-rail that is spaced midway between the top rail and the work surface.
- Supporting posts to be not more than 3m apart at their centers.
- A guardrail must be capable of supporting a worker who may fall against it.
- Where there is a hazard that tools or objects may fall from or through a floor opening or hole, a toe board that extends from the floor of the platform or other raised area to a height of not less than 125mm shall be installed.
- The platform of every scaffold shall be at least 480mm wide and securely fastened in place.
- Every scaffold shall be capable of supporting at least 4 time load that will be imposed on it.

No elevating device shall be used or operated with a load in excess of the load that it was designed and installed to move safely.

In the event of the hiring client's fall protection plan, requirements may be more stringent than Legislated requirements, that being said all DES employees must meet and follow all fall protection requirements of the client's job sites.

Note: The information contained in this policy does not take precedence over applicable Government legislation with which all employees should be familiar.

3.20.2 Fall Arrest Rescue Plan/ Working at Heights

Job Site Hazard Assessment will be performed on each project prior to work commencement, equipment and procedures identified to minimize hazards.

In addition, if working at heights, an established rescue plan will be followed should a worker become suspended by fall restraint equipment. Fall protection is required where workers are exposed to a potential fall of 3m (10ft) or greater.

When operating Ariel equipment, an operator must wear a fall protection harness with a lanyard attached. They must tag off on the hook which is located on the boom of the truck. Each Ariel device is equipped with lower controls, which will allow for the ground worker to bring down the boom and bucket if a fall should occur. In the rare case, of an employee working alone, each employee is provided with a cell phone that they must keep on their person at all times when working at heights (also see section 4.15 working alone) and will make any other personal on the ground aware of them working above 3 meters.

When working on a roof top of a building, DES will provide the necessary equipment to perform the job safely, such as an anchor, which will be installed on the roof where a worker can then tie off. After completing a job an employee will make sure to uninstall any permitted fixtures we may have had to install to ensure work was performed safely.

Clearance Distance

A total fall distance if the distance required to fully arrest a fall should consist of the following:

a. Free-fall distance, which should be kept to 1.5 meters (5 feet) or less, and

b. Fall-stopping distance, which includes the stretch in the lanyard, lifeline and slack in the harness (Max 30cm or 1 foot due to allowable adjustments for user's comfort) and deployment of the energy absorber(Max 1.1 meters or 42 inches).

A free fall distance is measured from the D-ring of a worker standing on the work surface down to the point where either the lanyard or the energy absorber begins to arrest the fall. To minimize free fall, workers should tie off to an anchor overhead and use a short lanyard as the work will allow.

Company Policy on Working at Heights Rescues

The implementation and maintenance of a safe work environment is the collective responsibility of all employees, contractors, subcontractors and visitors to the jobsite. It is Dobbyn Electrics policy to provide prompt medical treatment when a worker is injured on the jobsite. To do this, workers may have to perform a working at heights rescue to bring down a worker who has fallen and is suspended in a safety harness.

This procedure applies to all managers, supervisors, forepersons, employees, subcontractors, and visitors of a jobsite.

Purpose of Working at Heights Rescues

When a worker falls and is suspended in a harness, it's important to rescue him or her as quickly as possible because of the following reasons.

- The worker may have suffered injuries during the fall and may need medical attention.
- When workers are suspended in their safety harnesses for long periods, they may suffer from blood pooling in the lower body. This can lead to suspension trauma.
- Suspended workers may panic if they are not rescued quickly.
- The event that led to the fall may create additional risks that need to be addressed.

Emergency Planning

The three main parts of emergency planning are:

1) Training
2) Creating an emergency plan
3) Outlining rescue procedures

1) Training

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

Train a designated crew to perform the rescue. This crew must know how to use the equipment that is available to them at the jobsite and where they can find it. Workers are fully trained and familiar with equipment utilized for fall protection for restraint, and safety harness usage.

2) Emergency Response Plan

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

Note: It's important to know your role.

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

3) Rescue Procedures

The following rescue procedures are ordered (A) through (C).

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

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

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

1. If the fallen worker is suspended from a lifeline, move the worker (if possible) to an area that rescuers can access safely with a ladder.
2. Set up the appropriate ladder(s) to reach the fallen worker.
3. Rig separate lifelines for rescuers to use while carrying out the rescue from the ladder(s).
4. If the fallen worker is not conscious or cannot reliably help with the rescue, at least two rescuers may be needed.

5. If the fallen worker is suspended directly from a lanyard or a lifeline, securely attach a separate lowering line to the harness.
6. Other rescuers on the ground (or closest work surface) should lower the fallen worker while the rescuer on the ladder guides the fallen worker to the ground (or work surface).
7. Once the fallen worker has been brought to a safe location, administer first aid and treat the person for suspension trauma and any other injury.
8. Arrange transportation to hospital if required.

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

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

Post-Rescue Procedure

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

The site supervisor and health and safety representative should

- Begin the accident investigation.
- Quarantine all fall-arrest equipment that may have been subjected to fall fatigue effects and/or shock loading for further investigation.
- Secure the area (the OHS requires that an accident scene not be disturbed where a fatal or critical injury has occurred).
- Determine whether or not the jobsite-specific rescue and evacuation plans were followed as designed.
- Record modifications or additions to the plans that the rescue team deems necessary.
- Record all documented communications with fire, police, and other contractors involved.
- Record all documented statements from employees, witnesses, and others.
- Save all photographs of the incident.
- Record all key information such as dates, time, weather, general site conditions, and specific accident locales including sketches of the immediate incident area, complete with measurements if applicable.

Emergency Contacts

Raelene Nelson - Safety Officer 403-236-8877 or 403-498-7848
Darren Dobbyn – Manager/Owner 403-236-8877 or 403-888-3435
Tom Dobbyn – Lightening Protection Division Manager/Owner 403-278-4441 or 403-888-3406
Neal Barker - Service Manager 403-236-8877 or 403-312-3672

3.20.3 Fall Protection Assessment and Checklist

Fall Protection Assessment & Checklist

Date:
Job Site
Address
Muster Point:
Date
Work description:
Fall hazards at the worksite:
Fall protection systems to be used:
Fall protection systems to be used:
Anchors to be used:
Clearance distances below work area (if applicable):
Procedures used for fall protection system:
Assemble -
Maintain -
Inspect -
Disassemble -
Rescue Procedures:

Workers trained in fall protection equipment ☐

Tool Box meeting to inform workers ☐

Supervisor's Signature _____

3.20.4 Scaffolding and Temporary Structures

No employee shall use a temporary structure unless he/she has been trained and instructed in its safe and proper use. Please read and understand Part 23 Scaffolds and Temporary Work Platforms in the Occupational Health & Safety Code.

Load Limits

A competent worker must ensure that a scaffold is designed and constructed to support at least 4 times the load that may be imposed on it and must ensure that the load to which a scaffold is subjected never exceeds the equivalent of one-quarter of the load for which it is designed to handle. If a scaffold that is used to carry the equivalent of an evenly distributed load of more than 367 kilograms per square meter then DES must have a professional engineer design and certify the scaffold. DES will ensure that all workers that will be performing work on a scaffold are informed of the maximum load that the scaffold is permitted to carry.

Tagging Requirements

DES will ensure that all workers that will be working on scaffolding understand the tagging requirements. All color coded tags will be placed at each point of entry indicating its status and conditions.

- A green tag will say “Safe for Use”, or similar wording, which indicates that it is safe to use.
- A yellow tag will say “Caution: Potential or unusual Hazard”, or similar wording, which indicates that the presence of a potential or unusual hazard may occur if used.
- A red tag will say “Unsafe for Use”, or similar wording, which indicates it is NOT safe to use.

Prior to a work shift a qualified person shall make a visual safety inspection of every temporary structure to be used during that shift.

When an inspection reveals a defect or condition that adversely affects the structural integrity, **no** employee shall use it until the defect or condition is remedied. A worker must not use a scaffold if it has a red tag, a green or yellow tag that has expired or has no tag at all. Every elevating device and every safety device attached thereto shall be inspected and tested by a qualified person to determine that the prescribed standards are met. When using a vertical ladder on a scaffold you must ensure that the ladder gives you access to a working level of a scaffold is used to only move up and down between levels and a worker must not extend a part of their body, other than an arm beyond the side rails of the ladder and must maintain a three point stance on the ladder at all times. A worker must ensure the ladder is attached securely to the scaffold and does not lean away from the scaffold. It must extend at least 1 meter above the upper most working level and is equipped with a ladder cage that begins within 2.4 meters of the ground or working level if the ladder is more than 6.1 meters in height. A ladder cage is not required if a fall protection system is in place.

Procedures

Keep Safety in mind from start to finish. Please follow the safe operating procedures listed below well working on a scaffold or elevated work platform.

- Learn the maximum load for the type of scaffold you are using before you start work
- Making sure ground is level for the scaffold
- Ground can support the weight of the scaffold and its load with a good margin of safety
- Always erect the scaffold according to the recommended safe work procedure and manufacturer’s specifications

- Making sure scaffold will be clear of all overhead electrical lines, obstacles, or equipment.
- Design the scaffold in such a manner that prevents slips, trips and falls.
- Stabilizing and securing the scaffold
- All workers must make sure to properly secure tools and materials to avoid dropping them onto workers below.
- Using a fall protection plan in setup. (See section 2.7 in the safety manual for proper use of fall protection)
- Check that the scaffold is securely anchored
- Use ladders or stair units, not the cross braces or end frames, to climb the scaffold
- Use accessories as they were intended
- Keep within the rated load limits
- Climb first, and then use a line or hoist to bring tools and materials up
- Do not modify a scaffold or use makeshift devices to increase height
- Get help to move a scaffold and then carefully inspect it again
- Never move a rolling scaffold when workers are on the structure

Scaffolding is a very useful tool. It can be a helpful work saver. Properly erected scaffolding can also reduce many on the job safety hazards. Make sure that your scaffolding is well built, inspected regularly and tagged. Otherwise safety hazards will result.

Site foreman to visually inspect all scaffolding and temporary structures.

Site Inspection for Scaffolding and Temp Structures

Date:	Insp. done by:	
	Pass	Pulled
Cross Arms secured	☐	☐
Platforms level and secured	☐	☐
All Sections Pinned	☐	☐
Inspection Tag - Expiry Dated and Signed	☐	☐
Lanyard Attachments in Place	☐	☐
Wear and Tear - Elevating Device/Safety Device	☐	☐
Operators Manual - accessible	☐	☐
Corrective Actions:		

3.21 - Handling and Storage of Combustible Products

All hazardous, flammable or toxic products must be clearly marked and stored appropriately in designated areas. With proper handling and monitoring of these areas by properly trained personnel. Waste material contaminated with a solvent, oil, grease, paint or other flammable substance shall be placed in covered containers before disposal and shall not be stored in work areas. Each container will be pick up by an independent disposal company and discarded appropriately.

Compressed gas cylinders are to be used and maintained by authorized subcontractors in accordance with their policies.

All hazardous, flammable or toxic products over 305 KPA pressure must be clearly marked and stored appropriately.

Internal combustion engines are handled and maintained by authorized subcontractors in accordance with government and manufactures specifications.

3.22 - Handling and Storage Compressed Gas Cylinders

An employer must ensure that welding or allied process equipment is erected, assembled, started, operated, used, handled, stored, stopped, maintained, repaired and dismantled in accordance with the manufacture's specifications.

An employer must ensure

1) Compressed or liquefied gas containers are used, handled, stored and transported in accordance with the manufacturer's specifications.
2) The cylinder of compressed gas is not stored in the same room as a cylinder of compressed oxygen unless storage arrangements are in accordance with Part 3 of the Alberta Fire Code (1997).
3) All piping and fittings are protected from damage during handling, filling, storage and transportation.
4) Compressed or liquefied gas cylinders are equipped with a valve protection system /cap if manufactured with a means of attachment.
5) All tanks and attachments/apparatus are kept free of oil and grease.

3.23 Exothermic Welding

See Attached Pages (10).

CADWELD® Exothermic Welding Manual

WARNING

1. ERICO products shall be installed and used only as indicated in ERICO product instruction sheets and training materials. Instruction sheets are available at www.erico.com and from your ERICO customer service representative.
2. ERICO products must never be used for a purpose other than the purpose for which they were designed or in a manner that exceeds specified load ratings.
3. All instructions must be completely followed to ensure proper and safe installation and performance.
4. Improper installation, misuse, misapplication or other failure to completely follow ERICO's instructions and warnings may cause product malfunction, property damage, serious bodily injury and death.

GENERAL AND SAFETY INSTRUCTIONS:

A. Only ERICO manufactured equipment and materials should be used to make CADWELD® connections.

B. Do not connect items except as detailed in instruction sheets. Failure to comply with these instructions may result in improper and unsafe connections, damage to items being connected, bodily injury and property damage.

C. Do not use worn or broken equipment which could cause leakage.

D. Do not alter equipment or material without ERICO authorization.

E. When using CADWELD® do not use welding material package if damaged or not fully intact. When using CADWELD® PLUS, do not tamper with or disassemble the welding material unit.

F. Make connections in conformance with CADWELD instructions and all governing codes.

1. Personnel should be properly trained in the use of this product and must wear safety glasses and gloves.
2. Avoid contact with hot materials.
3. Advise nearby personnel of welding operations in the area.
4. Remove or protect fire hazards in the immediate area.
5. Provide adequate ventilation to the work area.
6. Do not smoke when handling starting material.
7. Avoid direct eye contact with "flash" of light from ignition of starting material.

G. Welding material is an exothermic mixture and reacts to produce hot molten material with temperatures in excess of 1400°C (2500°F) and a localized release of smoke. These materials are not explosive. Ignition temperatures are in excess of 900°C (1650°F) for welding material.

H. Adhering to the CADWELD welding procedures will minimize risk of burns and fire caused by hot molten material spillage. In case of fire, use of water or CO_2 will aid in control of burning containers. Large quantities of water will aid in controlling a fire should the exothermic materials become involved. Water should be applied from a distance.

1. Make sure there is proper mold fit and assembly of equipment.
2. Avoid moisture and contaminants in mold and materials being welded. Contact between hot molten metal and moisture or contaminants may result in spewing of hot material.
3. Base material thickness must be sufficient for the size and type of connection being made to prevent melt-through and leakage of hot molten metal.

I. Applications or conditions may exist which require special considerations. The following are examples, but are not intended to be a complete listing of applications/conditions.

CONNECTIONS TO PIPE/VESSELS

For use with cast iron pipe or heavy casting meeting ASTM A47-84, A48-83, A126-84, A278-85, or A377-89. DO NOT USE ON CAST IRON SOIL PIPE (ASTM A74-93). Evaluate possible effects of CADWELD connections to structural members and thin-wall materials; vessels/piping systems that are pressurized, closed or containing (or having contained) flammable/explosive/hazardous materials. Evaluation should be made prior to use, based on conditions of use and applicable codes, and should incorporate as a minimum, effects of melt-through of hot material; structural/metallurgical effects of CADWELD connections, pressure (temperature) build-up and fire/chemical decomposition hazards.

CONNECTIONS TO REBAR

Application of the CADWELD connection may have an effect on the rebar's structural integrity. The rebar's chemistry and the location of the weld should be considered before making any welds to the rebar. For lapped rebar splices, it is recommended that the connections be made near the bar end at an area of minimum stress. If CADWELD Rebar Splices are used, the grounding connection can be made to the splice sleeve with minimal effect on the structural characteristics of the splice.

SAFETY INSTRUCTIONS:

All governing codes and regulations and those required by the job site must be observed. Always use appropriate safety equipment such as eye protection, hard hat, and gloves as appropriate to the application.

WARRANTY

ERICO products are warranted to be free from defects in material and workmanship at the time of shipment. NO OTHER WARRANTY, WHETHER EXPRESS OR IMPLIED (INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE), SHALL EXIST IN CONNECTION WITH THE SALE OR USE OF ANY ERICO PRODUCTS. Claims for errors, shortages, defects or nonconformities ascertainable upon inspection must be made in writing within 5 days after Buyer's receipt of products. All other claims must be made in writing to ERICO within 6 months from the date of shipment or transport. Products claimed to be nonconforming or defective must, upon ERICO's prior written approval in accordance with its standard terms and procedures governing returns, promptly be returned to ERICO for inspection. Claims not made as provided above and within the applicable time period will be barred. ERICO shall in no event be responsible if the products have not been stored or used in accordance with its specifications and recommended procedures. ERICO will, at its option, either repair or replace nonconforming or defective products for which it is responsible or return the purchase price to the Buyer. THE FOREGOING STATES BUYER'S EXCLUSIVE REMEDY FOR ANY BREACH OF ERICO WARRANTY AND FOR ANY CLAIM, WHETHER SOUNDING IN CONTRACT, TORT OR NEGLIGENCE, FOR LOSS OR INJURY CAUSED BY THE SALE OR USE OF ANY PRODUCT.

LIMITATION OF LIABILITY

ERICO excludes all liability except such liability that is directly attributable to the willful or gross negligence of ERICO's employees. Should ERICO be held liable its liability shall in no event exceed the total purchase price under the contract. ERICO SHALL IN NO EVENT BE RESPONSIBLE FOR ANY LOSS OF BUSINESS OR PROFITS, DOWNTIME OR DELAY, LABOR, REPAIR OR MATERIAL COSTS OR ANY SIMILAR OR DISSIMILAR CONSEQUENTIAL LOSS OR DAMAGE INCURRED BY BUYER.

Fig. 1
Always wear protective safety glasses and gloves while working with CADWELD® exothermic welding products.

Fig. 2
Gather the proper materials and equipment for the type of connection you are making. The typical CADWELD system requires a graphite mold, handle clamp, welding material, natural bristle brush for mold cleaning, wire brush for cleaning/preparing conductors, flint igniter, and propane torch.

NOTE: Additional materials may be required for your specific application. Refer to your mold instructions. Advise nearby personnel of welding operations in the area prior to ignition.

Fig. 3
Check to ensure the graphite mold is not worn or broken, which could cause leakage of molten weld metal during the reaction.

Fig. 4
Inspect the mold ID tag to ensure that it corresponds to the application, indicated by the:

1. mold part number
2. conductor size
3. welding material required
4. other materials required

The mold must be correct for the conductor size and application. **DO NOT MODIFY MOLDS.**

Fig. 5
Remove the small wire bracket which is used to temporarily hold the mold together before using. Set the bracket aside.

Fig. 6
Slide the handle clamp into the pre-drilled holes with the proper orientation for the thumbscrews.

Fig. 7
Tighten the clamp thumbscrews onto the mold.

Fig. 8
Close the grips to tightly lock the mold. Check for an appropriate seal on the mold.

