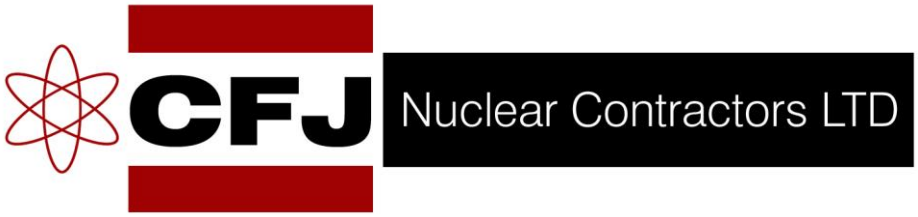

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HEALTH AND SAFETY MANUAL

REVISION HISTORY

Revision	Date	Author	Description of Changes
			1.

MASTER TABLE OF CONTENTS

Chapter **Page**

PART 1
HEALTH AND SAFETY MANAGEMENT

REVISION HISTORY - PART 1:

Revision	Date	Author	Description of Changes

TABLE OF CONTENTS

Chapter **Page**

1. INTRODUCTION

1.1 Objectives

To achieve Health, Safety and Environmental excellence, the following principles will be applied when setting annual objectives:

- The protection of the health, safety and welfare of our employees and any person who may be impacted by our work environment is a fundamental objective of the company.
- To perform our work in a manner that protects, preserves and prevents adverse effects to the environment.
- Strive to continually improve our activities to prevent events triggered by human error.
- To work in partnership with customers and clients to consistently achieve a strong safety and environmental performance.

The following performance measures will be recorded and monitored:

1) Lost Time Injury (LTI) Acute and Chronic: The Company will strive to achieve "Zero" LTI event occurrences. Metric: LTI = O
2) Medical Treatment Injury (MTI): The Company will strive to reduce and eliminate the total number of incidents that result in personal injury or illness. Metric: MTI Rate < 1.15
3) Environmental Event: The Company will strive to prevent and eliminate actions that may result in an environmental `. Metric: Environmental Event = 0
4) Human Performance (HP): The Company will strive to prevent and eliminate events triggered by human error. Metric: HP Clock Resets < 3

1.2 Scope and Applicability

The Health and Safety Manual applies to all CFJ sites and is the governing manual for Health and Safety Practices unless Customer/Client specifications exceed the minimum requirement stated forth.

1.3 Definitions and Acronyms

1.3.1 Definitions

Term	Definition
First Aid:	Any work related occurrence resulting in a relatively minor injury that does not necessitate a medical procedure to be performed or specialized treatment by a medical professional or any subsequent medical follow up (continued treatment). The worker must also be able to return to work the workday following the accident to his regular duties that are consistent to his / her trade. This may include an injury where an employee is initially treated by a medical practitioner.
Loss Time Accident (LTI):	An accident involving personnel injury where the worker is injured by a work related cause/act (intentional or not) and seeks medical attention. *Due to the extent of the injury the worker is unable to return to work on the next scheduled workday following the accident (NOTIFY SAFETY DEPARMENT IMMEDIATELY).*
Medical Treatment Injury:	A work related accident involving personnel injury where the worker is required to undergo a medical procedure or to obtain repeated medical attention from a physician, chiropractor, dentist, nurse, eye doctor, etc. The worker returns to work the workday following the accident date either to his regular duties or modified (light) duties.
Near Miss / Incident	A situation that could have resulted in harm to an individual or damage to property if the right conditions were met.
Workdays lost:	Refers to the regularly scheduled workdays lost after the accident date.

1.3.2 Acronyms

Term	Definition
JSEA	Job Safety and Environmental Analysis
LTI	Lost Time Injury
MTI	Medical Treatment Injury
PTHA	Pre-task Hazard Assessment

2. ROLES AND RESPONSIBILITIES

2.1 Management

CFJ Canada's management is committed to preventing adverse effects within and outside the workplace. It recognizes Health, Safety and Environmental Legislation as the minimum standard and strives for Health, Safety and Environmental excellence.

Management is directly responsible for the content, implementation and administration of the CFJ Health, Safety and Environmental Program: Management ensures the following:

- The program content is integrated into the operations of the company and follows the Plan-DO-Check-Act model.
- Each level of Supervision has sufficient knowledge of health, safety and environmental legislation with respect to matters that are within the scope of the supervisor's responsibility.

2.1.1 Plan

- Be knowledgeable of the Health, Safety and Environmental Legislation that apply to the area of operation, and ensure compliance to that legislation.
- Ensure every reasonable precaution is taken to provide a safe and healthy work environment.
- Obtain information from clients/constructors on any potential and/or existing hazards that will be encountered on the project.

2.1.2 Train or Instruct

Ensure that proper instruction, training, equipment, and information are provided to guarantee employees can competently fulfil the duties of their job.

- To communicate lessons learned to continuously improve and expand our knowledge

2.1.3 Inspect and Monitor

- Ensure all work is sufficiently and competently supervised. Communicate lessons learned to continuously monitor environmental performance and implement continuous improvement initiatives.
- Ensure all equipment, materials and protective devices are maintained in good condition.
- Establish leading indicators that measure and evaluate safety and environmental performance

2.1.4 Corrective Actions

- Proactively implement control measures to minimize or eliminate known hazards or aspects on the project.
- Communicate lessons learned internally and with clients and customers.

2.2 Supervision

A supervisor is a person who has charge over a workplace or authority over an employee. A Supervisor must be deemed a “competent person” through their knowledge, training and experience in accordance with the Occupational Health and Safety Act and the CFJ Health, Safety and Environmental Program.

2.2.1 Plan

- A Supervisor must assess work performed under their supervision to ensure hazards are identified and the work can be performed safely. Ensure environmental impacts are identified and the work can be performed without damage to environment.
- Be knowledgeable of all Supervisor requirements under applicable Health and Safety Legislation and the CFJ Health, Safety and Environmental Program.

2.2.2 Train or Instruct

- A Supervisor must demonstrate leadership and actively promote work behaviours and practices contributing to a safe workplace.
- Ensure all employees under their supervision are adequately instructed and / or trained to actively identify hazards and work safely. This includes taking actions to advise the workers under their supervision of the existence of any potential or actual hazards associated with the job and the subsequent control measures needed to reduce those hazards.

2.2.3 Inspect and Monitor

- A Supervisor must ensure that all employees under their supervision follow the safety precautions and use or wear the safety equipment or protective devices required to complete the job safely. This includes performing routine safety inspections of the worksite and, where necessary, enforcing compliance to Health and Safety Legislation and conformance to the contents of the Health and Safety Program.

2.2.4 Corrective Actions

- Upon becoming aware of unsafe actions, conditions or hazards, a supervisor must take action to adequately correct the occurrence. If such remedial action is beyond his / her authority, he / she will report the problem to his or her

immediate supervisor. A written report indicating that remedial action has been taken should be completed and maintained on a permanent record.

- A Supervisor must ensure all accidents or incidents associated with the work being performed under their supervision are adequately investigated to ensure the causes are identified and appropriate corrective actions are taken to prevent a re-occurrence.

2.3 Employees

Employees of CFJ Canada Ltd. are encouraged to actively participate in the continued development of the Health, Safety and Environmental Program and to take action to help provide a safe and healthy workplace.

2.3.1 Plan

- Every worker must plan to work in compliance with applicable Health and Safety Legislation, and all additional requirements of the CFJ Health and Safety Program.
- Actively participate and provide any comments that may improve the job when reviewing the Job Safety and Environmental Analysis, Inspection & Test Plans and Pre-Job talks.

2.3.2 Train and Instruct

- All Employees must follow safe procedures and take an active part in protecting their fellow workers. Use the proper PPE, tools and equipment. Follow safety procedures and stop and reassess any changes that may pose a risk.

2.3.3 Corrective Actions

- Take immediate action to ‘make safe’ and report any hazardous conditions.
- Report any problem with equipment which may endanger the worker or other worker(s).
- Report any contravention of the applicable Health and Safety Legislation, or additional requirements of the CFJ Health and Safety Program.
- Provide feedback regarding site conditions or opportunities for improvement.
- Report all injuries and / or all incidents that could have caused an injury or property damage (near misses). This must be reported to the supervisor immediately.

2.4 Specific Roles and Responsibilities

The levels of responsibility for Safety, Environment and Quality Management follow the organization of the Management System Manual (MSM) and accountability resides

over whom they supervisor. Refer to the MSM for additional information and organizational structure.

2.4.1 Chief Executive Officer (CEO)

As Senior Manager, this position is responsible:

- To ensure that company health and safety policies, procedures and objectives are established.
- To ensure that periodic reviews of the Health and Safety Program are performed (no less than annually).
- For the overall Health and Safety performance of the company.

2.4.2 President and Chief Operating Officer (COO)

As Senior Operations Manager, this position is responsible:

- For the overall operation of the company.
- For maintaining a staff of qualified personnel.
- To delegate the responsibility and authority for the CFJ Canada Ltd. Health and Safety Program.
- To ensure that company health and safety policies, procedures and objectives are implemented.
- To ensure the continued effectiveness of the Health and Safety Program in meeting the requirements of the stated Company Objectives.
- For making a final decision with regard to health and safety issues in the event of disagreement.
- For the appointment of a Site Safety Manager.

2.4.3 Project Manager (PM)

This position is responsible:

- For the overall execution of the contract.
- To ensure that the office and project site is properly equipped and staffed, and are capable of completing the committed work.
- For assignment of trained personnel to manage the work, to perform the work andto verify the work.
- To ensure that the Safety Program is effectively administered.
- To ensure the satisfactory performance of the division with regard to the Company Safety Policies and Objectives. To allocate project resources for the contract, and to develop the construction schedule.

- To ensure that construction equipment and resources are consistent with the requirements of, and the capabilities offered in, the contract.
- To ensure the project is staffed by personnel who are qualified to perform the assigned work.
- To liaise with the Customer regarding the project and any contract revisions.
- To ensure that site personnel are trained with regard to applicable sections of the CFJ Health and Safety Program.
- To ensure the satisfactory performance of the project with regard to the Company Policies and Objectives.
- To ensure that safety performance reports, with regard to the Company Safety Policies and Objectives are generated and forwarded to the division.

2.4.4 Department Manager

As manager of a department, this position is responsible:

- For the efficient operation of the department.
- For maintaining a staff of qualified personnel.
- To ensure that the training of personnel, with regard to the Health and Safety Program, is conducted and that training records are maintained.
- To ensure the satisfactory performance of the department with regard to the Company Safety Policies and Objectives.

2.4.5 Health and Safety Committee or Safety Representative

CFJ shall provide at least one worker member to a Committee established at the Project Site. The union shall select the committee member

The general duties of the Health and Safety Representative include:

- Performing site inspections to identify unsafe conditions and / or actions.
- Help mediate disputes over unsafe conditions and / or actions.
- May assist in investigating serious incidents.
- Actively confer with supervisors, workers, management and when necessary government officials on health and safety matters.
- Demonstrate safety leadership and actively promote safe work behaviours and practices.
- Obtain information from the constructor/employer on potential / existing hazards.

2.5 Safety Department

The Safety Department overseen by the Site Safety Manager is a resource for management, supervisors and workers for all health and safety related issues. Their general responsibilities are as follows:

- Assist with the effective implementation and administration of the CFJ Health and Safety Program at all worksites.
- Provide reliable information on all workplace health and safety concerns. Assist with interpretations of legislative, and company / client health and safety requirements.
- Advise employees, supervisors and management of their compliance or non-compliance with legislative, CFJ, and client's Health and Safety Program requirements.
- Assist in developing safety training programs, safety procedures, safe work standards, and advise on the continued development of the CFJ Health and Safety Program.
- Review/audit safety documentation including safety meetings, inspection results and safety investigations as to ensure hazardous conditions and actions are being identified and corrective actions are taken on safety concerns. Where necessary, advise supervision and management of non-conformances and assist in developing action plans to correct any unsafe conditions or actions identified.
- Demonstrate safety leadership and actively promote safe work behaviours and practices at the workplace.

3. HAZARD ASSESSMENT AND JOB SAFETY & ENVIRONMENTAL ANALYSIS

3.1 General

"PLANNING" is one of the cornerstones to a successful safety program and is essential to the establishment of a health, safety and environmental management system on the project. The intent is to:

- Identify and address legislation compliance and to conformance all applicable standards.
- To proactively identify and eliminate/control any potential or actual hazards in the project.
- To ensure adequate resources and necessary tools, equipment and trained personnel are made available.

3.2 Project Hazard Assessment and Safety Control Plan

The primary purpose of performing a hazard assessment prior to the start of the project is to ensure that the safety and environmental related hazards associated with the project have been identified and all the elements of the CFJ Health, Safety and Environmental Program have been implemented to effectively manage those hazards to minimize risk. At a minimum the Project Manager and/or Safety Department shall assess the following:

- Utilize the project labour plan to determine the logical sequence in which the project is going to take place (also refer to schedule if available) and outline key activities.
- Identify the key / significant hazards/aspects associated with those activities.
- Determine the appropriate means of hazard elimination / control based on the hazards/aspects identified.
- Generate the following documents, where applicable, and retain a copy for the in the project safety file:
    - Hazard Assessment & Safety Control Plan (Form S-131): The Project Manager or designate shall complete this form.
    - Environmental Assessment (Form S-131A): The Project Manager shall complete this form to ensure the potential environmental aspects based on the environmental impact are identified and control measures implemented.
    - Job Safety and Environmental Analysis (Form S-132): Completed documentation must be maintained in the project safety file and a copy

forwarded to the division office: Attention Department Manager, Regional Safety Coordinator.

3.3 Job Safety and Environmental Analysis: (Form S-132: JSEA)

The purpose of our Job Safety and Environmental Analysis (JSEA) is to identify, control or eliminate potential and actual dangers in a job or task that is not in the normal day to day scope of work and / or are determined to be “high risk”, in accordance to items identified in Form S-131.

Completing the form shall be a collaborative effort between supervisors overseeing the job and the Site Safety Manager, the Project Manager is accountable to ensure JSEA(s) have been completed.

A job step is defined as a segment of the operation necessary to advance the work.

- A rule of thumb is that most jobs can be described in less than ten steps. If more steps are required, you might want to divide the job into two segments, each with its separate JSEA, or combine steps where appropriate.
    - Identifying actual / potential hazards:
    - Assessing each job step and identifying each potential hazards for the activity.
    - Preventative measures / controls

3.3.1 JSEA Process

The CFJ representative responsible/accountable for conducting the specific work activity (e.g. Active Control, Lead Hand, Manager etc.) shall assess the proposed work activity and determine if the job requires a JSEA.

If required, the person assigned to lead the job, or his/her designate, will be responsible for carrying out the JSEA process with a Safety Department Representative.

To finalize the JSEA, it is required that all parties review the JSEA and record identified hazards and controls in the JSEA(s) document.

If JSEA(s) have not been previously developed for this type of work, then the following steps apply:

- Lead JSEA(s) process
- Break job down into steps
- Identify hazards at the work site
- Estimate risk
- Evaluate risk acceptability
- Establish risk controls

- Document on the Work Authorization and Job Safety and Environmental Analysis Form
- Review JSEA document with workers associated with or impacted by the work activity

If JSEA(s) have been previously developed for this type of work, you may use it as a reference; however, **a site-specific JSEA must still be developed**. In this case, the following steps apply:

- Review JSEA(s) with work team
- Identify any additional job steps
- Identify new hazards **at the work site**
- Estimate risk
- Evaluate risk acceptability
- Establish risk controls for new hazards
- Review effectiveness of risk controls for hazards already identified on existing JSEA(s).
- Document on the Work Authorization and Job Safety and Environmental Analysis Form
- Review JSEA(s) document with workers associated with or impacted by the work activity

3.3.2 JSEA Approval

The completed JSEA must be approved by the task supervisor as well as the CFJ safety department prior to the commencement of work. Completed JSEA's shall:

- It shall be recorded in the JSEA Log (Form S-133)
- A copy shall be maintained in the project filing system under the Safety section.
- Wherever practical, the client or constructor must also be given a completed copy of the JSEA for their review and approval prior to the commencement of work.

3.3.3 JSEA Lessons Learned:

Throughout the life of the job, the workers should be consulted with and observed to ensure the JSEA is adequate and that it is being followed as described:

- Whenever a change to a JSEA is required, the noted change should be identified on the JSEA and the JSEA log (Form S-133). This should be used to record both the change required, the date completed and to verify the change was communicated to the workers performing the job. All

changes to the JSEA must be reviewed and approved by the task supervisor as well as the CFJ Safety Department.

3.4 Pre-Task Hazard Assessments

This daily assessment is intended to ensure jobs are planned and safety requirements are in place prior commencing work. Two methods are available and it is at the discretion of the immediate supervisor as to the method they wish to utilize, unless it has been pre-determine by the client or management which method will be used throughout the project

3.4.1 2 Minute Drill at the Job Site

"2-minute Drill" is a pre-task human performance tool to identify and communicate to crews the critical aspects of a job and jobsite conditions, including those identified in the JSEA.

- Use the 2 Minute Drill in the field prior to the start of the task to review the work and your surroundings.
- Check to ensure hazards are mitigated and control measures are in place.
- Assess to ensure conditions are what you expected.
- Completed forms shall be submitted to the Site Safety Coordinator.
- Findings from the assessment will be discussed at the 2- Minute Drill Huddle.

4. SAFETY ORIENTATION, TRAINING AND SAFETY TALKS

4.1 Employee Orientations

4.1.1 Safety Orientation Requirements

CFJ management and supervision will ensure each new construction employee participates in the CFJ Health and Safety Orientation process (or equivalent) and reviews all necessary Site & Project Specific Safety information.

The Safety Orientation must, at a minimum, include the following elements:

- Review of the CFJ Corporate Health and Safety Policy
- Overview of applicable Health and Safety legislation including employee rights.
- Overview of the CFJ Health and Safety Program including:
  - Health and Safety Responsibilities
  - Safety Investigations (Accident Reporting)
  - Modified Work / Workplace Accommodation
  - Disciplinary Action
  - Drug and Alcohol Policy
  - Discrimination, Harassment and Workplace Violence Policy
  - Common Safety Standards
- Site specific safety requirements.
- Any additional Health and Safety Requirements deemed as necessary by management and/or the Health and Safety Committee (where applicable).
- Verification / evaluation process to ensure the information has been clearly understood. This can include a written evaluation, oral evaluation (e.g. application questions), or work practise evaluation.

4.1.2 Annual Orientation Update & Review

To ensure that all employees remain familiar with CFJ's Health and Safety requirements, including any legislative changes or Health and Safety Program updates & revisions, all employees will be required to review the Health and Safety Orientation on an annual basis. This annual update and review must be performed by a supervisor or competent designate. All orientation records must be formally documented and filed in the employee file.

All previous orientation training will be considered expired on December 31st of each year regardless of when the employee participated in the initial orientation. All

employees will be required to participate in the Safety Orientation update and review as soon as is reasonably possible following this deadline and have maximum of three (3) months to receive the review / update.

4.1.3 Temporary Workers

Temporary workers, which include workers who have not worked for CFJ for a consecutive period of greater than six (6) months, will also be required to participate in the Safety Orientation update & review.

Any employees who have not worked for CFJ for a consecutive period of greater than one year must be treated as “new” employees and complete the safety orientation in its entirety.

4.1.4 Supervisor Safety Program Orientation

In addition to participating in the Employee Safety Orientation, a copy of the CFJ Health and Safety Program must be made available to all new supervisory personnel.

Where formal safety competency training can not be immediately provided, all new supervisors will be required to review the CFJ Health and Safety Program and attend a “Supervisor Safety Program Orientation” session. This Supervisor Safety Orientation session must be completed as soon as reasonably possible and can be completed by the Senior Site Supervisor or a competent designate. This Supervisor Safety Orientation must, at a minimum, contain the following elements:

1) Overview of Health and Safety Legislation:
    - Safety Responsibilities
    - Penalties and Fines
    - Common Regulations / Standards
2) Overview of the CFJ Health and Safety Program:
    - Supervisor Responsibilities
    - Safety Planning (JSEA’s, PTHA and Daily Toolbox Talks)
    - Training and Communication Requirements
        - Employee Orientations
        - Employee & Supervisor Training
        - Project Safety Meetings
        - Daily Toolbox Talks / Pre-Task Hazard Assessments
    - Safety Inspections and Audits
    - Safety Investigations for Accidents / Incidents
        - Documentation
        - Penalties for late reporting

- Emergency Response
- Disciplinary Action
- Injury Management / Modified Work
    - Supervisor Responsibilities
    - Injury Management
    - Return to Full Duties / Employee Layoff / Additional Hours
    - Documentation
- Supplemental Safety Program Information
- Corporate and Site Specific Safety Standards

An evaluation must be completed to ensure workers are familiar with its contents and the activities they will be responsible for.

In addition, the Senior Site Supervisor must review with all supervisory personnel the project specific safety requirements including specific client requirements, and any additional documentation requirements.

Contact the Safety Department for assistance where required and for all additional safety training.

4.1.5 Annual Supervisor Safety Program Orientation Update & Review:

To ensure that all supervisors remain familiar with CFJ's Health and Safety requirements, including any legislative changes and/or Health and Safety Program updates & revisions, all supervisors will be required to review the *Supervisor Safety Program Orientation* on an annual basis. This annual update & review must be performed by a supervisor or competent designate. All orientation records must be documented and filed in the employee file. All supervisors will be required to participate in the Supervisor Safety Program Orientation update & review as soon as is reasonably possible and have a maximum of three (3) months to receive the review / update following December 31st of each year.

4.1.6 Visitors

Any CFJ employee authorizing a site visit assumes responsibility that visitors are aware of all safety requirements and have in their possession all safety equipment required for the site. In addition all supervisors must participate in the CFJ general and site-specific orientation process or must otherwise be accompanied by a CFJ supervisor at all times.

4.2 Employee Training

4.2.1 General

The management of CFJ is responsible for ensuring all employees and supervisors are properly trained and are committed to providing adequate time and resources to train all personnel to perform their duties in an efficient and safe manner.

The Project Manager is responsible for ensuring records of all completed safety training courses are maintained. A review of all training should take place at the regular management / supervisor meetings and meetings of the Safety Committee (where applicable) and must be completed no less than annually.

4.2.2 Management Training

In addition to participating in the CFJ Supervisory training requirements, operations management personnel will be given the opportunity to attend advanced training in maintaining safety in the workplace. This training will be coordinated through the safety department and may include:

3) WSIB Certification Training (where applicable).
4) Advance Safety Management training as recommended by the Safety Department and / or as approved by CFJ management.

4.2.3 Supervision Training:

All construction supervision must attend the following safety competency training courses. This training can be coordinated and / or delivered by the safety department upon receiving notification that a new supervisor requires this training. Supervisors must also have a copy of the CFJ Health and Safety Program and / or Safety Field Manual and all applicable Health and Safety Legislation made available to them.

5) Supervisor Competency Course via an accredited organization or approved provider (e.g. Construction Safety Association);
6) First Aid and CPR;
7) Orange Badge – (Basic Radiation Training)

Optional Training: *Safety Representative Training*

All supervisors will be given the opportunity to attend worker safety representative certification training where available.

Training Timeline:

All supervisors must receive this training within a reasonable period upon their appointment as a supervisor. The following guideline should be followed:

8) CFJ Canada Ltd. New Supervisor Safety Program Orientation – Immediate
9) CFJ Health and Safety Program Training (via safety department) - 6 months.

10) Advanced Supervisor Safety Training / Accident Prevention Training for Supervisors – 6 months.

11) All other competency training - 1 year or as soon as may be required.

New Supervisor Selection:

Prior to appointing new supervisors an evaluation should be performed by CFJ's management to determine the level of formal health and safety training that potential candidates have received. Priority should be given to personnel who have obtained formal health and safety training as outlined below and / or those personnel that have a strong health and safety background and may be considered "competent" or have demonstrated strong safety leadership characteristics.

4.2.4 Worker Training / Instruction

Workers will be instructed by a competent person to ensure that safety is maintained in the workplace. Formal training must be provided for the following:

12) Personal Protective Equipment:

- Fall Protection and rescue
- Protective equipment and clothing;
  - Respiratory Protection, **Self Contained Breathing Apparatus
  - Hazmat Suit
  - Other specialized PPE / equipment

13) WHMIS (Workplace Hazardous Material Information System):

- Handling and use of hazardous materials (WHMIS) or Designated Substances:
  - Asbestos
  - Lead
  - Other designated substances

14) Tools and Equipment:

- Use of new and specialized equipment;
- Equipment Operation (Record of Training Required)
  - Elevated Work Platforms
  - Company vehicles (must hold valid drivers licence)

Note: Tool / Equipment Operational Manuals may be obtained directly from the supplier:

15) Orange Badge (Basic Radiation Training)

- Specialized Safety Training For high or moderate risk activities:
  - Lock Out / Tag Out
  - Confined Spaces
  - Trenching and Excavation
  - Scaffold Erection
  - Live Electrical Work (Electrical Awareness)
  - Traffic Control Person
  - Propane (Record of Training Required)
  - Rigging and Hoisting (Record of Training Required)

16) Other: As identify or deemed necessary by management

- Training program available from CFJ Safety Department.
- Training program available from manufacturer / supplier.
- Training program available from accredited organization.