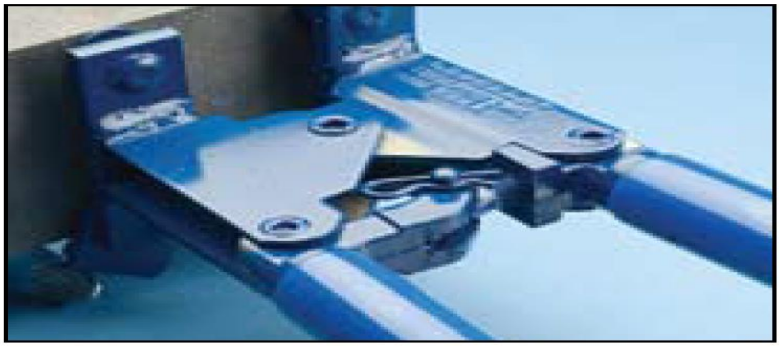


Fig. 9
If the mold does not seal properly, make adjustments to tighten/loosen the handle clamp.

Fig. 10
Graphite absorbs moisture. Ignite the propane torch and dry out the inside of the mold thoroughly on both sides, heating the mold to approximately 250 degrees Fahrenheit (120 degrees Celsius).

Fig. 11
The conductors should be clean and dry before the connection is made. Use a propane torch to dry wire conductors and remove remaining cleaning residue, solvent, or water before making the CADWELD® connection.

Fig. 12
Next, use a wire brush to further prepare the surface of the conductors (CADWELD T-313 or T-314 brush). Scrape the outer surface to remove dirt and oxidation. You will notice a slight color change.

Fig. 13
Insert the conductors and position them for the connection.

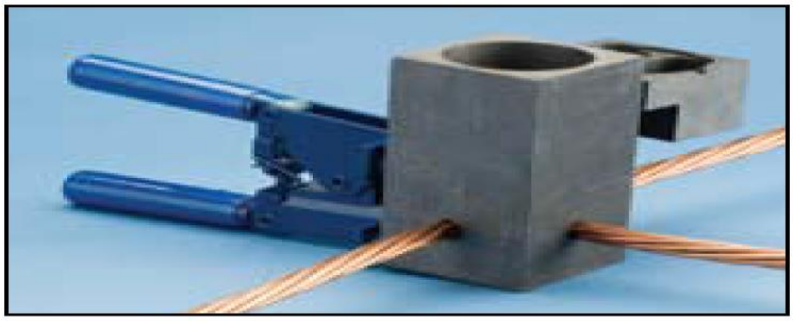


Fig. 14
Close the clamp tightly once the conductors are properly positioned.

Fig. 15
Steel disk found inside the packaging box of welding material.

Fig. 16
Insert the steel disk (concave side up) into the mold. Hold the steel disk on the side of the mold and let it slide into place.

Fig. 17
Ensure that the steel disk is properly seated.

Fig. 18
Next, take a tube of properly sized welding material (as identified on the mold ID tag) out of the box.

Fig. 19
Remove the lid over the mold crucible.

Fig. 20
Quickly pour the loose welding material powder into the mold.

Fig. 21
The bottom of the tube contains compressed material (starting material). Tap the bottom of the tube a couple of times to loosen this material.

Fig. 22
Pour 1/4 to 1/3 of the starting material over the welding material in the mold crucible.

Fig. 23
Close the lid and pour the remaining 3/4 to 2/3 of the starting material into the slot on the mold cover.

NOTE: Welding material is an exothermic mixture and reacts to produce hot molten material with temperatures in excess of 2500 degrees Fahrenheit (1400 degrees Celsius) and a localized release of smoke. Avoid looking directly at the "flash" of light from ignition of starting material. Avoid inhalation of smoke/fumes.

Fig. 24
Aiming the flint igniter from the side, ignite the starting material on the mold cover. Withdraw the igniter quickly to prevent fouling.

Allow approximately 30 seconds for completion of the reaction and solidification of the molten material.

Fig. 25
Open the mold and remove the connection. Use care to prevent chipping the mold. Avoid contact with hot materials. Refer to the "Installers & Inspectors Section (Appendix A)" to see whether a quality connection has been made.

Fig. 26
Completed CADWELD® connection.

Fig. 27
CADWELD graphite molds will last approximately 50 connections. Use a soft cotton cloth or a soft bristle brush (ERICO® part #T394) to clean inside the mold cavity and cover.

Fig. 28
You are ready to make another CADWELD connection.

3.24 Traffic Control

Dobbyn Electric will protect workers and the public by providing appropriate means of temporary traffic control when conducting work on or along roadways.

Dobbyn Electric will provide in- house training to our employees in regards to residential streets, if needed we will send employees for further training. Other City road ways will be contracted out to a professional Traffic Control company. Work on roadways, are conducted only between the hours of 9 am and 3 pm and after 7 pm.

Procedures for conducting work on city roads will goes as followed:

1. Management to conduct a pre-job inspection to identify what type of traffic control is required.

2. If work is to be conducted on or alongside a major artery or intersection, the city must supply traffic control plan and traffic control such as lane closures.

3. If work is to be conducted on or alongside a minor artery, DES will supply a plan for traffic control to the City of Calgary for approval.

4. If work is to be conducted on a residential street with minimal traffic, DES will supply a plan for traffic control to be approved and utilized internally.

Training of DES employees Includes familiarity with the following:

- Job role and responsibilities
- Clothing & Equipment requirements
- Environmental Factors (such as Weather)
- Job Basics (such as taking control position and laying out signs and pylons etc.)
- Practices and Procedures (how to slow or stop traffic)
- Communication and emergency preparedness
- Traffic Control following the Alberta Occupational Health and Safety Code Part 12.

<u>Some Types of Traffic Control</u>

- Lane closures using barricades.
- Lane closures using traffic cones placed in the road tapering back to safe distance for workers
- Warning Signs
- Designated persons directing traffic
- Use of flashing beacons available on all DES trucks.
- Use of arrow boards on DES trucks.
- Re-routing traffic.

3.25 Overhead Power lines – (Added New, 2017)

Dobbyn Electric is committed to reduce the number of accidental electrical equipment contacts but will assist workers to work safely in close physical proximity of electrical lines and equipment and assist the workers in applying appropriate emergency response measures in the event of an electrical utility contact.
Workers operating machinery in the vicinity of electrical equipment be trained in this Code of Practice and will follow all legislation pertaining to overhead power lines. DES workers will be familiar with and can demonstrate safe work practices and standards of their respective industries. Any Code of Practice is site specific and therefore a worksite hazard assessment must be completed first to determine the nature of the hazards present.

In the event of Power pole support. DES will ensure that work that disturbs the ground in the vicinity of an overhead power line is performed in a manner that does not reduce the original support provided for power line poles. DES must contact the power line operator before work is done or equipment is operated within 7.0 meters of an energized overhead power line, to determine the voltage of the power line and to establish the appropriate safe limit of approach distance listed in schedule 4 of the OH&S manual.

Schedule 4 Safe Limit of Approach Distances
[See sections 225, 226]

Table 1 Safe limit of approach distances from overhead power lines
For persons and equipment

Operating voltage between conductors of overhead power lines	Safe limit of approach distance for persons and equipment
0-750 volts Insulated or polyethylene covered Conductors (1)	300 millimeters
0-750 volts Bare, uninsulated	1.0 meter
Above 750 volts Insulated conductors (1) (2)	1.0 meter
750 volts -40 kilovolts	3.0 meters
69 kilovolts, 72 kilovolts	3.5 meters
138 kilovolts, 144 kilovolts	4.0 meters
230 kilovolts, 260 kilovolts	5.0 meters
500 kilovolts	7.0 meters

Notes:
(1) Conductors must be insulated or covered throughout their entire length to comply with this group
(2) Conductors must be manufactured to rated and tested insulation levels.

3.26 Crystalline Silica

Purpose
The purpose of the Crystalline Silica Management is to set a minimum standard and to provide operational guidance for controlling worker exposure to silica.

Scope
This Crystalline Silica Management applies to all Dobbyn worksites and work activities where crystalline silica may be present.

Process Requirements Practice

What is Crystalline Silica? Silica is one of the most abundant minerals on earth and makes up nearly all of what we call sand and rock. Silica exists mostly in crystalline (structured) form; and a small proportion exists in amorphous (not structured) form. Many types of crystalline silica exist, with quartz being the most abundant. Other types of crystalline silica include cristobalite and tridymite. Airborne crystalline silica can be generated when silica-containing material is chipped, cut, drilled, ground, or blasted. The respirable fraction (very small particles) of crystalline silica can be readily inhaled and deposited in the alveolar region (deep region) of the lung where it may cause illness.

What are the Health Effects?
Exposure to respirable crystalline silica can lead to the development of lung disease. Silicosis (scarring of the lung) can develop over an extended period of time (15–20 years) following exposure to low concentrations of silica dust, or it can develop after a few months of high exposures. Silicosis can be debilitating or even fatal. Due to reduced lung function, people suffering from silicosis are also prone to other lung diseases such as tuberculosis. Additionally, crystalline silica is known to cause cancer.

Crystalline Silica Management Program
As a result of the health risks associated with worker exposure, all Dobbyn worksites where crystalline silica is present require a silica management program. The silica management program must be implemented by the respective asset team and shall consist of the following items:

- Recognition of crystalline silica on site
- Pre-job hazard assessment for crystalline silica
- Control of airborne crystalline silica
- Health assessment
- Training

Recognition and Evaluation of Crystalline Silica
Crystalline silica exposure can occur in a variety of work environments depending on the products used and the activities conducted. Exposure to crystalline silica may be a concern in the following areas:

- Drilling operations (e.g. cementing operations, handling of mud additives)
- Construction (e.g. concrete cutting, jack hammering, sweeping)
- Road construction
- Handling solid desiccants
- Abrasive sand blasting

Exposure to crystalline silica is regulated in Alberta and Saskatchewan. The occupational exposure limits (OELs) are as follows:

Table 1: Occupational Exposure Limits to Crystalline Silica

Jurisdiction	Crystalline Silica (mg/m3)	
	Cristobalite	Quartz
Alberta	0.025	0.025
Saskatchewan	0.05	0.05

When working with crystalline silica in the absence of engineering controls the airborne concentrations are often many times the OELs.

Pre-Job Hazard Assessment
When working with products containing crystalline silica, a pre-job hazard assessment is required. Exposure to silica should be maintained as low as reasonably achievable. All affected workers (i.e. the work crew and other workers in the surrounding area) must be included in the pre-job hazard assessment and in the identification and control of crystalline silica.

Control of Airborne Crystalline Silica
Dobbyn will reduce workers' exposures to crystalline silica at Dobbyn worksites by ensuring control strategies are implemented in the following order, and in combination where necessary:
1. Elimination/substitution
2. Engineering controls
3. Administrative controls
4. Personal protective equipment (PPE)

First Aid Measures

Inhalation: No specific first aid is necessary since the adverse health effects associated with inhalation of respirable crystalline silica result from chronic exposures. If there is a gross inhalation of product, remove the person immediately to fresh air. Get medical attention if persons feel unwell.

Ingestion: If large amounts of product are swallowed, get immediate medical attention. Eye Contact: Immediately wash eyes with large amounts of water, lifting the upper and lower lids occasionally. If irritation persists or for imbedded foreign body, get immediate medical attention.

Skin Contact: Dermal contact with this product should not affect the skin. Wash exposed skin with soap and water before breaks and at the end of the work shift.

Elimination/Substitution
If practical and feasible, a silica-free or low-silica product should be chosen over a product containing crystalline silica, provided the substitute material has no greater health, safety and/or environmental impacts.

Engineering Controls
Engineering controls are mechanical processes used to eliminate or minimize exposure to crystalline silica by removing the dust from the air or providing a barrier between the worker and the hazard. Examples of engineering controls include:
- Local exhaust ventilation
- Dust suppression (e.g. wet cutting, wet abrasive blasting)
- Dust control additives
- Barriers or enclosures restricting or isolating work activities
- Automated processes

Administrative Controls
Where airborne crystalline silica is anticipated, work practices shall be implemented to reduce potential exposure. These include but are not limited to:

- Educating workers of the hazards associated with crystalline silica. Workers must participate in training and monitoring programs.
- Practicing good hygiene – workers must not eat, drink or use tobacco products in areas where crystalline silica is present. The hands and face should be washed before eating, drinking or smoking.
- Conducting pre-job hazard assessments.
- Erecting conspicuous signage to inform workers of the hazard and limiting access to authorized persons only.
- Providing a method to protect workers from contamination (see personal protective equipment below) or to decontaminate the workers post-contamination (e.g. HEPA-vacuum cleaners).
- Positioning workers upwind of silica generating equipment or material.
- Having an inspection and maintenance schedule for engineering controls used to reduce exposure.

Personal Protective Equipment

Personal protective equipment (PPE) includes protective clothing and respirators. Protective Clothing: The purpose of using protective clothing is meant to prevent contamination of regular clothing and the transportation of silica-containing materials from the workplace. Clothing that is contaminated with silica dust should therefore not be worn home without cleaning.
Respiratory Protection: Engineering controls and workplace practices can minimize airborne silica dust. However, there are situations where concentration of silica cannot be lowered to below the occupational exposure limit and workers must use respirators. The careful selection, training, use, care and maintenance of respirators must be considered where respiratory protection is required.

Respirator Requirements

Operations	Respirator Required
Type 1 (> 0.05 to 0.50 mg/m3 of silica in the form of cristobalite and tridymite) (> 0.10 to 1.0 mg/m3 of silica in the form of quartz and tripoli) • The drilling of holes in concrete or rock that is not part of a tunneling operation or road construction. • Milling of asphalt from concrete highway pavement. • Charging mixers and hoppers with silica sand or silica flour. • Any other operation at a project that requires the handling of silica-containing material in a way that may result in a worker being exposed to airborne silica. • Entry into a dry mortar removal or abrasive blasting area while airborne dust is visible for less than 15 minutes for inspection and/or sampling. • Working within 25 meters of an area where compressed air is being used to remove silica-containing dust outdoors.	Half-mask particulate respirator with N-, R-, or Series filter and 95, 99 or 100 per cent efficiency.
Type 2 (> 0.50 to 2.5 mg/m3 of silica in the form of cristobalite and tridymite) (> 1.0 to 5.0 mg/m3 of silica in the form of quartz and tripoli) • Removal of silica containing refractory materials with a jackhammer.	Full-face piece air-purifying respirator with any 100- series particulate filter. Tight-fitting powered air purifying respirator with any 100-series particulate filter. Full-face piece

• The drilling of holes in concrete or rock that is part of a tunneling operation or road construction. • The use of a power tool to cut, grind, or polish concrete, masonry, terrazzo or refractory materials. • The use of a power tool to remove silica-containing materials. • The use of a power tool indoors to chip or break and remove concrete, masonry, stone, terrazzo or refractory materials. • Tunneling (operation of the tunnel boring machine, tunnel drilling, and tunnel mesh installation). • Tuck-pointing and surface grinding. · Dry method dust clean-up from abrasive blasting operations. • Dry mortar removal with an electric or pneumatic cutting device. • The use of compressed air outdoors for removing silica dust. • Entry into area where abrasive blasting is being carried out for more than 15 minutes	supplied-air respirator operated in demand mode. Half-mask or full-face piece supplied air respirator operated in continuous-flow mode.
Type 3 (> 2.5 mg/m3 of silica in the form of cristobalite and tridymite) (> 5.0 mg/m3 of silica in the form of quartz and tripoli) • Abrasive blasting with an abrasive that contains ≥ 1 per cent silica • Abrasive blasting of a material that contains ≥ 1 per cent silica	Type CE abrasive-blast supplied air respirator operated in a positive pressure mode with a tightfitting half-mask face piece. Type CE abrasive-blast supplied air respirator operated in a pressure demand or positive pressure mode with a tight-fitting full-face piece.

Note: It is recommended that compressed air that is used to supply supplied air respirators meet the breathing air purity requirements of CSA Standard Z180.1-00. Where oil-lubricated compressor is used to supply breathing air, a continuous carbon monoxide monitor/alarm should be provided.

Training

Training is important component in preventing worker exposure to silica. Therefore, minimum training requirements for workers handling or who may be exposed to silica include:

- WHMIS training
- Respiratory protection training
- JSA training

Section 4 - Standard Operating Procedures

4.22 Sub-Contractor Management Plan

4.22.1 Subcontractor Safety Manual Verification
4.22.2 Subcontractor Performance Review

4.23 Electrical Awareness Training

4.24 Exothermic Welding

4.25 Safe Vehicle Positioning/Backing Procedure

4.1 Installing New Flat Glass Luminaire

Purpose

To install new flat glass luminaire in a safe and environmentally responsible manner by assessing and controlling hazards.

Procedure

1. Have crew familiarize themselves with site hazards, overhead wire, and traffic and ground conditions by conducting a site hazard assessment followed by a tail-gate safety meeting for crew.
2. Inspect all equipment to ensure proper working condition prior to use including hydraulic lines and fittings to guard against leakage. The use of drip trays/pads are to be utilized at possible leakage or drip locations.
3. Use Bucket Truck as per manufacturer specifications.
4. If work is conducted on roadway, ensure traffic control people are available to ensure worker safety.
5. Use fall protection equipment in bucket and rotating beacons on truck.
6. Remove old style Cobra Head fixture from pole and disconnect wiring. Secure wires at top of pole to ensure they do not drop down pole.
7. Take Cobra Head fixture to ground man and have him hand you the new Flat Glass Luminaires.
8. Install new Luminaire on pole and fasten securely.
9. Level Luminaire and square with street.
10. Set to proper voltage.
11. Isolate/ Disconnect wire at hand hole if working on wiring.

Hazards

Traffic
Overhead wires
Falling out of bucket
Objects falling
Hydraulic Fluid Leak

Controls

Flag man for traffic control
Mandatory use of fall protection gear
Standing under objects prohibited
Inspect hydraulic lines and fittings
Use drip trays/pads at possible leakage/drip locations
Use traffic safety “always” be aware of vehicles

4.2 Installing Pre-Cast Concrete Bases

Purpose

To install new pre-cast concrete bases in a safe and environmentally responsible manner by assessing and controlling hazards.

Procedure

1. Pick up bases at city yard and transport to job site.
2. Ensure site “underground locates” have been done (obtain copy) and reviewed by crew.
3. Conduct a site hazard assessment followed by a tail-gate safety meeting for crew.
4. Inspect all equipment to ensure proper working condition prior to use including hydraulic lines and fittings to guard against leakage. The use of drip trays/pads are to be utilized at possible leakage or drip locations.
5. Determine location of base in print and on site with survey stakes (minimum of 2 offset stakes with clear and specific elevations properly marked).
6. Use Auger Truck with proper sized bit to dig hole to pre-determined depth as per manufacturer specifications.
7. Use Auger winch-line and angle base lifters together with lifting straps (rated for 6,000 lbs.) to lift base into hole. Base is then lifted and dropped five or six times to tamp hole bottoms. Base is then leveled and positioned perpendicular to curb and road.
8. When base is properly adjusted (so it is 6 inches above finished grade it then can be back-filled and tamped with hydraulic tamper.
9. 4 inch opening on base to face road side.