4.3 Toolbox Safety Meetings

Toolbox safety meetings are one of the primary means through which a strong Internal Responsibility System (IRS) can be supported. It is the responsibility of CFJ management and supervision to ensure that formal Toolbox Safety Meetings:

- At a minimum, be held on a weekly basis or more often, if deemed necessary.
- An agenda is distributed prior to meeting, to encourage participate and feedback at the meeting.
- Record minutes of the meeting.

4.3.1 Toolbox Meeting Agenda

Project Safety Review - Review safety standards / procedures that may be utilized on a routine basis (e.g. ladder safety) and safety requirements that are unique to some of our projects. Also be sure to circulate important project safety information to everyone present. The items discussed should be relevant to the work being performed and are based on hazards identified during any hazard assessments and safety inspections performed. Employees should be asked how the standards that are reviewed might impact the work that is being performed.

Project Safety Concerns – Promote the communication of any safety concerns or comments from all employees. Identify these concerns and report on any follow up or actions taken to address any issues presented.

Safety Inspection Results – Review the results of recent safety inspections including supervisor daily/weekly inspections, Health and Safety Committee inspections, management inspections, Safety Department inspections, client inspections and / or any other relevant inspection results. The purpose of reviewing these inspections is to highlight areas where hazards have been identified and / or where safe work practices are, or are not being followed. Employees should be encouraged to take actions to correct any deficiencies and continue to assist in maintaining a safe work environment.

Incident / Accident Review – Review the cause(s) and corrective actions taken as a result of any recent incidents. Request additional ideas on how future occurrences could be prevented. (Note: Names / Companies involved in any incidents reviewed should be kept anonymous). Review the overall status of the project with respect to safety performance including the number of incidents, types of incidents, trends, etc.

Positive Acts of Safety – Participants should be encouraged to share any safety activities or innovations they have undertaken to help maintain a safe environment.

This can include actions taken at, or away from the workplace (i.e. “Brothers Keeper” activities performed by all employees).

4.3.2 Toolbox Documentation

Keep record of the meeting and submit copy to the “S” file. Originals must be sent to the Safety Department and management for review.

4.3.3 Resource Material

- OPEX
- Client/Owner
- CAPCO
- Lessons Learned

4.4 Project Safety Postings

It is the responsibility of the Project Manager to ensure the following information is posted in a conspicuous location and / or made conveniently available at the workplace:

- CFJ Health and Safety Manual
- Applicable Health and Safety Legislation
- WSIB/WCB Poster in all cases of injury (where applicable)
- First Aid Regulation (where applicable)
- First Aid Certificate (worker in charge of first aid box)
- Emergency Service Locations & Numbers (CFJ poster available)
- Notice of Project (if applicable)
- WHMIS Regulation and MSDS
- List of Health and Safety representatives and/or committee members
- Any regulations concerning designated substances if they are within the work area.

5. SAFETY INSPECTIONS AND AUDITS

5.1 General

The purpose of performing safety inspections is to identify and correct unsafe conditions or acts, as well as to assist in determining how effectively the CFJ Health and Safety Program has been implemented and administered.

5.2 Inspection Guidelines

When conducting a safety inspection it should be made apparent to the workers that a formal site safety inspection is taking place.

Feedback from the workers on the overall site conditions should be included during the inspection process.

Safety infractions encountered during inspections must be rectified by the responsible supervisor. Any corrective actions taken must be outlined as “complete” on the inspection form.

It is important that when safety inspections are conducted, that fire extinguisher maintenance is checked for the proper pressure and physical damage. If any is found, then it is to be tagged out of service and sent for service.

5.3 Inspection Frequency

Informal safety inspections must be performed every time a CFJ supervisor or management representative is on site. However, formal (documented) inspections will be performed on the following basis:

5.3.1 Monthly Inspections

Site inspections or a portion thereof will be carried out no less than monthly by:

- Site Health and Safety Committee Representative
- CFJ site management
- CFJ Site Worker Representative

5.3.2 Weekly Inspections

Site inspections or a portion thereof will be carried out no less than weekly by:

- CFJ supervision

5.3.3 Random Inspections

Random site inspections or a portion thereof will be carried out by:

- CFJ Safety Department
- CFJ Management

5.3.4 Internal and External Audits

Internal and external audits will be completed as per the CFJ ISO 9001:2008 Management Systems Manual.

5.4 Records

Written record of site inspections will be prepared and submitted to management, the Safety Department and the Safety Committee (where applicable).

6. SAFETY INVESTIGATIONS FOR ACCIDENTS AND INCIDENTS

6.1 General

It is the requirement of CFJ Canada Ltd. that all safety related work refusals, incidents, non-conformances, injuries, or illnesses that are reported, or made known to a supervisor shall be thoroughly investigated and a Safety Investigation Report completed.

This investigation report must outline any primary and secondary causes of the incident and outline the corrective or preventive actions taken to prevent any future recurrence.

All incident reports must be reviewed by management to ensure that the event was properly investigated and that appropriate corrective / preventative actions were taken in a timely manner.

6.2 Reporting and Investigating Accidents / Incidents

Safety Investigation and Corrective Action Report: All safety related incidents or injuries must be initially reported Safety Investigation and Corrective Action Report S-160.

Station Condition Reports / Blue Cards: Station Conditions Reports (SCR's) or Blue Cards will be reported and documented as per existing client procedures.

Apparent Cause Reports (ACE): ACE reports will be reported and completed and documented as per existing client procedures.

Root Cause Investigations: Root Cause investigations will be completed for all Lost Time Injuries or incidents with high potential for harm as per part 6.3 of this section.

6.3 Responsibilities for Incident Investigations and Corrective Actions

6.3.1 Employees

Each employee is required to report an injury, illness, near miss incident and/or non-conformance or damage to equipment and / or property to his / her immediate supervisor as soon as is practical. Furthermore, the employee (s) involved must participate in the *Safety Investigation* and corrective or preventive action process.

6.3.2 Supervisors

The immediate supervisor is required to immediately investigate all matters reported to him/her and record the details on the *Safety Investigation Report*. This report must be completed in full and submitted to CFJ Management once completed.

Also, the supervisor must ensure that all reasonable actions are taken to correct any unsafe conditions and provide a safe workplace without undue delay.

6.3.3 Management

Management must review the *Safety Investigation Report* submitted by the supervisor to ensure the event was adequately investigated and suitable corrective or preventive action (appropriate to the magnitude of problems and commensurate with the health and safety risk encountered) was taken, or will be taken, and that such action was effective. Corrective actions determined necessary to avoid similar incidents will be carried out at the workplace without undue delay by the workplace supervisor.

6.3.4 Safety Department

Will review all *Safety Investigation Reports*, ensure management acts on all reasonable corrective and preventive actions outlined, and provide additional assistance as required.

Will review all proposed corrective and preventive actions through the Risk Assessment process prior to implementation.

Investigation of Lost Time Incidents with a high potential for harm.

All LTI(s) with a high potential for harm are investigated by the Department Manager, or designate.

A copy of the department manager's report will be submitted to the President, COO and CEO who will ensure action is taken to prevent a recurrence.

The Safety Department and Claims Administrator must be contacted immediately if an injured worker is going to become a lost time.

6.4 Managing Medical Aid Injuries:

Refer to the CFJ Accident Prevention Manual, PART II – INJURY MANAGEMENT AND EARLY AND SAFE RETURN TO WORK.

6.5 Accident / Incident Corrective Actions:

Formal corrective actions for all ‘low-moderate risk’ safety incidents can be completed directly on the Safety Investigation and Corrective Action Report (S-160).

Corrective actions for all high risk safety incidents must include a formal corrective action report as required by the CFJ ISO 9001:2008 Management Systems manual.

6.5.1 Safety Database

The CFJ Safety Coordinator provided by CFJ must maintain a database for all accidents / incidents reported for the purpose of statistical / trend analysis, performance review, injury verification and preventative action planning. It is the responsibility of the Safety Department to ensure this database is maintained. The database must contain the following elements:

- Employee Name
- Date of Accident
- Location of Accident
- Injury / Damage sustained
- Name of supervisor
- Trade of employee

6.6 Employee / Supervisor Mediation

It is recommended that employees or supervisors that are involved in multiple safety incidents within a reasonable time period (dependent on cause and severity) participate in a mediation process with the employee's supervisor, Safety Department and management (where necessary). The purpose of this meeting should be to review the cause of the incidents and any subsequent safety initiatives. This meeting should be used to identify areas of improvement, not as a means of disciplinary action. Meeting minutes should be documented and included in the employees file (copy to Safety Department).

6.7 Records

Site Management must ensure the *Safety Investigation Report* is forwarded by the end of the shift to the Division Office (Attn: Safety Coordinator) and Corporate Claims Administrator for all:

- First Aids
- MTI
- LTI
- All other incidents deemed necessary

7. HEALTH AND SAFETY PROGRAM DEVELOPMENT

7.1 General

The CFJ Health and Safety Program will incorporate an element of continuous improvement as to ensure that the content of this manual remain effective in our objective of providing a safe workplace.

7.2 Management Review

Management review of the Health, Safety and Environmental Manual will be completed as per the CFJ ISO 9001:2008 Management Systems Manual.

7.3 Health and Safety Manual Revisions and Recommendations

Recommendations regarding future revisions to the Health and Safety Manual can be outlined on the Safety Program Revision Recommendation Form and submitted to the CFJ Safety Department.

These recommendations will be reviewed by both the Site Safety Manager and Safety Committee (where applicable). Any necessary recommendations can then be incorporated into the Health and Safety Manual.

In addition, recommendations for improvement can be made and documented during any Health and Safety Committee meetings for action by the safety department and management.

7.3.1 Health and Safety Programs/Procedures

Additions and / or revisions to the CFJ Health and Safety Program can be made at the divisional level so long as the program maintains the mandatory elements as provided by the Safety Department.

Any such additions and / or revisions must be approved by the Regional manager, safety personnel, and should be agreed upon by the Safety Committee (where applicable).

7.4 Annual Review and Revisions

No less than annually the CFJ Health and Safety Manual will be reviewed and where necessary revised.

PART 2
INJURY MANAGEMENT

REVISION HISTORY – PART 2

Revision	Date	Author	Description of Changes

TABLE OF CONTENTS
PART 2

Chapter **Page**

1. INTRODUCTION

1.1 Policy

This policy provides direction for the proper management of injuries and illnesses, both occupational and non-occupational.

CFJ is committed to:

5) The health and welfare of its workers.

6) Treating injured or ill workers with fairness, consistency, respect and compassion.

7) Facilitating the modified / early and safe return to work process through:

- Frequent and ongoing communication with the injured worker.
- Safe and timely return to full duties based on the direction of the treating medical practitioner.
- The use of temporary and meaningful modified work assignments to accommodate temporary work restrictions.
- Ensuring appropriate medical assistance is made available to all workers.
- Reducing the cost linked to injuries and illnesses.

8) Meeting at least the minimum requirements of provincial workplace accommodation and return to work legislation.

This guideline is also designed to ensure a uniform standard of compliance with all company and legal requirements, as well as any applicable requirements covered by collective agreements.

Adhering to the steps outlined in this guideline will ensure that all workers and managers work together to manage illness and work related injuries for the benefit of all concerned.

1.2 Scope

This policy provides direction for the management of all injuries or illnesses, both occupational and non-occupational. It concerns notification requirements, treatment, ongoing communication, and the early and safe return to work process (temporary modified duties).

This policy is founded on the principle that facilitating an injured worker's safe and timely return to work is in the best interest of the worker and CFJ.

2. INJURY MANAGEMENT PROCEDURE

2.1 Attending To an Injured Worker

The process of injury management begins when a **WORKER** is injured or becomes ill and notifies their **SUPERVISOR**, or the supervisor is made aware of a workplace injury. The following sequence of steps must be followed:

2.1.1 First Aid Case

Provide immediate first aid attention.

Complete a Safety Investigation if the Injury / Illness is workplace related or suspected to be workplace related.

9) Provide a job task that will not cause undue stress or aggravation to the injury / illness.

2.1.2 Medical Treatment Case – Non-Critical Injury

To ensure that an injured worker receives prompt medical treatment for their workplace injury or illness the following steps must be followed:

10) Provide immediate first aid attention.

11) Complete a Safety Investigation if the injury / illness is workplace related or suspected to be workplace related. This should be done immediately, otherwise at the earliest possible convenience (i.e. same day).

12) Provide transportation to the nearest medical treatment facility or emergency treatment facility. When possible, the supervisor should accompany the worker. In cases where a medical clinic is used, be sure to call ahead as to ensure doctor availability and that you will be seen to promptly.

13) Complete the Worker's Claim / Consent Form and the ConstructMed Referral Form (where applicable) and have the worker sign.

14) Provide the worker with the Injury Management Program, and ensure the treating medical practitioner receives this information. The Injury Management Program consists of:

- Completed Copy of Offered Of Modified Duties
- Functional Ability Form (FAF) with copy of “Dear Doctor” attached.
- Copies of the modified duties available including the following Physical Demands Analysis:
  - Light Worker and / or;
  - Light – Moderate Worker and / or;
  - Moderate Worker

Note: This information must be provided to the treating medical practitioner.

3. MODIFIED WORK PROGRAM

It is the injured worker's obligation to participate in an early and safe return to work so long as suitable modified work can be offered that accommodates the worker's injury restrictions and limitations.

Upon the worker receiving medical treatment the following sequence of steps must be taken to ensure that suitable modified work is provided in conjunction with the medical restrictions and limitations outlined by the treating medical practitioner.

3.1 Functional Abilities Form(s) / FAF

The doctor will complete a Functional Abilities Form to identify the injured worker's current restrictions and limitations for an early and safe return to modified work. The doctor will give two copies to the worker: one for himself and one for the company. The worker is expected to return the completed form back to the supervisor the day of the injury or medical treatment. Based on the restrictions and limitations outlined on this form, a Modified Work Plan can be developed.

3.2 Modified Work Plan / MWP

Complete a "MODIFIED WORK PLAN". This plan is designed to ensure suitable work is offered during the worker's recovery period. The guideline below outlines the general provisions to be followed when developing this plan.

3.2.1 Guidelines for the Modified Work Plan

Developing a Modified Work Plan:

The Modified Work Plan must be developed by the worker's supervisor to ensure suitable and meaningful work is offered to the worker during the recovery process. As such, the following MWP must be:

Based on the restrictions and limitations outlined on a recent Functional Abilities Form as completed by the treating medical practitioner.

Based on the duties outlined via the most applicable Physical Demands Analysis as provided in the Injury Management Program:

- Light Worker
- Light to Moderate Worker
- Moderate Worker, or
- The worker's regular duties (with acceptable accommodations if necessary).

15) Performed in conjunction with the injured / ill worker.

16) When possible, performed in conjunction with a union steward, and / or worker safety representative.

3.2.2 General

Our first attempt should be to offer work that is similar to the worker's normal job. The supervisor will take actions to accommodate any restrictions and limitations outlined by the medical practitioner by:

- Providing duties as outlined in the "Light Duty" Physical Demands Analysis.
- Providing duties as outlined in the "Light to Moderate Duties" Physical Demands Analysis.
- Provide duties as outlined in the "Moderate Duties" Physical Demands Analysis.
- Reducing the hours worked.
- Reducing the volume of work to be performed.
- Allowing more frequent breaks.
- Allowing the employee to coordinate his medical rehabilitation with the work schedule.
- Providing assistance for any difficult tasks identified (i.e. may aggravate injury).
- Providing job rotation, i.e. standing job in the morning, sitting job in the afternoon.
- Alter the way the tasks are accomplished by either changing the work program or reassigning nonessential duties.

3.2.3 Modified Work Plan Form(s)

The Modified Work Plan must be completed on the MWP form. This completed form should be maintained with the Functional Abilities Form (FAF) and a copy forwarded to the Site Safety Manager and Claims Administrator.

3.3 Injury Recovery Timelines (Guideline)

To ensure that an early and safe return to work is suitable and the injured / ill worker is adequately recovering from the injury the following timelines should be used as a guide.

Modified Work Plans / Functional Abilities Forms

- Recovery Period: 1 – 4 Weeks: A MWP / FAF must be ***completed the day the employee returns to work*** and on a regular basis (weekly – biweekly) thereafter for the first four weeks. The FAF must be completed by a treating medical practitioner, or physiotherapist. A FAF should be completed

indicating that the employee is fully recovered prior to the worker's return to full duties.

- Recovery Period 5 Weeks and Beyond: In cases where the worker is unable to return to full duties after the four weeks a MWP / FAF must be completed no less then monthly thereafter unless otherwise directed by the CFJ Safety Department.

17) Documentation

All MWP / FAF documentation must be forwarded to the Claims Administrator and Site Safety Manager for review.

18) Modified Duty Progression:

Activities outlined in the MWP should be progressive as to reflect the changes in the worker's recovery. As such, the MWP should be designed to reflect any increase in worker activities as indicated by the FAF.

In instances where a worker's limitations remain unchanged for an extended period, or complications arise throughout the recovery process; the Claims Administrator, and Site Safety Manager must be notified.

4. EMPLOYEE LAY OFF / RETURN TO FULL DUTIES / ADDITIONAL HOURS

4.1 General

Contact the CFJ Safety Department or Claims Administrator for further details.

4.2 Employee Layoff / Return to Full Duties

Generally, a worker with medical restrictions preventing them from performing the essential duties of their regular job as a result of a workplace related incident/ injury / or illness *is not permitted to return to full duties, or be laid off unless a treating medical practitioner states they are fit for full duties and/or that they are capable of performing their regular duties without aggravating their condition*. The division's General Manager, in conjunction with the Safety Department, can only make the decision to layoff a worker who has medical restrictions preventing them from performing the essential duties of their regular job.

4.3 Additional Hours

Generally, a worker with medical restrictions preventing them from performing the essential duties of their regular job as a result of a workplace related incident / injury / illness *is not permitted to work hours in excess of their regularly scheduled shift where it is felt that any such additional work may aggravate their condition or prolong their recovery period* (dependent on type / extent of injury). In these instances, the worker should receive medical authorization to perform these additional duties.

5. EMPLOYEES ON MODIFIED DUTIES

5.1 Payment to Employees

Injured workers who report to work and are participating in a Modified Work Program will be paid the equivalent hourly amount as their pre-injury earnings**.**

5.2 Injury Treatment / Doctors Visits

A worker on modified duties can be paid for the time needed for them to receive treatment for their injury (within reason) so long as the treatment being obtained is part of the worker's recovery process. In these instances, the worker should still be required to report to work to perform modified duties either prior to, or after receiving the treatment (wherever possible). The Safety Department and Department Manager must approve exceptions.

5.3 Graduated Return to Work (Reduced Hours)

* Determined on a case by case basis

A worker who is unable to work their regular hours as a result of a workplace injury can be paid for their regular scheduled hours so long as they are participating in a "Graduated Return to Work Program (Modified Work Program)". In these instances, a Modified Work Plan must be developed to indicate that the worker's hours will be gradually increased over time based on their decrease in restrictions and limitations (increased recovery). In these cases, all documentation must be forwarded to the Claims Administrator.

5.4 General Payment / Cash Advances:

An employee can only be paid by CFJ if they are participating in a suitable Modified Work Program, are cooperating in the recovery process and are able to perform suitable work. Cash advances must be approved by the Safety Department and Department Manager.

6. RECORDS

All applicable documentation must be forwarded to the claims administrator, and safety coordinator, as well as maintained with the site files.

7. EMPLOYEE CONFIDENTIALITY

All medical information or documentation related to the injury may only be divulged to those members of CFJ supervision and management that are directly involved in the injury management process.

The individuals and / or groups responsible for ensuring adherence to the requirements of this guideline include:

- Site Safety Department;
- Claims Management;
- Human Resources Department

8. ROLES AND RESPONSIBILITIES

8.1 Worker

Workers are required to assist CFJ in facilitating the Injury Management Process by:

Report any illness or injury to a CFJ supervisor immediately if it is workplace related, or suspected of being workplace related. In instances whereby the existence / extent of the injury may not be immediately known, workers must report the existence of the illness or injury to the supervisor prior to the beginning of the next scheduled shift.

Seek prompt and appropriate medical attention. Note: In most cases CFJ can help facilitate this process.

Immediately inform a CFJ supervisor of:

- Any medical treatment sought for a work related, or suspected work related injury or illness.
- Any limitations and / or work restrictions outlined by the treating medical practitioner that may be required upon the return to work.
- The expected duration of their absence or work restrictions.
- Progress throughout the recovery period.
- Any work related activities that cause irritation or discomfort while participating in the modified work process.

19) Provide CFJ with any relevant medical information that can be utilized to assist in the early and safe return to work process.

20) Adhere to any restrictions and limitations outlined by the treating medical practitioner, and participate in the recovery process (i.e. physiotherapy, stretching).

21) Cooperate with CFJ personnel as necessary to ensure a timely and safe return to work.

Note: Employee's must be made aware that failing to cooperate with the early and safe return to work process may affect payment of WSIB benefits.

8.2 Supervisor

This is the supervisor whom the worker reports to directly. In general terms, the supervisor is the key performer in the temporary Modified Work Plan. The foreman / supervisor are responsible for:

Upon a worker reporting a workplace injury / illness, or the supervisor becoming aware of a worker's injury / illness, the supervisor must complete, sign and submit the CFJ Safety Investigation Report to the Division Office before the end of the shift for all accidents. When possible the investigation should be performed in conjunction with the worker and the worker safety representative (where applicable).

Reference: Safety Investigation Reporting Procedure (Part 1, Section 6).

Informing the worker of the Modified Work Plan, including the availability of modified duties, and the worker's responsibilities with respect to this process.

Reference: Appendix A-1 – Offer of Modified Duties

Communicating with the worker during their absence and / or throughout the early and safe return to work process.

Documenting all relevant communications and required early and safe return to work forms.

8.3 Management

Management is responsible for ensuring this Injury Management / Modified Work Plan is adhered to as a function of the CFJ Health and Safety Program.

If a worker requires modified work, the placement of that worker to a suitable site with appropriate modified duties may require the assistance of management. In this instance senior management may be utilized.

8.4 Safety Department

The CFJ Safety Department is responsible for assisting supervision and management in facilitating the Modified Work Program.

PART 3
SUPPLEMENTAL HEALTH, SAFETY AND ENVIRONMENTAL PROGRAM

REVISION HISTORY – PART 3

Revision	Date	Author	Description of Changes

TABLE OF CONTENTS
PART 3

Chapter **Page**

1. SUPPLEMENTAL HEALTH, SAFETY AND ENVIRONMENTAL POLICY

1.1 General

Part 3 is intended to provide minimum standards for additional Health, Safety and Environment regulatory requirements that apply to activities undertaken by CFJ Nuclear Contractors (CFJ).

Each policy is a derivative of its applicable legislated requirement:

- The Occupational Health and Safety Act and its regulations
- Environmental Protection Act and its regulations
- Employment Standards Act
- Smoke-Free Ontario Act

These standards reflect working requirements in the province of Ontario. If CFJ employees are to conduct work outside of the province they shall contact the Health and Safety Department to confirm the following requirements.

2. DRUG AND ALCOHOL POLICY

2.1 Purpose

The purpose of this policy is to communicate to all employees the existence of this document, and to permit each employee to take all necessary actions to ensure they conform to the standards outlined within this policy. This policy is directed at protecting the working environment, and the health and safety of our employees by eliminating the risk of incurring any incidents where substance abuse may be a contributing factor. The policy will also ensure that in our efforts to maintain a safe, drug and alcohol free workplace the rights and confidentiality of our workers is maintained.

CFJ is committed to providing and maintaining the safest possible work environment which prohibits the use of alcohol or illegal drugs that may have a negative effect on the safety and health of our employees or any other person.

This policy also outlines the assistance available to employees dealing with a substance abuse problem.

2.2 Scope and Application

This policy applies to all employees engaged in Company business, working on Company or Client property, or while operating Company/Client equipment or vehicles.

1) CFJ employees may not use, or possess drugs and/or alcohol while performing duties related to their employment with CFJ. Nor may any employee offer for sale drugs / or alcohol while on CFJ or Client/Customer property, or on a CFJ or Client/Customer worksite. Furthermore, all CFJ employees must also be free of any influence caused by alcohol or drug usage during working hours.

2) CFJ employees using either prescription, or over the counter medications, must only use them for their intended purpose, in the manner directed by a medical practitioner, pharmacist, or as stipulated by the manufacturer of the drug. Moreover, CFJ employees who are required to use prescription or over the counter drugs, will be obligated to immediately notify their supervisor, site superintendent, manager, or safety manager, of any side effects that would possibly impact their ability to safely perform their work.

3) CFJ makes it a condition of employment that all employees will be required to undergo remedial treatment, should any employee indicated that they are suffering from a substance abuse problem that may impact their work environment, or if any required alcohol/drug testing performed, while in the employment of CFJ, show a positive result. This remedial treatment may include counselling, rehabilitation, or withdrawal from employment. An employee, who has been assessed for drug or alcohol dependency and is receiving treatment voluntarily, will not be subject to

disciplinary action as a result of this issue, provided they are complying with the treatment recommended by the treatment provider.

4) CFJ reserves the right to require that an employee undergo drug and/or alcohol testing in the event that an incident occurs, and there is reasonable ground to believe that the incident was resultant from drug and/or alcohol use.

5) CFJ reserves the right to conduct lawful searches for alcohol, drugs, or drug paraphernalia on CFJ worksites, in the event that an incident occurs, and there is reasonable ground to believe that the incident was resultant from drug and/or alcohol use.

6) Refusal to comply with this policy may prevent that person from being employed on the Client's premises.

7) This policy will by enforced via CFJ management and supervision.

8) A representative of an union or employee organization of which an employee is a member of and with whom the employee has a bargaining relationship may:

   - Assist the employee with any matter arising under this Policy.
   - Attend any meetings or discussion at the employee's request providing their attendance does not cause an undue delay in the time at when the meeting takes place.

9) CFJ Subcontractors will be expected to work within this policy.

2.3 Drug and Alcohol Policy Provisions

Failure to comply with the rules outlined in this policy will result in disciplinary action and possible termination.

All CFJ employees will be expected to be fit for duty while performing any duties related to their employment at CFJ. As such, all employees must be free from influence of, and are prohibited from: the use of, offer of sale, or possession of the following items:

- Illicit drugs including:
  - Marijuana metabolites
  - Cocaine metabolites
  - Opiate metabolites
  - Phencyclidine
  - Amphetamines
  - Non-prescribed drugs for which a prescription is legally required.
- Alcohol
- Drug paraphernalia

10) No employees shall be unfit for work due to the intentional misuse of prescribed medications, over-the-counter medications or other similar substances. Moreover, all employees who are required to use these medications must use them only in the manner directed by a medical practitioner, pharmacist, or as stipulated by the manufacturer of the drug. CFJ employees who are required to use prescription or over the counter drugs, will be obligated to immediately notify the site superintendent, division manager, or safety manager, of any potential side effects that would impact their ability to safely perform their work. Also, independent contract workers have the responsibility to manage potential impairment during working hours due to the legitimate use of medications in consultation with their personal physician or pharmacist.

11) Employees are not to be unfit for work due to the after-affects of alcohol, illicit drugs, non prescribed drugs, or the intentional misuses of medications.

12) No employees shall report to work or have a blood alcohol concentration of .04% or higher of alcohol in one hundred millilitres of blood, breath, or saliva (See table below).

13) No employees shall report to work, or be at work with drug levels equal to or in excess of:

SUBSTANCE	LIMIT
Alcohol	0.04 %
Cocaine Metabolites	300 ng/ml
Opiate Metabolites	2000 ng/ml
Phencyclidines	25
Amphetamines	1000 ng/ml

2.4 Alcohol and Drug Testing

CFJ may require an employee to undergo drug and alcohol testing in the event of an incident occurring in which the company Supervisor, Manager, or Management Representative has reasonable cause to believe, that the employee's fitness for duty may due to the influence of drugs and/or alcohol, may have been a contributing factor in the incident occurring. Such "reasonable cause" will be based on observation of the employee's conduct or other indicators as stipulated. Prior to the commencement of testing the following personnel will be consulted: the CFJ Nuclear Contractors Ltd. The Manager, or his authorized site designate, Site Steward, Foreman/Supervisor and Union Representative.

2.4.1 Circumstances for Alcohol and Drug Testing

Alcohol and Drug testing are only permitted under the following conditions, as long as it is within 4 hours from the time the decision was made to do a test:

Post-Incident Testing: To eliminate alcohol or drug use as a possible cause of an incident, an employee may be required to undergo alcohol and drug testing, only where it is believed that illicit drug / alcohol use may have been a contributory factor.

Return to Work Plan - In order to determine compliance to any treatment undertaken by the employee. This would be performed on a case-by-case basis.

Reasonable Cause: The criteria for determining "reasonable cause" will based on the following guidelines:

- Findings of an incident investigation that would indicate that the employee was influenced by drugs and/or alcohol.
- Changes in the physical appearance of the employee that would indicate that they are not in a fit state.
- The smell of drugs and / or alcohol detected on an employee.
- Sudden or significant changes in the employee's behaviour that has not otherwise been identified during previous interactions.
- Slurring of speech, or changes the in employee's speech patterns.
- Observation of an employee using an illicit substance.
- Admission of guilt by an employee of the use of an illicit substance.

2.4.2 Guidelines for Drug and Alcohol Testing

If a CFJ Supervisor, Manager, or Representative has reasonable cause to suspect that an employee is under the influence of alcohol or drugs, the following procedure must be followed.

14) The CFJ Supervisor must perform an incident investigation, as prescribed in the CFJ Health and Safety Manual. During this investigation, the employee's fitness for duty, as based on this drug and alcohol policy, must be evaluated.

15) Should the incident investigation findings determine that the employee's fitness for duty is subject to further evaluation, the CFJ Supervisor, Manager or Representative is to question the employee regarding their suspected use of an illicit substance. All questioning must be performed in the presence of the Union Steward and Supervisor.

16) Should the employee visibly show his/her impairment and deny use of an illicit drug and fail to present a valid reason for the concern expressed by the supervisor, manager, or representative, the employee is to be removed from the job location, and brought to the nearest CFJ office if necessary.

17) CFJ supervisory staff must then immediately contact their Manager, or Authorized Designate, to determine a further course of action.

18) Once the Manager, or Authorized Designate is consulted, the Company may request that the employee undergo drug and alcohol testing, via an approved method, to confirm or deny alcohol or drug consumption, use or influence.

19) The Supervisor or Designate is to then bring the employee to the testing facility and await the results.

20) All testing will be conducted under professionally controlled conditions to ensure accuracy and confidentiality. The provider and location of this provider are to be coordinated through the Safety Manager. The Manager or Project Manager will be made aware of the name of the provider and their location.

21) All facilities used in the collection of specimens, conducting breath alcohol tests or conducting laboratory tests, shall meet the standards of the Standards Council of Canada Laboratory Accreditation Program for Substance Abuse.

22) The final review of test results will be conducted by a qualified Medical Review Officer, who will contact the employee prior to notifying CFJ.

- ***Positive Test Result***: Should the results come back positive, the employee is to be removed form the site until notified by his Supervisor, or a Representative of CFJ. If the client requires removal form their site, CFJ will re-assign the employee to other duties.
- ***Negative Test Result***: Should the results come back negative, the employee is to be returned to the site and can proceed to work as usual.
- All results and documentation will be forwarded to the manager, and vice president and safety for further review, and any subsequent action.
- ***Employee Confidentiality***: To preserve the employee's confidentiality, the test results cannot be disclosed to anyone other than a person who requires the test results in order to take action on the occurrences. Thus, only the Vice President and Safety Manager, Manager, and Project Manager are to be made aware of the results. All documentation will be forwarded to Human Resources and Safety Department and maintained with all other confidential employee files.
- ***Test Refusal***: Should the employee refuse to participate in the testing, they are to be immediately removed from the jobsite, and the manager, and Vice President and Safety must be notified prior to the employee's return to work. Failure to cooperate in a test may result in disciplinary action, and possible termination.

2.5 Guidelines for Handling Drug and Alcohol Abuse

Unless an employee is actually caught consuming alcohol or using drugs on site, identifying those employees under the influence can be a very subjective process. Even if the Supervisor is correct in his/her assumption, labour relations disputes and legal problems may occur. The following are guidelines for supervisors to assist in dealing with alcohol and drug problems on site.

If you suspect an employee is under the influence of alcohol or drugs and you have reasonable grounds to believe he is a danger to himself and coworkers, the procedure noted below should be followed:

In the presence of the Union Steward, a Project manager, advise the employee of your suspicions. If the worker provides a reasonable explanation and you, the Steward and project manager are satisfied that he/she does not pose a safety risk, instruct the employee to resume his/her duties. If you are not satisfied with the explanation:

- Complete a Safety Investigation Report and Record the verbal warning using the Disciplinary Action Form.
- Take the employee home or other safe location for the remainder of the shift. If necessary, arrange and pay for a taxi. Do not let the employee drive himself home; and
- Instruct the employee to report for the next scheduled shift free of drugs and / or alcohol.
- Immediately notify the Project Manager via fax or phone and forward a copy of the completed Disciplinary Action form. The Project Manager will then advise the Vice President and the Site Safety Manager and the appropriate Union office of the matter.
- If you suspect the employee is under the influence, again remove the employee form his/her work activities and advise him to report to the lunchroom. Immediately notify the Project Manager and await instructions. The Project Manager will contact the Vice President and the Site Safety Manager for instructions on how to proceed.
- Follow the recommendations and instructions given by the Vice President.

2.6 Training and Communication

Training and communication of this policy is to be administered as enacted through the CFJ Health and Safety Manual.

2.6.1 Employee Communication:

- The Project Manager is to be held accountable for the communication of this policy. It is the responsibility of the supervisor(s) to ensure this policy is communicated, as per the CFJ Health and Safety Manual.
- Orientation - The existence and general requirements of this policy, specifically outlining our expectations that all employee be fit for duty, the availability of an assistance program, and our prohibition of alcohol, illicit drugs, drug paraphernalia, abuse of medication, and sales of drugs and alcohol, will be communicated via our employee orientation, as per the CFJ Health and Safety Manual.
- Policy Availability– This policy will be made available to all employees via its inclusion in the CFJ Health and Safety Program, as made available on each worksite.

2.6.2 Supervisor Communication

- The Project Manager is to be held accountable for the communication of this policy.
- Supervisor Accident Prevention Training – The contents of this policy and its general requirements will be reviewed with each Supervisor upon hire as included in our Supervisor competency-training program, as per the CFJ Nuclear Contractors Ltd. Health and Safety Program. Additional training will be performed as any revisions or alterations are made. . Supervisors are expected to have an understanding of this policy and the procedures to be followed.
- Site Specific Requirements – The name and location of medical provider available to perform any subsequent testing will be made available to each supervisor upon arrival on site. It will be the responsibility of the Project Manager to ensure that this information is made available.

2.7 Prevention, Assessment, & Rehabilitation

CFJ recognizes that education and prevention are both essential solutions to the dependency problem. The Company will assist any employee in obtaining rehabilitation services where possible and appropriate. Any subsequent assessments and rehabilitation must be coordinated via the Safety and the Human Resources department.

Employees are also encouraged to seek rehabilitation services outside the purview of CFJ.

3. EMERGENCY RESPONSE AND PLAN

3.1 Emergency Response

This applies in all instances in which CFJ, or a subcontractor of CFJ is performing work, and must be followed should the following events occur:

- Critical Injury or Fatality
- Serious or Life Threatening Events

3.1.1 Critical Injuries and Fatalities - IMMEDIATE NOTIFICATION

"Critically injured" means an injury of a serious nature that:

- Places life in jeopardy;
- Produces unconsciousness for any reason;
- Results in substantial loss of blood;
- Involves the fracture of a leg or arm but not a finger or toe;
- Involves the amputation of a leg, arm, hand, or foot but not a finger or toe;
- Consists of burns to a major portion of the body; or
- Causes the loss of sight in an eye.

3.1.2 Serious or Life Threatening Event: NOTIFICATION WITHIN 24 HOURS.

- Worker falling a vertical distance of 3 metres or more, or if a worker falls and his fall is arrested,
- Accidental contact by a worker's tool or equipment with a live electrical conductor or live electrical equipment,
- Contact by a backhoe, shovel, crane or similar lifting device or its load with an energized power line rated at more than 750 volts,
- Structural failure or a principal supporting member, including column, beam, wall or truss of a structure,
- Failure of all of part of the structural supports of a scaffold,
- Overturning or the failure of all or part of a crane or similar hoisting device;
- Accident results in damage exceeding an estimated $10 000.
- Any other event deemed "serious" by the Vice President / General Manager, Site Safety Manager, or any other events requiring notification to government authorities.

3.2 Emergency Response Procedure

In case of a critical injury or fatality, the Supervisor will arrange for immediate medical treatment to be provided, then ensure the incident scene is secured and immediately notify the Project Manager. The Project Manager must then notify the Vice President / General Manager and Site Safety Manager. Once notified the Vice President / General manager or his designate will:

- Immediately notify the Vice President/ General Manager and Safety Manager. Where applicable, notify the client and / or constructor.
- Where applicable, ensure the Supervisor notifies the Worker Safety Representative.
- Ensure the supervisor conducts an incident investigation and prepares a detailed report of the event. This should be done with the assistance of the Safety Department where possible;
- Ensure any media questions are directed to a company spokesperson only (Vice President);
- In the case of a fatality, the police will contact the next of kin;
- In the case of critical injury, contact next of kin and provide transportation to the hospital if required;
- Except as necessary to preserve life or relieve human suffering, ensure the accident scene is preserved.
- The Vice President or Safety Manager or appointed designate will:
    - Notify the President and CEO.
    - Notify the required Government Authorities.
    - Prepare or authorize the release of documentation to the required Government Authorities when necessary.
    - Act as a liaison with the media and / or Client where required.

3.3 Evacuation Plan

If no client evacuation procedures exist, the Senior Project Supervisor will establish an appropriate emergency procedure covering the following:

- Total evacuation;
- Partial evacuation;
- Critical injury or fatality;
- First aid/medical aid.

This written emergency procedure, when completed, will be forwarded to the respective Department Manager who will review and file in the job safety file.

On acceptance by the Department Manager, the Project Supervisor will post the emergency procedure at prominent locations on site.

3.4 First Aid:

The Supervisor shall ensure compliance with all applicable Health and Safety Legislation and Workers Safety and Insurance Board (WSIB) requirements regarding first aid in all work places under their supervision.

Should an injury occur, it is essential that first aid be administered immediately followed by proper medical treatment if necessary. (Reference – Part 2: Injury Management)

3.4.1 General Requirements:

- A first aid kit with the required contents will be available at each workplace.
- There will be a Certified First Aid Representative conveniently available on each shift.
- Transportation of an injured worker to a hospital, doctor's office or workers home will be provided by a supervisor when necessary.

3.5 Communication of Emergency Response, Evacuation and First Aid Procedure

A wall poster showing the telephone numbers for the following emergency services will be posted on all job sites (poster to be issued with job starting notice):

- Nearest medical aid facility
- Ambulance
- Police
- Fire
- Exit (gate no.)
- Location of phone and emergency dial number
- Nearest CFJ office
- CFJ Head office

The following information must also be posted in a convenient location at the worksite:

- Evacuation procedure
- List of Certified First Aid Representative on site

Reference: PART 1: Project Safety Postings.

4. PERFORMANCE MANAGEMENT POLICY

4.1 General (Disciplinary Action Form)

As part of our commitment to providing a safe working environment for all of our employees, the performance management policy is to be enforced by the supervisor. This policy outlines the minimum disciplinary action requirements and may be more stringent based on client/customer requirements.

Communicating as a team will improve awareness of health and safety. However, failure to comply with the safety rules and regulations will result in the enforcement of this policy.

The following items shall be cause for disciplinary actions:

- Absenteeism or reporting late without reasonable cause
- Health or safety violations
- Carelessness
- Horse play
- Wilful damage to property, tools, equipment and/or machinery
- Alcohol or non-prescription drug consumption/intoxication
- Failure to report an unsafe act or condition
- Insubordination and / or abuse of any person
- Theft or misrepresentation of records
- Wilful misconduct

4.2 Disciplinary Action Procedure/Sequence

4.2.1 First infraction

STEP 1 - Verbal warning.

The Supervisor will verbally caution the individual and document the unacceptable action and have them correct it accordingly. Care will be taken to determine the cause or reason for such unacceptable action, and may require retraining and /or skill practice.

4.2.2 Second infraction

STEP 2 - Written notice and interview.

A second repeated action of non-compliance shall result in a written reprimand to be place in the employee's personnel file in conjunction with a Supervisor interview.

4.2.3 Third Infraction

STEP 3 - Written notice and three-day suspension or dismissal.

Should an individual continue to persist in performing unsafe actions or display disrespect toward any supervisor, the individual shall be subject to a three day suspension, or such additional action (including dismissal) as may be warranted under the circumstances of the incident. In addition, the action shall result in a written reprimand to be place in the employee's personnel file in conjunction with an interview by a Management Representative.

4.2.4 Fourth Infraction

STEP 4 - Written notice: Dismissal

Mandatory dismissal from employment or removal from site for a period of six months.

In all instances the Supervisor will review with the employee the offence and corrective action required to eliminate the violation in the presence of the union steward.

4.2.5 Additional Performance Management Actions

Additional disciplinary action can be taken against an employee as may be deemed necessary by the Vice President / General Manager.

4.3 Employee Termination

Any employee terminated for health and safety violations cannot return to a CFJ site for a minimum period of six months after which time his record shall remain intact with the last recorded step in their previous sequence of disciplinary action for a period of one calendar year starting on the day of their return.

4.4 Records

In all instances where formal disciplinary action is taken, all subsequent documentation must be forwarded to the Division Office for review by Management (Attention: Vice President / General Manager and Safety Coordinator).

In all instances where an employee receives either STEP 3 or STEP 4 Disciplinary Action all documentation must be forwarded to the Safety Manager who will notify the Vice President.

Any disciplinary action taken against an employee will be valid in the employee file for a period of one calendar year from the last reported violation.

5. WORK REFUSAL PROCESS

All workers have the right to perform work in a manner that does not endanger themselves or others. If any worker feels the work they are about to perform or the equipment/tools will endanger themselves or others, they must immediately report the unsafe condition to their Supervisor. If the worker and Supervisor cannot resolve the issue to the satisfaction of the worker, then the worker has the right to refuse that particular work as outlined within Health and Safety Legislation.

It is in the best interest of all parties to avoid a work refusal and to resolve any health and safety concerns by first discussing them with the Management Team and the CFJ safety department. However, if the safety concern(s) fails to be resolved the following procedure must be followed:

5.1 Work Refusal Procedure

Employee reports the work refusal to the Supervisor stating the reason(s) for the refusal.

The Supervisor must then notify the Worker Safety Representative, or if no representative is available a worker chosen by the union / workers of the refusal and together with the worker immediately investigate the reasons for the refusal.

Worker stands in a safe place near the workstation while all attempts are made to resolve the perceived problem to the satisfaction of all parties.

If problem is resolved to workers satisfaction, he / she returns to work.

If not resolved and the worker continues to refuse work, Notify the Ministry of Labour or provincial Department of Labour which governs Health and Safety.

- Another worker my be asked to perform the job, only if that worker is advised of the refusal to work and the surrounding circumstances, in the presence of the worker health and safety representative or by a worker who because of his knowledge, experience and training is selected by the trade union that represents the worker.

A government inspector investigates the refusal in the presence of the worker, employer, Supervisor, and the Worker Safety Representative.

Note: Pending the outcome of the investigation, the worker may NOT be sent home.

A decision will be made in writing and proved to all parties. This decision must be adhered to whether in favour of the worker or employer.

5.2 No Reprisal

No representative of the employer will take any sort of reprisal against the worker for refusing work.

6. DISCRIMINATION, HARASSMENT & WORKPLACE VIOLENCE

6.1 Purpose

To eliminate the occurrence of harassment, discrimination or violence and, in its occurrence, to ensure any allegations or complaints are investigated promptly and thoroughly.

6.2 Scope

This policy applies to all Employees, Contractors, Customers, Clients and Visitors of CFJ and applicable subsidiary companies.

6.3 Policy

It is the policy of CFJ that all Employees, Contractors, Customers, Clients and Visitors have the right to be treated fairly in the work place and to pursue their career goals unhindered by discrimination, harassment or violence of any kind.

6.3.1 Discrimination

Discrimination may be any conduct which is directly or indirectly perceived by an employee as placing a condition on the employee's employment, promotion, or wages, or creates undesirable working conditions because of any of the following attributes:

Race or Colour	Family Status
Religion or Creed	Political Belief
Age	Based on Association
Sex	Pardoned Conviction
Martial Status	Record of Criminal Activity
Language	Physical Handicap
Sexual Orientation	Mental Handicap
Social Condition/Origin	Assignment/Seizure of pay
National or ethnic origin	Dependency on alcohol/drugs

6.3.2 Harassment

Harassment in the workplace may take many forms and occurs whenever a person engages in a course of vexatious comment or conduct against an employee, contractor, or worker in the workplace that is known or ought reasonably to be known to be unwelcome. It will include:

- Inappropriate remarks, jokes, innuendo or taunting about a person's body, attire, age, marital status, religion, ethnic or national origin
- Displaying pornographic, racist or other offensive or derogatory pictures
- Practical jokes that cause awkwardness / embarrassment
- Unwelcome invitations or requests, whether indirect or explicit, or intimidation
- Leering or other gestures
- Unnecessary physical contact such as touching, patting, pinching or punching

Under no circumstances will these or similar actions be tolerated by the Company, regardless of whether such acts are perpetuated or condoned by managerial or non-managerial employees, or occur with suppliers and customers in the course of doing business with the Company.

It is the policy of the Company that all Managers / Supervisors are expected to take all actions within their control to ensure that those persons who work in the Company are free from harassment and discrimination.

In the case of alleged harassment, employees will have the opportunity to seek proper relief for any complaints they may have pertaining to their treatment. A procedure for such complaints is outlined below:

- Where an employee feels they have been harassed, they should:
  - Immediately ask the harasser to stop, inform him or her that their behaviour is unwelcome and against Company policy. A simple conversation may resolve the problem. If the employee is uncomfortable speaking with the person, they should speak to a Safety Representative.
  - If the harassment does not stop, the employee should speak to their supervisor and confirm the conversation in a letter or note. If the Supervisor is the harasser, the employee should contact the supervisor's manager or where the employee is uncomfortable in discussing harassment with immediate management, the employee should contact Human Resources or the Site Safety Manager.
  - No employee will be penalized for complaining, in good faith, about alleged discrimination or harassment or co-operating in an investigation of an alleged incident of harassment.
  - The harassed employee should keep a written record of dates, times, behaviour and witnesses.
- If it is found that a violation of this policy has occurred, CFJ will take immediate and appropriate corrective action, up to and including the discharge of those persons in violation.
- Harassment or failure to respond appropriately to harassment may be cause for termination of employment without notice or any payment in lieu of notice.

6.3.3 Workplace Violence

Workplace violence between employees or from or upon a contractor, customer, client or visitor will not be tolerated. Workplace violence will include any act of:

- Physical force by a person against a worker, in the workplace, that causes or could cause physical injury;
- Any attempt to exercise physical force against a worker in the workplace that could cause physical injury; and/or
- Any statement or behaviour that it is reasonable for a person to interpret as a threat to exercise physical force against them in the workplace, that could cause physical injury to the worker.
- This will include:
    - Abusive Statements- Insulting, derogatory, demeaning, racist or sexist statements directed at a specific person are considered abuse.
    - Threats- A statement or action expressing intent to cause physical harm or the destruction of company property is considered a threat.
    - Intimidation - is a statement or action, other than a direct or indirect threat, that makes you afraid for your own or another person's safety.

Any incident involving violence, abuse, intimidation or threats towards another employee, contractor, customer, client or visitor on company or project site shall be considered a contravention of this policy and will be subject to disciplinary action up to and including discharge.

Any physical force intending to cause harm to another employee will result in immediate discharge.

All incidents involving violence shall be reported to your Supervisor immediately. No employee can be penalized, reprimanded or in any way criticized when acting in good faith while reporting situations involving workplace violence.

Upon notification of incident, the Supervisor is required to conduct an investigation and report all findings to the Human Resources or Corporate Safety. All information collected shall be of first person experience and should not include hearsay.