Hazards

Objects dropping
Base falling
Falling into hole
Overhead lines
Hydraulic Fluid Leak

Controls

Check equipment before use
Be aware of all hazards and discuss prior to commencing work
Inspect Hydraulic lines and fittings
Use drip trays/pads at possible leakage/drip locations

4.3 Installing Street Light Davits

Purpose

To install Street Light Davits in a safe and environmentally responsible manner by assessing and controlling hazards.

Procedure

1. Transport out street light davits to work site un-assembled.
2. Conduct a site hazard assessment followed by a tail-gate safety meeting for crew.
3. Inspect all equipment to ensure proper working condition prior to use including hydraulic lines and fittings to guard against leakage. The use of drip trays/pads are to be utilized at possible leakage or drip locations.
4. Assemble two sections of street light pole at job site where it will be erected.
5. Install #12 RW 90 conductors in street light pole and mount 400 watt HPS Luminaires (comes with lamp) on pole and terminate ground wire to pole bolt in hand hold.
6. Auger truck erects Street Light Davits Pole and fits bases over bolts extending up from pre-cast concrete base. At hand hold install in-line fuse-holders and fuses and connect to underground street light feeds.
7. Ensure pole is straight and level and tighten nuts appropriately. The double nut to ensure no loosening of it.

Hazards

Pole falling
Rope breaking
Object falling
Hydraulic Fluid Leak

Controls

Do not stand under objects overhead
Check ropes before use
Inspect hydraulic lines and fittings
Use drip trays/pads at possible leakage/drip locations

4.4 Installing Overhead Wiring & Span Guy-Wire

Purpose

To install overhead wiring and span guy- wire in a safe and environmentally responsible manner by assessing and controlling hazards.

Procedure

1. Conduct a site hazard assessment followed by a tail-gate safety meeting for crew.
2. Inspect all equipment to ensure proper working condition prior to use including hydraulic lines and fittings to guard against leakage. The use of drip trays/pads are to be utilized at possible leakage or drip locations.
3. Use Bucket Truck as per manufacturer specifications.
4. Use light beacons or barricades to protect employees and work area.
5. Use safety harness and tether line when in bucket
6. Do not over extend to work on something out of reach.
7. Ground man never to walk under bucket.
8. Dead-end triplex at first pole with a wedge grip, through-bolt and clevis.
9. Move to second pole, use hand winch to jack Triplex up to pole top clevis.
10. When proper sag is achieved attach to clevis with wedge grip.
11. Repeat procedure for entire length of overhead wiring.

Hazards

Falling out of bucket
Objects falling
Traffic
Hydraulic Fluid Leak

Controls

Use fall protection gear
Do not stand under objects overhead
Check ropes before use
Inspect Hydraulic lines and fittings
Use drip trays/pads at possible leakage/drip locations

4.5 Installing Wood Poles

Purpose

To install wood poles in a safe and environmentally responsible manner by assessing and controlling hazards.

Procedure

1. 1st Call locates for utilities. **Must be done before anything is started!**
2. Check for overhead power lines or other hazards by conducting a site hazard assessment followed by a tail-gate safety meeting for crew.
3. Inspect all equipment to ensure proper working condition prior to use including hydraulic lines and fittings to guard against leakage. The use of drip trays/pads are to be utilized at possible leakage or drip locations.
4. Use Auger to drill hole.
5. Need at least 2 man crew.
6. Ground man to stay clear of boom and stand with his side to Auger (in case of bolt flying off).
7. Use Auger Truck to stand pole.
8. Check winch line for signs of wear.
9. Do not walk under boom or pole being lifted.
10. Do not overextend when tamping in deep hole.
11. Ensure the crane operator will not move boom until ground man gives word.

Hazards

Pole falling
Objects falling
Rope Breaking
Hydraulic Fluid Leak

Controls

Do not stand under objects overhead
Check lines/ropes before use
Follow ground man signals
Inspect hydraulic lines and fittings
Use drip trays/pads at possible leakage/drip locations

4.6 Vehicle and Equipment Re-Fueling

Purpose
To fuel equipment in a safe and environmentally responsible manner by assessing and controlling hazards.

Procedure
When possible, fuelling should be conducted at commercial transfer locations. In the event that fuelling must occur on work-site location, these steps must be followed:

1. Assess possible hazards primarily for threat of spill/leakage and ignition sources.
2. Vehicle and equipment must be turned off to control ignition sources.
3. The use of cell phones while fueling is strictly prohibited.
4. The transfer of fluid must always be directly supervised and transferred by an approved pump.
5. Spill kits must be accessible.
6. The use of drip trays/pads are to be utilized at possible leakage or drip locations.
7. Fueling or maintenance of equipment must not take place with 30 meters of water ways, storm sewer system or environmentally sensitive areas.

Hazards
Ignition sources including static causing explosion /fire.
Spill or leakage causing pollution

Controls
Shut off / remove all sources of ignition
Smoking prohibited
Ensure person fuelling equipment is grounded and does not touch metal surfaces
Spill kits accessible
Drip trays to be used
Fuel containers must be properly labeled
Fuelling must not take place anywhere where contamination to waters or environmentally sensitive areas is possible

4.7 Chemical Management

Purpose

To store fuel in safe and environmentally responsible manner by assessing and controlling hazards.

Procedure

1. Assess possible hazards primarily for threat of spill/leakage and ignition sources.
2. Flammable fluids must be stored in special areas, away from heat, spark, and flame, direct rays of sun and in a location where flammable vapors cannot be communicated to open flame.
3. When flammable liquids must be stored inside building, approved safety cans must be used.
4. Volatile or flammable liquids must be carried on a vehicle transporting workers unless such materials are carried in an isolated compartment or an inside compartment separated from all persons by a firewall.
5. The use and storage of all chemicals and dangerous goods must be in compliance with municipal, provincial and federal laws and regulations, manufacturer's instructions and the relevant Material Safety Data Sheet.
6. Stored Fuel quantities will be kept to a minimum on work sites.
7. Stored fuel must be contained in a drip tray to prevent spills/leakage.
8. Fire extinguishers and spill kits must be readily available.
9. Fueling or maintenance of equipment must not take place with 30 meters of water ways, storm sewer system or environmentally sensitive areas.
10. Workers must not enter or remain in a work area if more than 10% of the lower explosive limit (LEL) of an explosive substance is present in the atmosphere.

Hazards

Ignition sources including static causing explosion /fire
Spill or leakage causing pollution

Controls

Shut off /remove all sources of ignition
Smoking prohibited
Spill kits accessible
Drip trays to be used
Fuel containers must be properly labeled

4.7.1 H2S - Exposure

Purpose

As per AB OHS Code - Part 4 Sec 16 and Sec 21 - an employers must ensure that a workers exposure to H2S is kept as low as reasonably achievable. An employer must ensure that a workers exposure to H2S does not exceed its occupational exposure limit of 10 ppm over an 8 hour period.
A worker may not be exposed to h2S at a concentration exceeding a limit of 15 ppm at any time.
Workers must be informed of health hazards associated with exposure and informed of measurements made, and trained in procedures developed by the employer to minimize workers exposure as per Section 21 of the code.

Procedure

As per Work Safe H2S - The Killer

Follow these 7 steps.

1) Evacuate immediately – up-wind in a safe location.
2) Sound alarm – notify of H2S release and as much information as possible about leak.
3) Assess situation. Do a head-count. And consider other hazards.
4) Protect rescue personnel. Shut down plant. Start ventilation plans.
5) If safe and necessary start rescue plan.
6) Revive victim until help arrives.
7) Get medical aid.

4.8 Rigging / Lifting Loads

Purpose

To conduct rigging and lifting of loads in a safe and environmentally responsible manner by assessing and controlling hazards.

Procedure

1. Have crew familiarize themselves with site hazards, overhead wire, and traffic and ground conditions by conducting a site hazard assessment followed by a tail-gate safety meeting for crew.
2. Inspect all equipment to ensure proper working condition prior to use including hydraulic lines and fittings to guard against leakage. The use of drip trays/pads are to be utilized at possible leakage or drip locations.
3. The manufacturer shall supply all lifting devices with documentation that defines permissible operating conditions, design criteria, documentation of testing, maintenance requirements and examination and inspection requirements.
4. Name one man to act as signalman and instruct the equipment operator to recognize signals from the person only. The signal man must be careful not or order a move until he has received the “all ready” signal from each member of the crew. Identify the signalman by the use of distinctive vests, armlets, etc.
5. Each rigger must be sure he is in the clear before he gives an “all ready” to the signalman. Release sling/ choker if possible before you give the “all ready” signal.
6. Ensure the load is secured in such a way that it cannot move around.
7. The load is positioned such that is easy and safe for the receiver to handle the material when unloading the load carrier.
8. Ensure that multi-leg chain slings are not crossed when attached to load.
9. If the sling or choker must be held in position, ensure hand is clear of pinch points. Hands must be far enough away to eliminate the possibility of frayed wire catching a glove and jerking hand into a pinch point. (Frayed cables are to never be used).
10. Always observe load and watch for roll or swing. It is very difficult to position hook exactly over the load centre. Always expect swing and work away from and anticipate the direction or the swing.
11. Never be between material, equip0ment or any stationary object and load swing. Stay away from stacked material that may be knocked over. Never stand under the load or the boom.
12. Check and remove unnecessary blocks or other objects that might fly up if struck by the load. Set the load down easily and slowly so that if it rolls on the blocking it will be a slow shift and therefore allow for personnel to get out of the way.
13. Use tag lines to control the leads.

Hazards

Traffic
Overhead wires
Objects falling
Injury from swing
Environmental damage due to swing
Hydraulic fluid leak

Controls

Flag man for traffic control
Signalman to instruct operator
Standing under objects prohibited
Standing between objects and load prohibited
Stay clear of pinch points
Inspect hydraulic lines and fittings
Use drip trays/pads at possible leakage/drip locations

4.9 Vehicle / Equipment - Operation and Maintenance

Operation

<u>All truck/equipment which have seatbelts/safety harnesses – must be used at all times of equipment operation.</u>

Employer must ensure that electrical equipment shall be of a type and rating approved for the specific purpose for which it is to be used. All equipment with moving parts must be guarded with manufacture's guards properly installed before usage.

Only competent persons may operate powered mobile equipment. All vehicles and equipment is visually inspected daily prior to usage and defects observed and reported as per maintenance program followed and repairs are done as required before truck is returned to duty to ensure that they are safe and will not cause damage or pollution to the environment. Seatbelts are required to be used on all powered mobile equipment fitted with rollover protection (ROPS).Operators are protected from falling objects by an overhead cab or guard.

All powered mobile equipment is secured against unintentional movement when not in use and store in lock-down mode with site foremen or site supervisor in control of keys. The brakes should be set and wheel blocks must be used when on sloping or uneven ground. Elevated parts such as buckets or forks must be lowered to the ground to help and prevent further movement.

Maintenance

The maintenance program covers all electrical contracting equipment, personal protective equipment, electrical hand tools, service vehicles, bucket trucks and auger trucks. Inspection is always conducted by trained maintenance personnel.

1. Employer must ensure that electrical equipment shall be of a type and rating approved for the specific purpose for which it is to be use.
2. Tools, equipment and machinery are kept up to standards in part 25 of the Occupational Health and safety code.
3. All equipment is inspected monthly regardless of usage and inspected and maintained prior to each use. Tools are kept in a tool crib with deficiency repair list.
4. All vehicles are serviced regularly as per preventative maintenance schedule and documented as to specific work done, location or service work and price of servicing. Service records for vehicles are kept in a truck maintenance binder, recording all dates, mileage and work done.
5. When an employee finds any defective tool or machine that may render it unsafe for use, he shall report the defect to his employer as soon as possible. The employer will mark or tag as unsafe and remove tool or machine from service that has a defect that may render it unsafe for use.
6. All repair parts and tools shall be stored in designated areas. Repairs/maintenance to be done only by authorized/qualified personnel, and equipment with guards removed must be locked out tagged out before maintenance/repairs are started.
7. All tools/equipment is maintained as per manufactures specs. Any tampering with guards, safety features is not allowed. Extension and power supply cords are maintained in a safe condition.
8. All defective electrical components are immediately removed from service. All tools/equipment is inspected and monitored to maintain manufactures warranty.

Log Books /Pre/Post Trip Inspections

1. As per Federal Commercial Vehicle Drivers Hours of Service and the Provincial Driving Regulation requirements - a driver's work shift shall not exceed 13 hours driving time in a day or to drive after being on duty for 15 consecutive hours, or after 14 hours of accumulated on duty time in a day.
   No motor carrier shall request, require or allow a driver to drive and no driver shall drive if the drivers faculties are impaired to the point where it is unsafe for the driver to drive, driving would jeopardize or be likely to jeopardize the safety or health of the public. The driver is the subject to an out-of-service declaration, or the driver in doing so would not be in compliance with these regulations.
2. Dobbyn services Calgary and surrounding area.
3. Truck log books are required for any unit over 11,794 kg.
4. When no defects are detected during an inspection, the person conducting the inspection shall record that fact on the pre inspection report.
5. A person conducting an inspection shall record on the inspection any defects to the motor carrier or a person appointed by the motor carrier prior to the next required inspection.
6. All DES Vehicles/Equipment will have a Bi-weekly Inspection performed.

4.9.1 Deficiency Truck Inspection

Bi-Weekly Equipment/Vehicle Inspection Checklist

Unit#: _____ Name of person doing the inspection: _____ Date: _____
Mileage: _____

Rating Legend: **P-** Passed in good working condition, **M-** Passed but maintenance required
R – Rejected - Repairs needed before returning to service, **NA-** not applicable to this unit.

DRIVER'S COMPARTMENT	RATING	REMARK/CONDITION	Date Completed Deficiencies
Sun Visors			
Windshield Wipers			
Side Windows			
Pedal Pads			
Seats/Seatbelts			
Speedometer			
Horn/Switches			
Windshield Defroster			
Beam Indicator			
Accelerator Pedal/Air Throttle			
Mirrors			
Windshield			
Interior Lights			
Air Pressure Gauge			
Clutch			
BODY EXTERIOR	**RATING**	**REMARK/CONDITION**	
Headlamps			
Tail Lamps			
Marker Lamps			
Trailer Hitch			
Trailer Cord			
Outriggers			
Clearance Lamps			
Stop Lamps			
Hazard Lamps			
Secondary Attachments			
Paint			
Grease Boom (AT/BT)			
Operator Controls-Top and Bottom			
Headache Rack			
Bucket/Auger Straps/Slings			
Turn Signal Lamps			
Reflectors			
Fenders/Mud Flaps			
Body/Doors/Bumpers			

UNDER THE HOOD	RATING	REMARK/CONDITION	Date Completed Deficiencies
Engine Oil			
Transmission Fluid			
Fan Shroud			
Windshield Washer Fluid			
Battery and Wiring			
UNDERCARRIAGE	**RATING**	**REMARK/CONDITION**	
Leakage			
BRAKES/TIRES/WHEELS	**RATING**	**REMARK/CONDITION**	
Power Steering Fluid			
Brake Fluid			
Tire Pressure			
Tire Wear			
Park/Emergency Brakes			
Brake Operation			
Air Brakes			
SAFETY EQUIPMENT	**RATING**	**REMARK/CONDITION**	
Fall Protection- Harness			
Lanyards			
Fire Extinguishers			
Pylons			
Spill Kits			
MISC.	**RATING**	**REMARK/CONDITION**	
Ladders			

Follow Up on Deficiencies:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Reviewed By: _____ Date: _____

4.10 Erosion and Sediment Control

Purpose

To control erosion and sediment on jobsites from contaminating storm drains, water sources and environmentally sensitive areas by assessing and controlling hazards.

Procedure

1. Comply with all applicable and adhere to requirements in the current edition of “the City of Calgary Guidelines for Erosion and Sediment Control” to ensure protection of water bodies, storm water, public and private property and the environment.
2. For sites less than 2 hectares which involve disturbance of soil require a minimum or good housekeeping practices to ensure sediment does not leave the site or enter onsite or adjacent storm sewers.
3. “Wastewater” should be contracted to determine requirements if the site is adjacent to a water body, is located on steep slopes or is adjacent to environmentally sensitive areas for sites less than 2 hectares which involve disturbance of soil.
4. Sites greater than 2 hectares in size require and Erosion & Sediment Control Report to be approved by “Wastewater”. “Wastewater’s” Erosion & Sediment Control Coordinator must be notified prior to project start-up (268-2655) to discuss requirements.
5. Divert clean runoff away from exposed soils or un-stabilized areas.
6. Minimize the area of disturbed ground that is exposed to erosion at any one time.
7. Control erosion at the source by preventing soil detachment and transportation.
8. Provide sufficient capture and storage to contain sediment-laden runoff within site.
9. Monitor the effectiveness of controls regularly including during and after precipitation.
10. Plan for and implement emergency measures.
11. Correctly install, maintain and repair erosion and sediment controls.
12. Minimize and control wastewater discharge from surface water or groundwater removal, surface washing, grit blasting, saw cutting, washing vehicles, and any other activities that could result in discharge.
13. Remove all temporary erosion and sediment controls when no longer required and at the end of contract.

4.11 Material and Equipment Management

Purpose

To store materials and equipment in a safe and environmentally responsible manner, by assessing and controlling hazards.

Procedure

1. Assess possible hazards primarily for threat of spill/leakage and ignition sources.
2. Flammable fluids must be stored in special areas, away from heat, spark, and flame, direct rays of sun and in a location where flammable vapors cannot be communicated to open flame. Containers must be securely sealed to prevent vapor loss.
3. The use and storage of all chemicals and dangerous goods must be in compliance with municipal, provincial and federal laws and regulations, manufacturer's instructions and the relevant Material Safety Data Sheet.
4. Fire extinguishers and spill kits must be readily available.
5. Vehicles are to be removed from job sites and end of every work day.
6. Only required materials will be stored on jobsites and in designated areas.
7. Materials to be removed once no longer required or at the end of contract.

Hazards

Ignition sources including static causing explosion / fire
Spill or leakage causing pollution

Controls

Shut off / remove all sources of ignition
Smoking prohibited
Spill kits accessible
Drip trays to be used
Fuel containers must be properly labeled

4.12 - Waste Management and Reduction

General

The company should take into consideration the impact a product has on the environment before purchasing.

Preference should be given to products that minimally impact the environment and be made of re-cycled or renewable materials and are energy –efficient.

To manage and be accountable for disposal of waste in a safe and environmentally responsible manner.