If involved in a violent situation, remove yourself from situation as soon as possible and directly notify your Supervisor or a Manager. Retaliation will be considered an act of violence and will result in disciplinary action. If possible, make a note of the exact words that were stated and any present at the time.

If the violent act resulted in injury seek medical attention immediately and notify supervisor as soon as possible. If you observer violence against a fellow a co-worker notify our supervisor or your Project Manager immediately.

If you have a history of violence or have been charged for violent behaviour, this information should be disclosed to the Company and if you feel you are digressing or

in an intolerable situation, leave the area and immediately notify your supervisor or Safety.

6.4 Precautionary Measures for Workplace Violence

Company Sites / Projects shall, if feasible, have restricted entrances and only employees shall be free to enter and exit. Such sites shall designate an entrance for visitors or contractors to sign in / out.

Each location shall assess the safety of the reception the designated entrance for potential violence and shall come of with a site specific emergency response plan for disturbed personnel.

Domestic violence can endanger you and your co-workers. Notify our manager if personal issues are likely to impact you at work. While some disclosure of personal information may be necessary, it will be limited to what is reasonably necessary to protect a worker from physical injury. Each employee should immediately inform the Company of their knowledge of any “restraining” order, its content and terms and the identity of the individual being restrained. When a situation involves restraining orders or other protective orders if an individual contravenes their order the local enforcement authority shall be notified.

Employees should always be aware of signs of aggression and remove themselves when possible from the situation. Report any concerns you may have to your Supervisor.

Employees can utilize their right for refusal if their direct contact with an employee with a history of violent behaviour jeopardizes their safety, or if an employee perceives their work environment provides opportunity for external sources of violent behaviour and jeopardized their safety.

7. SMOKING POLICY

7.1 Purpose

The purpose of this policy is to, restrict smoking in the workplace, help promote healthy living for all CFJ employees, and ensure we maintain compliance with all applicable laws governing health, safety and workplace smoking. Any employee who violates this policy, or supervisor who knowingly allows for this policy to be violated may be subject to disciplinary action and / or legislated fines.

7.2 Scope

This policy applies to any enclosed public areas or workplaces including all CFJ owned and / or operated dwellings such as offices, site offices, warehouse areas, shop areas, lunchroom and vehicles.

Smoking is only to be permitted in:

- Designated smoking areas located outdoors (away from main access doors);
- Areas designated by the client, owner, or constructor as “approved” smoking areas.

Any designated smoking areas must have a garbage container(s) located in the immediate area to ensure the area is kept clean and orderly.

7.3 Health Hazards

The health hazards associated with smoking typically include (as published by Health Canada):

7.3.1 Short Term Effects

Increased heart rate and blood pressure, drop in skin temperature, faster breathing, decreased appetite. First-time smokers feel dizzy and energized and may experience diarrhea and vomiting. Inhaling smokers subject themselves to very high carbon monoxide levels. They also subject the people around them to the same thing.

7.3.2 Long Term Effects

Possible effects include cancer of the lungs, mouth and throat, respiratory diseases, blockage of blood vessels, stomach ulcers. Smoking narrows blood vessels, depletes Vitamin C levels, causes skin wounds to heal less quickly and reduces immunity to disease. Research indicates that each smoked cigarette cuts 5.5 minutes from each smoker's life span. The babies of women who smoke tend to weigh less at birth than those of non-smokers; the risk of prematurity, miscarriage and stillbirth is greater.

Studies suggest that the mother's smoking can have a detrimental effect on the child's growth, intellectual development and behaviour. Second- hand smoke (passive smoking) increases the risk of lung cancer and heart disease in non-smokers. Children whose parents smoke have more chest infections and other lung problems, such as asthma, than children of non-smokers. Second-hand smoke is a special problem for allergic people and those with heart or lung disease.

7.4 Health Promotion

In our efforts to promote healthy living, medication designed to help employees quite smoking will be made available through the CFJ health plan. Please contact the Human Resources Department for further information. It is recommended that all union employees contact their local office to inquire about what assistance is available.

PART 4
CORPORATE SAFE WORK STANDARDS / PROCEDURES

REVISION HISTORY - PART 4

Revision	Date	Author	Description of Changes

TABLE OF CONTENTS
PART 4

Chapter **Page**

1. OPERATIONAL CONTROLS (STANDARDS AND PROCEDURES

1.1 General

Part 4 is to provide the minimum standard for site specific safety requirements to be used in conjunction with client/customers instructions and procedures. In the event a conflict between CFJ's and client provisions, the most stringent provision shall govern.

The follow methods will be utilized to compile standards and procedure:

- The Occupational Health and Safety Act and its regulations.
- Industry best practices
- Hazard and risk assessments
- Employee input and feedback
- Annual management review

Prior to commencing work, all employees will be informed of the specific, standard, safe work instructions or procedure that applies to their specific work activity, to which they must adhere.

For situations not addressed in this manual or for additional information contact the Safety Department.

2. CONFINED SPACE STANDARDS AND PROCEDURE

2.1 Scope

This standard shall be used in conjunction with the Clients/Customers Confined Space standards, procedures or specific requirements. In the event a conflict between CFJ's and client provisions, the most stringent provision shall govern.

2.2 Purpose / Objectives

This procedure defines the CFJ requirements and responsibility for the safe entry and completing of work in Confined Spaces. It provides a standard system for assessing Confined Space hazards and for planning and conducting safe Confined Space entries in compliance with applicable regulations under the Occupational Health and Safety Act of Ontario.

2.3 Risk Assessment / Hazards

2.3.1 Confined Space Identification and Evaluation

Work spaces which may meet the definition as prescribed in this procedure must be evaluate and determine using the clients criteria. If classified a hazard assessment and JSEA must be develop in conjunction with this procedure.

2.3.2 Hazard Identification and Assessment

Before any worker enters a Confined Space, an adequate written assessment of the hazards shall be carried out. The assessment shall consider hazards that may exist due to the design, construction, location, use or contents of the Confined Space as well as hazards that may develop while work is done inside the Confined Space. Work activities such as painting, welding or cleaning with organic solvents can result in a normally safe work environment becoming hazardous.

The criteria which must be assessed includes:

- Toxic/flammable gases, vapours, fumes or dusts.
- Oxygen content less than 19.5% or greater than 22% by volume.
- Chemical contact hazards such as acids or alkalis.
- Temperature, humidity extremes.
- Slipping hazards (oil, chemicals, water).
- Physical hazards (sharp edges, falling objects, moving parts, engulfment hazards).
- Excessive noise/vibration or inadequate lighting.

- Electrical hazards or other energy hazards including lines, cables, exposed terminals
- Combustible solids, gases, vapours, fumes or dusts.
- Limited access and egress and impaired visibility.
- Biological hazards.
- Ionizing radiation.
- Isolation review, if required,

2.3.3 JSEA

Hazard assessment documentation be recorded in a Job Safety, Environmental Analysis (JSEA) and may need to be reviewed by the Client. The Client may also have to provide a Confined Space Isolation Review prior to any confined space entry.

Hazardous beyond the control of CFJ may require the Client to provide a Confined Space Isolation Review, to validate all isolations.

2.4 Definitions

Confined space -means a fully or partially enclosed space

- That is not both designed and constructed for continuous human occupancy, and
- In which atmospheric hazards may occur because of its construction, location, contents or because of work that is being done in it.

The above two conditions must both apply when determining if you have a Confined Space.

"Acceptable Atmospheric levels," means that three conditions must be in place for acceptable atmospheric levels to be considered to exist:

23) Oxygen content in the atmosphere must be at least 19.5% and not more than 22% by volume.

24) There must be no accumulation of atmospheric contaminants, including gases, vapours, fumes, dusts or mists, that could

- Result in acute health effects that pose an immediate threat to life.
- Interfere with a person's ability to escape unaided from a Confined Space.
- Exceed 25% of the Ontario Time Weighted Average Exposure Value (TWAEV).

25) There must be no evidence of flammable dusts and the concentration of flammable gas/vapour or explosive agents must be

- Undetectable by the gas detector for Hot Work. (Normally considered to be < 2% Lower Explosive Limits by best industry standards)
- Less than 10% (LEL) for cold work.
- Less than 20% (LEL) for visual inspections where no tools are

Atmospheric Contaminants - refers to airborne gases, dust, fumes, vapour and/or mists which, at specific exposure levels, are known to cause adverse health effects to the human body.

Blank - means an engineered device that is installed between the energized or potentially energized section of the process and the de-energized section such that the latter will stay de-energized. Physically disconnecting is equivalent to installing a blank.

Cold Work - means work that is not capable of producing a source of ignition. This would include work with manual tools such as wrenches, hand paint scrapers and/or brushes where no spark or flame can be created.

A ***Competent Person -*** is a person who

- Is qualified because of his or her knowledge, training and experience to organize work and its performance.
- Is familiar with the provisions of the Occupational Health and Safety Act and regulations that apply to the work, the CFJ and Client approved procedures.
- Has knowledge of any potential or actual danger to health or safety in the workplace.

Confined Space Isolation Review - is a review by a qualified person of the isolation, including isolation techniques used to eliminate and/or control the hazards that may exist to personnel while working within the Confined Space.

Entry - is the ingress of personnel into a Confined Space which occurs upon breaking the plane of the Confined Space Portal with his/her face, and all periods of time in which the Confined Space is occupied.

Hazardous Material - is any purchased product that may

- be a risk to the environment
- be harmful to workers
- cause or promote a fire or explosion
- be harmful to station systems.

It is more than just a Workplace Hazardous Materials Information System (WHMIS) controlled product. It includes all chemicals, including non-controlled or “non-regulated” ones, as well as those regulated by law. Examples include products classified under the Consumer Chemicals and Containers Regulations, Transportation of Dangerous Goods Act and Regulations and Ozone Depleting Substances Regulations.

All hazardous material should be controlled for Confined Space entries. Atmospheric contaminants are included in hazardous materials.

Hazards Which Must Be Blanked refers to any liquid, gas, vapour or solid which could cause injury or ill health. (This includes all hazardous material under WHMIS legislation.) Water, steam, compressed air and other similar hazards or energies must be assessed on their potential to introduce harm.

Hot Work is work that is capable of producing a source of ignition. Hot work may involve open flames or production of heat or sparks that has the potential to start fires. Hot work includes, but is not limited to, cutting, welding, open flame soldering, brazing, grinding, pre- and post-weld heat treatment (open flame), adhesive bonding, thermal spraying, thawing pipes, use of fuel fired heating equipment or portable electrical heating equipment other than which is used for personal use (National Fire Code of Canada, CSA-N293).

Oxygen Deficient or Enriched Atmosphere means an atmospheric concentration below 19.5% or above 22% oxygen by volume at normal atmospheric pressure.

Restricted Access and Egress: Access or egress is restricted when the emergency evacuation of the Confined Space would be difficult due to the size of the opening and the number of people required to egress. Workers must be capable of entering and exiting the Confined Space while wearing all required safety equipment.

2.5 Entry Planning

2.5.1 Entry Control Plan Documents

Before any worker enters a Confined Space, a CFJ designate shall develop the Entry Control Plan and Coordination Documents. These shall include methods, procedures and practices for controlling all hazards identified by the assessment. The Entry Control Plan must consider all potential hazards listed in Section 4.5, Hazards and Controls. The Entry Control Plan documentation includes:

- Confined Space Evaluation.
- Pre-Job Briefing/Hazard Assessment Checklist
- JSEA
- Confined Space Isolation Reviews, if applicable
- Entry Permit
- Rescue Plans.
- Entry Tags.
- Other supporting documentation such as Work Approvals.

2.5.2 Entry Permit

Client's entry permit usually takes precedence over CFJ permits, refer to client requirements. If not the Entry Permit must contain the following information:

- Pre-Entry Gas Tests
- Gas Tess
- Pre-Entry Requirements confirmed
- Approval Signature
- All entrants signature

2.5.3 Rescue Plan

A competent worker shall set out in writing the Emergency Response Procedures to be followed in the event of an accident or other emergency in or near the Confined Space, including a procedure for the immediate evacuation of the Confined Space, if

- An alarm is activated,
- There is significant change in the oxygen content of the Confined Space, or
- There is a hazardous atmosphere in the Confined Space.

No person shall enter or remain in a Confined Space unless an effective rescue can be carried out. A copy of the Rescue Plan will be kept with the Entry Permit.

2.5.4 Tagging of Access Points

Open portals into Confined Spaces must be tagged at all times. The open portal into a Confined Space must have at least one tags securely attached to the portal in a conspicuous manner warning the Confined Space:

2.5.5 Pre-Job Briefing

Prior to authorizing initial entry into a Confined Space, a Supervisor or delegate will perform a Pre-Job Briefing. Minimum attendance at the Pre-Job Briefing will be the employees entering the space or part of the rescue team, and client representation if necessary.

2.6 Confined Space Entry Procedure:

2.6.1 Access to the Confined Space

- Access to Confined Spaces by unauthorized persons must be prevented. Access points must be signed and tagged.
- Portals which are not Authorized Entry Points must be closed and secured or adequately barricaded and a danger sign and tag prohibiting entry posted.

- Workers must be capable of entering and exiting the Confined Space while wearing required safety equipment, even if the access or egress is restricted. This includes during rescues.
- Ladders must be used where necessary to give ready means of access and egress and must be secured.

2.6.2 Communication and Monitoring Workers

A system of communication between the Entry Monitor and the worker(s) must be established and maintained. This may include the use of alarms. If work is to be performed out of the

Entry Monitor's eyesight, a planned communication arrangement must be established prior to work commencing. A test of this system shall be completed prior to entry and should confirm clear and concise understanding by the parties involved.

2.6.3 Atmospheric Hazards Testing / Monitoring

A determination of the likelihood of the presence of combustible, hazardous material or oxygen deficiency will be made by the Supervisor prior to any entry. The determination can be assisted by previous data collected, system reviews, external testing or ongoing sampling of the enclosure.

The Work Planning and Pre-Job Briefing by the Supervisor will specify which atmospheric hazards must be tested in the Confined Space. The designated Gas Surveyor may specify further gas testing due to normal system content, work activities or other hazards.

Before entry into a Confined Space, the space must be tested by a competent person. An acceptable atmosphere for entry must exist prior to approval being granted to enter a Confined Space. The initial results, including test method and test equipment used (model and serial number and gas test equipment identification number), must be recorded on the Entry Permit.

The gases being tested for must be considered present until proven otherwise. The person carrying out the gas test must be adequately protected while taking the samples.

2.6.4 Gas Detection Equipment

Gas detection instruments must be calibrated per manufacturer's instructions

2.7 Atmospheric Contaminants

Where atmospheric contaminants are present at hazardous levels, the Confined Space must be purged until the concentration is less than the required limits or suitable control measures (i.e., supplied air respirators air provided to reduce inhalation exposure) are in place to reduce exposure. See definition of Acceptable Atmospheric Levels.

All reasonable efforts must be made to reduce the airborne levels (i.e., use of air movers, etc.), before authorization for entry with the use of respiratory protective equipment is given.

2.8 Oxygen Content of Air

Oxygen content must be between 19.5% and 22% by volume. Where the oxygen level is below 19.5%, entry may only be made for emergency purposes using approved supplied air respiratory protection. Where oxygen level is enriched, that is, above 22%, the risk of fire is increased.

Reduced atmospheric pressure (i.e., vault pressure) reduces the partial pressure of oxygen in the blood stream. This is why the standards for oxygen are referenced to normal atmospheric pressure. The gas sampling meters must be zeroed (to 21%) at normal atmospheric pressure (outside the vault in a known pure atmosphere).

2.9 Control of Energy Sources, Equipment and Materials

2.9.1 General Requirement

All electrical and mechanical equipment that may present a hazard to a worker must be isolated and de-energized. A Confined Space shall be isolated and de-energized to ensure that each worker entering the Confined Space is adequately protected against:

- A release of hazardous substances.
- Contact with electrical energy or moving parts.
- Drowning, entrapment, suffocation and other hazards from free flowing material.

2.9.2 Control of Pipes and Supply Lines (Blanking etc.)

Pipes and supply lines whose contents are likely to create a hazard must be controlled by blanking or physically disconnecting them such that no transfer of material can occur under normal or upset conditions.

2.9.3 Falling Objects

Tools and other devices, when not in use, must be placed in locations where they cannot be accidentally dropped, kicked or otherwise made to fall down an opening. If small objects are to be lowered or raised to another level, they must be placed in a bucket. The bucket may then be lowered/raised with a rope. Large objects must be fastened directly to a rope before lowering/raising to another level.

2.10 Hot Work, Fire and Explosion

2.10.1 General

If there is the potential of fire and/or explosion due to the initial air content or due to the nature of the work (either introduced as cleaning agents or able to enter the Confined Space through penetrations), all sources of ignition in the area must be eliminated.

- All fans, motors, extension lights and flashlights must be explosion-proof, and properly grounded.
- Non-ferrous fan blades and non-sparking tools must be used. Personnel working in the Confined Space should NOT WEAR footwear with exposed metal surfaces.
- Each vessel must have metal parts grounded to prevent static sparking.
- Hot Work shall be carried out only when the atmosphere has been tested and
  - The oxygen content is less than 22% by volume, and
  - There must be no evidence of flammable dusts and the concentration of flammable gas/vapour or explosive agents must be undetectable by the gas detector.
- Fire fighting equipment must be readily available as per Rescue Plan.
- A competent person shall patrol the area surrounding the Confined Space and maintain a fire protection watch.

2.10.2 Welding and Cutting

Gas cylinders should be kept outside the Confined Space and be located such as to not create a hazard. (This does not apply to breathing air equipment or fire extinguishers.) The hoses and torch heads must be leak tested prior to entry and not be taken into a Confined Space until immediately before use. Welding and cutting torches must be disconnected outside the Confined Space when not in use.

If it is imperative to take cylinders into the Confined Space, then they must be taken in immediately before use and removed immediately upon completion of the task. The gas must be sampled for during this operation.

Maintenance supervision must specify the special precautions required for electric welding inside the Confined Space. These precautions must be included in the work planning, the Hot Work Permit and Pre-Job Briefing by the Supervisor.

2.10.3 Open Flames

If open flames or heat are to be used in the Confined Space, the work shall be done under direct supervision of the responsible supervisor. Adequate continuous forced

air ventilation must be provided prior to and during the work cycle. Any work or process involving open flame will require a Hot Work Permit.

2.11 Draining, Purging and Ventilating

2.11.1 Draining and Venting

Contents must be drained and/or vented in a safe manner using the most practical method available. Environmental aspects must be considered. Contents may not have to be drained when measures have been taken against drowning. Any free-flowing solid in which the person may become entrapped should be removed from the Confined Space. Additional job planning may be required, (e.g., Personal Floatation Device and/or life vest to be worn, travel restriction equipment). The hazardous gases must be vented to a safe area where no hazard is created for personnel.

2.11.2 Purging and Flushing

Residual hazardous materials must be purged or flushed out of the Confined Space, (e.g., carbon dioxide). Depending on the nature of the material in the Confined Space, water, steam, nitrogen or air is used for purging/flushing. After purging, the inert gas may be removed by forced air ventilation.

2.11.3 Ventilation and Cooling

The Confined Space must be mechanically ventilated with air from outside of the Confined Space where there is likely to be hazardous gases, vapours, mists, fumes, dust, oxygen deficiency and/or extreme temperatures. The points of air supply and exhaust must be positioned in such a way to promote thorough ventilation. Ventilation must be continued while work is being carried out within the enclosure.

When ventilating equipment is used to maintain or support a safe environment, the air mover must be monitored for proper operation. In the event of failure of the ventilating equipment, the Confined Space shall be immediately evacuated.

Many asphyxiants are heavier than air and, because of configuration or design, gases may collect in the bottom of pits and tanks, making ventilation and sampling difficult (e.g., carbon dioxide, freon, argon). Sampling in low lying areas of a Confined Space and methodical purging of these areas will require careful consideration. In some instances Portal Barricades will have to allow for air movement and/or ventilation.

2.12 Personal Protective and Other Equipment

Suitable personal protective equipment and other required equipment shall be used to protect workers against hazards in a Confined Space. This may include:

- Protective clothing, eye, face, head, foot and hearing protection.
- Respiratory protection

- Lighting sources, work platforms, fall arrest/protection equipment.
- Gas detectors, communication devices.
- Air blowers/air exhaust equipment.

2.12.1 Respiratory Protection

- General

  In Confined Spaces, respiratory protection can be used to reduce the inhalation of atmospheric contaminants which may exist as a gas, dust, fume, vapour or mist or to provide breathing air in an oxygen deficient atmosphere.

  Activities such as ventilating or purging the Confined Space may affect the atmosphere of workers outside of the Confined Space. This is especially the case for Entry Monitors due to their proximity to Confined Space portals. This shall be considered in the Confined Space Hazard Assessment and respiratory protection, if required, for Entry Monitors and any other affected workers, shall be specified in the Entry Control plan documents.
- Oxygen Deficient Atmospheres

  Where the oxygen content in a Confined Space is below 19.5% by volume at normal atmospheric pressure, entry is only permitted for emergency purposes and by workers using suitable supplied air respirators.
- Supplied Air Respirator Use In A Confined Space

  The supplied air respirator shall be full face-piece, shall provide at least a 30 minute air supply and shall be capable of allowing the wearer to move to any point in the work area of the Confined Space. It shall be a
  - Self-contained breathing apparatus, or
  - Air supplied respirator supplied from breathing air header or breathing air cylinders located outside the Confined Space, and include an auxiliary escape air bottle.

  If supplied air respirators are required, then, as a minimum, they shall be provided for each person in the Confined Space and for at least two rescuers.

2.12.2 Supplied Air Respirator Rescue Planning and Procedures

When supplied air respirators are required to enter or be inside a Confined Space for emergency purposes, the following is required:

- The Entry Plan and Pre-Job Briefing, including a Rescue Plan, shall be reviewed with all personnel by the supervisor prior to entry
- The rescue portion of the Entry Plan will be signed and dated by workers entering and those required to support the entry into the Confined Space. This is to ensure that each person's role in an emergency is understood.

- The Rescue Plan will be established in consultation with the applicable JHSC and will specify
    - All protective and rescue equipment required for the Confined Space entry.
    - Actions to be taken when emergency alert is sounded.
    - Actions when changes in toxic gas concentrations or oxygen readings are detected.
- Along with the Entry Monitor, there shall be a person trained in artificial respiration, equipped and able to perform rescue operations, readily available outside the Confined Space while a worker is inside it.
- All workers entering the Confined Space must wear a safety harness and lifeline securely attached outside the Confined Space and controlled by the Entry Monitor. The lifeline must not in itself create a hazard. When necessary and where practical, the lifeline shall be attached to a mechanical lifting device.

2.12.3 Electrical Equipment Brought Into Confined Spaces

All 120 volt supplies, including portable generators, must have a grounded neutral and be supplied from a ground fault circuit interrupter (GFCI).

All equipment supplied by greater than 120 volts shall

- Be grounded directly to station ground by independent leads. The supply must also be referenced to ground (i.e., portable 3 phase generators should have ground star point).
- Have a disconnect switch or emergency shut off readily accessible to the Entry Monitor.
- Have breakers or fuses which do not exceed the established rating for the equipment.
- Be accessible by authorized personnel only.

2.13 Job Completion

At the end of the job, a thorough check shall be made by the supervisor to ensure that no tools, equipment or possibly workers have been left behind. Double-check and ensure that all personnel are accounted for before leaving the confined space.

Return the work permit(s) to the responsible supervisor for finalization and to ensure that any locks, etc. belonging to the crew are removed.

2.14 Emergency Response

Ensure that the rescue equipment identified in the JSEA is:

- Readily available to effect a rescue in the confined space;
- Appropriate for entry into the confined space; and
- Inspected to ensure it is in good working order,

FIRST AID / CPR: Qualified first aid personnel who hold current training in artificial respiration (CPR) must be conveniently available and notified of the work wherever any confined space is performed. In addition, a basic first aid kit must be available and emergency response plan must be developed and reviewed prior to the commencement of work.

2.15 Safety Inspections

2.15.1 Employee Inspections

All employees must inspect all tools, equipment and all other safety barriers as identified on the JSA on a daily basis to ensure they are in acceptable condition.

2.15.2 Supervisor Inspections

Supervisors must inspect all confined space work on a daily basis to ensure the work is being completed in the safest possible manner (i.e. ensure the safety plan is adequate, no new unidentified hazards are present, all employees are adhering to all safety requirements).

Inspection results must be formally documented via a safety inspection report, foreman's logbook or equivalent. All items requiring corrective action must be addressed immediately.

2.15.3 Management Inspections:

Division and / or project management should make every effort to physically inspect any confined space work on a regular basis and must, at a minimum, review records of all completed safety training, safety planning (JSA's, daily safety talks) and safety inspections (supervisory inspections) to ensure the work is being completed in accordance to this standard and in the safest possible manner.

2.16 Records

All confined space documentation must be maintained at the worksite for a period of no less than two years upon the completion of the job.

3. IRON WORKER MACHINES

3.1 Scope

This safety standard applies to all instances in which an ironworker machine is used.

3.2 Purpose

The primary purpose of this standard is to:

- Provide a safety standard specifically designed to provide protection from the hazards associated with the use of ironworker machines.
- Ensure that employees that may be required to perform work with an ironworker receive instruction on the safety provisions that must be followed and the hazards associated with the equipment.

3.3 Hazards

The operation of an ironworker machine presents many serious hazards including:

- Eye / face / bodily injury from flying objects being projected from the machine at high speeds during testing and / or operation.
- Pinch / nip hazards during punching and pressing operations
- Handling and transportation hazards, as the equipment is extremely top heavy.

3.4 Training / Instruction

All employees required to use an ironworker machine must receive training or instruction from the manufactures representative and / or a competent supervisor. At a minimum this training / instruction must include a review of: A) The CFJ Ironworker Standard, B) The manufacturer's operational manual, and C) A test demonstration of the equipment. A record of training must be maintained and copied to the employee file.

3.5 Safe Work Standards

3.5.1 Personal Protective Equipment

All standard PPE must be worn including: safety glasses (CSA), safety boots (CSA), hard hat (CSA) and work clothing in good repair. Additional PPE that must be worn during the operation of this equipment include:

- Full Face Shield

- Leather gloves

***Note**: Any other equipment deemed necessary by the manufacturer (refer to manual).*

3.5.2 Equipment Guards

All pinch / nip guards must be present on the machine. Equipment that offers protection against flying objects should be used wherever possible.

***Note:** Ironworker machines issued from the CFJ warehouse are outfitted with an approved post manufacturer guard that offers additional eye / face protection from flying objects.*

3.5.3 Equipment Set-Up

The equipment must be set up in a safe manner that:

- Provides adequate lighting (including task lighting) and in a dry area with a solid foundation.
- Minimizes the risk of injury to people in the immediate area (set up in an area or fashion that limits access).

3.5.4 Pre-Operational Inspection

Upon arrival to any project (or prior to use) the equipment must be inspected by a qualified person (e.g. millwright or other trained individual) to ensure that it is in safe condition. At a minimum this inspection must include:

- Visual inspection for any defects / missing decals / missing manual
- Ensure guarding is present and in good condition
- Ensure all components are secure (nuts, bolts, guards, etc.)
- Ensure dies are properly aligned

Note: Refer to manufacturers manual for additional inspection requirements

Procedure for Checking Die Alignment / Changing Dies: See attached SPWI 4.1.2.1 Safety

Procedure for Checking Ironworker Die Alignment / Changing Dies.

3.5.5 General Safety Requirement

Refer to manufacturer operational manual

- The machine is only designed for use by one operator at a time.
- Use proper voltage outlet for machine
- Keep hands off working tables and out of the path of moving parts during operation.

- Remove all tooling from punch end before starting shearing or coping operations
- Ensure all tooling is properly held in position before starting operation.
- At the end of day (or use) the machine must be turned off.
- Precautions to adequately secure the machine must be taken during transportation, as it is extremely top heavy.

Note: Any defective / damaged equipment must be immediately tagged out and repaired by a qualified person.

4. WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHIMS)

4.1 Purpose

The purpose of this procedure is to ensure employees are provided with hazard/control information for chemicals and hazardous products they utilize and to ensure proper receiving, storage and disposal of all chemicals and hazardous products.

4.2 General Safety Requirements:

4.2.1 Projects Site Locations

- Site management should establish a MSDS designate whose responsibilities are prescribed within this procedure.
- For known controlled products the MSDS box must be checked on the Material Requisition Form (F501/F502).
- If sites are concerned about the hazards associated or potential for environmental impact with the controlled product, sites shall notify the Safety Department to arrange an exposure assessment.

4.2.2 Chemical Assessment

- Safety Department can make arrangements to assess possible exposure, when requested. The assessment shall consider the information contained in the MSDS, how it is being applied in the workplace.
- If above assessment merits it, an industrial hygiene sample will be conducted to determine the Threshold Limit Value (TLV) exposure to evaluate if additional control measures are required.

4.2.3 Control Measures

- Control measures shall be incorporated in accordance to the Material Safety Data Sheet (MSDS). If measures appear to be too extensive for the application to which the product is being applied than contact Corporate Safety Department for assistance.

4.3 Employee Training / Instruction

CFJ provides WHMIS training to all personnel assigned to a project, or CFJ accepts any previous WHMIS training certificate, as long as the certificate is signed and dated by a third party.

- Copies of Certificates shall be maintained in the employee's personal file and shall be kept on site.
- Employees will receive site-specific WHMIS refresher training as required under current legislation.

4.4 Material Safety Data Sheets (MSDS)

4.4.1 Project Site Locations

- When purchasing all non-manufactured items the purchaser must request the MSDS upon receiving the order the MSDS should be forwarded to the site MSDS designate.
- If a shipment is received without a MSDS, the MSDS designate will check the Material Requisition to confirm the MSDS was requested.
- If the MSDS was requested, notify the Purchasing Department to obtain the MSDS from the Supplier.
- The MSDS designate should validate that MSDS's on site
- Any MSDS that is not available in the MSDS binder shall be replaced.
- Any MSDS with specific PPE requirements or severe health affects (i.e. carcinogenic), should be forwarded to the Safety Department
- Projects should refrain from purchasing consumer products (e.g. Canadian Tire) on a regular basis, as it is difficult to obtain MSDS for these products.

4.4.2 Purchasing

- All Purchase Orders for non-manufactured items shall request the most up-to-date MSDS for all applicable products.
- When requested by Safety Department, should make reasonable attempts to substitute products that are known to cause harmful effects or significant environmental impact.
- When requested by projects sites, contact the product Supplier when an MSDS was requested and was not provided

4.5 Labelling

4.5.1 Supplier labels

- Supplier labels shall be legible and in good condition, if tarnished or illegible a Workplace Label shall be substituted in its place.

4.5.2 Workplace labels

- A Workplace label must be adhered/attached to any container that a controlled product has been transferred to.
- Workplace labels must be legible at all times and must contain the following information:
  - Product Name
  - Information for the safe handling of the product
  - Statement that the MSDS is available
  - If possible, WHMIS hazard symbols

4.6 Handling, Use and Storage

Caution must be administered whenever in contact with controlled products. MSDS must be reviewed prior to handling, use or storage. Precautionary measure will vary per controlled product; however, the general precautionary measures shall be implemented where applicable:

- Flammable liquids must be stored in flammable containers, including:
  - Paints
  - Varsols
- Oxidizing and Flammable/Combustible material must be separated as per legislative requirements (minimum 20ft).
- Separate Full and Empty cylinders
- Follow precautionary measures for dangerously reactive material
- Secondary containment for storage of large volumes of hydrocarbons or controlled liquids

4.6.1 Storage areas should include:

- Spill kits (dependent on material and volume)
- Ventilation
- Fire extinguishers (readily accessible)
- Eye wash stations (if dispensing liquids)
- Grounding (if dispensing hydrocarbons)

4.7 Disposal

All chemical waste disposals on Project Sites shall be in accordance to the Clients requirements. Complete & keep proper paperwork as per legislative requirements (e.g. Waste manifest)

If no requirements are specified, dispose in accordance to the MSDS and legislative requirements. Ensure only approved and licensed disposal vendors are utilized for disposal of any controlled products. If you require assistance contact the Safety Department

5. MATERIAL HANDLING / BODY MECHANICS

5.1 Scope

The purpose of this standard is to assist in identifying potentially hazardous conditions that may result in soft tissue injuries and minimizing these risks through effective safety planning and administrative controls.

5.2 Hazards

- Strain / Sprain injuries (soft tissue)
- Chronic MusculoSkeletal Disorders – injuries and degenerative conditions that affect the muscles, joints, bones, tendons, etc. that are typically chronic (long term disorders).

Note: Material handling / body mechanic injuries are relatively common in the construction industry and typically require repeated medical treatment for extended periods. Therefore, identification and prevention are key.

5.3 Employee Training / Instruction

Supervisors shall discuss the following upon the ***identification of a potential material handling hazard*** in weekly safety meetings, and ensure the adequate controls are put into place and adhered too through regular workplace inspections.

5.4 Safety Planning / Hazard Assessment

5.4.1 Typical Risk Factors

- Lifting / Material Handling:
  - Manually handling material with a weight of more than **50 lbs** / person.
  - Lifting / working *above shoulder height or below knee height* (either lifting relatively heavy objects or repetitive work above should height).
  - Awkward loads or awkward positioning.
  - Having a *lift frequency greater than one lift per minute*.
  - Poor ability to grip the load.
  - Having previous back problems.
- Static Postures (Positions that are maintained):

  Typical risk factors include maintaining any of the following positions for a period of more than 60 minutes:

- Crouching, Stooping
- **Kneeling,*
- Working with arms above shoulder height,
- Bending, twisting (awkward position for more than 5 minutes).

Example: Piecing components together on the floor for an extended period.

- Repetitive Tasks:

  Any tasks requiring high-moderate force with either a high frequency of repetitions, or a long duration.

5.5 General Safety Requirements

5.5.1 Preventative Measures

- Material Handling (Lifting, Pulling, Pushing):
  - Use mechanical lifting / carrying equipment (forklift, chain fall, dolly, basket, chute, conveyor, etc.)
  - Reorganize the job so the material handling is eliminated / reduced.
  - Reduce the load into smaller components.
  - Use additional manpower.
  - Allot for more time between lifts.
  - Provide for better grips.
  - ****Stretching exercises prior to any significant material handling***
- Static Postures (Kneeling, Crouching, Bending):
  - Plan the work so an employee is not stationary for a long period (additional breaks, manpower, rotate tasks, etc).
  - Provide PPE or equipment to make the job more comfortable (i.e. kneepads, chair, rubber mat, etc).
  - Alter the posture (less awkward) by changing the work height to the centre of the body (i.e. use scaffold for work bench, provide a foot rest 6" high).
  - Use tools that can complete the job faster and with less force (electric, pneumatic, etc).
  - ****Stretching exercises***.

- Repetitive Tasks:
  - Reduce the frequency of repetition (job rotation, manpower, etc).
  - Reduce the duration of the task (manpower, equipment, tools, etc).
  - Provide increased breaks.
  - ***Stretching exercises.**

Note: Stretching exercises can be obtained through the Safety Department

6. PERSONAL PROTECTIVE EQUIPMENT

6.1 General Requirements

All CFJ personnel and subcontractors must wear the following personnel protective equipment on all construction work sites.

- Hard hats (Class E- CSA)
- Safety boots (minimum 8" high ankle support and Grade 1- CSA)
- Safety Glasses (CSA)
- Clothing (made of natural fibres with a maximum blend of 50/50).

All personal protective equipment must be maintained and in good repair. All C.S.A approved equipment must be the appropriate class and grade.

6.2 Specific and Specialized Personal Protective Equipment

Specific or specialized PPE, in addition the minimum requirement will be prescribed particular hazard to which the worker may be exposed as required under the current edition of the Occupational Health & Safety Act.

CFJ personnel may be requested and will be required to utilize the following specific or specialized personal protection equipment, as deemed necessary:

- Eye/Face Protection– face shields, goggles, hoods and welding helmets (minimum shade 10 lens).
- Hand Protection – leather, chemical, and electrical gloves.
- Skin Protection – coveralls, chemical resistant suits, fire retardant clothing, and encapsulating suits.
- Respiratory Protection – dust mask, half mask, full-mask, supplied air and self contained breathing apparatus
- Hearing Protection – Including earplugs and / or muffs.
- Ergonomic Protection – Including kneepads, work benches, lifting devices.
- Fall Protection – Including guardrails, fall arrest systems, travel restrain systems.
- Drowning – Including life jackets, and rescue boats.

All appropriate City of Toronto personnel will be immediately notified of the situation.

6.3 Fall Protection

For the purpose of this standard the term “Fall Protection” relates to both: (A) the use of a guardrail system as a primary means of protection, or where it is not reasonably possible to install a guardrail system; (B) the use of other suitable means of fall protection or fall arrest equipment. The primary purpose of this policy is to:

- Provide safety standards specifically designed to cover fall protection on the job;
- Ensure all fall hazards are identified and adequate measures to implement fall protection are taken;
- Ensure that each employee that may be exposed to a fall hazard or required to use fall protection or fall arrest equipment is *trained* and made aware of the *specific* safety provisions that must be implemented and followed;
- Ensure compliance with all applicable health and safety legislation, and / or conformance to client or constructor safety requirements as they pertain to fall protection.

6.3.1 Fall Protection Training and Communication

Fall protection training must be performed for all employees that may be exposed to fall hazard. This training shall consist of: Reference Part 1, Section 4.

- Basics of Fall Protection (where practical).
- Site Specific and Equipment Specific Fall Protection Training.
- Fall Arrest “Train the Trainer” – competency training for supervisors (where practical).

6.3.2 Fall Protection Hazard Identification and Assessment

Measures to actively identify assess and control fall hazards must be performed in accordance with the hazard assessment process outlined in the CFJ Health and Safety Program or as provided by the client / constructor.

This process must be performed and all necessary hazard control information communicated to all applicable workers prior to the commencement of the work.

6.3.3 Fall Protection Standards / Safe Work Practices

See Process Flow Chart: Fall Protection (As per the Occupational Health and Safety Act requirements)

CFJ Nuclear Contractors Ltd. shall adopt all applicable client standards so long as they offer equal or greater protection to the worker. In instances where any relevant safe work practises or safety standards cannot be provided by the client or constructor, they will be developed and / or provided by CFJ Nuclear Contractors Ltd. in accordance to all applicable Health and Safety Legislation.

6.3.4 Fall Rescue Procedure(s)

In all instances where a fall hazard has been identified a written rescue plan must be provided that outlines the specific measures to be taken to safely retrieve the worker and provide immediate first aid or medical treatment if necessary. Where the client cannot provide a rescue plan, CFJ Nuclear Contractors Ltd will implement one. In the cases where emergency treatment may be required, the particulars of positions for rescue must be communicated.

6.4 Eye Protection and Face Protection

All CFJ personal shall wear approved safety eye protection appropriate for the work performed while on site. These shall be worn according to manufacturer's instructions. As a minimum, compliance to OHSA and the applicable Regulations and to CSA Z94.3-07

Photochromic or dark tinted or mirror tint safety eye protection shall not be worn indoors except

- Where the work requires infrared protection, such as welding or cutting operations then dark shaded filtered lenses must be worn.
- For medical reasons light grey tinted safety glasses to a maximum 15% tint may be worn.

Contact lenses may be worn under safety eye protection following a hazard assessment by the worker and supervisor. Steps must be taken to minimize the injury if an incident was to occur. Contacts shall not be worn under respirators.

For maximum eye protection when performing work such as cutting, drilling or where overhead work creates debris, an appropriate combination of safety glasses, goggles and face shields must be selected so that protection from the hazard is ensured. Depending upon the specific hazards involved it may be necessary to use goggles, rather than safety glasses, under a face shield to ensure eye protection.

6.4.1 Goggles

Goggles may be required to be used for specific hazards where safety glasses are inadequate. Vented goggles that are impact resistant are suitable for general eye protection and protection against flying particles when cutting, grinding, drilling when used with a face shield. For protection against chemical hazards to the eye, the MSDS will provide guidance on eye protection selection. Do not use direct vented goggles for chemical protection.

6.4.2 Face Shields

Face shields offer secondary eye protection only and must be worn with safety glasses or goggles. Not all face shields are impact resistant. There are a variety of styles of face shields which offer different types of protection including, for example, greater protection from airborne debris.

6.5 Head Protection

All CFJ personnel shall wear approved head protection appropriate for the work performed while on site. As a minimum, compliance to OHSA and the applicable Regulations for hard hats is required. CFJ supplied head protection shall be CSA Z94.1-05 Industrial Protective Headwear, Class E as a minimum or equivalent.

Hard hats must be secured by means of a chinstrap when working in such a manner that the hard hat is likely to fall off.

6.6 Hand Protection

6.6.1 Glove Selection and Use

Suitable hand protection shall be worn to protect against the hazards of work. Hazards requiring the use of gloves include, but are not limited to: cutting/abrasion hazards, impact/vibration, chemical or hazardous materials, electrical contact and/or arc flash and thermal (heat or cold) hazards. The use of gloves is applicable to maintenance and operational activities and other physical work activities such as lifting, pushing, fabrication, manual material handling and climbing of scaffolds or ladders. Consult work procedures, MSDS' or conduct JSA's to ensure the selection of the appropriate glove to match the hazard.

Glove liners used alone are not considered appropriate hand protection. Ask your supervisor if you are unsure of the glove requirements.

6.6.2 Glove Inspections and Precautions

Gloves must be sized properly and inspected for defects prior to use.

6.6.3 Glove Possession

All workers must have gloves in their possession (i.e., worn, carried or immediately available such as in the tool box, cart or vehicle being used) when in designated areas. This is not required when arriving or departing from work or when entering or leaving the stations.

6.7 Flame Resistant (FR) Clothing

To ensure protection form fire and explosion hazards the following fabrics are acceptable:

- Kevlar
- Kermel
- Nomex
- PBI
- FR Hi-Visibility

- Fire wear

To maximize protection FR clothing must be worn properly as per manufactures recommendations (i.e. collar closed, sleeves and cuffs worn down and secured)

6.7.1 Maintenance

- Keep flame resistant clothing clean in order to maintain flame resistance and thermal protection. Soiled clothing may reduce the protective qualities and increase the risk of second and third degree burns.
- Read the label on the protective garment and follow manufacturer's specifications for cleaning, maintenance and/or repair (i.e. laundering or dry cleaning).

6.8 Hearing Protection

All personnel working in a noisy environment shall be familiar with the effect of noise on the hearing system and the proper protection required to be worn.

6.8.1 Hazards

- Physical stress (reduced coordination, reduced attentiveness)
- Reduced communication
- Acute hearing loss / damage (short term)
- Chronic hearing loss / damage (long term / permanent loss)

6.8.2 Employee Training / Instruction

Supervisors shall discuss this standard upon the identification of a potential noise hazard.

6.8.3 General Safety Requirements

- Clean plugs or muffs do not cause ear infections; DIRTY ONES DO.
- Hearing protection makes it easier to converse in a noisy area.
- Dry cotton batten is not a protection against noise.
- Wax impregnated cotton batten and earplugs with metal inserts DO NOT WORK.
- Muffs are more effective than plugs.
- Ensure a proper seal is established with muffs check the noise reduction rate for all hearing protection equipment to ensure it is adequate.
- Insert hearing plugs as per the manufacturer's recommendations.

6.8.4 Noise Monitoring

Where noise levels at a plant or facility are requested by CFJ management, supervision, or the project health and safety committee / representative as to ensure the proper level of hearing protection is being provided they should be supplied through the owner (client) or constructor. Where levels cannot be provided by the owner / constructor they will be monitored by the CFJ Safety Department at the expense of the owner.

6.8.5 Safety Planning / Hazard Assessment

Noise over 115 dBA is extremely harmful and can cause acute pain. Earplugs combined with ear muffs are needed in addition to administrative controls such as a noise assessment, worker rotation, and additional engineering controls.

Wherever reasonably possible administrative controls (i.e. shift rotation, work breaks) should be used as the primary source of prevention to reduce the noise exposure levels as low as reasonably possible.

6.8.6 Noise Rating Scale: Hearing Protection Requirements

dBA	Hours Per Day Allowable Exposure (with no protection)	Recommended Protection For 8 hrs.
80	24	No protection needed
82	16	No protection needed
85	8	No protection needed / plugs
88	4	Ear plugs
91	2	Ear plugs
94	1	Ear plugs or ear muffs
97	½	Ear muffs
100	¼	Ear muffs
103+	Protection Mandatory	Ear muffs and plugs / Administrative controls

Standard Noise Rating: (at operator's position)	dBA
Crawler loader	101-105
Rubber tire loader	96-100
Compressor (250 CFM)	101-105
Compressor (250 CFM)	silenced less than 85 dBA
Compressor (900 C F M)	106-110
Compressor (900 CFM)	silenced less than 85
Cut-off saw 8" steel blade	90-95
Radial saw 10" steel blade	90-95
Hand grinder 6" stone	101-105
Jackhammer 80 lb.	96 - 100
Chipping air hammer	106 - 110
Metal cut-off saw 12" fibre	111 - 115
Arc welding	96 - 100
Automatic welding	96 - 100
Explosive actuated tools	over 115
Sandblasting	96 - 100
Jumping jack	111 - 115

Standard Noise Rating: (at operator's position)	dBA
Electric drill	85 or under
Portable grinder	90 - 95

6.9 High Visibility Clothing

High visibility clothing must be considered for use during all outside work activities. For work during night time hours, the clothing shall have retro-reflective silver stripes appropriately placed on the garment. High visibility clothing (traffic vest included) must comply with the OHSA Construction Regulations under “Traffic Control”.

As a minimum, a traffic vest shall be worn during any work activity when a worker may be endangered by vehicular traffic.

6.10 Lifejackets, Buoys and Flotation Suits

Lifejackets or flotation suits adequate to keep the worker’s head above water face up without effort by the worker must be worn if the potential exists of drowning.

All accessible waterways must be equipped with buoyant devices for the purpose of an emergency. All flotation equipment must be replaced at the interval recommended by the manufacturer.

7. HOUSEKEEPING AND MATERIAL STORAGE

7.1 Housekeeping and Material Storage

A clean and orderly job site is necessary to ensure the safety of all workers and provide easy access to the worksite in case of an emergency.

7.2 Responsibilities

7.2.1 Management:

Site management including project managers, controllers and superintended must ensure that adequate space and equipment is provided to maintain a clean and orderly work site. Storage areas lay down areas, and general housekeeping requirements should be determined upon the start up of the job.

7.2.2 Supervision:

Must ensure that the designated storage areas are used, and the site is well maintained.

- Clean-up site daily;
- Store, move, and pile materials and equipment in a manner that will not endanger workers.
- Store all compressed gas cylinders upright and in neat rows. Mark empty cylinders and store away from full ones. Cylinders must always be used from a cart or from an upright secured position.
- Store pipe properly and wedge stockpiles to facilitate safe and easy transfer.
- Do not store waste material and debris in areas of access or egress. Waste material and debris should not be thrown from one level to another but be carried down, lowered in containers or deposited in a disposal chute.
- Do not store material to be lifted by a crane or other hoisting device under overhead power lines.

7.2.3 Worker

All workers are responsible for cleaning up his work area regularly and no less than **DAILY**, and using proper storage areas and proper garbage disposal containers.

8. ASBESTOS (GENERAL GUIDELINE)

8.1 Scope

This outlines the safety standards that will be adhered to by CFJ with work that may involve contact with asbestos at the work site.

CFJ and is not permitted to performed any direct work with friable asbestos (unless performed by an insured sub-contractor). In conditions that may result in the accidental airborne release of asbestos adequate controls must be established to prevent any health hazards from being created.

8.2 Hazards

The hazards associated with asbestos include: lung cancer, asbestosis, and respiratory tract irritation. These conditions are generally chronic (long term) in nature.

8.3 Employee Training / Instruction

Asbestos awareness training is required for all CFJ workers that:

- May work in close proximity to asbestos that may pose a hazard.
- Perform work that may disturb asbestos containing material thereby making it airborne or otherwise friable.
- Supervise workers involved in any of the above.

This training must be performed by a competent person and shall consist of a review of the hazards associated with asbestos, its appearance and basic precautionary measures. All training must be documented on via the employee orientation, safety meeting form, or CFJ Record or Training Form.

8.4 Identification / Notification

Under the Health and Safety Legislation it is typically the responsibility of the owner to identify to the constructor and in turn the constructor to the subcontractors when, where and how asbestos may be presented on the job site. In these cases the identification, control and removal of the asbestos must be established by the owner / constructor (unless otherwise outlined in the contract). Contractors should be made aware of the

9. DESIGNATED SUBSTANCES

9.1 Scope

This outlines the safety standards that will be adhered to by CFJ with work that may involve contact with designated substances (excluding asbestos) at the work site.