Procedure

1. Employer must assign person for the co-ordination of project or site owner. Assign person to be accountable for proper disposal of wastes generated at work site.
2. Assess possible hazards, and follow through with proper inspection, collection and disposal of waste.
3. Project wastes and or scrap materials will be taken into consideration before work begins and waste will be handled, stored, transported and disposed of according to municipal, provincial and federal requirements.
4. Waste must be characterized, and recycled when possible.
5. Co-ordination with project or site owner for providing appropriate on site collection containers for debris. Then the removal of waste materials for disposal/re-cycle from work site. Employee's handling debris to be wearing appropriate PPE.
6. ISO 26000: 2010 guidelines to be followed for the use of construction materials with recycled content to be used when reasonably practical.
7. Retain copies of all waste records for materials disposed and recycled.
8. Provide appropriate on-site collection containers for debris and waste and removal materials regularly from worksite.
9. Dispose of waste material from projects to disposal sites designated for the appropriate material.
10. Ensure all proposed waste disposal sites are approved licensed landfills.
11. Do not burn or bury materials or waste.
12. Do not dispose of materials or waste into waterways, storm or sanitary sewers.
13. Dobbyn employee's will be trained and follow the City of Calgary Environmental Policies in the management of worksite waste.

4.13 – Substance Release Response and Reporting

Purpose

To respond and report any spills that may impact people or the environment.

Procedure

1. A corporate spill report is required for:
   i. Any spill or an undetermined volume or of any unrecoverable volume.
   ii. Any unrecovered spilled substance likely to contaminate surface or ground water
   iii. Ground water and or surface water contamination.
   iv. Release or spill that may result in odour complaints

2. Employer shall provide training on the requirements of handling and disposal of wastewater. All new employees receive training on handling and disposal of wastewater and reporting. Check site to determine if wastewater is hazardous or non-hazardous and implement remedial action.

3. Report release to prime-contractor, sub-contractor, police, fire and applicable government agencies in co-ordination with project or site owner prior to disposal of wastewater.
4. Assess adverse effects of the release
5. Implement remedial action.
6. Keep readily available a list of key contacts and phone numbers for reporting purposes.
7. Keep adequate quantities of absorbent material for spill containment.

4.14 – Environmental Training, Education and Awareness

Purpose

To ensure and demonstrate that employees and contractors are adequately trained, educated and competent to perform job tasks.

Procedure

1. Provide employee/ contractor orientations.
2. Training employees to follow ISO 26000:2010 guidelines concerning social responsibility for using environmentally friendly/re-cycled materials when available and reasonably practical. Train employees/contractors in the use of personal protective equipment and to follow conservation measures whenever possible.
3. Ensure employees possess and maintain all required tickets.
4. Issue employee warning reports for infractions to company rules.
5. Ensure employees/contractors have read and understand all company policies.
6. Ensure employees have been adequately trained in their job procedures.
7. Maintain company training records for employees and contractors.
8. Maintain employee/contractor records acknowledging training in the City of Calgary Environmental Policy and the Contractor Environmental Responsibilities Package. It is our mandate that the City of Calgary Environment Policy and the Contractor Environmental Responsibilities Package will be followed and communicated to employees and contractors.
9. Regular services of vehicles/equipment to help reduce greenhouse gases.
10. When equipment and trucks are not in use, they will be shut off to help reduce emissions and energy conservation.
11. Construction materials with recycled content should be used when reasonably practical to help reduce the impact on the environment and local habit when activities may affect them.
12. ISO 26000:2010 guidelines for water conservation measures should be used whenever possible. In the repair/upgrade of equipment for lesser environmental impact. To using a broom instead of a hose for cleaning purposes. Recycling / disposal of site waste responsibly.

4.15 –Working Alone

Purpose

A working alone procedure is the legislated responsibility of every employer. A working along procedure applies when:

- A worker is working alone at a site
- Assistance is not readily available if there is an emergency or the worker is injured or ill.
- Electronic/ phone communication devise for all person's working alone.
- If electronic devise is not available or communications is not practicable than there shall be a minimum of two persons on site.

Procedure

Low Risk Working Alone Procedure

1. Notify a "contact" of check –in times and locations of work.
2. If multiple travel routes are an option, then the route selected will also be noted.
3. If your arrival at check-in location delayed by more than 1 hour, you must notify your "Contact" of your new estimated time of arrival.

High Risk Working Alone Procedure

1. Notify a "contact" prior to departure and advice your "contact of your estimated time of arrival.
2. Notify a "contact" at time of arrival at location.
3. Assess the problem or job scope, notify your contact, discuss the nature of the problem or job, work procedure to be used, and any additional required safeguards, and provide an estimation of time you will be at location.
4. Notify "contact" when you are finished and ready to leave location and estimated time of arrival at next worksite, base or home.
5. Notify "contact" of arrival at next check point, base or home.
6. Notify "contact" if a delay is expected or if you are delayed for more than 1 hour.

4.16 Right to Refuse Unsafe Work

Purpose

Imminent danger is defined as:

- A danger that is not normal for that occupation
- A danger under which a person engaged in that occupation would not normally carry out the person's work.

Procedure

No worker shall:

- Carry out any work if, on reasonable and probable grounds, the worker believes that there exists an imminent danger to the health or safety of that worker.
- Carry out any work if, on reasonable and probable grounds, the worker believes that it will cause to exist an imminent danger to the health or safety or that worker or another worker present at the work site.
- Operate any tool, appliance, or equipment if, on reasonable and probable grounds, the worker believes that it will cause to exist an imminent danger to the health or safety of that worker or another worker present at the work site.

A worker must notify supervisor at the worksite of the reason for the work refusal.

A supervisor must investigate and take action to eliminate danger, record the worker's notification and give worker a copy of notification.

4.17 Fit for Work

Purpose

ES adheres to the following principles:

1) Employers have the responsibility to provide employees with a safe environment;

2) Employers have the right to require employees to show up to work both fit and ready to work.

DES will not allow seriously and visibly ill or overly fatigued employees to remain at work. It is the mandate of DES to promote a safe and healthy workplace for all employees.

Procedure

If an employee is visibly and seriously ill, they must notify supervisor immediately before commencement of work. Seriously ill is defined by uncontrollable coughing, visible infection or by obtaining a doctor's note.

If an employee is overly fatigued due to personal circumstances which may hinder a safe job performance, they must notify supervisor immediately before commencement of work.

In instances where illness or fatigue may hinder safe work of an employee and are obvious to employer, employee will be sent home.

4.18 Traffic Control

Purpose

To protect workers and the public by providing appropriate means of temporary traffic control when conducting work on or along roadways.

Procedure

2. Management to conduct a pre-job inspection to identify what type of traffic control is required.

2. If work is to be conducted on or alongside a major artery or intersection, the city must supply traffic control plan and traffic control such as lane closures.

3. If work is to be conducted on or alongside a minor artery, DES will supply a plan for traffic control to the City of Calgary for approval.

4. If work is to be conducted on a residential street with minimal traffic, DES will supply a plan for traffic control to be approved and utilized internally.

Some Types of Traffic Control

- Lane closures using barricades.
- Lane closures using traffic cones placed in the road tapering back to safe distance for workers.
- Use of flashing beacons available on all DES trucks.
- Use of arrow boards on DES trucks.
- Re-routing traffic.

Note: Work on roadways are conducted only between the hours of 9 am and 3 pm and after 7 pm.

4.19 Excavations and Trenching

Purpose

To conduct trenching and excavation when necessary in a safe and environmentally responsible manner by assessing and controlling hazards.

Procedure

1. Ensure site Underground locates have been done (obtain copy) and reviewed by crew.
2. Conduct a site hazard assessment followed by a tail-gate safety meeting for crew.
3. Inspect all equipment to ensure proper working condition prior to use including hydraulic lines and fittings to guard against leakage. The use of drip trays pads are to be utilized at possible leakage or drip locations.
4. As per hazard assessment remove support or safeguard all surface encumbrances located at the site that may create a hazard to site personnel.
5. Subsequent inspections may be required throughout the job in the event of:
    - After every rainstorm or other hazard increasing occurrence
    - As dictated by the activity taking place in the trench
    - When fissures, tension cracks, sloughing, under cutting, water seepage, bulging at the bottom or other similar circumstances occur.
    - When there is any change in the size, location or placement of the soil pile
    - When there is any indication of change or movement in adjacent structures
    - Where the competent person finds evidence of a situation that could result in a possible cave-in, indications of failure of protective systems, hazardous atmosphere, or other hazardous conditions, remove exposed employees from the hazardous area until safety measures are in place.
6. No site personnel shall be permitted underneath loads handled by lifting or digging, equipment. Associates shall be required to stand away from any vehicle4 being loaded or unloaded to avoid being struck by any spillage or falling materials.
7. When mobile equipment is operated adjacent to an excavation, or when such equipment is required to approach the edge of an excavation, and the operator does not have a clear and direct view of the edge of the excavation, a warning system shall be utilized such as barricades, hand or mechanical signals. If possible, the grade should be away from the excavation.
8. Where oxygen deficiency or a hazardous atmosphere exists or could reasonably be expected to exist, such as excavations in landfill areas or excavations in areas where hazardous substances are stored nearby, the atmospheres in the excavation shall be tested before workers enter excavations. Precautions such as proper respiratory protection or ventilation may be required.
9. When controls are used that is intended to reduce the level of atmospheric contaminants to acceptable levels, testing shall be conducted as often as necessary to ensure that the atmosphere remains safe.
10. Emergency rescue equipment, such as breathing apparatus, a safety harness and line, or a basket stretcher, shall be readily available where hazardous atmosphere conditions exist or may reasonably be expected to develop during work in an excavation. This equipment shall be attended while in use.

4.19 Excavations and Trenching - Continued

11. An employer must stabilize the soil in an excavation by shoring or butting back. Workers are to be made aware of the excavation through flagging, marking, safeguards or other appropriate and effective means. Workers are not allowed to enter an excavation unless sides are sloped and secured with bracing. Cutting back walls may be required to safe guard site.

12. Safe access to excavations may include by not limited ladders and ramps. Workers may not enter an excavation without a safe means of entering and leaving an excavation. Workers shall not work in excavations where there is accumulated water, or in excavations in which water is accumulating, unless adequate precautions have been taken to protect workers against the hazards posed by water accumulation. The precautions necessary to protect workers adequately vary with each situation, but could include special support or shield systems to protect from cave-ins, water removal to control the level of accumulating water, or use of a safety harness and lifeline.

13. If water is controlled or prevented from accumulating by the use of water removal equipment, the water removal equipment and operations shall be monitored by a competent person to ensure proper operation.

14. If excavation work interrupts the natural drainage of surface water (such as streams), a diversion ditches, dikes, or other suitable means shall be used to prevent surface water from entering the excavation, and to provide adequate drainage of the area adjacent to the excavation.

15. Daily inspections of excavations, the adjacent areas, and protective systems shall be made by a competent person for evidence of a situation that could result in possible cave-ins, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions. An inspection shall be conducted by the competent person prior to the start of work and as need throughout the shift. Inspections shall also be made after every rainstorm or other hazard-increasing occurrence.

16. Where the competent person finds evidence of a situation that could result in a possible cave-in, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions, exposed associates shall be removed from the hazardous are until the necessary precautions have been taken to ensure their safety.

17. Buried cables must be exposed by hand digging or other non-destructive techniques.

18. Excavated materials, materials stored on site, equipment storage debris or refuse piles must be kept a minimum of 1 meter away from excavated area.

19. If walls of excavation are cut back the soil must classified as “hard and compact soil”. The walls are sloped to within 1.5 metres of the bottom of excavation at an angle of not less than 30 degrees measured from the vertical. If the soil is “soft, sandy or loose” the walls are sloped from the bottom of the excavation at an angle of not less than 45 degrees measured from the vertical.

.

4.20 Confined Space Entry

Purpose

To protect workers against the hazards involved in confined spaces. This procedure establishes the controls and responsibilities for entering, working in, and exiting confined spaces.

Confined spaces are areas such as manholes, ducts, tanks, etc., which may potentially contain hazardous atmospheres or conditions.

Responsibilities

Management- Shall ensure that personnel under their direction maintain compliance with this procedure and shall ensure that only trained employees assume roles and perform work in confined spaces in accordance with DES confined space procedure. A periodic review of the overall effectiveness of the confined space procedure must be completed.

Supervisors- Shall be responsible for initiating and controlling this procedure on shift and ensure that the proper procedures for isolating all energy sources have been controlled. Supervisors must also ensure that entry supervisors are inspecting work spaces to ensure adherence to procedures.

Entry Supervisors- Be aware of hazards of the space to be entered, and signs, symptoms and consequences for exposure and specific space control procedures. Execute all requirements of this instruction before work begins within a confined space. Authorized entry into a confined space, when acceptable entry conditions have been met. Ensure that all personnel entering and leaving the confined space are accounted for. Terminate entry and cancel the permit if conditions warrant. Verify that rescue services have been identified and that means for summoning them are operable. Remove unauthorized individuals who enter or who attempt to enter the permit space during entry operations.

Entrants- Know the hazards that may be faced during entry, including information on the mode, sign or symptoms, and consequences of the exposure. Use all equipment as required by this Instruction and the specific permit space entry procedures. Communicate with the attendant as necessary to enable the attendant to alert entrants of the need to evacuate the space as required by this instruction and for attendant to be able to monitor status of entrants. Alert the attendant whenever:

- The entrant recognizes any warning sign or symptom of exposure to a dangerous situation, or
- The entrant detects a prohibited condition.

Exit from the confined space as quickly as possible whenever:

- Order to evacuate is given by the attendant or the entry supervisor.
- The entrant recognizes any warning sign or system of exposure to a dangerous situation, or the entrant detects a prohibited condition or an evacuation alarm is activated.

4.20 Confined Space Entry- Continued

Attendants- Know the hazards that may be faced during entry, including information on the mode, sign or symptoms, and consequences of the exposure. Be aware of the possible behavioral effects of hazard exposure in authorized entrants. Continuously maintain an accurate count of authorized entrants in the permit space and ensure that the means used to identify authorized entrants in the permit under this procedure accurately identifies who is in the permit space. Remain outside the permit space during entry operations until relieved by another attendant. Communicate with authorized entrants as necessary to monitor entrant status and to alert entrant of the need to evacuate the space if conditions warrant. Initiate onsite rescue procedures and if necessary, summon additional rescue and other emergency rescue services when self-rescue is not possible. Perform no duties that might interfere with his/hers ability to monitor and protect the authorized entrants. Monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space. Warn unauthorized persons to stay away and advise those who may have entered the permit space that they must leave. Inform authorized entrants and entry Supervisor of unauthorized persons.

General Rules

When practical, all confined spaces shall be permanently marked. A sign shall be installed at each opening of the confined space. Signs should contain **"DANGER- PERMIT REQUIRED CONFINED SPACE- DO NOT ENTER"**.

All confined spaces where there is an opening that can easily be walked into (floor opening, manhole openings, etc.) shall have a physical barrier (guardrail, gate, etc.)

When required, isolating energy sources to the confined space shall be performed in accordance with Lockout/Tag out Procedure.

If "hot work conditions exist, precautions shall be taken in accordance with DES hot work procedure. Cylinders of compressed gases are never permitted in a confined space.

No smoking is permitted in a Confined Space or near the entrance/exit area.

Air monitoring is required before entering any Permit Required Confined Space (PRCS).

Portable electrical equipment used in confined spaces, which have wet surfaces, shall be supplied power through a ground fault interrupter or be battery powered.

Confined Space Personnel

The following individuals are required when entry into a PRCS is necessary. Employees shall receive the appropriate level of training before entry into the confined space is permitted. Note: An attendant can also act as an entry supervisor if properly trained.

- Entry Supervisor
- Attendant
- Entrant(s)

4.20 Confined Space Entry- Continued

Procedure

Confined Space Entry Permit

Before entry is authorized the entry supervisor shall document the safety measures taken in order to enter the confined space be preparing a Confined Space Entry Permit (see attached).
Before entry begins, the entry supervisor identified on the permit shall complete and sign the entry permit to authorize entry. Acceptable entry conditions must be met in order for entry to be authorized.

The completed permit shall be made available at the time of entry to all authorized entrants, by posting it at the entry portal or by any other equally effective means; so that the entrants can confirm that pre-entry preparations have been completed.

The duration of the permit may not exceed the time required to complete the assigned task or job identified on the permit.

The entry supervisor shall terminate entry and cancel the entry permit when:

- The entry operations covered by the entry permit have been completed or
- A condition that is not allowed under the entry permit arises in or near the permit space.
- Canceled entry permits shall be retained for at least one year to facilitate the review of the PRCS program. Any problems encountered during an entry operation shall be noted on the pertinent permit so that appropriate revisions to the program can be made.

Air Testing

The atmosphere within the space will be tested to determine whether dangerous air contamination and/or oxygen deficiencies exist. Direct reading instruments, detector tubes, alarm only gas monitors and explosion meters are examples of monitoring equipment that may be used to test confined space atmospheres.

Employees who have successfully completed air0monitoring training for the type of monitor they will use shall perform the air testing. Air testing equipment shall be calibrated (bump tested using span gas) and certified according to the manufacturer's recommendations. Calibration records shall be kept.

The minimum parameters to be monitored are oxygen deficiency, LEL and. If applicable, contaminants that may be present which are over OH&S's PEL's. When testing for atmospheric hazards, first test for oxygen content, then for flammable gases or vapors and lastly for toxic gases of vapors. The initial air readings shall be recorded on the permit and kept at the work site for the duration of the job. The employees shall be able to review the testing results.

Prior to atmospheric testing, check air readings outside of the confined space to ensure proper operation of the instrument and that air readings are within normal ranges. Record air test readings on the permit.

Ait testing for Confined Spaces having a top entrance (manhole, tanks, etc.):

- From each entrance drop the sampling probe of the meter to the bottom of the space. Additionally, use other available openings which would facilitate air testing for that confined space.

4.20 Confined Space Entry- Continued

- Slowly raise the sampling probe, stopping at intervals of two feet to ensure that the atmosphere is not stratified. The rate of sampling shall be slowed to accommodate detector response due to the length of the sampling line and probe.
- Record air testing data on the confined space permit.

Air testing for Confined Space having a side or bottom man way (ducts, tanks, etc.):

- From each entrance, move the sampling probe of the meter to the opposite side of the space. Use rods, poles or other means to extend the probe to the opposite side of the space.
- Slowly test all areas inside the confined space. The rate of sampling shall be slowed to accommodate detector response due to the length of the sampling line and probe.
- Record air testing data on the confined space permit.

Upon initial entry, all areas that could not be tested from the man way shall be tested. Slowly test the areas with the sampling probe out in front of you, checking all areas that were missed.

If there are no non-atmospheric hazards present and if the pre-entry tests show there are no dangerous air contamination and/or oxygen deficiency within the space, entry into work within the space may proceed.

The atmosphere within the space shall be periodically tested as necessary to ensure no accumulation of a hazardous atmosphere. If conditions exist that could change the atmosphere of the confined space, it will be necessary to monitor the atmosphere continuously during occupancy. Air monitoring shall be performed at the actual work location in the confined space. The results of this monitoring shall be documented on the confined space permit, at a frequency established by the Entry Supervisor.

The workers will immediately leave the permit space when any of the gas monitor's alarm set points are reached as defined. After a suitable ventilating period, repeat the testing. Entry may not begin until testing has demonstrated that the hazardous atmosphere has been eliminated.

Entry Procedures

Each PRCS to be entered shall have specific procedures developed to ensure the safety of all affected personnel, including, but not limited to, the following:

- Specifying acceptable entry condition
- Isolating the permit space
- Purging, flushing or ventilating the permit space as necessary to eliminate or control atmospheric hazards,
- Providing pedestrian, vehicle, or other barriers as necessary to protect entrants from external hazards and
- Verifying that conditions in the permit space are acceptable for entry throughout the duration of an authorized entry.
- Retrieval and rescue equipment is required for entry into permit required confined spaces. The use of a harness is not required if it will create a greater hazard to the wearer.

Alternative Procedures

Alternative entry procedures may be used in the following circumstances:

- The only hazard posed by the permit space is an actual or potential hazardous atmosphere.

4.20 Confined Space Entry- Continued

- The employer can demonstrate that continuous forced air ventilation alone is sufficient it maintain the permit space safe for entry.
- The atmosphere within the space shall be continuously monitored to ensure that forced air ventilation is preventing the accumulation of a hazardous atmosphere.
- Training shall be provided to the employees who enter permit spaces under the alternative procedures and to the employer's representatives who verify that permit spaces are safe for entry under the alternative procedures.
- The attendant and Entry Supervisor are not required by the alternative Procedure as well as retrieval; and rescue equipment.
- The entry supervisor is responsible for documenting the basis for determining that all atmospheric hazards in the permit space have been eliminated or controlled through a certification that contains the date, the location of the space, any air sampling data to support this and the signature of the entry supervisor making determination. This certification shall be made available to all employees involved.

Reclassifying a Permit Required Confined Space

A space classified as a PRCS may be reclassified as a non-permit confined space:

- If the PRCS poses no actual or potential atmospheric hazards or if all hazards within the space are eliminated without entry into the space and without the use of forced ventilation, the permit space may be reclassified as a Non- Permit Confined Space for as long as the non-atmospheric hazards remain eliminated.
- If it is necessary to enter a PRCS to eliminate a hazard or to test for atmospheric hazards, such entry shall be completed under a confined space permit.
- Once the space is reclassified, it may be treated as a Non-permit Confined Space for the duration of the work being performed. The permit is no longer required as well as an attendant supervisor, retrieval and rescue equipment. Air monitoring should be conducted each day before entering the non-permitted space. Once a job is complete, the space reverts to a PRCS.
- The entry supervisor is responsible for documenting the basis for determining that all hazards in the permit space have been eliminated through a certification that contains the date, the location of the space, any air sampling data to support this and the signature of the entry supervisor making the determination (the use of a confined space entry permit will meet this requirement). The supervisor will sign on the permit that the space has been reclassified, as non-permit required. This certification shall be made available to all employees involved.

Confined Space Rescue

In the event of an emergency of any type in the confined space, entrants in the space shall evacuate as quickly as possible. Injured employees are encouraged to use self-rescue when applicable.

If rescue from within the confined space is required, the attendant should immediately call emergency services and give emergency service the location, the type of confined space, and the hazards associated with the space.

4.20 Confined Space Entry- Continued

Training

All personnel involved with confined space activities shall receive training consistent with their duties. Employees will receive training in order to acquire the understanding, knowledge and skills necessary for the safe performance of the duties assigned under this procedure.

Training shall be provided to each affected employee that may be designated as a supervisor, entrant or attendant:

- Before the employee is first assigned duties,
- Before there is a change in assigned duties,
- Whenever there is a change in confined space operations which presents a hazards to an employee who has not been previously trained and
- Whenever the employer has reason to believe that there are deviations from the confined space entry procedures or that there are inadequacies in the employee's knowledge or use of these procedures.
- The training shall establish employee proficiency in the duties required and shall introduce new or revised procedures, as necessary, for compliance.

Training content shall include:

- Duties of Entry Supervisor, Entrant and Attendants,
- DES Confined Space Procedures and other procedures relating to Confined Space entry (Lockout/Tag out, Hot Work, Etc.),
- Hazards of Confined Spaces
- Use of Air Monitoring Equipment
- Use of ventilation equipment
- Emergency action & rescue procedures
- Confined Space Entry Equipment, including Personal Protective Equipment.

4.21 Handling and Transporting Hazardous Substances

Purpose

To provide guidance and direction to employees, contractors and sub-contractors on the steps to be taken in developing, applying and enforcing the necessary measures for workers exposed to any hazardous substances and to ensure that exposure is kept as low as reasonably practicable and does not exceed occupational exposure limits.

Harmful Substances- Means a substance that, because of its properties, application, or presence, creates or could create a danger, including chemical or biological hazard, to the health and safety of the worker exposed to it.

General Requirements

1. DES will ensure that a worker's exposure to any substance listed in the respective provincial chemical substances listing is kept as low as reasonably practicable.
2. Workers must not enter or remain in a work area if more than 10% of the lower explosive limit (LEL) of an explosive substance is present in the atmosphere.
3. If no occupational exposure limit is established for a harmful substance present at a work site, DES will ensure that all reasonably practicable steps are taken to keep each worker's exposure to that harmful substance as low as reasonably practicable.
4. If a worker is exposed to a substance respective provincial chemical substance listing at a concentration that exceeds its 8 hour occupational exposure limit but is less than its 15 minute occupational exposure limit, DES will ensure that:
   - Each 15 minute period of exposure is followed by a period of at least 60 minutes during which the airborne concentration of the substance is at or below its 8 hour occupational exposure limit.
   - The worker cannot be subjected to more than 4 of the 15 minute periods of exposure in a continuous 24 hour period.
   - The 8 hour occupational exposure limit cannot be exceeded.
4. A worker may not be exposed to a substance listed in the respective provincial chemical substance listing at a concentration exceeding its ceiling limit at any time.
5. If no 15 minute occupational exposure limit or ceiling occupational exposure limit is listed for a substance in the respective provincial chemical substance listing, DES will:
   - Comply with the 8 hour occupational exposure limit.
   - Ensure that a worker's exposure to that substance does not exceed 3x the 8 hour limit for more than a total of 30 minutes during a continuous 24 hour period and 5x the 8 hour exposure limit or the concentration that is immediately dangerous to life and health, whichever is lower.

Exposure to Multiple Substances

DES will take all reasonably practicable steps to ensure that, if a worker is exposed to more than one substance listed in the respective provincial chemical substance listing during a single work shift and the toxicological effects have similar modes of toxic action, the valve of D in the formula.

$D = (C_1/T_1) + (C_2/T_2) + \ldots + (C_n/T_n)$

4.21 Handling and Transporting Hazardous Substance- Continued

Does not exceed 1, where C1, C2…Cn refer to the airborne concentrations during exposure to Contaminants 1, 2…n, and T1, T2…Tn are their respective occupational exposure limit valves Expressed in the same units as Cn.

Exposure during Shifts Longer than Eight Hours

1. If a worker is exposed to a substance listed in the respective provincial chemical substance listing during a single work shift that is longer than 8 hours, DES will ensure that equivalent protection from adverse health effects is achieved by adjusting the 8 hour exposure limit using the following formulas: adjusted exposure limit = 8 hour occupational exposure limit x daily reduction factor,

   Where daily reduction factor = (8/h x(24 hours/16) and h=hours worked per day.
2. Subsection (1) does not apply to a substance for which the number "3" appears in the "substance Interaction" column of the respective provincial chemical substance listing.

3. DES may adjust the 8 hour exposure limit by another method that uses recognized scientific principles that is approved by a Director of Occupational Hygiene.

Potential Worker Exposure

1. If a worker may be exposed to a harmful substance at a work site, DES will identify the health hazards associated with the exposure and assess the worker's exposure.
2. DES will ensure that workers who may be exposed to a harmful substance at a work site:
   - Are informed of the health hazards associated with exposure to that substance.
   - Are informed of measurements made of airborne concentrations of harmful substances at the work site and
   - Are trained in procedures developed by DES to minimize the worker's exposure to harmful substances and that they understand the procedures.
3. Workers who are provided with training under subsection (2) must use the procedures appropriately and apply the training.

Worker Overexposure

1. If a worker may be exposed to an airborne concentration that is more than the occupational exposure limit of a substance, DES will conduct measurements of the concentrations of that substance at the work site.
2. If a worker is exposed to more than the occupational exposure limit of a substance, DES will immediately:
   - Identify the cause of the overexposure
   - Protect the situation so that no other workers are exposed to the substance at airborne concentrations that are more than the occupational exposure limit.
   - Control the situation so that no other workers are exposed to the substance at airborne concentrations that are more than the occupational exposure limit.
   - Explain to the worker the nature and extent of the overexposure.
3. As soon as reasonably practicable, DES will inform the joint work site health and safety committee (if there is one), in writing, that a worker has been exposed to more than the occupational exposure limit of a substance and advise them of the steps taken to control the overexposure.

4.21 Handling and Transporting Hazardous Substances- Continued

Worker Decontamination

If a worker may be contaminated by a harmful substance at a work site, DES will provide the facilities (or make the facility available by a third-party service provider), including showers. The worker needs to remove the contamination before the worker leaves the work site.

Emergency Baths, Showers, and Eve Wash Equipment

If a worker is present at a work site where chemicals harmful to the eyes or skin are used, DES will ensure that the worker has immediate access at the work site to emergency baths, showers, eye wash equipment, or other equipment appropriate for the potential level of exposure.

Prohibited Activities

DES will ensure that workers do not eat, drink, or smoke in a part of a work site contaminated by a harmful substance.

A worker must not eat, drink, or smoke in a part of a work site contaminated by a harmful substance.

Storage of Harmful Substances

DES will ensure that a harmful substance used or stored at a work site:

- Is clearly identified, or its container is clearly identified.
- Is used and stored in such a way that the use or storage is not a hazard to workers.
- Flammable and combustible substances are stored separately from substances they might react with. Read the SDS sheet provided with any chemical for proper storage of a harmful substance.
-

Transportation of Harmful Substances

Transferring a liquid from one metal container to another may result in static electrical sparks. To prevent the buildup of static electricity and prevent sparks from causing a fire, it is important to bond metal dispensing and receiving containers together before pouring. Bonding is done by making an electrical connection from one metal container to the other. This ensures that there will be no difference in electrical potential between the two containers and, therefore, no sparks will be formed.

The best way to bond containers is to securely attach a special metal bonding strap or wire to both containers. Some liquid transfer pumps have self-bonding hoses. Bonding can also be done by keeping a solid metal-to-metal contact between the containers themselves or between a metal container and a conducting nozzle. These latter two methods are usually not reliable because a good electrical contact is often hard to make and maintain during the entire transfer.

In the flammable liquid storage and dispensing area, ground dispensing drums. Grounding is done by connecting the container to an already grounded object that will conduct electricity. This could be a buried metal plate, a metallic underground gas piping system, metal water pipes or a grounded, metal building framework. Bonding both containers and grounding one of them "drains off" static charges and prevents the discharge of sparks. All grounding and bonding connections must be bare metal to bare metal. Remove all dirt, paint, rust or corrosion from points of contact. Specially designed and approved bonding and grounding wire assemblies are available

from safety equipment retailers. You only need to bond those containers that conduct electricity, such as those made from metal or special, conductive plastics.

If a container is made from a material that does not conduct electricity, such as polyethylene plastic or glass, bonding or grounding is not necessary: in fact grounding the container will not have any effect. Bonding and grounding are needed when dispensing flammable or hot combustible liquids from storage drums to smaller electrically conductive containers. Similarly, whenever you transfer these liquids between conductive containers in any work areas, for example, when filling or draining dip tanks, mixers, rinse tanks or other equipment, bond both containers together and ground one of them. Check bonding and grounding connections regularly to ensure they are in good condition.

The transportation of harmful substances fall under the category of TDG (Transportation of Dangerous Goods). Dangerous goods include potentially hazardous materials, such as explosives, compressed and liquefied gases, flammable liquids and solids, and oxidizing materials, and other substances that are poisonous, infectious, radioactive or corrosive. The Transportation of Dangerous Goods Act exists to protect people, the environment, and property when goods are being transported by road, rail, sea or air. Shippers, carriers and receivers are all responsible for ensuring shipments of dangerous goods comply with federal, provincial and municipal laws. Fines or lawsuits are the responsibility of those failing to comply.

All DES employees, Contractors, and sub-contractors must have TDG training if they organize the shipment of, carry, or receive dangerous goods.

4.22 Sub-Contractor Management Plan and Letters of Compliance

General

Contractor must ensure that all Sub Contractors are aware of the Owner/Client's Drug and Alcohol policy. Sub Contractor's **must** adhere to the requirements of the Drug and Alcohol policy at all times while at the worksite.

Dobbyn Electrical Services is committed to maintaining a safe and healthy work environment for all of its workers and sub-contractors engaged to perform work.

Safe Operating Steps

1. Sub-contractors are required to provide confirmation of current WCB coverage and current 2 year rate sheets.
2. Sub-contractors are required to provide current copy of liability insurance.
3. Sub-contractors are required to provide access to their Health and Safety programs, which would include their Drug and Alcohol policy.
4. In the event the sub-contractor does not have an in-house program they will:
    a. Agree in writing to follow the guidelines of Dobbyn's Health and Safety program.
    b. Agree in writing to follow Dobbyn's Drug & Alcohol policy.
    c. Review of DES's program is available on our web site, or a paper copy is available.
    d. Safety Manual Verification is completed.
5. Site orientation is mandatory for all Contractors and Sub-Contractors as per Tool Box and Tail Gate meetings are done on site before work commences on a daily basis and documented on our hazard assessments. Sub-contractors will also perform their own Hazard assessment *(see page 18)* and provide our employees with a copy. Site orientation will address the Contractor's Drug and Alcohol policy which will be strictly enforced.
6. Upon project completion, performance reviews will be conducted.
7. Subcontractors are responsible for maintaining and inspecting their areas and reporting and documenting all hazards to our employees on site.

4.22.1 SUBCONTRACTOR - SAFETY MANUAL VERIFICATION

In the matter of Dobbyn Electrical Services Ltd.
As Contractor
And

_____
As Sub Contractor

I _____ of the City of Calgary, in the Province of Alberta
Do solemnly declare.

1) That I am the Owner/Manager of said company and as such have no formal Health and Safety Policy for said company.
2) That I have read and understand Dobbyn's Health and Safety Policy either on line or have received a printed copy.
3) That I have read and agree to follow Dobbyn's Drug and Alcohol Policy.
4) That I agree to follow said policies to the best of my ability whenever and where-ever I am acting with Dobbyn Electrical Services Ltd.

And I make this declaration in agreement thereof.

_____ Dobbyn Electrical Services Ltd.
(Print company name)

_____ _____
(Signed) (Signed)

_____
(Dated)

4.22.2 Subcontractor Performance Review

Subcontractor Performance Review

Name – Sub contractor _____

Site address _____

Project: _____

Date Work Completed _____

Description of Work done _____

_____

_____

_____

_____

Document submitted: ☐ *WCB Clearance* ☐ *Liability Insurance* ☐ *WCB Rate Sheets*

Health & Safety Manual ☐ *Theirs* ☐ *Ours*

Performance Evaluation: ☐ *Satisfactory* ☐ *Non-Satisfactory*

Comments: _____

_____

_____

_____

Signature: _____

Dated: _____

4.23 Electrical Awareness Training

Purpose

All employees shall be provided with basic electrical safety training. Employees shall be provided training on working safely with electricity. Recognition of electrical hazards, prevention of electrical shock, arc flash and recognition of electrical shock and or flash hazard labels.

Employment

1. Dobbyn participates in the electrical apprentice-ship program, by hiring and training 1st, 2nd and 3rd year apprentices.
2. As well as working under the direct supervision of a qualified electrician, all employees are provided with basic electrical safety training, in the recognition and prevention of electrical shock and arc flash, as well as flash hazard labels, as per the Canadian Electrical Code C22.1-98 Safety Standard for Electrical installations.
3. All employees go through strict Dobbyn training pertaining to safeguards, general safety precautions and preventative hazards.
4. WHIMS training, First Aid, Personal Protective Equipment, rigging/hoisting and safe use of powered mobile equipment.
5. Tools, equipment and machinery are kept up to standards in part 25 of the Occupational Health and safety code, and training and proper usage and storage is strictly enforced.
6. All employees are made aware of our Drug and Alcohol policy and unsafe site reporting and procedures.
7. Recognition of electrical hazards, and preventative measures and re-enforced at all weekly Safety Meetings, as well as Tools Box/Tail Gate sessions.
8. All employees are to teach to be aware of their surroundings for safety and potential hazards for themselves and well as others.
9. General safety precautions are to be followed at all times when on site and in and around the shop and yard activities.
10. First Aid stations, washing facilities and help stations locations are communicated to all employee's and subcontractors working with Dobbyn.

4.24 Exothermic Welding

(See Section 3.23)

4.25 Safe Vehicle Positioning/Backing Procedure

PURPOSE

This procedure establishes the minimum safety measures Dobbyn Electric expects all Employees to follow while positioning or backing up vehicles. The intent of this procedure is to prevent injuries and damage to property that could occur due to blind spots and undetected movement of personnel and equipment that result from unsafe vehicle positioning/backing practices.

SCOPE

This procedure applies to all vehicles of one-ton capacity or greater, any vehicle with a trailer and other motorized equipment including but not limited to:

Low-bed Trailers with or without equipment, such as bobcat & mini dig
Bucket Trucks
Auger Trucks
One Ton Trucks

Equipment typically excluded from the provisions of this procedure includes earthwork construction equipment such as excavators, loaders, backhoes, etc. Make sure when operating any of the above equipment you do so in a safe manner. Watch your surroundings.

OPERATOR'S RESPONSIBILITIES

Prior to positioning/backing a vehicle the operator shall:

A. The operator shall get out of the vehicle and make a complete 360-degree walk around survey of the vehicle to determine if any obstructions and potential hazards are present in the proposed path of travel. Clear the area of people and objects if possible. A check shall also be performed to ensure overhead and side clearances are adequate.

B. Obtain guidance from a spotter to position/back the vehicle. Make sure the spotter is aware of all obstacles identified during the initial "walk-around" survey. The operator will discuss the positioning/backing plan with the spotter before proceeding. The communication/warning process will be agreed upon and understood prior to positioning/backing. Positioning/backing shall not proceed unless the spotter is visible to the operator and the spotter has a clear view of both the vehicle and obstacle(s). (If these conditions cannot be met, an additional spotter may be required.)