CFJ personnel are not to perform any direct work with designated substances, unless adequate training and protection has been established to protect against or control exposure to either CFJ employees or by standards. All safe work standards and procedures must be reviewed and accepted by CFJ management, supervision, safety representative, workers, and the client. All work procedures must meet the minimum requirements of all applicable Health and Safety Legislation.

9.2 Hazards

The hazards associated with designated substances are dependent on the type of substance that an employee may be exposed to. However, in most all instances the potential for injury or illness, both long and short term can be severe.

9.3 Employee Training / Instruction

Awareness training is required for workers that:

- Work in close proximity to materials containing designated substances that may pose a hazard.
- Work that may disturb a designated substance during the course of their work.
- Supervise workers involved in any of the above.

This training must be performed by a competent person and shall consist of a review of the hazards associated with designated substance, its appearance and basic precautionary measures. All training must be documented via the employee orientation, safety meeting form, or CFJ Record or Training Form.

9.4 Identification / Notification

Under the Health and Safety Legislation it is the responsibility of the owner to identify to the constructor and in turn the constructor to the subcontractors when, where and how designated substances may be presented on the job site. In these cases the identification, control and removal of these substances will be established by the owner / constructor. Subcontractors should be made aware of the work activities that may involve these substances, as well as the control measure and reporting requirements.

9.5 Safety Planning / Hazard Assessment (Job Safety Analysis)

In all instances where work may be performed with, or in close proximity to designated substance, the work must be adequately planned by the supervisor in conjunction with the safety department. This work must comply with all applicable legislation and any existing client safe work standards as to ensure the safety of the worker and any other occupants (via Job Safety Analysis) and to ensure that precautions have been applied to protect against any potential overexposure to the designated substance.

9.6 Control Measures - Exposure Limits / TLV's (Threshold Limit Values)

All necessary measures and procedures by means of engineering controls, work practices, personally protective equipment and hygiene practices shall be used to ensure the time-weighted average exposure of a worker is reduced to the lowest practical level and in any case shall not exceed the concentrations outlined by the latest edition of the ACGIH TLV's and BEI's (Biological Exposure Index) or provincial exposure concentrations. In instances where respirators may be required adequate fit testing (quantitative where available) must be performed (NOTE: Current ACGIH TLV's and BEI's are available from the Safety Department).

9.7 Workplace Monitoring / Personal Sampling

Where the level of exposure to a worker may be unknown suitable monitoring should be performed by the owners / constructors to ensure that the proper level of protection has been provided (as low as reasonably possible and not to exceed the ACGIH TLV). This testing must be done in accordance to the requirements outlined by the American Industrial Hygiene Association (AIHA) and / or performed by a qualified industrial hygienist.

9.8 Designated Substances

This standard applies to the following substances:

- Acrylonitrile
- Arsenic
- Benzene
- Coke Oven Emissions
- Ethylene Oxide
- Asbestos
- Isocyanates
- Lead
- Mercury
- Silica
- Vinyl Chloride

10. CONTROL OF IGNITION SOURCES

10.1 Purpose

This procedure outlines fire safety considerations and guidelines for preventing fires while performing hot work activities. As well as supporting a safe work environment, adherence to this procedure is a requirement of the applicable Fire Codes.

10.2 Definitions

Combustible Material - in the form in which it is used, and under the condition anticipated, will ignite, support combustion, burn, or release flammable vapour when subject to fire and heat. Materials are considered combustible when they fail to pass the test specified in Underwriters Laboratories Incorporated Standard CAN4-S114.

Designated Shops - are site buildings and plant areas specifically designed and used as machine, maintenance, welding or electrical shops.

Fire Watch - The assignment of a person or persons to an area for the express purpose of notifying the fire department and or the building occupants of an emergency, preventing a fire from occurring, extinguishing small fires, or protecting the public from fire or life safety dangers.

Hot Work - involves open flames or production of heat or sparks that has the potential to start fires. Hot work includes, but is not limited to, cutting, welding, open flame soldering, brazing, grinding, pre and post weld heat treatment (open flame), adhesive bonding, thermal spraying, thawing pipes, use of fuel fired heating equipment, or portable electrical heating equipment other than that used for personal use. (National Fire Code of Canada, CSA-N293, NFPA 51B).

10.3 Procedure Description

Hot work activities may be required in any location in support of planned or emergency work. By-products of hot work activities, such as sparks and hot slag, may ignite nearby combustible materials, including combustible and flammable liquids or gases, which are not adequately protected or physically separated from hot work activities. To reduce the potential for fire, every effort shall be made to move work to a designated workshop.

Outside of designated shops, hot work activities have not been accounted for as part of permanent design of the facility. Fire protection features and safety related plant systems have not been designed and installed to mitigate impacts of postulated fires that may occur due to hot work activities outside of designated work areas. Spatial separation rather than enclosure with rated fire barriers (such as walls, floors and ceilings) was utilized to protect safety related equipment from risk of fire. This same spatial separation can be compromised by work activities. Therefore, if an object to

be welded, cut or ground cannot be moved to a designated shop or an area free of fire hazards, all movable fire hazards shall be removed to a minimum safe distance of 15 m (50 ft). If the object and/or fire hazards cannot be removed, appropriate guarding shall be used to confine the heat, spills and slag in order to protect adjacent immovable fire hazards or the combustible materials within the 15 m (50 ft) distance.

10.3.1 Hot Work Permit

- The Permit is required before any hot work activity is started outside of designated machine, maintenance, welding or electrical shops.
- The Permit shall not exceed 30 days. The Permit start and finish date must be entered on the Permit. If the work is to exceed 30 days, a new Permit must be obtained.
- The Permit shall be posted at the work area or at the entrance to work area as appropriate, so as to be conspicuous for inspection. Some accommodation for this posting shall be exercised when dealing with containment work or risks of damage to the documents exist.
- The completed Permit shall be retained for a period of two years.

10.3.2 Performing Hot Work (CSA-W117.2)

Work groups performing hot work shall adhere to the following:

- Personnel performing hot work should be protected by flame retardant clothing such as flame resistant or fire retardant coveralls intended for welding, working with open flame or torches, or electric arc protection.
- Hot work shall be stopped whenever conditions change from those approved by Hot Work Permit.
- Safe egress from the work area shall be maintained.
- Only approved friction lights (sparkers) shall be used to light torches.
- Welding machine frames or cases shall not be grounded to pipelines containing gases or flammable liquids, or conduits carrying electrical conductors.
- Coiled welding cables shall be spread out before use and routed away from combustible material to avoid serous overheating and damage to cable insulation and ignition to adjacent materials.
- Hoses, regulators and gas cylinders should be examined for leakage or defects prior to each use. Any leaks or defect must be repaired prior to use.
- Oxygen cylinders, cylinder valves, couplings regulators, hoses and apparatus shall not be handled with oily hands or oily gloves.

Work groups performing hot work in confined spaces shall ensure the following:

- Shall follow confined space requirements as established by CFJ.

- Oxy-acetylene or other fuel gas cylinders shall be prohibited inside confined spaces unless absolutely necessary. Only hoses and torches or nozzles shall be taken into confined space. Regulators and hoses shall be removed from the confined space when not occupied, inclusive of breaks and shift changes. Continuous air monitoring shall be performed while hoses, torches and nozzles are used inside confined spaces.

10.4 Fuel Fired Heaters

Fuel fired temporary heaters shall be operated under the guidance of a “Hot Work Permit”. The use of the permit identifies that fired heating unit is in place and operating. Only Indirect Fired units shall be used. The safety features incorporated in these devices eliminate most of the fire watch requirements, but a due diligence should be observed, as they also represent a corporate loss scenario, if they fail in service. A physical check of these units at least once per shift would be a prudent course of action. During severe or extreme weather conditions more frequent checks should be done. Tenting or otherwise enclosing these devices should be with non-combustible structural components and fire resistive material such as welding tarps. Personnel assigned to monitor these devices shall have clear instructions on what to do in an emergency situation, fire or equipment malfunction or failure. A 20 lb BC rated extinguisher shall be available within 9 metres of the heater. This extinguisher shall be properly mounted on a stand or other support and covered with a weatherproof cover if necessary.

10.5 Fire Watch for Hot Work Activities and Fire Protection Inspections (CSA-N293)

Fire watch personnel are required when combustible materials, protected or not, are within a 50 foot sphere of hot work. Fire watch personnel must be qualified to perform the function of fire watch. A fire watch shall have no other duties assigned while on fire watch.

10.5.1 Fire watch personnel shall:

- Be aware of extinguisher location(s).
- Ensure extinguishers are in ready state to be used. At least one pressurized water extinguisher and an appropriately selected BC rated extinguisher.
- Multi-purpose (ABC) extinguishers are not permitted for Hot Work use within the protected areas.
- Have ready access to and be aware of location of a phone, radio or other communication equipment to raise the alarm in case of a fire.
- Perform an inspection of job site prior to the work commencing, verifying it is safe and that the requirements and applicable conditions of the Permit are met. If any conditions have changed.

- Personnel, who have been signed on but were relieved, must sign on again to resume the Fire Watch duty.
- Monitor the areas adjacent to and within 15 m of the hot work location for spark or slag travel, unless the job site is completely isolated to contain spark or slag.
- Recognize conditions that may result in fire. Stop all work if a fire concern arises and do not allow work to resume until the issues have been properly dealt with.
- Identify fires in the incipient stage.
- Alert nearby personnel of fire that does occur.
- Use fire extinguisher to extinguish small fires if safe to do so.
- Evacuate to a safe location if fire cannot be extinguished.
- Remain at work location continuously during work and for 60 minutes after completion of work.
- Conduct a final inspection of the hot work area four hours after completion of hot work.
- Sign off on the Permit at turnover of Fire Watch responsibilities, upon completion of continuous fire watch, and after final inspection of the job site.
- The four hour inspection may be made by someone other than the last assigned fire watch.
- The fire watch shall be appropriately equipped with PPE as necessary and appropriate fire extinguishers.

11. ELEVATED WORK – OVERHEAD PROTECTION

11.1 Scope

This safety standard applies to all instances in which elevated work is performed, whereby there is a potential for personnel, tools, or equipment to free fall a distance of **greater than 8 feet (2.4 metres).**

The primary purpose of this standard is to:

- Provide safety standards specifically designed to ensure all work is safely planned and suitable protection from falling objects is provided on all CFJ work sites;
- Ensure all elevated work hazards are identified and adequate measures to implement overhead protection are taken;
- Ensure that each employee that may be required to perform elevated work is instructed and made aware of the specific safety provisions that must be implemented and followed;
- Ensure compliance with all applicable health and safety legislation, and / or conformance to client or constructor safety requirements as they pertain to overhead protection

11.2 Hazards

Elevated work is routinely required to be performed in our industry creating several inherent hazards including: dangers due to falling objects and potential fall exposures for the personnel performing the elevated work. These hazards, if not properly and routinely addressed can result in significant personal injury.

11.3 Safety Planning / Hazard Assessment

Prior the commencement of any elevated work, the supervisor must perform an assessment of the safety hazards associated with the task(s) to ensure adequate protective measures are taken. Furthermore, safe work instruction is required for all employees that may be required to perform elevated work. This instruction shall consist of:

- Instruction on this Standard (1.7 Elevated Work – Overhead Protection)
- Instruction on site specific elevated work protection requirements.
- Daily review of the safety requirements utilized (i.e. via Pre-job Safety Meeting process or applicable).

11.4 Safety Requirements / Safe Work Practices

11.4.1 Safe Work Zone

The mandatory establishment of a suitable physical barrier and use of hazard warning signs to prevent unauthorized access into any area in which a potential overhead hazard may exist. This includes the use of:

- Barrier tape (for temporary use)
- Fencing (for more permanent use)
- Hazard signs / tags
- Other “approved” barriers

This “safe work zone” area must be routinely checked (no less than daily) by the supervisor or his / her designate to ensure the barrier has not been altered and provides adequate from the overhead work.

11.4.2 Protective Barriers

Wherever practical the additional use of suitable physical barriers as a means of reducing the likelihood of objects falling from the elevated work area, or from objects reaching the area below. This includes instances in which the establishment of a “safe work zone” cannot be guaranteed such as: near major walkways or access points where alternative routing cannot be established and / or where the person(s) performing the elevated work cannot maintain visual contact with the area below. Additional physical barriers includes the use of:

- Planking / Caging
- Tarp / Cover
- Fencing
- Bulkhead(s)
- Public way protection (covered pass)
- Use of other suitable barriers

11.4.3 Housekeeping

Establishing good housekeeping measures while performing elevated work to limit the potential of fall objects. This includes:

- Routine cleanup of the elevated work area to remove unnecessary tools, equipment, and / or debris.
- The use of tool belts and storage containers to adequately secure all tools and equipment when not in use.

11.4.4 Administrative Controls / Additional Measures

When necessary the use of administrative controls (i.e. work scheduling) or other additional measures to secure tools and equipment (i.e. tethering).

12. ISOLATION STANDARD

12.1 Scope

This standard applies to **all** instances where CFJ or a contractor of CFJ may be required to perform work on any operating (live) equipment or systems that may pose risk of injury / damage.

In-plant procedures take precedence over the procedures outlined here, providing there is no contravention of this standard or applicable health and safety legislation.

In instances where plant wide or system wide shutdowns are performed by CFJ or the client (e.g. manager's tag applied) each employee has the right to verify the isolation and / or apply their own locks and tags either directly or via a suitable alternative (e.g. lock out box).

Note: Any alternative lock out procedures must be formally documented and approved by the client (wherever possible), CFJ management, the worker safety representative / committee (where applicable).

12.2 Purpose

This purpose of this standard is to:

- Prevent energy from accidentally being released while a machine or equipment is being serviced, thereby protecting the health and safety of our employees and / or others who may be impacted by our work activities.
- To prevent any unnecessary damage to the machine, equipment or system being worked on or any accidental damage to the environment.

12.3 General Hazards

Systems that require isolation to prevent injury include:

- Electrical Systems - shock, burns, explosion, heart and respiratory failure.
- Mechanical Systems – struck or caught by conveyors, screws, etc.
- *Pressurized Systems – struck or caught by hydraulics, pneumatics, vacuum, etc.
- *Potential Energy Sources – struck or caught by springs, gravity, etc.
- *Chemicals / Liquids / Gases – hazardous exposures, oxygen deficiency
- *Thermal Systems – exposure to heat, burns, etc.

* Job Safety Analysis may be required.

Isolation accidents typically occur as a result of:

- Failure to identify and isolate ALL energy sources including sources that may be in close proximity (i.e. failure to verify isolation points, reliance on outdated / inaccurate system drawings, inadvertent contact with nearby energy source).
- Failure to adequately test / verify isolation(s).
- Failure to apply suitable isolation / lock out device.

12.4 Definitions

"***Near to"*** – means capable of being within the safe limits of approach (see table below) or capable of being within contact of a worker's body, equipment or tools.

"***Isolated"*** - means separated or disconnected from every source of electrical, hydraulic, pneumatic or other kind of energy that is capable of making electrical equipment dangerous.

12.5 Employee Training / Instruction

All employees that must perform isolation operations must receive instruction on:

- - This standard (or equivalent) and the Safe Work Instruction that accompanies this standard.
- Must be made knowledgeable of the system they are isolating prior to the commencement of work.

Additional training / instruction that may be necessary include:

- WHMIS / MSDS training or instruction may be required where hazardous chemicals are present.
- Any additional training or instruction may also be required where specialized (non-standard) personal protective equipment (PPE) and/or tools or equipment are used (i.e. proximity testers).

12.6 Protective Equipment (PPE / Tools and Equipment)

- All employees must wear standard personal protective equipment (PPE) including safety glasses, safety boots, hardhat and clothing in good repair.
- All employees must have an individually keyed safety lock(s) and "approved" tag(s) as provided by CFJ and / or client.
- Additional PPE / tools that may be required as determined by the hazard assessment include:
    - Face shield

- Respirator
- Electrical or chemical resistant gloves
- Chemical and / or fire resistant clothing
- Electrical grounding equipment.
- **CSA-certified potential test indicator**

Note: It is recommended only CFJ supplied potential test indicators are utilized as they are subject to routine maintenance and recall notices / product hazard alerts.

- **Electrical proximity tester** (mandatory where testing may be required on complex or potentially unreliable systems).

12.7 Isolation Procedure

Lockout, Tag out and Testing Procedure for Electrical and Non- Electrical Systems

No.	INSTRUCTION:	Position Responsible
GENERAL SAFETY REQUIREMENTS		
1A	Training / Instruction: Ensure all employees have received all required training as required (Part 4, Section 2.1 of Comstock H&S Program).	Field Supervisor
1B	PPE Requirements: Ensure all employees have all necessary PPE as required, including individually keyed locks and tags (Part 4, Section 2.1 of Comstock H&S Program).	Field Supervisor
SAFETY PLANNING / HAZARD ASSESSMENT:		
2A	Identify Isolation Requirements: The supervisor or a qualified designate (i.e. authorized journeyman) must do an assessment of the work area to determine what equipment is being worked on, and / or what nearby equipment may pose a hazard and is required to be isolated / locked and tagged out of service. This includes reviewing drawings of the entire system to be de-energized/de-activated to determine what must be isolated and confirming these requirements with client (where possible). Physical inspections of the system must also be performed to ensure the isolation points identified are adequate / verify isolation points, ensure drawings are accurate and ensure all isolation components are in acceptable condition.	Field Supervisor / Qualified Designate
2B	Maintain Isolation Log / Records: A formal isolation log / record must be maintained for all equipment / systems that require multiple isolations (3 or more). This log must identify, at a minimum, the equipment / system being isolated, the date of isolation, the date the isolation was removed, the lock number (where applicable), the name of the	Field Supervisor / Qualified Designate

No.	INSTRUCTION:	Position Responsible
	person(s) who performed the isolation, contact information (phone number) and the name of the supervisor.	
	LOCKOUT / TAG OUT	
3	All apparatus capable of being electrically, pneumatically, hydraulically, gravity or otherwise activated must be de-energized or de-activated *(zero energy state)* by physically disconnecting, establishing barriers and otherwise rendering the apparatus inoperable. A Lock and Tag is used for making certain that the equipment is isolated and cannot be energized by clearly identifying that the system has been isolated for the purposes of protecting someone's personal safety and physically securing that isolation. Switches, power sources, controls, valves, interlocks, pneumatics, hydraulics, computer-controlled sources, robotics etc. must be appropriately locked and tagged personally by each person involved in the operation.	
3A	Lock Out: After all the isolation points have been identified and the system has been isolated / de-energized by the supervisor or his/her designate, each employee who may be required to work on the equipment / system must be protected by placing an individually keyed safety lock (as supplied) on the isolation device. The key for the lock must be kept on their person while the lock is in place. The locks provided shall not be mastered (Comstock can supply individually keyed locks). Where several workers or trades are working on the circuit, provision for additional locks must be made through the use of a lockout bar, lock out box or suitable alternative. These arrangements can accommodate any number of locks. No one shall install or remove any personal lock other than his/her own. All apprentice lockouts must be completed under the direct supervision of a supervisor or designated journeyman.	Field Supervisor / Qualified Designate and All Employees Involved in Task
3B	Tag Out: Each worker must attach to his or her lock a durable tag (as provided by Comstock or the client) containing the information required including: name of the tag owner, date the tag was applied, and the system that has been isolated / work activities. A tag is used to identify the purpose of the lock and must clearly identify that the system is not to be energized / operated or that any guards, locks, temporary ground cables, chains, tags and other safeguards are not to be removed until the work is complete. A tag cannot be used as a substitute for a lock unless the application of a lock/locking device is not possible and/or not practical and a written procedure is in place to address this condition. This procedure must be reviewed and approved by	Field Supervisor / Qualified Designate and All Employees Involved in Task

No.	INSTRUCTION:	Position Responsible
	Comstock management, supervision, the worker safety representative (where applicable) and the client (wherever possible). Furthermore this procedure must be communicated to all workplace parties/employees whom it may impact.	
3C	Additional Lockout / Tag Out Requirements: *Grounding:* All electrical systems that may be subject to induction must be temporarily grounded using only approved grounding components. *Depressurising:* All piping, hydraulic and pneumatic systems must be isolated, depressurised and tested before work. *Alternative "lock outs"*: For energy sources that do not have a locking device (i.e. electrical units under 300 volts, valves, etc.), provisions must still be made to "lock out" the system however possible. Check with purchasing / warehouse / safety department as numerous tools to lock out low voltage circuit breakers and / or valves can now be made available (Also refer to 8.2C below).	Field Supervisor / Qualified Designate
TESTING / VERIFYING THE ISOLATION:		
4	<u>The system must be adequately tested to ensure it has been isolated.</u> This may include physical verification of the isolation.	
4A	Testing Operational Systems: Wherever possible all isolations / de-energizations should be performed by first directly observing the operation of the equipment or system to ensure that the isolation is adequate (properly functioning). For example, physically observing the de-engerization of a conveyor that was previously running after isolating a starter switch, or opening a drainage valve on a pipe system that was previously in service to ensure it has been depressurised and drained (assuming the pipe and / or drainage valve is fully functioning and isn't blocked). In these instances the equipment or service can be verified as "operable" prior to the isolation, then verified as "inoperable" after the isolation is applied (locked and tagged). In this simple example the isolation could then be verified by "testing" the operational control (e.g. pressing starter switch) to ensure the isolation is adequate.	Field Supervisor / Qualified Designate and Employee(s) Involved in Task
4B	Testing Non-Operational Systems: In many instances it is not possible to directly observe or verify the isolation based on the operability of the equipment or system. For example, if the system is already inoperable due to a system/equipment failure or prior isolation (e.g. plant shutdown). In this case additional measures to physically verify that the system has been isolated must be taken. This may include disconnecting and physically verifying that all leads are disconnected, testing with a potential indicator, taking additional measures to lock out the system by isolating the primary energy	Field Supervisor / Qualified Designate and Employee(s) Involved in Task

No.	INSTRUCTION:	Position Responsible
	source (e.g. isolating power at MCC instead of at the equipment only) or establishing secondary barriers (e.g. installing blanks, guards, etc.).	
4C	Testing Electrical Systems: Electrical equipment must be tested with a CSA-certified potential test indicator to ensure that all components are de-energized and de-activated, including interlocking or dependent systems that could feed into the system being isolated. Test voltage phase to phase and phase to ground. Test the "start up" to ensure that the equipment is off. Electrical proximity testers can also be made available if necessary (complex or potentially unreliable systems) Workers testing electrical systems must: Remove all watches, rings, neck chains or other current-conducting jewellery. Wear electric shock resistant footwear. Wear safety glasses with UV protection.	Field Supervisor / Qualified Designate and Employee(s) Involved in Task
AUTHORIZATION TO PROCEED / VERIFICATION OF COMPLETION:		
5	Prior to the commencement of work the supervisor or qualified designate must verify the isolation points with all employees involved in the task by reviewing the isolation log / record and ensuring all necessary locks / tags have been supplied and/or applied. Furthermore, upon completion of the work the supervisor or qualified designate must verify that the isolation has been removed.	Field Supervisor / Qualified Designate
LOCK / TAG REMOVAL		
6A	Removal of Comstock Lock(s) / Tag(s): After the assigned work is completed and the equipment is to be energized, the supervisor or designate must be notified to receive authorization prior to the removal of any lock(s) or other lockout devices from the machinery/equipment. The supervisor or his/her designate must then verify that the work is completed and all isolations have been removed and the equipment is free to safely operate prior to removing their lock and tag. No one shall remove any personal lock / tag other than his/her own.	Field Supervisor / Qualified Designate and Employee(s) Involved in Task
6B	Multiple Employees / Work Groups: In instances where multiple employees or work groups may be working on the equipment or system, the supervisor must make the other employees or work parties aware in advance of when Comstock will remove its isolation. Once the isolation is removed formal notification must be provided to the other employees / work parties indicating that	Field Supervisor / Qualified Designate and Employee(s) Involved in Task

No.	INSTRUCTION:	Position Responsible
	Comstock has completed their work activities on that equipment or system. In instances where another work party notifies Comstock that they will be removing their isolation, all work should be temporarily stopped until the other work party has removed their isolation and the Comstock isolation is once again verified to ensure it is still adequate (e.g. no changes in the system or alternative energy sources introduced). *Double Shifts:* Workers leaving the site must remove their locks and the workers coming on shift must immediately replace them with their own locks.	
6C	Lock Removal by Others: In instances where an employee leaves the site without removing his/her lock and the work on the system or equipment is complete and/or must be made operable the following procedure must be followed: The owner of the lock must be positively identified. Efforts to contact the worker must be made and have him/her come back and remove the lock. If the worker cannot be contacted or is incapable of removing his/her lock the Comstock supervisor must ensure that no other workers will be endangered if the lock is removed and that no process machinery will be damaged. A safety representative must be present when the lock is removed (where applicable). Lock removal should be done by cutting the lock off (no master keys). All information regarding the lock removal must be documented on the Isolation Log / Record. The employee or his work group must be immediately notified that the isolation was removed prior to their commencing with any further work.	Field Supervisor / Qualified Designate
SAFETY ZONE		
7	Where nearby equipment may pose a hazard however isn't in the immediate work area and cannot be locked out or otherwise de-energized, a "Safety Zone" must be established. This zone must provide a warning perimeter or physical barrier preventing accidental contact with nearby equipment or electrical utilities.	Field Supervisor / Qualified Designate
SAFETY INSPECTIONS:		

No.	INSTRUCTION:	Position Responsible
8	On a daily basis all employees and supervisors must informally verify that the isolation is adequate by checking the locks/tags and routinely testing the isolation. At a minimum, this inspection should be performed prior to commencing work on each day. Where isolation is applied Comstock supervision and management is responsible for formally ensuring that all employees are following the applicable isolation safety requirements.	Comstock Management / Field Supervisor
ADDITIONAL SAFETY REQUIREMENTS:		
9	Always Remember!!! Only ONE lock on each energy source for each worker on the job. Never lend the key to your lock(s) to anyone. Protect others by barricading, roping off, posting signs etc. When the power is on, never place yourself in a hazardous position in relation to a machine. Use "Extreme Caution!" with possible stored energy sources usually found in forms of gravity, momentum and residual energy under tension. Never stand in front of a disconnect when shutting off the energy source. Never stand in front of a disconnect when restoring power.	