C. The operator shall stop the vehicle immediately prior to losing sight or losing sight of the spotter, reposition the spotter, and then continue with cautious positioning/backing to the desired location only after the spotter is repositioned in a visible location.

D. The operator shall stop immediately if an emergency "stop" signal is received from anyone in the area.

E. If no spotter is available the operator shall place traffic cones a safe distance between the vehicle and identified obstacle(s). The operator shall not proceed with positioning/backing unless the traffic cones are visible to the operator.

F. The operator shall stop the vehicle immediately prior to losing sight of the traffic cones, reposition the cones, and then continue with cautious positioning/backing to the desired location.

G. If there is any dispute between the operator and spotter during the positioning/backing operation the operator must stop the vehicle until the operator and spotter come to a safe understanding before continuing.

SPOTTER'S RESPONSIBILITIES

Spotters will:

A. Provide assistance to guide an operator in positioning/backing a vehicle when requested by the operator.

B. While giving guidance in positioning/backing a vehicle, stand on the ground clearly in the driver's line of site. Spotters must stand far enough behind or in front of the vehicle to observe the positioning/backing path and any obstructions, and to allow for sufficient stopping distance in an emergency. Spotters shall not be positioned between the vehicle direction of travel and the obstacle. Spotters shall stay clear of the vehicle's path and avoid walking backward.

GENERAL RESPONSIBILITIES

The operator of a vehicle is responsible for the safe operation and movement of the vehicle. Operators will avoid backing whenever possible. Where backing is unavoidable, spotters or traffic cones shall be used. When vehicles must negotiate forward turns with restrictive side clearances and where height clearances are uncertain, a spotter or traffic cones shall also be used.

Drivers shall not permit anyone to ride on the running boards, fenders, or any part of the vehicle not designed for passenger use.

A spotter is MANDATORY on ALL Dobbyn vehicles/equipment with weights of One Ton or greater or backing up trailers. Failure to comply with these procedures may result in disciplinary action.

Section 5 - Company Rules

5.1 – General Rules

Dobbyn Electric is committed to providing its workers with a safe workplace and an atmosphere, which allows them to protect workers, inventory and other assets placed in their care. Employees are expected to be in suitable mental and physical condition while at work, allowing them to perform their job effectively and safely. Employees are schooled in industrial hygiene as well as occupational health and safety standards. Orientation will address security, theft and work place violence/firearms policies.

- Accidents, injuries or “near misses”, regardless of their nature, shall be promptly reported to supervisors.
- Long pants, shirt and steel toed boots shall be worn at all times.
- Approved hard hats, gloves and coveralls shall be worn when required.
- Safety glasses shall be worn when concrete breaking, metal chipping, welding, grinding and for other operations where eye protection is required.
- All service vehicles shall be circle checked and inspected before use each day.
- Site Tool Box meetings shall be held and documented.
- Weekly Safety meetings are attendance requirement.
- Hand tools shall not be used of any other purpose other than intended.
- All damaged or worn parts shall be promptly removed from service and repaired or replaced.
- All electrical hand tools shall be grounded or double insulated.
- Possession or use on the job on intoxicating beverages or unauthorized drugs is strictly forbidden and constitutes grounds for dismissal.
- Horseplay, fighting, gambling and possession of firearms are strictly forbidden on the job and constitute grounds for dismissal.
- Explosive/powder actuated tools shall be used only by persons who have been instructed or trained in their safe use.
- All portable electric tools used outdoors or in damp locations are equipped with ground fault circuit interrupters.
- Extension cords and power supply cords are maintained in a safe condition.
- PPE equipment should correspond with work being done for protection from electrical shock and or arc flash.
- See also section 8.2 New Employee Orientation.

5.2- Enforcement Policy

Enforcement Policy

Dobbyn Electric is committed to providing its workers with a safe workplace and an atmosphere, which allows them to protect workers, inventory and other assets placed in their care. Employees are expected to be in suitable mental and physical condition while at work, allowing them to perform their job effectively and safely.

Dobbyn Electric will implement a system for consistently enforcing their Health and Safety Program.

DES Health and Safety Officer will be responsible to train new employees and upgrade training to all employees and new policies are implemented or job procedures are changed for employee safety.

Owners and Safety Officer's must ensure that their employees receive adequate training in the areas to be enforced (i.e. rules, regulations, practices and procedures).

Violations should be handled in an objective, but firm manner and employees must be instructed during job orientation, what the enforcement policy is.

Enforcement policies vary from organization to organization, but they often follow a similar progression, and Dobbyn handles violations in a similar manner unless otherwise specified.

1st offense - verbal warning

2nd offense - written warning

3rd offense - suspension

4th offense - dismissal

Documentation must be done at each stage of the enforcement policy

The information in this policy does not take precedence over applicable government legislation.

5.2.1 Enforcement Policy Written Follow-up

Dobbyn Electric is committed to providing its workers with a safe workplace and an atmosphere, which allows them to protect workers, inventory and other assets placed in their care. Employees are expected to be in suitable mental and physical condition while at work, allowing them to perform their job effectively and safely.

_____ _____

Employee: *Dated:*

Type of Offense

_____*1st offense* - *verbal warning*

_____*2nd offense* - *written warning*

_____*3rd offense* - *suspension*

_____*4th offense* - *dismissal*

Employer Statement:

_____

_____

_____

_____

_____

_____ _____

Employer Signature *Dated:*

Documentation must be done at each stage of the enforcement policy

5.3 Workplace Harassment & Violence Prevention

Purpose

Dobbyn Electric is committed to providing a physically and psychologically healthy and safe workplace. The management of Dobbyn Electric recognizes that workers and the company have a shared responsibility to promote the principles of mutual respect, confidentiality and cooperation, as outlined in this policy (See 1.1.14 Workplace Harassment Policy). Any act of harassment, or violence committed by or against any worker or member of the public is unacceptable and will not be tolerated.

Definition

Psychologically healthy and safe workplace

A workplace that promotes workers' psychological well-being and actively works to prevent harm to worker psychological health, including neglect, reckless, or intentional ways.

Workplace Harassment

Means any objectionable or unwelcome conduct, comment, or action that a person knows or ought reasonably to know will or would cause offence or humiliation to a worker but excludes any reasonable conduct of an employer or supervisor in respect of the management of workers or the workplace.

Workplace Violence

According to Alberta's Occupational Health & Safety Code, workplace violence means: "the threatened, attempted or actual conduct of a person that causes or is likely to cause physical injury." Examples of workplace violence include the following:

- Threatening behaviour such as shaking fists, destroying property or throwing objects
- Verbal or written threats (any expression of intent to cause harm)
- Physical attacks such as hitting, shoving, pushing or kicking

Psychological Health

A state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community.

Training

All workers are trained during orientation in the company's workplace harassment prevention policy and procedures. Ongoing training is provided, as new work processes or conditions arise, or when new hazards are identified. All employees to report workplace violence/on site situations to appropriate management personnel. Documentation to be completed with appropriate follow-up, to eliminate/reduce any future incidents.

Documentation

Forms for reporting all incidents of harassment or violence are located in the company's staff room and must be given to the company's Safety Officer when completed. Victims of workplace harassment or violence are advised to consult with a health professional if necessary. As a member of Merit Contractors Association, all employees have access to private counselling to help with any problems.

Responsibility

Management

- Foster an organizational culture that promotes psychological health and safety
- Ensure that a psychological health and safety management system is in place to provide a work environment that is free from psychological harm
- Ensure compliance with relevant occupational health and safety laws as well as applicable best practices, guidelines and voluntary standards affecting workplace mental health which may include the CSA National Standard on Psychological Health and Safety, *CSA* Z1003/BNQ 9700-803, Psychological health and safety in the workplace – Prevention, promotion, and guidance to staged implementation.
- Ensure that workers are trained in recognizing and responding to situations involving psychological harm.
- Ensure that every reported incident of psychological harm is investigated, in an objective and timely manner, and potential areas of improvement are identified.
- Ensure that the worker is advised to consult a health professional if the worker reports psychological injuries or adverse symptoms from psychological harm.
- Maintain the confidentiality of the individuals concerned, except where disclosure is necessary for the purposes of investigating the complaint or taking disciplinary measures in relation to the alleged complaint if discipline is being imposed.
- Providing appropriate support for workers who are affected.

Workers

- Workers of Dobbyn Electric are required to be familiar with and follow the procedures that are in place to protect their psychological health.
- All employees are to participate in the instruction of violence and harassment prevention.
- Workers have the responsibility to treat each other with respect.
- Workers are required to immediately report all violations of this policy to the company Safety Officer.
- Workers are responsible to coo-operate in the investigation of complaints. Anyone who investigates or gives evidence in a complaint investigation shall keep details confidential.
- Workers are also responsible for participating in work site hazard assessments and implementing controls and procedures to eliminate or control the associated hazards.

Confidentially

Dobbyn Electric and its managers will not identify any involved parties or circumstances about a reported incident, except:

- When it is necessary in investigating the complaint
- If it is part of disciplinary action, or
- Where it is required by law

5.3.1 Abuse Reporting Form

Complainant Information

_____ _____ _____
Last Name First Name Phone Number

Incident Data

Date of Incident: _____ Date of Reporting: _____

Type of incident:

- ☐ Verbal abuse (e.g. yelling, swearing, name-calling) _____
- ☐ Physical aggression against worker/ objects _____
- ☐ Physical abuse _____
- ☐ Sexual harassment _____
- ☐ Other (please specify) _____

What injury or trauma, if any, resulted from the incident?

- ☐ Physical Injury (describe) _____
- ☐ Emotional Injury e.g. fear, anger, humiliation _____
- ☐ Other (please specify) _____

Medical Attention Required

- ☐ Yes
- ☐ No

Alleged Abuser (s)

Name, if Known: _____

- ☐ Co-Worker
- ☐ Visitor
- ☐ Other _____

Names of witnesses and/or those providing assistance

_____

- ☐ **Co-worker**
- ☐ **Visitor**
- ☐ **Other** _____

Description

Give a thorough description of the incident (what happened, where it occurred, what led up to the incident, who else was present, what action was taken at the time)

_____
_____
_____
_____

Action to prevent recurrence (to be completed by worker and safety officer)

_____
_____

Follow- up (Office Use Only)

Lost time Incident
- ☐ Yes Number of Shifts: _____
- ☐ No

Advised of available counseling
- ☐ Yes
- ☐ No

Law enforcement involved
- ☐ Yes
- ☐ No

Worker's Compensation Board Forms Completed
- ☐ Yes
- ☐ No

Evaluation of current policies/procedures
- ☐ Yes
- ☐ No

Investigation complete
- ☐ Yes
- ☐ No

Other actions and steps taken,

_____
_____
_____
_____
_____
_____

The purpose of this form is to document your claim to assist in a thorough investigation of the complaint

_____ _____

Signature of person reporting incident Date:

Upon completion, please forward to: DES Safety Officer

5.4 Electrical Awareness

As per guidelines of the Canadian Electrical Code C22.1-98, all employees are provided with electrical awareness training at orientation, at weekly Safety Meetings, on job sites at Tool Box and Tail Gate meetings.

All apprentices and workers are under the direct supervision of a qualified electrician. All employees are provided with training on working safety with electricity. Recognition and prevention of electrical shock and arc-flash and electrical shock and flash hazard labelling.

The information in this policy does not take precedence over applicable government Legislation with which all employees should be familiar

5.5 - WHMIS GHS Training – Also See Page 179 Section 13.4 & 13.4.1.

All workers who work with or near controlled products are provided with WHMIS training by DES Safety Officer. DES shall develop and implement an education program with respect to hazard prevention and control. Instructions to be given to each employee who will handle or be exposed to a hazardous product. Training to include identifying products, and all information supplied by the supplier. Potential hazard information which each employee should be aware of to be disclosed on a materials safety data sheet and on a label with the usage and handling of the product.

5.6 – Supplier Labels – Work Place Labels

Each controlled produce and each container shall have a supplier label attached to it. Any missing or altered supplier labels on containers which hold a controlled substance, must be replaced with a work site label. Each label will contain the product identifier, hazard information and statement indicating that a MDS- Material Data Sheet is available in the workplace.

5.7 - SDS Safety Data Sheets

As per Occupational Health and Safety, an employer must ensure that the material safety data sheet is readily available at a worksite for workers who may be exposed to a controlled product. All SDS can be found on the Dobbyn Electrical Services web site, which each employee has access to a cell phone with data access. In the case where any employee is out of service range, they will be provided with an SDS booklet which is stored in the shop. An SDS booklet will remain available at the shop at all times. Also see section 4.21. Whenever a controlled product is received the employer shall without delay obtain supplier information and enter onto data sheet the handling/storage and dangers of the product. The supplier information shall be available in both English and French.

1) Safety Data Sheets are to be used for all controlled products.

2) SDS forms to be completed in the event of handling and transporting of hazardous/controlled products.

Section 6 – Personal Protective Equipment PPE

6.1 General

6.2 Employee Training Report for Use of Harness

6.1 General

The Dobbyn Electrical Services safety policy requires all personnel to wear and use personal protective equipment that are CSA Standard. Items provided by Dobbyn Electric include:

- Gloves
- Fire retardant coveralls
- Hard Hats
- High visibility clothing
- Safety glasses
- Fall restraint harness and accessories

All employees are required to provide steel-toed boots (CSA Standard), full pant and shirt combinations.

Specialized equipment is provided as required.

The rules regarding Personal Protective Equipment is followed co-operatively between management and employees, and is refined as required dependant on site specific requirements. All employees will be trained in the orientation on the type of PPE to use and the care and maintenance of the equipment.

Personal Protective Equipment will be maintained as per Section 7.2.

Note: The Safe Work practices for use of limb and body protection, head protection, and hearing protection are located in Section 3 of the DES Health and Safety Manual.

Employees wearing loose clothing, long hair, jewellery or other similar items that are likely to be Hazardous to the health or safety of an employee in a workplace shall not be worn unless they are so tied, covered or otherwise secured as to prevent hazards.

Utility workers working on or near energized electrical equipment shall wear non-melting natural fibers next to the skin, such as wool or cotton or other acceptable fire retardant material. Clothing is to be made of at least 65% natural fibers with no metallic articles in contact with the skin. Approved industrial protective head gear and a long sleeved garment with sleeves rolled down.

The information in this policy does not take precedence over applicable government Legislation with which all employees should be familiar

6.2 Employee Training Report for Use of Harness

Employee Training Report

Use of Harnesses

Employees were shown how to assemble harness and properly put on harness.

Importance of having the fit properly and snugly aligned to body without any slip or play in legs and shoulders.

Inspection of tether prior to each use is imperative.

Proper storage of harness is important. Store harness by hanging. Store when dry, be free of any oil or dirt before storage.

Employees were shown the use of safety lines in conjunction with harness.

Employees were shown the use of safety grab to safety lines.

Signed: *Printed Name:*

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Section 7 - Preventative Maintenance

7.1 Maintenance Program for Equipment and Trucks

7.2 Maintenance Program for Personal Protective Equipment

7.3 Vehicle Weekly Maintenance Schedule

7.4 Quarterly Vehicle Maintenance Repair Log

7.1 Maintenance Program for Equipment and Trucks

The maintenance program covers all electrical contracting equipment, personal protective equipment, electrical hand tools, service vehicles, bucket trucks and auger trucks.

All equipment is inspected monthly regardless of usage, and inspected and maintained prior to each use. Tools are kept in a tool crib with a deficiency repair list.

All vehicles are circle checked, with oil and fuel levels checked prior to each use. Each truck has a logbook to record inspections.

All vehicles are also serviced regularly and documented as to specific work done, where the service work was done and price of servicing. Service records for vehicles are kept in a truck maintenance binder, recording all dates, mileage and work done. See section 4.9 Vehicle/Equipment operation and Maintenance.

Tools and equipment must only be used for their intended purpose.

Tools and equipment and machinery are kept up to standards in part 25 of the Occupational Health and Safety code.

7.2 Maintenance Program for Personal Protective Equipment

All Personal Protective Equipment such as gloves, coveralls, hard hats, high visibility clothing, safety glasses, restraint harnesses and accessories must be inspected prior to use and properly maintained. Dobbyn employees are schooled in the care, maintenance, usage and replacement as per manufacturer's specification. See section 6 Personal Protective Equipment.

PPE must be replaced when necessary and when signs of wear and tear are evident.

The information in this policy does not take precedence over applicable government legislation, with Which all employees should be familiar.

7.3 - Maintenance Schedule – (Also see Section 4.9.1 Deficiency Truck Inspection -Biweekly)

Type of Equipment	Type of Inspection	Schedule
Bucket Trucks	Complete inspection and certification	Upon purchase and yearly as required.
	Overall truck and boom circle check	Daily.
	Repair	As required.
	Grease Boom	Monthly

7.4 Quarterly Vehicle Maintenance Repair Log

		Jan-Mar 30		Apr-June30		Jul - Sept 30		Oct-Dec 31			
Unit #	**Description**	Oil Change, Filter, Lube	Mileage/ PTO	Oil Change, Filter, Lube	Mileage/ PTO	Oil Change, Filter, Lube	Mileage/ PTO	Oil Change, Filter, Lube	Mileage/ PTO	Tires Rotate	Tire's Replace
3											
4											
5											
6											
7											
8											
9											
10											
11											
15											
16											
18											
27											
32											
42											
43											
47											
48											
52											
53											

Section 8 - Training and Communication

8.1 Training and Safety Meetings

It is Dobbyn Electric's policy to provide training to all employees on our day-to day procedures, including the use, operation and maintenance of our Bucket and Auger Trucks, as well are the correct use, care, limitations and assigned maintenance of PPE

An employer shall ensure that copies of the safety rules are available to each utility employee and that each utility employee has received instruction of the safety rules, and that the employer takes reasonable steps to ensure compliance to the safety rules.

Utility employee is qualified to perform work in accordance with safety rules and in accordance with the utility employee's ability in accordance to the minimum standards of the Canadian Electric Code will be followed at all time for every task performed.

Utility workers to follow safe work procedures developed by the power producer.

Utility employee's working on or near energized electrical equipment shall wear non-melting natural fibers next to the skin, such as wool or cotton or other acceptable fire retardant material. Clothing to be made of at least 65% natural fibers with no metallic articles in contact with the skin. Approved industrial protective head gear and a long sleeved garment with sleeves rolled down.

A utility employee shall not approach, or allow conducting objects or equipment to approach exposed energized electrical equipment or lines any closer than distances specified in table 4 -1 of the Alberta Electrical Code.

An employer must ensure that work that may endanger a worker must be done by a competent worker or work directly under the supervision of a competent worker who is trained and in the safe operation of the equipment.