12.8 Reference Documents

- Comstock Health and Safety Program, Part 4, Section 2.1 – Isolation Standard: Lockout, Tag out and Test Procedure for Electrical and Non-Electrical Systems.

13. WORKING ON NEAR LIVE SYSTEMS / ELECTRICAL APPARATUS

13.1 Scope

This document represents the minimum standard for Safety that must be applied in all instances where CFJ or a contractor of CFJ may be required to work on or near live systems / electrical apparatus. It is the policy of CFJ Nuclear Contractors Ltd. that work on or near live systems apparatus is not to be performed unless there are special circumstances involved and it is absolutely necessary. In such cases all the requirements of this procedure must be met in full and a recognized and authorized competent person who is acting in a supervisory capacity approves the arrangements. In addition, approval from the client / constructor must be obtained prior to proceeding (Refer to Live Work Permit or equivalent).

13.2 Purpose

The purpose of this standard is to:

- Ensure all employees who may be required to perform work on or near live systems / electrical apparatus are aware of the hazards and safety requirements associated with such work.
- Ensure that the work is planned and completed in the safest possible manner to achieve a level of risk that is as low as reasonably possible, thereby reducing any risk of injury.
- Ensure live work is performed in compliance with all applicable health and safety legislation / regulations and conforms to the NFPA 70-E standard (US).

13.3 Risk Assessment / Hazards

The hazards associated with work on or near live electrical equipment include:

- Electrical Contact (shock, burns, muscle contraction, heart, and respiratory failure)
- Ultraviolet Radiation (burns, eye damage including blindness)
- Arc / Explosion / Fire (struck by equipment fragments, and burns)
- Equipment Damage / Power Loss to all affected systems

13.4 Definitions

Energized - Electrically connected to a source of potential difference.

"Near to / Live Work" – means capable of being within the safe limits of approach (see tables below 8.1 & 8.2), capable of being within the arc flash zone, or capable of being within contact of a worker's body, equipment or tools.

13.5 Employee Training / Instruction / Communication

Prior to working on or near live electrical apparatus the following requirements must be met:

13.5.1 Make all Safety Measures & Procedures Available (Post & Review

Where personnel or equipment may be capable of coming within the "Safe Limits of Approach" on a project a copy of the written safety measures and procedures to prevent accidental contact must be made available to the employees at risk. Recommended Actions:

- Provide / Post a copy of this document (Work on or Near Live Systems / Electrical Apparatus or equivalent)
- Provide / Post a copy of the Job Safety Analysis (JSA)
- Review the potential "live" hazards with all employees via a safety meeting.

13.5.2 Current Certificate of Qualifications (C of Q)

Ensure that all employees have a current and valid C of Q.

13.5.3 Working on or Near Energized Electrical Equipment Training / Instruction

(NFPA 70E Standard Review)

All supervisors who may oversee any work on or near live equipment as well as all employees who may be required to regularly perform such work (i.e. > 1 / yr) must attend a training / instruction session on "Live Electrical Work" that has been recognized and accepted by CFJ management. This training instruction must include: a review of the NFPA 70-E Standard, review of the hazards associated with live work, PPE selection / requirements and a review of the specific safety requirements.

Refer to CFJ Training Program "Work on or Near Energized Electrical Equipment". Contact the CFJ Safety Department to coordinate training.

13.5.4 CFJ Live Work Standard / Work Instruction

Employees must receive formal (documented) instruction via a competent supervisor on this standard / procedure (or equivalent).

13.5.5 CFJ Isolation Standard / Work Instruction

Employees must receive formal (documented) instruction via a competent supervisor on the Client and / or CFJ Isolation Standard - Tagging and Locking Out Procedure for Electrical and Non – Electrical Systems.

13.5.6 Job Safety and Environmental Analysis (JSEA) Review / Daily Safety Talks

The supervisor must review the Job Safety Analysis (JSA) and Emergency Response Procedure for the task with all employees. This information must be reviewed daily thereafter to ensure the planning is adequate and there are no changes. Note: Daily safety talks / pre-task hazard assessments can be utilized on a daily basis to review key points of the JSA.

13.5.7 Specialized PPE Training

Employees must receive training via a competent person (supplier, approved organization) or competent supervisor on the care and use of any specialized personal protective equipment (insulated gloves, mats, blankets, etc.). This training must be documented and copies sent to the safety department and the employee's file. Training can be coordinated via the CFJ Safety Department.

13.5.8 Accredited Training / Qualified Personnel

If work is to be done within the "Safe Limits of Approach" it must be considered "live work" and can only be performed by a qualified electrical journeymen. If work near "live" equipment must be performed by other than an electrical journeyman, this work can only be performed by an employee who has completed electrical safety awareness training course through an accredited organization as approved by management and the safety department. Where work within the safe limits of approach is not performed by a qualified journeyman, (i.e. non electrical work in the area) one must be present at all times to supervise the work being performed. This does not apply to work performed on live electrical equipment, which must be performed directly by a qualified journeyman.

Recognized training courses include:

- Provincial construction safety associations or equivalent (EUSA, CSAO, NSCSA, ACSA etc.)
- Hydro One (Ontario).
- Other courses as approved by management and safety department.

13.6 Safety Planning / Hazard Assessment / Authorization to Proceed

The following safety documentation is required prior to commencing with any work on a live system / electrical apparatus or work that is capable of being within the "Safe Limits of Approach".

- Live Work Permit (or equivalent / client approved)
- Detailed Job Safety Analysis (JSA)
- Emergency Response Plan
- Energized Work – Safety Checklist (or equivalent / client approved)

All affected parties shall be notified of the need to perform work on the energized system. This notification should include:

- The constructor general contractor
- Any affected crafts
- Building management and/or building engineering
- The Tenant, owner and/or end user

Work will not proceed until authorization has been granted from the owner or the constructor / general contractor. A copy of the Live Work Permit and Job Safety and Environmental Analysis (JSEA) must be submitted in advance for review by the owner / constructor and CFJ management (senior project personnel onsite).

Note: Testing and / or troubleshooting activities DO NOT require written approval and / or a Live Work Permit to be completed.

FINAL APPROVAL to proceed with any live work must be obtained by the trade superintendent / senior trade supervisor. In addition, all safety requirements for the task must be reviewed with the qualified personnel performing the work prior to proceeding (i.e. review of JSA / Pre-Task Safety talk and Safety and Checklist for Working on or Near Energized Circuits).

Key points when assessing work near live electrical equipment:

- Can the live work be minimized in any way (e.g. testing the equipment live then isolating the equipment to complete repairs).
- Are there any additional regional / provincial legislated safety requirements or client safety requirements for this work (Note: the CFJ standard represents the minimum safety requirement).
- Are you likely to inadvertently come in physical contact with the circuit?
- Is the voltage of the system known / tested?
- Are equipment / materials likely to inadvertently contact the circuit?
- Do you have adequate lighting to see what you are doing?
- Do you have conductive material or equipment on your person?
- Is there any possibility of movement of the circuit?
- Has all your equipment been checked and is it in good working order?

Refer to the CFJ Health and Safety Program – Job Safety Analysis, and / or contact the CFJ Safety Department for assistance with any safety planning if necessary.

13.7 Protective Equipment: Refer To PPE Compliance Guide

When working on or near live electrical energy and there is a potential for contact (including testing & troubleshooting) the worker(s) must use the following approved protective devices:

- Insulated rubber gloves with leather protectors – adequate rating (included in kit)
- Glove powder (included in kit)
- Insulated mats, blankets, sleeves, shielding / barriers
- Arc rated face shields, (included in kit)
- Polycarbonate and impact resistant lenses (with UV protection)
- Arc rated coveralls – Refer to PPE Compliance Guide / Hazard Classification (below). **Minimum 8 cal/cm2 rating.**
- Hearing protection (as required – refer to PPE Compliance Guide)
- Multi-layer switch hood (as required – refer to PPE Compliance Guide)
- Fire protection including Class “A” or “ABC” fire extinguisher(s) located in the immediate area.
- Electrically insulated tools that are designed to minimize any potential for inadvertent contact - minimum 1000 volt rating.
- CSA-certified potential test indicator rated beyond the known potential.
- Adequate workplace lighting and / or task lighting
- Other equipment as may be necessary including grounds and barriers
- No jewellery, polyester or nylon materials are to be worn

13.7.1 Insulated Gloves

There are two types of Rubber Gloves:

- Type I made from high grade cis-1, 4 polyisoprene rubber compound of natural or synthetic origin, properly vulcanised.
- Type II ozone resistant, made of any elastomer or combination of elastomeric compounds.

The different classes of Rubber Gloves are Class 00, Class 0, Class 1, Class 2, Class 3 or Class 4. The class determines the amount of voltage that can be handled safely.

INSULATED RUBBER GLOVES VOLTAGE REQUIREMENTS			
Class of Designation of Glove or Sleeve	**Maximum Use Voltage, V**	**A-C Retest Voltage, V**	**D-C Retest Voltage, V**
00	500	2 500	10 000
0	1 000	5 000	20 000
1	7 500	10 000	40 000
2	17 000	20 000	50 000
3	26 500	30 000	60 000
4	36 000	40 000	70 000

Glove Certification (Every 3 Months – 90 days, or more often as specified by the manufacturer):

Gloves must be "certified" by a recognized agency (e.g. Lineman's Testing Laboratories) before being used for the first time and every 3 months after initial use.

13.7.2 Care and Use of Insulated Rubber Gloves

- Not all gloves are one size fits all. Gloves must be properly fitted to ensure a good grip. Contact the supplier if fitting is required.
- Gloves must be visibly inspected prior to every use. This includes an air test to ensure there are no holes.
- Gloves must be free of any chemical, oil, grease or other damaging substance.
- Gloves cannot be marked (via pen or marker) or have any adhesive labels.
- Leather protective gloves that have been used for any other purpose must not be used to protect insulated gloves.
- Leather protective gloves must also be inspected prior to any use and cannot be damaged in any similar fashion to those items outlined above (3, 4).

Note: If in doubt or if a defect is identified, immediately contact your supervisor or the warehouse for replacement. Identify the gloves as damaged and send to the warehouse for disposal.

13.7.3 Storage of Insulated Rubber Gloves

- Gloves must be stored in their glove bag for protection and must maintain their natural shape (not bent, folded, compressed, etc.)
- Gloves must be stored in a cool, dark and dry location (UV may break down rubber).

- The location must be free of chemicals that may cause damage to the gloves.

Note: All rubber insulated gloves maintained by the CFJ warehouse (Burlington) are stored at Lineman's Testing Laboratories and are tested prior to pick up. This is why any ordering of rubber-insulated gloves ***must be done well in advance.***

13.7.4 Glove Size Registry

All division offices that may perform live electrical work or that issue insulated rubber gloves must maintain a "glove registry" for all key CFJ personnel to ensure properly fitted gloves are provided. (Copy of Registry is available through Corporate Safety Department).

13.7.5 Insulated Mats

All insulated rubber mats must be designed, tested and maintained in accordance with the Underwriters Laboratory of Canada Standard. Inspections must be performed prior to every use. These mats will be required when performing live electrical work and must be inspected prior to use to ensure they are in good condition. Do not use any damaged equipment.

13.8 General Safety Requirements

- Work on or near live electrical apparatus is <u>not</u> to be performed unless absolutely necessary and where written permission has been granted by the owner / constructor.
- All employees must be alert and not impaired by fatigue, sickness, over the counter drugs, excessive hours of work, physical hazards that may affect concentration (heat, noise, etc.), or any other reasons.
- Conductive or fusible articles of equipment, clothing or jewellery such as metal ladders, nylon, watches, bracelets, necklaces, metal frames glasses, etc., must not be brought within the safe limits of approach as defined below.
- Examine work area / equipment for loose parts (screws, wires, etc.) that may be able to contact the live electrical circuit, thereby resulting in the potential for an explosion. Any loose parts or parts that may pose a hazard must be secured and / or removed.
- Wherever possible suitable physical barriers should be established to prevent accidental contact with any live apparatus.
- When conditions warrant, a safety watch person is to be posted to warn of hazard(s) of electrical contact.
- Wherever possible test the equipment with a CSA-certified potential test indicator for the known potential to verify the voltage and ensure the system is free of faults. Note: ensure the potential test indicator scale is greater than the voltage.

- Ground components as required (Note: Voltage testing must be performed to ensure equipment isolation prior to grounding).
- A suitable fire extinguisher must be made conveniently available.

Should any changes in the work plan or conditions present itself all work must be immediately stopped, re-assessed and communicated to all parties involved.

13.8.1 Safe Limits of Approach: Non–Qualified Personnel

The minimum distance specified must be maintained between exposed, energized equipment and conductors and any object, worker, tool, machine, equipment or material. This does not apply if shields or other protective devices adequate to ensure protection from electrical contact are installed under the authority of the owner of the electrical conductor / equipment or other authorized agency.

*ELECTRICAL SAFE LIMITS OF APPROACH	
Nominal phase to phase voltage rating	**Minimum Distance (Limit of Approach)**
30 to-300 volts	"Near to" – capable of being within contact of a worker's body, equipment or tools.
More than 300 to 425 volts	0.9 metre (3 ft)
More than 425 to 50 000 volts	3 metres (10 ft)
More than 50 000 to 120 000 volts	4.5 metres (15 ft)
More than 120 000 to 250 000 volts	6 metres (20 ft)
More than 250 000 to 350 000	7.5 metres (25 ft)
More than 350 000 volts	9 metres (30 ft)

***Note:** This identifies the minimum standard set forth by CFJ. Please reference all applicable health and safety legislation to ensure compliance with regional requirements. Also, to determine standard arc flash protection requirements refer to NFPA protection personal protective equipment – compliance guide and hazard classification below.*

13.8.2 Safe Limits of Approach: Qualified Personnel

The following table identifies the Limits of Approach when work is to be continuously supervised by a "competent" person – trained / qualified journeyman. This does not apply to small tools and cranes.

ELECTRICAL SAFE LIMITS OF APPROACH (Authorized Person or Supervised by "competent person")	
Nominal phase to phase voltage rating	**Minimum Distance (Limit of Approach) "Competent Person"**
0 to 450 volts	"Near to" – capable of being within contact of a worker's body, equipment or tools.
Over 450 to 12 000 volts	0.9 metre (3ft)
Over 12 000 to 22 000 volts	1.2 metres (4ft)
Over 22 000 to 50 000 volts	1.5 metre (5 ft)
Over 50 000 to 90 000	1.8 metre (6ft)
Over 90 000 to 120 000 volts	2.1 metre (7 ft)
Over 120 000 to 150 000 volts	2.7 metre (9 ft)
Over 150 000 to 250 000 volts	3.3 metre (11 ft)
Over 250 000 to 300 000 volts	3.9 metre (13 ft)
Over 300 000 to 350 000 volts	4.5 metre (15 ft)
Over 350 000 volts	5.4 metre (18ft)

Note: To determine standard arc flash protection requirements refer to NFPA protection personal protective equipment – compliance guide and hazard classification below.

13.8.3 Safety Zone

Where equipment cannot be locked out or otherwise de-energized, requiring work to be performed on or near live electrical equipment a “Safety Zone” must be established. This zone must provide a warning perimeter or physical barrier using signs and barricades preventing accidental access or contact for personnel not working directly on the equipment, or who have not received the necessary training to be within the “Safe Limits of Approach”. All other personnel in the surrounding area should also be notified of the hazard / controls. This safety zone must prevent entry into the “Safe Limits of Approach”. Where it is required that an unauthorized person has need to enter the restricted area(s), the CFJ supervisor shall ensure they are continuously supervised by an authorized and qualified designate who is capable of ensuring the visitor’s safety.

13.9 Testing and Troubleshooting Live Equipment

Testing and trouble shooting electrical equipment that is known to be live **IS** considered live work. **However, a Live Work Permit is NOT required.**

CSA or CAN/ULC equipment must be used when performing this work. Fire resistant / Arc rated personal protective equipment must be worn. This equipment has been designed to reduce to a minimum the chances of the equipment causing a fault on the equipment being tested, even if the equipment was set to the wrong scale or function.

13.10 Emergency Response / First Aid & CPR

Qualified first aid personnel who hold current training in CPR must be conveniently available and notified of the work wherever any “live work” is performed. Also, at least one person must be designated to directly observe all live work activities over 300 volts (they are not to perform work activities). In addition, a basic first aid kit must be available and emergency response plan must be developed and reviewed prior to the commencement of work. For work under 300 volts, qualified first aid personnel must be conveniently available. Note: the first aid / CPR attendant cannot be the person performing the work.

Exemption – Qualified first aid personnel are not required for live testing and trouble shooting operations, however, emergency response plans must be addressed for these activities.

13.11 Safety Inspections

13.11.1 Employee Inspections

All employees must inspect all tools, equipment and all other safety barriers as identified on the JSA on a daily basis to ensure they are in acceptable condition.

13.11.2 Supervisor Inspections

Supervisors must inspect all “live work” (including work within the safe limits of approach) on a daily basis to ensure the work is being completed in the safest possible manner (i.e. ensure the safety plan is adequate, no new unidentified hazards are present, all employees are adhering to all safety requirements). Inspection results must be formally documented via a safety inspection report, foreman’s logbook or equivalent. All items requiring corrective action must be addressed immediately.

13.11.3 Management Inspections

Division and / or project management should make every effort to physically inspect any “live” work on a regular basis and must, at a minimum, review records of all completed safety training, safety planning (JSA’s, daily safety talks) and safety inspections (supervisory inspections) to ensure the work is being completed in accordance to this standard and in the safest possible manner.

13.12 Reference Information / Documents

- Isolation Standard: Lock Out – Tag Out – Test Procedure for Electrical and Non Electrical Systems (CFJ Health and Safety Program, Part 4).
- Electrical Utility Rule Book – Contact Safety Department for Copy
- CFJ Live Work Permit (S4.2.2)
- Energized Work – Safety Checklist (S4.2.2A

PERSONAL PROTECTIVE EQUIPMENT – COMPLIANCE GUIDE & HAZARD CLASSIFICATION

These sections, referenced from NFPA 70E, describe the tasks being performed, the degree of hazard / risk category and the PPE requirements.

Minimum Clothing Requirements			
HRC	**Protective Clothing**	**Min cal/cm2**	**PPE (standard PPE required for all: Hard Hat, Glasses, Boots)**
-1	Natural Fibre shirt and long pants	NA	Standard PPE
0	Natural Fibre shirt (long sleeve) and long pants	NA	Standard PPE
1	Denim jeans and FR long sleeved shirt OR FR shirt / pants / coveralls	4	Standard PPE
2	FR long sleeve shirt and pants or coveralls	8	Standard PPE + Arc Rated Face Shield
2*	FR long sleeve shirt and pants or coveralls	8	Standard PPE + Arc Rated Face Shield, Multi-layered switching hood, hearing protection.
3	Multi-layered flash suite over FR long sleeved shirt and pants over natural fibre short sleeved T-shirt and pants OR Multi-layered flash suite over FR coveralls over natural fibre short sleeved T-shirt and pants	25	Standard PPE + Arc Rated Face Shield, Multi-layered switching hood, hearing protection.
4	Multi-layered flash suite over FR long sleeved shirt and pants over natural fibre short sleeved T-shirt and pants OR Multi-layered flash suite over FR coveralls over natural fibre short sleeved T-shirt and pants	40	Standard PPE + Arc Rated Face Shield, Multi-layered switching hood, hearing protection.