Tool Box meetings are held, following a hazard assessment, on site at commencement of work to relay safety information to all workers and visitors. Hazard assessments are readily available for viewing as requested. All employees and subcontractors must attend Tool Box meetings. Usually management and or supervisory personnel conduct Tool Box meetings, but if necessary the subcontractor will be required to do so.

Weekly Shop Safety Meetings are held and chaired by supervisory personnel. Agenda items are presented to staff for discussion, with resolution of agenda and new issues recorded in the minutes of the meeting.

Annual employee performance reviews and post-job reviews (sub-contractors) are conducted to determine job performance and commitment to safety.

8.2 New Employee Orientation

SAFETY
NEW EMPLOYEE ORIENTATION CHECKLIST

NAME: _____

POSITION: _____

Part One: Administrative	**Date Completed**	**Manager/Supervisor Initials**
Sign all forms		
Review:		
In-house procedures	_____	
Hours of work	_____	
Systems	_____	
Expectations	_____	
Company Policies	_____	
Ethics and principles	_____	_____
Part Two: Safety		
Review:		
General safety policies	_____	
Local practices	_____	
Local Standards	_____	
Personal protective equipment	_____	
Protective clothing	_____	
Driving and vehicle policies	_____	
Worksite Hazards	_____	
Job Hazards	_____	
Incident and accident reporting	_____	
First Aid Stations	_____	
Muster point/emergency evacuations	_____	
Fire extinguisher location	_____	
Daily Driver logs/Pre trip Inspections	_____	
Safety Meetings	_____	
Safety Training – WHMIS etc.	_____	
Safety Orientation Quiz	_____	_____
Part Three: On the Job		
Introduction	_____	
General tour of work area	_____	
Site orientations	_____	
Review:		
Site evacuations	_____	
Fire extinguishers	_____	
Work systems	_____	
Permits	_____	
Restricted Sites	_____	
Work Stations	_____	
Job procedures	_____	_____

8.3 Substance Abuse Policy Consent Form

Substance Abuse Policy

Consent Form

Date: _____

Company Name: _____*Dobbyn Electrical Services Ltd*_____

Name and Title: _____

Authorized Signature

Of Employer: _____

I, the undersigned, have read and understand the Dobbyn Drug and Alcohol Policy and agree to abide by the rules set out, consent to the drug testing if required and understand that failure to comply will result in my immediate removal from a Dobbyn controlled job-site. I also understand that a positive result as verified by an accredited laboratory and a qualified Medical Review Officer is accepted standard by which the tests are verified. A positive result will mean that you will not be allowed on any Dobbyn controlled job-site as an employee or as a subcontractor or as an employee of a subcontractor.

The costs incurred in performing the tests will be paid by Dobbyn.

Dated: _____

Employee Name: _____

Employee Signature: _____

8.4 Employee Warning Report

Employee Warning Report

Employee Name: _____

Date of Warning: _____

Project: _____

Warning Issued by (print) _____

Type of Violation: _____*Safety* _____ *other*

Company Statement: _____

_____

_____

_____

_____

Signature: _____

Employee Statement:

_____ *I agree with the company's statement.*

_____ *I disagree with the company's statement for the following reasons:*

_____

_____

_____

_____

Signature: _____

Dated: _____

_____ *I would like to receive a copy of this statement for my records.*

Please be aware that this report will be kept on file at the home office, and the issue may be discussed at a company Health and Safety meeting in the future.

8.5 Employee Training Report

Employee Training Report

Use of Harnesses

Employees were shown how to assemble harness and properly put on harness.

Importance of having the fit properly and snugly aligned to body without any slip or play in legs and shoulders.

Inspection of tether prior to each use is imperative.

Proper storage of harness is important. Store harness by hanging. Store when dry, be free of any oil or dirt before storage.

Employees were shown the use of safety lines in conjunction with harness.

Employees were shown the use of safety grab to safety lines.

Signed: *Printed Name:*

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

8.6 Training and Ergonomics- (Revised 2017)

It is Dobbyn Electric's policy to provide training to all employees on our day-to day procedures, including the moving of heavy object/loads the correct use, care, limitations of moving loads by hand.

The employer shall provide health and safety education to each which includes
a) Hazard prevention program implemented to prevent hazards applicable to the employee including haze identification and assessment and health and the preventative measures to be taken.

b) The nature of the workplace and the hazards associated with it.

A hazard assessment to be performed before any heavy objects/loads need to be moved

Mechanized equipment should be used for load lifting, wherever practicable.

Rigging and lift loads in a safe and responsible manner with regards to the weight of the load, the size of the load, the shape of the load and the number of times and manner in which a load will be moved.

Employers must ensure that a worker who may be exposed to the possibility of musculoskeletal injury is trained in specific measures to eliminate or reduce that possibility.

An employer must ensure that the training includes identification of factors leading up to musculoskeletal injury, early signs and symptoms and potential health effects and preventative measures. Including altered work procedures, mechanical aids and PPE.

Where an employee is required manually to lift or carry loads weighing in excess of 10 kg the employer shall instruct and train the

a) Safe method of lifting and carrying loads to minimize stress on the body.

b) Instruct in a work procedure appropriate to the employee's physical condition and the conditions of the work place.

.

Section 9 – Inspections

9.1 Workplace Inspections

9.2 Work Site Safety Inspections Form

9.1 Workplace Inspections

Workplace safety inspection will be conducted to identify and correct potential health and safety hazards. A standard inspection checklist will be used to conduct these inspections.

Senior or Middle Management will conduct a site inspection quarterly or on a project basis.

Dobbyn Electric conducts a detailed Hazard Assessment on each project under taken. Hazard assessments are recorded and updated, when required, during the project as on-site conditions change. All site personnel are made aware of site conditions prior to commencement work are notified of any condition changes. On large projects a Job Hazard Analysis is completed prior to commencement of work and any changes are indicated on that analysis if needed. Site foreman and all other workers will review this form each day in their safety tailgate meetings prior to commencement of work. Each worker onsite must sign off on a daily basis until project is complete.

Based on hazard assessments, equipment or tools, such as barricades or caution tape are provided to identify hazards inherent to the project and the work scope will be altered to minimize any risk.

Upon project completion, Dobbyn Electric personnel will re-grade affected areas as required, remove all unused, recyclable, or redundant materials and notify the appropriate authorities that project is complete and ready for final inspection.

The standards established by the Canadian Electrical Code will be adhered to on all projects.

Procedure & Responsibilities

<u>Senior Management</u>

3. Conduct a formal inspection of the workplace on yearly or quarterly basis using the workplace inspection checklist. Ensure corrective action is taken to address hazards identified.
4. Review middle management's inspections. Initialize and date the inspection report.

<u>Middle Management</u>

5. Conduct formal inspections quarterly using the Safety Inspection Checklist. Ensure corrective action is taken to address hazards identified. Provide a copy of your inspection to senior management.
6. Review site supervisor's Job Hazard Analysis Form. Ensure appropriate corrective actions are taken. Initialize and file it in job file (attached to work order).
7. Review and comment on quality of supervisor's Job Hazard Analysis Form.
8. Review quarterly with senior management the status of supervisor's inspection.

<u>Foreman</u>

2. Conduct formal inspections before commencement of work on large jobs, using the Job Hazard Analysis Form. Ensure corrective action is taken to address hazards identified. Provide a copy of your inspection to middle management at the end of the week.

<u>All Workplace Parties</u>

3. All workplace parties must conduct daily informal inspections of their workplace and take action to correct hazards.
4. All identified hazardous conditions should be eliminated or controlled immediately. When this is not possible:
    - Interim control measures should be implemented immediately.
    - Warning signs should be posted at the location of the hazard.
    - All affected employees should be informed of the location of the hazard and the required interim controls.
    - Permanent control measures should be implemented as soon as possible.

Training

All parties who conduct formal workplace inspections will be trained on their responsibilities and on how to complete the Job Hazard Analysis Form & Field Level Hazard Assessments.

Shop & Office Inspections Policy – (See Office Safety Manual)

Shop and office inspections will be conducted to identify and correct potential health and safety hazards. A standard inspection checklist will be used to conduct these inspections.

Middle Management will conduct a shop and office inspection quarterly. All corrective measures will be indicated on the inspection form and corrective action will be taken accordingly and signed off by senior management.

Procedure & Responsibilities

<u>Senior Management</u>

2. Review middle management's inspections. Initialize and date the inspection report. Ensure all corrective actions are completed and signed off.

<u>Middle Management</u>

2. Conduct shop & office inspections quarterly using the Shop & Office Safety Inspection Checklist. Ensure corrective action is taken to address hazards identified. Provide a copy of your inspection to senior management.

Appendix

Safety Inspection Checklist
Job Hazard Analysis Form
Field Level Hazard Assessment
Shop & Office Inspection Checklist

9.2 Work Site Safety Inspection (see next page)

Work Order #: _____ **Date:** _____
Muster Point: _____ **Foreman Name:** _____
Customer Name / Location: _____
Inspections Done By: _____
Manager Signature: _____ **Date:** _____

Inspection Criteria	Yes	No	N/A	Comments
A. General				
1. Hazard Assessment Started– With ERP				
2. First Aid Kits, Readily Available				
3. Required Signs Posted & Readable				
4. Proper Lighting Conditions				
5. Weather Conditions Suitable for Work Being Performed				
B. Personal Protective Equipment				
1. Hard Hats Being Worn				
2. Eye/ Face Protection Being Worn				
3. Hearing Protection Being Worn				
4. Respiratory Protection Being Worn				
5. Safety Harness & Lanyards Being Worn				
6. Workers Dressed Properly for The Job				
7. PPE In Good Condition				
C. Housekeeping				
1. Walkways/Stairs Kept Clear				
2. Slip/Trip/Fall Hazards Prevented				
3. Any Spills Cleaned Up				
4. Site Trailers Clean & Orderly				
5. Site Generally Clean & Safe				
D. Fire Protection				
1. Fire Extinguishers Inspected				
2. Fire Extinguishers in Good Working Order				
3. Smoking Prohibited Where Flammables Are Located				
4. Flammables Stored and Handled in Approved Containers with Labels.				
E. Material Handling & Storage				
1. Materials Stored Neatly				
2. Storage Areas Kept Clear of Scrap, Debris and Trash				
3. Slings and Chokers in Good Condition				
4. Chains and Come-A-Longs in Good Condition				
Additional Comments:				
Inspection Criteria	**Yes**	**No**	**N/A**	**Comments**
F. Overhead Loads				
1. Augers Operated in A Safe Manner				
2. Workers Move from Under Suspended Loads				
3. Proper Hand Signals Being Used				
4. Tag Lines Attached to Overhead Loads				
5. Load Limits Being Followed				
G. Hand Tools				
1. Hand/ Power Tools in Good Working Condition				

2. Power Tools Have Guards in Place				
3. Broken Tools Repaired or Replaced				
H. Electrical				
1. Lockouts Used to De-Energize Operational Systems				
2. Extension Cords Heavy Duty, With Ground Prong				
3. Stationary Equipment Properly Grounded				
4. Temporary Lights Equipped with Bulb Guards				
I. Man Lifts/ Scaffolds				
1. All Scaffold Parts and Hardware Used as Required				
2. Scaffold Parts and Hardware in Good Condition				
3. Scaffolds Have Guardrails, Midrails and Toe Boards in Place				
4. Wheels on Rolling Scaffold in Locked Position				
5. Man Lifts in Good Working Order				
6. Outriggers Extended When in Use				
7. Workers Tied Off While in Basket				
8. Workers Performing Work Safely Well in Man Lift				
9. Worker Trained in Operation of Man Lift				
J. Excavation & Trenching				
1. Excavations 5'ft or Deeper- Shored, Sloped or Boxed.				
2. Workers/ Equipment at Safe Distance from Sloped Edge				
3. Excavated Soil Stored at Safe Distance from Work				
4. Barricades in Place on All Open Sides at End of Shift				
5. Ladders in Place				
K. Employee Communications				
1. Do Foreman Communicate with Their Crews on Job Methods				
2. Do Foreman Address Unsafe Actions and Conditions				
L. Other				
1.				
2.				
Recommendations				

Section 10 – Investigations and Reporting

10.1 Investigations

10.2 Conducting Investigations

10.3 Incident / Accident / Near Miss Investigation Report

10.1 Investigations

All incidents are to be reported to the Safety officer at DES and investigated. When any employee or contractor experiences an accident, near miss, environment incident or dangerous occurrence on any of the company's or customer's premises during the course of their employment a report must be made immediately. This will also apply to visitors who are members of the public and therefore not at work.

Brief definitions and examples of an accident and a near miss are given below.

Incident/Accident – an unplanned event, which causes injury to persons, damage to property or a combination of both. Examples include a fall resulting in a fracture, an incorrect operation of machinery leading to a breakdown.

Near Miss – an unplanned event that does not cause injury or damage, but could have done so. Examples include articles falling near a person or worker, A short-circuit of any electrical equipment etc.

Environmental Incident – an unplanned event, which results in actual or potential damage to the environment.

All accidents, incidents, near misses and work related illnesses must be documented and immediately reported to DES Safety Officer or Management as soon as possible after the occurrence. Suitable information and training will be given to all personnel regarding accident reporting and the location and completion of relevant documentation. All investigation personnel must be adequately trained in incident investigation. Both Management and DES Safety Officer, are trained in Incident investigation techniques by a 3rd party source and are certified in conducting such investigations.

All HSE accidents, incidents, and near misses must be investigated and analyzed by the Safety officer or management, and controlled when an incident occurs to determine the root (basic) causes of the occurrence. The investigation must be documented and reported to DES or the client whose site the incident took place. Corrective action plans must be developed and implemented to prevent recurrence. This should be done by the end of the shift, but no later than the next day.

General - Contractor must ensure that Sub Contractors are aware of all incident reporting Requirements.

Sub-Contractors must report all incidents to the contractor. If a Sub Contractor is involved in an Incident, the contractor is responsible for reporting the incident to the Owner/Client. The Contractor must ensure the incident is investigated and must participate in the investigation. Every accident or near misses is thoroughly investigated as to causes, and action taken with prevention Measurers updated.

Safety checks are done to make sure new procedures are being followed.

In the event of an emergency situation, an investigation will be undertaken after necessary Responses have been executed and the site secured. Pertinent information will be documents On accident report forms, including photographs where applicable, interviews with witnesses And analysis of equipment or tools being employed. Conclusion will be reach, corrective action Initiated and any changes to procedures will be monitored to ensure corrective action is effective.

Purpose

The primary purpose of an investigation is to identify the root causes so that corrective action can be taken to prevent a recurrence of the incident. Additionally, information collected will be valuable in meeting the WCB and OH&S reporting requirements.

Procedure

Employee Reporting

1. All incidents are to be verbally reported immediately to DES Safety Officer.
2. Employee Reporting - All employees are required to report any of the following to their immediate Safety Officer/ Manager.
3. Incidents resulting in injury or illness of any degree, including those injuries requiring the administration of minor first aid measures.
4. Incidents resulting in production interruption and property or equipment damage of any degree.
5. Any incidents that could have potentially resulted in injury or illness, production interruptions, or property and/or equipment damage.
6. Any situations both unsafe acts and unsafe conditions that left uncorrected could result in an accident.

Legislation

Section 18(1) Alberta OH&S Safety Act indicates that if an accident described in subsection (2) occurs at a work site, the prime contractor or if there is no prime contractor, the contractor or employer responsible for that work site shall notify a Director of Inspection of the time, place and nature of the injury or the accident as soon as possible

18(2) the injuries and accidents to be reported under subsection (1) are:

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

18(3) If an injury or accident referred to in subsection (1.1) occurs at a work site or if any other serious injury or accident that has the potential of causing injury to a person, occurs at a work site, the prime contractor, or if there is no prime contractor, the contractor or employer responsible for the work site shall:

a) Carry out an investigation into the circumstances surrounding the serious injury or accident
b) Prepare a report outlining the circumstances of the serious injury or accident and the corrective action, if any, undertaken to prevent a recurrence of the serious injury or accident, and
c) Ensure that a copy of the report is readily available for inspection of an officer.

18(4) the prime contractor, contractor or employer who prepared the report referred to in subsection (3) shall retain the report for 2 years after the serious injury or accident.

18(5) A report prepared under this section is not admissible as evidence for any purpose in a trial arising out of the serious incident or accident, an investigation or public inquiry under the Fatality Inquiries Act or any other action as defined in the Alberta Evidence Act except in a prosecution for perjury or for the giving of contradictory evidence.

18(6) Except as otherwise directed by a Director of Inspection, an occupational health and safety officer or a peace officer, a person shall not disturb the scene of an accident reported under subsection (1) except insofar as is necessary in

a) attending to persons injured or killed
b) preventing further injuries, and
c) protecting property that is endangered as a result of accident

10.2 Conducting Investigations

An Investigation will be performed by DES Safety officer and or / Management. DES Safety officer respectively will begin investigating the incident as soon as circumstances allows after the incident. Some recommended practices for incident investigation are:

1. Take control of the scene.
2. Initiate the “Emergency Response Procedure”.
3. Ensure that any injured person/persons are cared for.
4. Ensure that no further injury or damage occurs.
5. Get the “big picture” of what happened.
6. Examine equipment/materials involved.
7. Preserve the evidence – collect and safeguard any physical evidence.
   Where practicable, the scene of any accident/incident should be left untouched, except for activity necessitated by rescue work or to prevent further failures or injuries, until the incident has been investigated.
8. Take photographs of the scene.
9. Interview witnesses and obtain written statements where appropriate.
10. Analyze all the available information to determine the causes.
11. Look for causes where “the system failed the worker”, not only for those where “the worker failed the system”.
12. Determine what corrective action will prevent re-occurrence.
13. Complete report.
14. Follow-up to ensure corrective action is completed.

When eventually interviewing an injured person, make sure that they are in a fit state. (i.e.) they may be in shock or confused about the facts. It is generally better to keep eyewitnesses apart during the investigation and to question them separately. Eyewitnesses are not necessarily reliable. Differentiate between those who actually "saw" the incident and those who only saw the result.

Note exact positions, visibility conditions etc. as soon as possible: Where time elapses between the accident and the investigation, accurate details may be forgotten and details may be remembered that never happened. Keep any evidence that is available, damaged tool, parts, etc.

NOTE: People may go on the defensive when being questioned about an incident.

To overcome this we should employ the following techniques: -

- Put the person at ease and explain that the purpose is to prevent an occurrence and not to apportion blame.
- Ask what happened - DO NOT INTERRUPT - be a good listener.
- Do not ask leading questions or make assumptions, and don't try to put words in their mouth. Some people will tell you what they think you want to hear.
- Be considerate and not sarcastic or accusatory.
- Ask questions aimed to bring out the true facts.

Root Cause Analysis

When an accident has occurred, the first step is to prevent a recurrence and to determine the root causes, and this is not always a simple matter.

There are always two sides to every accident, - the Human element, and the Job itself.

1) Start with an open mind and never take anything for granted.

2) There are six principles to work to: -

- What happened?
- What was the person doing?
- Where did it happen?
- How did it happen?
- What objects or substances were involved?
- What were the actions or movement, which led to the incident?

3) There are three question which must be asked: -

- What did the person do or fail to do that contributed to the accident?
- How did the job or surrounding physical conditions contribute to the accident?
- What factor(s) under the control of other person(s) contributed to the accident?

Once this is accomplished, the Safety Officer shall establish a Corrective Action Plan to include a short-term fix and a permanent solution.

Note: Incident/accident investigations are not conducted to fix blame. They are conducted to find facts to help prevent re-occurrence.

10.3 Incident / Accident/Near Miss Investigation Report

ACCIDENT/INCIDENT REPORT

Incident/Accident/Near Miss Investigation Report

Date:	
Who Was Involved:	
First Aider:	*Qualifications:*
What Happened?	
When? Date:	*Time*
Where:	*Reported to OH & S Branch* _Y_ *or* _N_
What was the immediate cause?	
What were the underlying causes?	
What training, instruction, orientations, and cautions were given before in incident?	
How can similar incidents be prevented in the future?	
Recommendation for further action:	
Comments/Recommendations:	
Recommendations Completed by	*Date:*
Person in Charge	
Reviewed by Owner:	*Date:*

Section 11- Emergency Preparedness-

11.1 Emergency Response – Plan – Revised 2017

Dobbyn Electrical Services strives to eliminate and reduce the risks that arise from work place activities, however despite measurers to manage workplace risks, an emergency situation may occur. Dobbyn Electric has developed and Emergency Response Plan (ERP), with appropriate emergency training. All sites are unique as no two are alike. Emergency evacuation plan see Pre-job check lists for obtaining details on site situations. The Emergency Response Plan will be updated whenever there are changes to operations, equipment, and or personnel. When changes to the ER Plan occur, employees must be re-trained.

Communication

Communication is important in an emergency response program. Notification, structure, emergency assembly areas and evacuation procedures are an important factor in establishing a response plan to outline the responsibilities and actions of individuals in the event of an emergency.

In the event of an emergency all personnel are responsible for reporting and initiating a response to any hazardous condition, fire, explosion, spill/release of chemicals or gas, workplace violence, medical emergency or natural disaster. Inquiries from the media during or after an emergency will be addressed to management before releasing any information to the media. At any time the media can simply be referred to speak with Management.

1. Reporting - Employees/subcontractors must report all incidents including near miss, injury/illness and vehicle, equipment damage to Site Supervisor and DES Safety officer as soon as possible and before the end of the employee's work shift.

2. Obtaining medical treatment – Emergency training procedures to be followed, during normal working hours the injured employee/subcontractor must report to a Health Care facility, or in cases where emergency treatment is required, be taken directly to a hospital by ambulance. If medical treatment is required after hours, advise the Site Supervisor, and/or DES's Safety Officer.

3. Where medical attention is being sought for non-injury or non-illness related issues, i.e. Alcohol or drug testing, the employee/subcontractor may be transported to the testing facility by any designated person. An ambulance may be used at the discretion of Site Supervisor.

4. An employee suffering serious injury or illness on the job must be transported to a hospital by ambulance. Serious injury includes, but is not limited to:
   - Facture of a major bone.
   - Loss of a limb,
   - Loss of eyesight
   - Severe bleeding,
   - Serious burns,
   - Severe chest or abdominal pains,
   - Paralysis,
   - Electric Shock
   - Mental distress
   - Loss of consciousness

   In situations deemed less serious, other transportation may be used at the discretion of the employees on site.

5. Field work sites - Use the nearest telephone/cell and call 911. State the location and type of assistance required. Contact Site Supervisor and DES's Safety Officer as soon as injury site is under control. Preserve the evidence/accident scene.

6. Shop/ work place - All personnel are to evacuate the building in an orderly fashion, thru the designated doors/windows (with appropriate exit signs) they are to assemble at the work site muster point, where designated person shall take roll call as to all employee's at shop location, Appropriate emergency response is called.

7. First Aid - Utilize trained site personnel/site foreman. All DES trucks are equipped with First Aid Kits and Fire Extinguishers. Transport to closest help care facility.

8. Once the site is secure, employees must not tamper/alter accident scene. Assist the Police, and or site investigators.

9. In the event of a fire/explosion, employees are to follow appropriate action plan and that detection equipment, first aid equipment, firefighting equipment and evacuation aids function as planned.

10. See and follow 11.4 Emergency Response Fire. (Procedure).

11. At every workplace where 6 or more employees are working the employer will ensure that there is a First Aid Attendant.

12. At every remote workplace with 2 or more employees the employer will ensure that there is a First Aid Attendant.

13. At every work place at which work is being done on live high voltage equipment the employers shall ensure that a First Aid Attendant is readily available and that at least one person has resuscitation training or equivalent direct method.

14. At an office work place and ambulance response time is up to 2 hours Basic First Aid, more than 2 hours Standard First Aid.

15. At any other workplace (other than wilderness area) and ambulance response time under 20 minutes, Basic First Aid, 20 minutes to 2 hours, Standard First Aid.

16. If wilderness area a Standard First Aid and Wilderness First Aid training specially designed to meet the first aid needs of persons of persons who live/work/travel in area.

11.2 Training and Exercise – Revised 2017

Dobbyn Electric educates our employees about the types of emergencies that may occur, and train them in the proper course of action for emergency situations. We make sure they understand:

- The components of our emergency response plan
- Who will be in charge during an emergency

Employee training will include:

- Individual roles and responsibilities
- Potential threats, hazards, and protective actions
- Notification, warning, and communication procedures
- How to locate family members in an emergency
- Emergency response procedures
- Evacuation, shelter, and accountability procedures
- Location and use of common emergency equipment

11.3 Emergency Response – Procedure – Revised 2017

An employer must ensure that first aid services, first aid equipment and supplies, required as per the OHS Code Schedule 2 are located at or near work site that they are intended to serve and are available and accessible during all working hours.

If a worker has an acute illness or injury at worksite the worker must report the illness or injury to the employer as soon as is practicable.

An employer must report every acute illness or injury that occurs at the work site and a record kept for the purpose as soon as practicable showing name of worker, name and qualification of person giving first aid, description of illness or injury, where work site is located and work related cause of incident. Records will be retained for 3 years.

DES personnel and subcontractors conduct hazard assessment reviews prior to work commencement on each project and will make a plan and document on a hazard assessment their emergency response plan. Emergency response contingencies are established based on site specific requirements and where practical, will include the following capabilities:

1. Identification of potential emergencies.
2. Logistics to deal with identified emergencies.
3. Location and operation of emergency equipment, i.e. fire extinguishers, first aid equipment.
4. Identifying trained personnel.
5. Use of alarm and communication devices.
6. Designation of evacuation signals and procedure for rescue.
7. Designation of evacuating routes and supervisory personnel for co-ordination of efforts.
8. Providing transport to medical facilities.
9. Contacting outside agencies for assistance.

Emergency medical services are summoned for all emergency situations. In the event of an emergency a full assessment will be conducted and will include a review process following the emergency to identify critical components of the overall response.

DES Safety Officer – Raelene Nelson 403-236-8877
Service Manger - Neal Barker 403-236-8877

Contacts	Phone Numbers
Work Place Health & Safety Contact Centre	1-866-415-8690
Fortis Emergency	310-9473
Enmax Emergency/Trouble	403-514-6100
Ambulance Fire Police	911
Spill/Release Reports	1-800-222-6514

11.4 Emergency Response – Fire - Revised 2017

Emergency response procedures in the event of fire, either on job sites or within the confines of company property are designed with the safety of all personnel as the prime consideration. Fire extinguishers supplied by Dobbyn Electric in each field vehicle and within the warehouse/shop area are designated Class ABC and are suitable for all combustible materials with the exception of combustible metals such as magnesium or sodium. Dobbyn Electric personnel have been briefed and are familiar with the operation of fire extinguishers and follow the actions noted in the event of fire consuming solid materials:

1. Recognize the hazard and alert all personnel.
2. Where practical, remove combustible material from fire location.
3. Extinguish fire.
4. If fire-fighting apparatus is exhausted, leave the area immediately and contact emergency services at 911.
5. For Fire involving flammable liquids,
6. Evacuate all personnel ensuring that all crew and staff members are accounted for.
7. Contact emergency services at 911.
8. Liquid fires will be fought with specifically trained professionals and at no time will Dobbyn Electric personnel fight liquid fuelled fires.

Hazardous Occurrence

When an employer becomes aware of an accident, occupational disease or other hazardous occurrence affecting employee in the course of employment, he shall.

1) Investigate all incidents/accidents or hazardous occurrence and record. All records to be retained for 3 years.
2) Appoint a qualified person to carry out investigation of hazardous occurrence.
3) Notify workplace committee or health and safety officer of the occurrence and name of person appointed to investigate.
4) Take necessary measures to prevent a re-occurrence of hazard.

11.5 Emergency Response - Drill Form

Emergency Response Drill

Date of Drill: __ _____ *Location*_____

Time of Drill: _____ *Drill Conducted by:* _____

In Attendance: _____

_____

_____

_____

Describe the type of emergency drill conducted: _____

_____

_____

_____

Summary of completed drill (i.e. what worked well, what needs improvement etc.):

_____

_____

_____

_____

Follow-up action required: _____

_____

_____

_____

_____

11.6 Emergency Response - Pre-job Check List

DES - Tool Box/Tail Gate Meeting - Emergency Check List

Site:	Date:
Address:	
Weather Conditions	1. 2.
Identify Potential Emergencies	1. 2.
Emergency Procedures for Rescue/Evacuation	1. 2.
Location of Emergency Equipment/Help	1. 2.
First Aider/ First Aid Kits (on site)	1. 2.
Location of Closest Emergency Facilities	1. 2.
Fire Extinguisher Locations	1. 2.
Muster Point:	1.
Site Supervisor:/Site Emergency Contact Persons	1. 2.
Site: Foreman	Workers: 1. 2. 3.

Section 12 - Records and Statistics

12.1 Year End Report

12.2 Year End Accident Summary Report

12.3 Letters of Compliance

12.4 WCB & OH & S Reporting

12.1 Year End Report

For the Period Ending:

Monthly ☐ Quarterly ☐ Yearly

Number of Workers Hired: _____ *Number completed Orientation:* _____

Number of Tool Box Meetings Scheduled _____

Number Conducted _____ *Percentage Attendance:*_____

Number of Formal Inspections Scheduled: _____ *Number Completed* _____

Total Unsafe Acts/Conditions Identified: _____

Number Corrected _____ *Number Outstanding* _____

Number of Incidents _____ *Damage Only* _____

Injury Only _____ *Injury and Damage* _____

Near Miss Number of Investigations _____

Completed _____ *Outstanding*_____

Number of Recommendations Made:

Completed _____ *Outstanding.*_____

Comments: _____

_____

_____

Managers Signature: *Date:*

12.2 Year End Accident Summary

Year End Accident Summary Report

Accidents:

Dated: _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

12.3 Letters of Compliance

Subcontractors are required to submit current letters of compliance, WCB clearance letters, and rate sheets and a copy of annual liability insurance before proceeding to job site. Compliance letters are entered into records file and follow up is done to keep records updated.

Documents are obtained, reviewed and analyzed as part of the screening process and performance review.

In the event that subcontractors have no current Health & Safety Policies a signed agreement to Understand and follow Dobbyn's Policies and Procedures.

12.4 WCB & Occupational Health & Safety Reporting

The Employer/Safety Officer shall report to Occupational Health and Safety by telephone, telex, or email, when occupational disease of other hazardous occurrence has occurred with the following results as soon as possible but no later than 24 hours after becoming aware of that result.

1. The death of an employee.
2. A disabling injury to 2 or more employees.
3. The loss of an employee of a body member or part thereof, or the complete loos of the usefulness of a body member or part thereof.
4. The permanent impairment of a body functions of an employee.
5. An explosion.
6. Damage to a boiler or pressure vessel that result in fire or the rupture of the boiler or pressure vessel.
7. Any damage to an elevating device that renders it unserviceable, or a free fall off an elevating device.

Section 13 – Safety and Legislative Compliance

13.1 Purpose

13.2 Occupational Health & Safety Legislation (OH&S)

13.3 Workers' Compensation Board (WCB) – Revised, 2017

13.4 Workplace Hazardous Materials Information System (WHMIS- 2015)

13.5 Canada Labour Code, Part II

13.6 Canadian Electrical Code

Section 13 – Safety and Legislative Compliance

13.1 Purpose

Employees, consultants, contractors, sub-contractors and visitors shall abide by the applicable Acts, Regulations, Codes and other statutes in the jurisdiction in which their work is to be performed. Relevant legislation may include, but not limited to:

- Federal and provincial OH & S Acts, Regulations, Codes and municipal by-laws,
- Provincial Workers' Compensation Board (WCB) Act and Regulations,
- Workplace Hazardous Material Information System (WHMIS)
- Canada Labor code, Part II
- Canadian Electrical Code

13.2 Occupational Health & Safety Legislation (OH&S)

A copy of the provincial Occupational Health & Safety (OH&S) Act, Regulation, and Code is available at the head office and work sites.

Workers are expected to know how to access these documents and to be reasonably familiar with their content.

13.3 Workers' Compensation Board (WCB) https://www.wcb.ab.ca/ - Revised, 2017

Every hour, Albertans are injured on the job. The Workers' Compensation Board - Alberta is a not-for-profit organization that helps injured workers return to work as quickly and as safely as possible, while providing financial compensation for wages lost due to their workplace injury.

Workers' compensation benefits include:

- No fault insurance
- Protection is provided for you and your employer regardless of who caused the work injury. The workers' compensation system is funded through the payment of premiums by employers with coverage.

Coverage

Most employers and workers are covered by WCB-Alberta; however, some industries are not required to have this coverage. If you are unsure whether you have WCB-Alberta coverage, ask your employer.

There are no citizenship or age boundaries - if you are a worker in Alberta working in an industry under the Workers' Compensation Act, you are protected by WCB-Alberta.

Risk management

WCB-Alberta provides the only insurance that offers protection from lawsuit for you, your employers and other parties covered by WCB-Alberta.

Wage replacement for lost income

Wage replacement refers to replacing lost employment income resulting from your workplace injury or illness. To pay you wage loss replacement benefits we set a compensation rate based on the amount of money you were earning at the time of your workplace injury/illness. We may also consider other sources of income lost due to your workplace injury/illness. Once we have your gross employment earnings we calculate your taxable net income by subtracting your income tax, CPP and employment insurance. We then calculate 90 per cent of your taxable income to set your compensation rate.
Maximum insurable earnings refer to the maximum earnings amount we can compensate. This amount is set by our Board of Directors each year. The maximum earnings amount only applies to you if you earned more than the amount set by our Board of Directors for the year you were injured. If you earned more than the maximum, your compensation will be based on the maximum amount (e.g., the 2017 maximum insurable earnings amount is $98,700).

Year	Maximum insurable earnings
2017	$98,700
2016	$98,700

See Board Orders on the Maximum Insurable Earnings (MIE)
https://www.wcb.ab.ca/claims/benefits-during-your-claim/wage-replacement.html

Exclusions:

- WCB-Alberta does not pay for union dues, Alberta Health Care or any deductions you normally pay.
- Wage replacement is paid only while you are totally disabled by the work injury or illness. If you are able to work, you are no longer eligible for wage replacement benefits.

Comprehensive medical and rehabilitation services

- Expenses associated with the treatment of the work injury including medication or hospitalization.
- Health care expenses may include chiropractic treatments, physiotherapy and/or counselling.

Funeral expenses and survivor benefits

- Benefits are provided to eligible dependants when a work accident results in a fatality.

13.3 Workers' Compensation Board (WCB) - Continued

1. A worker, for WCB purposes, is any person who provides a service under a contract of service or apprenticeship, written or oral, expressed or implied, whether by way of manual labor or otherwise.
2. A worker includes full-time, part-time, temporary, casual, family members, contractors / sub-contractors and consultants.
3. Contractors, sub-contractors and consultants must have WCB coverage related to their services being provided.
4. Related Resources

    I. Online Regulations and Codes at http://www.hre.gov.ab.ca/cps/rde/xchg/hre/hs.xsl/307.html

    II. Online Reporting Forms with directions at https://www.wcb.ab.ca/

13.4 Workplace Hazardous Materials Information System (WHMIS - 2015)

WHMIS is Canada's national hazardous communication program for hazardous workplace chemicals.

The hazard communication elements of WHMIS include appropriate labeling of controlled products and hazardous material, comprehensive Safety Data Sheets (SDS), and worker education and training programs.

Safety Data Sheets are made available to employees and contractors on site (DES vehicles) when necessary and in DES office.

WHMIS is implemented through complementary and interlocking federal, provincial, and territorial legislation.

The Canadian Hazardous Product Act, Part II, and associated Controlled Products Regulations, administered by the federal agency Health Canada, requires suppliers and importers to appropriately label controlled products and to transmit or obtain SDS as a condition of sale or importation. The legislation also places a defects requirement on suppliers and importers to assess their products against specified hazard classification criteria established in the Part IV or the Controlled Products Regulations.

13.4.1 OHS- WHMIS-2015-employers

https://work.alberta.ca/documents/WHS-PUB_ch008.pdf

See Attached Copy in Printed Safety Manual

ohs-WHMIS-2015-employers.pdf

13.5 Canada Labor Code, Part II

In the past 10 years, approximately 800 Canadian workers have died each year as a result of workplace accidents. Although the injury rate is declining, the annual costs for compensation to injured workers have been billions of dollars.

Workplace Health and Safety is a serious problem, Part II of the Canada Labor Code, Occupational Health and Safety, reflects the desire to reduce workplace injuries and accidents in federal jurisdiction.

The purpose of the overview of the Canada Labor Code, Part II, is to explain the legislation which applies to all areas under federal jurisdiction. This information is designed for client education and will help to promote, through health and safety committees and health and safety representatives, self-regulation and the internal resolution of occupational health and safety-related complaints and problems raised by employers and employees. It will also help to establish a mechanism conducive to current affairs management and union participation.

Canada Labor Code
http://laws-lois.justice.gc.ca/eng/acts/L-2/

Part II: Occupational Health and Safety
https://work.alberta.ca/occupational-health-safety.html

Canada Labor Code, Part II overview
https://www.canada.ca/en/employment-social-development/services/health-safety/reports/summary.html

13.6 Canadian Electrical Code

The electrical code provides requirements for protection.

Canadian Electrical Code
http://www.csagroup.org/codes-standards/

Electrical Code Guide
http://www.municipalaffairs.alberta.ca/cp_electrical_codes_standards

Electrical Code: Definitions and Much More from Answers
http://shop.csa.ca/en/canada/landing-pages/2015-canadian-electrical-code-part-i-/page/cecode2015