Hazard Classification Less than 240 Volts:

Task (Assumes Equipment Is Energized, and Work Is Done Within the Flash Protection Boundary)			
Panel boards rated 240 V and below	**Hazard/ Risk Category**	**Voltage rated Gloves**	**Voltage rated Tools**
Circuit breaker (CB) or fused switch operation with covers on	0	No	No
CB or fused switch operation with covers off	0	No	No
Work on energized parts, including voltage testing	1	Yes	Yes
Remove/install CBs or fused switches	1	Yes	Yes
Removal of bolted covers (to expose bare, energized parts)	1	No	No
Opening hinged covers (to expose bare, energized parts)	0	No	No

Hazard Classification 240 Volts and Over up to 1000 Volts

Panel boards or Switchboards rated >240 V and up to 600 V (with moulded case or insulated case circuit breakers)	**Hazard/ Risk Category**	**Voltage rated Gloves**	**Voltage rated Tools**
CB or fused switch operation with covers on	0	No	No
CB or fused switch operation with covers off	1	No	No
Work on energized parts, including voltage testing *a double-layer switching hood and hearing protection are required for this task in addition to the other Hazard/Risk Category 2	2*	Yes	Yes
600 V Class Motor Control Centers (MCCs)	**Hazard/ Risk Category**	**Voltage rated Gloves**	**Voltage rated Tools**
CB or fused switch or starter operation with enclosure doors closed	0	No	No
Reading a panel meter while operating a meter switch	0	No	No
CB or fused switch or starter operation with enclosure doors open	1	No	No
Work on energized parts, including voltage testing *a double-layer switching hood and hearing protection are required for this task in addition to the other Hazard/Risk Category 2	2*	Yes	Yes
Work on control circuits with energized parts 120 V or below, exposed in gear up to 600 volts	0	Yes	Yes
Work on control circuits with energized parts >120 V exposed in gear up to 600 volts - *a double-layer switching hood and hearing	2*	Yes	Yes

protection are required for this task in addition to the other Hazard/Risk Category 2			
Insertion or removal of individual starter “buckets” from MCC	3	Yes	No
Application of safety grounds, after voltage test *a double-layer switching hood and hearing protection are required for this task in addition to the other Hazard/Risk Category 2	2*	Yes	No
Removal of bolted covers (to expose bare, energized parts) *a double-layer switching hood and hearing protection are required for this task in addition to the other Hazard/Risk Category 2	2*	No	No
Opening hinged covers (to expose bare, energized parts)	1	No	No
600 V Class Switchgear (with power circuit breakers or fused switches)	**Hazard/ Risk Category**	**Voltage rated Gloves**	**Voltage rated Tools**
CB or fused switch operation with enclosure doors closed	0	No	No
Reading a panel meter while operating a meter switch	0	No	No
CB or fused switch operation with enclosure doors open	1	No	No
Work on energized parts, including voltage testing *a double-layer switching hood and hearing protection are required for this task in addition to the other Hazard/Risk Category 2	2*	Yes	Yes
Work on control circuits with energized parts 120 V or below, exposed	0	Yes	Yes
Work on control circuits with energized parts >120 V exposed *a double-layer switching hood and hearing protection are required for this task in addition to the other Hazard/Risk Category 2	2*	Yes	Yes
Insertion or removal (racking) of CBs from cubicles, doors open	3	No	No
Insertion or removal (racking) of CBs from cubicles, doors closed	2	No	No
Application of safety grounds, after voltage test *a double-layer switching hood and hearing protection are required for this task in addition to the other Hazard/Risk Category 2	2*	Yes	No
Removal of bolted covers (to expose bare, energized parts)	3	No	No
Opening hinged covers (to expose bare, energized parts)	2	No	No
Other 600 V Class (277 V through 600 V, nominal) Equipment	**Hazard/ Risk Category**	**Voltage rated Gloves**	**Voltage rated Tools**
Lighting or small power transformers (600 V, maximum)	Hazard/ Risk Category	Voltage rated Gloves	Voltage rated Tools
Removal of bolted covers (to expose bare, energized parts) *a	2*	No	No

double-layer switching hood and hearing protection are required for this task in addition to the other Hazard/Risk Category 2			
Opening hinged covers (to expose bare, energized parts)	1	N	N
Work on energized parts, including voltage testing *a double-layer switching hood and hearing protection are required for this task in addition to the other Hazard/Risk Category 2	2*	Yes	Yes
Application of safety grounds, after voltage test *a double-layer switching hood and hearing protection are required for this task in addition to the other Hazard/Risk Category 2	2*	Yes	No
Revenue meters (kW-hour, at primary voltage and current)	**Hazard/ Risk Category**	**Voltage rated Gloves**	**Voltage rated Tools**
Insertion or removal *a double-layer switching hood and hearing protection are required for this task in addition to the other Hazard/Risk Category 2	2*	Yes	No
Cable trough or tray cover removal or installation	1	No	No
Miscellaneous equipment cover removal or installation	1	No	No
Work on energized parts, including voltage testing *a double-layer switching hood and hearing protection are required for this task in addition to the other Hazard/Risk Category 2	2*	Yes	Yes
Application of safety grounds, after voltage test *a double-layer switching hood and hearing protection are required for this task in addition to the other Hazard/Risk Category 2	2*	Yes	No

Hazard Classification Over 1000 Volts:

NEMA E2 (fused contactor) Motor Starters, 2.3 kV through 7.2 kV	Hazard/ Risk Category	Voltage rated Gloves	Voltage rated Tools
Contactor operation with enclosure doors closed	0	No	No
Reading a panel meter while operating a meter switch	0	No	No
Contactor operation with enclosure doors open *a double-layer switching hood and hearing protection are required for this task in addition to the other Hazard/Risk Category 2	2*	No	No
Work on energized parts, including voltage testing	3	Yes	Yes
Work on control circuits with energized parts 120 V or below, exposed	0	Yes	Yes
Work on control circuits with energized parts >120 V, exposed	3	Yes	Yes
Insertion or removal (racking) of starters from cubicles, doors open	3	No	No
Insertion or removal (racking) of starters from cubicles, doors closed	2	No	No
Application of safety grounds, after voltage test	3	Yes	No
Removal of bolted covers (to expose bare, energized parts)	4	No	No
Opening hinged covers (to expose bare, energized parts)	3	No	No
Metal Clad Switchgear, 1000 V and above	**Hazard/ Risk Category**	**Voltage rated Gloves**	**Voltage rated Tools**
CB or fused switch operation with enclosure doors closed	2	No	No
Reading a panel meter while operating a meter switch	0	No	No
CB or fused switch operation with enclosure doors open	4	No	No
Work on energized parts, including voltage testing	4	Yes	Yes
Work on control circuits with energized parts 120 V or below, exposed	2	Yes	Yes
Work on control circuits with energized parts >120 V, exposed	4	Yes	Yes
Insertion or removal (racking) of CBs from cubicles, doors open	4	No	No
Insertion or removal (racking) of CBs from cubicles, doors closed	2	No	No
Application of safety grounds, after voltage test	4	Yes	No
Removal of bolted covers (to expose bare, energized parts)	4	No	No
Opening hinged covers (to expose bare, energized parts)	3	No	No
Opening voltage transformer or control power transformer compartments	4	No	No
Other Equipment 1000 volts and above	**Hazard/ Risk Category**	**Voltage rated Gloves**	**Voltage rated Tools**
Metal clad load interrupter switches, fused or unfused	**Hazard/ Risk Category**	**Voltage rated Gloves**	**Voltage rated Tools**
Switch operation, doors closed	2	No	No

Work on energized parts, including voltage testing	4	Yes	Yes
Removal of bolted covers (to expose bare, energized parts)	4	No	No
Opening hinged covers (to expose bare, energized parts)	3	No	No
Outdoor disconnect switch operation (hot stick operated)	3	Yes	Yes
Outdoor disconnect switch operation (gang-operated, from grade)	2	No	No
Insulated cable examination, in manhole or other confined space (non-visual)	4	Yes	No
Insulated cable examination, in open area (non-visual)	2	Yes	No

13.13 Electrical Safe Limits of Approach

Safe Limits of Approach: The minimum distance specified must be maintained between exposed, energized equipment and conductors and any object, worker, tool, machine, equipment or material. This does not apply if shields or other protective devices adequate to ensure protection from electrical contact are installed under the authority of the owner of the electrical conductor / equipment or other authorized agency.

*ELECTRICAL SAFE LIMITS OF APPROACH	
Nominal phase to phase voltage rating	**Minimum Distance (Limit of Approach)**
0-300 volts	3cm / “Near to” – capable of being within contact of a worker’s body, equipment or tools.
More than 300 to 425 volts	0.9 metre
More than 425 to 50 000 volts	3 metres
More than 50 000 to 120 000 volts	4.5 metres
More than 120 000 to 250 000 volts	6 metres
More than 250 000 to 350 000	7.5 metres
More than 350 000 volts	9 metres

***Note:** This identifies the minimum standard set forth by CFJ. Please reference all applicable health and safety legislation to ensure compliance with regional requirements.*

WORK ON OR NEAR LIVE SYSTEMS / ELECTRICAL APPARATUS:

No.	INSTRUCTION:	Position Responsible
SAFETY PLANNING / AUTHORIZATION TO PROCEED: Prior to proceeding with any Live Work, the following safety requirements MUST be completed: **(Note: Work must not proceed until authorization is granted. i.e. Live Work Permit)**		
1	Safety Planning / Hazard Assessment: Prepare Live Work Permit (or equivalent / client approved) Prepare a detailed Job Safety Analysis (JSA) and / or Job Safety Procedure Prepare an Emergency Response Plan. Complete the Energized Work- Safety Checklist (or equivalent / client approved) All affected parties shall be notified of the need to perform work on the energized system. This notification would include the constructor / general contractor, any affected crafts, building management, building engineering, tenant, owner and/or end user. Work will not proceed until authorization has been granted from the owner or the constructor / general contractor. A copy of the Live Work Permit and Job Safety Analysis (JSA) must be submitted in advance for review by the owner / constructor and CFJ management (senior project personnel onsite). *Note: Testing and/or troubleshooting activities DO NOT require written approval and/or an Energized Work Permit to be completed*. Final APPROVAL to proceed with any live work must be obtained by the trade superintendent / senior trade supervisor. In addition, all safety requirements for the task must be reviewed with the qualified personnel performing the work prior to proceeding (i.e. review of JSA / Pre-Task Safety talk and Safety and Checklist for Working on or Near Energized Circuits).	CFJ Management (Senior Project Personnel or Department Manager) / Trade Superintend / Field Supervisor
EMPLOYEE TRAINING / INSTRUCTION:		
2	Employee Training / Instruction: Ensure all employees have received all required training including (post copies of all written safety measures / procedures): Check to ensure current C of Q CFJ – Isolation Standard / Procedure CFJ - Work on or Near Live Systems / Electrical Apparatus Standard & Safe Limits of Approach Specialized PPE Training as required (gloves, mats, blankets, etc.) Approved / Accredited Training (NFPA 70E) for Supervisors - by a qualified provider (management approved) where required. Review job specific JSA	CFJ Management / Trade Superintend / Field Supervisor

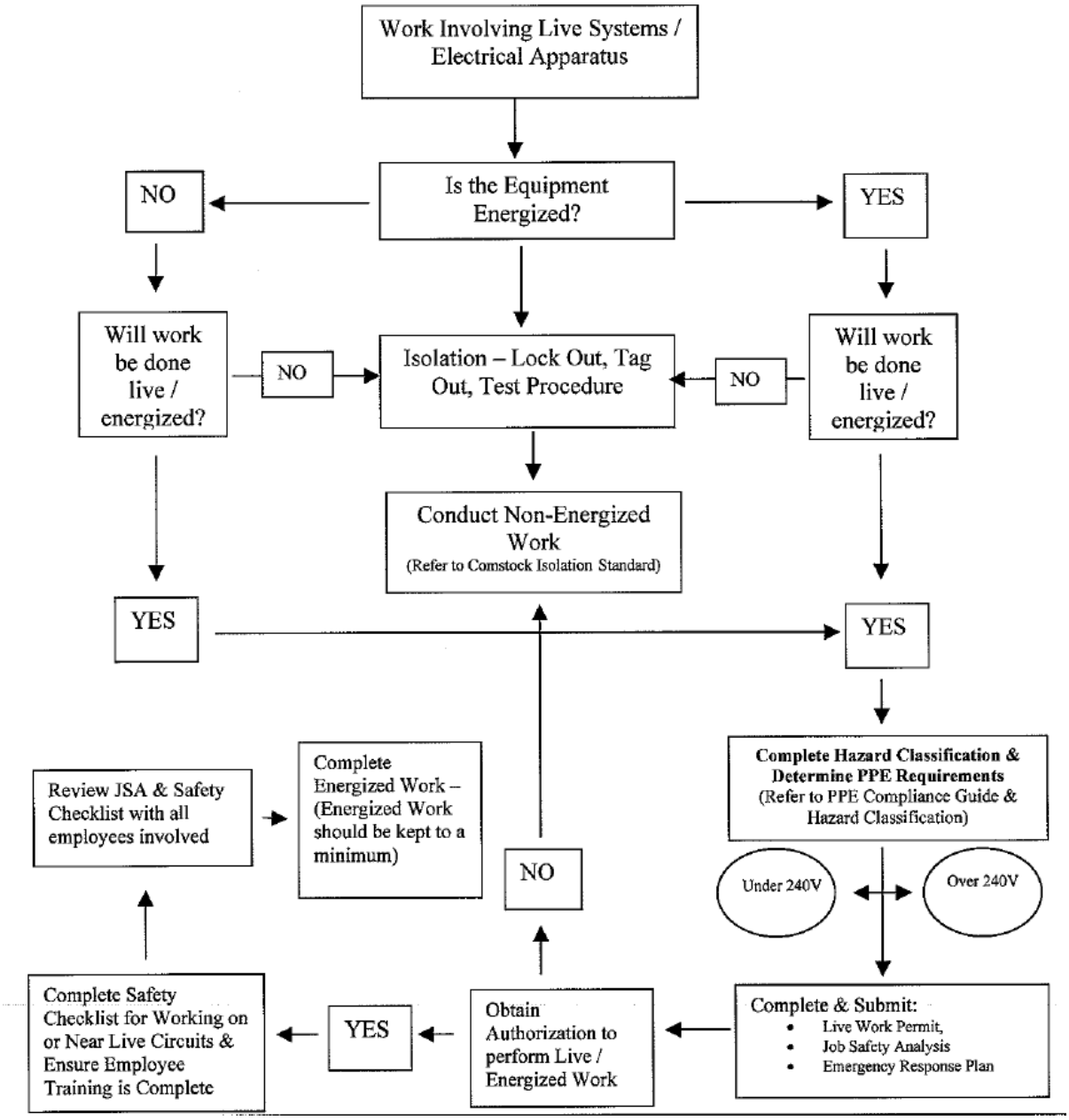
No.	INSTRUCTION:	Position Responsible
	There shall be a minimum of 2 journeymen for any live work unless troubleshoot or testing. The foreman may be one (1) of the two (2) journeymen, if appropriate.	
PPE REQUIREMENTS:		
3	PPE Requirements: Ensure all employees have all necessary PPE as required including: Standard PPE (hard hat, safety glasses - CSA, safety boots) Insulated rubber glovers with leather protectors (adequately rated gloves) Insulated mats, blankets, sleeves, shielding, and barriers. Arc Rated Face shield Arc Rated Coveralls (Refer to PPE Compliance Guide & Hazard Classification (Minimum 8cal/cm2) Fire extinguisher (ABC) Electrically insulated tools Task lighting CSA certified potential test indicator (rated beyond known potential) Other equipment that may be necessary (grounding, barriers, etc.) No jewellery, polyester or nylon materials are to be worn	CFJ Management / Field Supervisor
SAFETY ZONE: SAFE LIMITS OF APPROACH		
4	Where equipment cannot be locked out or otherwise de-energized, requiring work to be performed on or near live electrical equipment a "Safety Zone" must be established. This zone must provide a warning perimeter or physical barrier using signs and barricades preventing accidental access or contact for personnel not working directly on the equipment, or who have not received the necessary training to be within the "Safe Limits of Approach". All other personnel in the surrounding area should also be notified of the hazard / controls. This safety zone must prevent entry into the "Safe Limits of Approach". Where it is required that an unauthorized person has need to enter the restricted area(s), the CFJ supervisor shall ensure they are continuously supervised by an authorized and qualified designate who is capable of ensuring the visitors safety.	Field Supervisor
SAFETY INSPECTIONS:		
5	All employees must inspect all tools, equipment and all other safety barriers as identified on the JSA on a daily basis to ensure they are in acceptable condition. Supervisors must inspect all "live work" (including work within the safe limits of approach) on a daily basis to ensure the work is being completed in the safest	CFJ Management / Trade Superintendent / Field

No.	INSTRUCTION:	Position Responsible
	possible manner Division and / or site management should make every effort to physically inspect any "live" work on a regular basis and must, at a minimum, review records of all completed safety training, safety planning (JSA's, daily safety talks) and safety inspections (supervisory inspections) to ensure the work is being completed in the safest possible manner.	Supervisor And Qualified Employee(s) Involved in Task
	:	
	GENERAL SAFETY REQUIREMENTS	
	Work on or near live electrical apparatus is <u>not</u> to be performed unless absolutely necessary and should be planned to keep exposure to a minimum All employees must be alert and not impaired by fatigue, sickness, over the counter drugs, excessive hours of work, physical hazards that may affect concentration (heat, noise, etc.), or any other reasons. Conductive or fusible articles of equipment, clothing or jewellery such as metal ladders, nylon, watches, bracelets, necklaces, metal frames glasses, etc., must not be brought within the safe limits of approach as defined below. Examine work area / equipment for loose parts (screws, wires, etc.) that may be able to contact the live electrical circuit, thereby resulting in the potential for an explosion. Any loose parts or parts that may pose a hazard must be secured and / or removed. Wherever possible suitable physical barriers should be established to prevent accidental contact with any live apparatus. When conditions warrant, a safety watch person is to be posted to warn of hazard(s) of electrical contact. Wherever possible test the equipment with a CSA-certified potential test indicator for the known potential to verify the voltage and ensure the system is free of faults. Note: ensure the potential test indicator scale is greater than the voltage.	CFJ Management / Field Supervisor And Qualified Employee(s) Involved in Task

13.14 Reference Documents

- CFJ Health and Safety Program, Part 4, Section 2.2 – Work on or Near Live Systems / Electrical Apparatus Standard
- CFJ Live Work Permit (S4.2.2)
- Energized Work – Safety Checklist (S4.2.2A)

Safe Work Instruction Flow



14. REQUIREMENTS FOR PLANNING RADIOLOGICAL WORK

14.1 Purpose

This procedure outlines the requirements for planning radiological work for a Client. The purpose of this procedure is to effectively plan work so that radiation exposures are kept as low as reasonably achievable (ALARA).

14.2 Definitions

ALARA Plan - An ALARA Plan is a documented job evaluation taking into consideration radiological conditions expected during each phase of the job and the methods and controls to be used to minimize contamination and collective radiation exposure (person-rem).

Discrete Radioactive Particle - A particle that emits beta and/or gamma radiation. Contamination levels and/or dose rates from discrete radioactive particles are measurable with a pancake contamination meter, or for higher activity particles, with a beta or gamma meter.

Hold Point - A point of defined circumstances beyond which an activity must not proceed without the approval of a designated authority.

Indirect Protection - The provision of radiation protection support by a green qualified person to orange qualified personnel performing radiation work, where the green qualified person does not provide continuous presence.

Radiological Work - Work performed in an area where any of the following conditions are met or expected:

- 1. The external whole body dose rate (gamma plus neutron) is equal to or greater than 2.5 mrem/h at 30 cm from a radiation source or from any surface that radiation is emitted.
- The level of airborne activity is equal to or greater than 1 MPCa.
- There is any detectable loose surface contamination.
- The contact beta dose rate is equal to or greater than 100 mrem/h from any surface that radiation is emitted.
- There are hot spots where the contact gamma dose rate is greater than or equal to 100 mrem/h and greater than 5 times the general field dose rate.
- The area is designated by the Client as a radioactive work area.

Proceeding past a Radiation Danger Sign with a trefoil symbol and the words “Radiation Danger” constitutes entering a Radioactive Work Area.

14.3 Procedure

14.3.1 ALARA Plan

An ALARA Plan is required before a client will provide a work permit for work that has a radiation exposure potential. The client will assess and provide the total estimated dose.

ALARA Plans shall consist of or address the following:

- A job description including the steps involved.
- Expected radiological conditions at each step and a description of exposure reduction measures, contamination control measures, and airborne radioactivity mitigation techniques.
- Protective clothing requirements.
- Discussion of high-risk activities.
- Hold points. A hold point is a point of defined circumstances beyond which an activity must not proceed without the approval of a designated authority.
- Back out criteria and conditions.
- Applicable industry Operating Experience (OPEX) and lessons learned for similar work.
- An estimate of the total dose to be received.
- Plans for transport of high dose rate components, as applicable.
- Special dosimetry requirements or remote monitoring.
- Contingency plans.
- Pre-job briefing requirements.
- Historical information for the work to be performed.
- Solicitation of input from other applicable work groups, individual workers or Radiation Protection Technicians experienced with the task.

The Project Manager or designate is responsible for obtaining client approval of the ALARA Plan and for ensuring that all necessary tasks are added to the work order(s) in order to accomplish the requirements of the ALARA plan.

Prior to work, workers shall review the ALARA Plan or task applicable portions of the ALARA Plan.

14.4 Work Execution

Each qualified individual is expected to actively participate in planning and executing radiological work safely.

- All workers performing radiological work must obey the conditions of the client. Qualified workers will perform pre-job radiation surveys in order to verify that the conditions and hazards identified by the client are accurate. If the radiological conditions are different from the expected average hazard levels or the protection measures as listed on the work permit work shall not proceed.
- Prior to commencement of work the workers shall confirm that all protective equipment, radiation instrumentation, work equipment, dosimetry and contingency plan equipment required for the work is present and functional.
- After completion of work qualified workers will:
    - Clean the work area, ensuring that there is no radiological contamination remaining in the area.
    - Perform post-work radiation surveys.
    - Perform all required dosimetry

14.5 Post-Work Review Requirements

Post-work reviews shall be performed with personnel involved in the job and documented. Post-work reviews should include the following:

- An exposure performance evaluation of actual exposure against expected exposure. This evaluation should include an assessment of actual work hours as well as those used in the evaluation of the ALARA Plan dose estimate. Where a detailed task breakdown existed as part of the ALARA Plan for the work, the exposure performance evaluation should be conducted at the task level whenever possible.
- Identification of the strengths and weaknesses encountered during the planning and performance of the work.
- Identification of improvements that should be incorporated into future work.
- Assignments of action items (e.g. Action Requests, Evaluations) for future work if necessary.

15. CRANE AND RIGGING USE PROCEDURE

15.1 PURPOSE

The purpose of this Procedure is to describe the safe operation of CFJ cranes and rigging; and to demonstrate compliance with safety regulations.

15.2 SCOPE

This procedure applies to all assets that are wholly owned and operated by CFJ as well as all where CFJ has operational control. It shall be used to direct operation of overhead, gantry, jib and monorail cranes and associated rigging devices including slings. Cranes shall include personnel lifting system as described in ANSI/ASME B30.23 code.

Mobile cranes (crawler, locomotive and wheel mounted cranes) and associated rigging are not within the scope of this procedure. It is expected that these types of cranes will be operated by operators (external) certified to operate mobile cranes at that particular location.

15.3 PROCEDURE

15.3.1 Verify Operator Qualifications

The supervisor shall verify that the operator is qualified as an overhead crane and rigging operator.

Qualification Requirement(s): The qualified person will be capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

15.3.2 Check Crane Operational Inspection Log Book(s)

The Crane and Rigging Operator shall check Crane Operational Inspection Log Book to determine if there are known defects or equipment deficiencies. If defects or deficiencies are known, do not operate the crane and rigging devices, but de-energize, lock, and tag the crane and immediately notify supervisor.

15.3.3 Check Load Requirements and Crane and Rigging Capacities

The Crane and Rigging Operator shall determine the following items prior to a lift

- The weight and centre of gravity of the load to be lifted. This information can be determined from vendor manuals, weigh scales, permanent markings on the load, or past experience with the particular load to be lifted.

- Determine the rated capacity and other limitations of the crane and rigging. This information must be permanently displayed on all cranes and rigging.
    - On a crane, the capacity must be marked on both sides of the bridge or boom and on the crane hoist trolley or hook.
    - All rigging must have the following information permanently attached: name of manufacturer, serial or identifier number, in service date, rigging weight if over 45 kg/100 lb, and rated capacities for usable types of hitches.
    - Synthetic web slings must also have the material type attached to the sling.
    - If applicable, ensure that the proper eye bolts are being used. Shouldered eye bolts are to be used. Swivelling type eye bolts must be used when the chain or sling is at an angle of 45° or more from the axis of the eye bolt. If any doubt about the angle of the lift swivelling eye bolts should be used or the lift investigated further.
    - Ensure that the angle of the lift is being considered when determining the rated capacity of the lifting components
- Check if the lift is a *critical lift*. The lift is a *critical lift* if it is considered non-routine AND where one or more of the following conditions apply:
    - Load exceeds 75% of crane or rigging rated capacity.
    - Load endangers existing facilities, due to restriction of movement, energized power lines, pressurized pipe, etc.
    - Load is to be lifted by two cranes simultaneously
    - Load requires specialized rigging
    - Complexity of the lift requires input from a professional engineer
    - Load is not symmetrical

If the lift is a *critical lift*, a Critical Lift Pre-Permit Check Sheet and Work Authorization/Job Safety Analysis need to be completed.

- Do not perform the lift if the load weight exceeds the rated capacities of the crane and rigging OR if weights, centres of gravity, and/ or rated capacities cannot be determined. Consult a professional engineer in Engineering for further direction.

15.3.4 Complete Pre-lift Inspection

The Crane and Rigging Operator shall inspect the crane for:

- Wear or damage to hooks, safety latches, and hoist wire rope/chain;
- Rough or abnormally noisy operation of all motions;
- Abnormal function of hoist upper and lower limit devices, if equipped;

- Abnormal function of emergency stop and main line contactor, if equipped;
- Unresponsive or difficult operation of controls
- Leakage from components of air or hydraulic systems, if equipped
- Electrical equipment for malfunction, signs of excessive deterioration, dirt and moisture accumulation
- All control mechanisms for improper adjustment interfering with operation, inspect for excessive wear of components and contamination of lubricants for foreign matter.
- Safety devices for malfunction
- Rope revving for non-compliance with manufacturer's recommendations
- Damage to other components
- At a minimum 2 wraps of cable are on the drum at the lowest lift point

Inspect structural or mechanical lifting devices for:

- Structural deformation, cracks, or excessive wear on any part of the lifting device
- Loose or missing guards, fasteners, covers, or stops
- All operating mechanisms and automatic hold and release mechanisms for mis-adjustments interfering with operation
- Loose bolts or fasteners
- Cracked or worn gears, pulleys, sheaves, sprockets, bearings, chains, and belts;
- Excessive wear at hoist hooking points and load support shackles or pins
- Check the rigging set-up to ensure it has been set-up properly and all of the components are in the right position

Inspect wire rope slings and fittings for broken wires, excessive abrasion, crushed strands, corrosion, kinks, electric arc damage, fatigue, diameter reduction, excessive stretch, bird caging, scrubbing, and protruding core.

Inspect synthetic web slings and fittings for:

- Excessive abrasive wear on webbing and any fittings
- Cuts, tears, snags, punctures, holes, and crushed fabric
- Worn or broken stitches, particularly that of the laps
- Burns, charring, melting damage or welded splatter
- Acidic, caustic or other chemical damage
- Broken, distorted or excessively worn fittings

- Storage outside (synthetic fibre degradation caused by ultraviolet light)
- Red core warning yarn is exposed

Inspect chain slings and fittings for broken links, cracks, deformation, excessive wear, and excessive stretch.

Inspect all mounting hardware (eyebolts, shackles, clevises, yokes and lifting brackets, etc.) for signs of damage or wear

Enter the inspection results into the Crane Operational Inspection Logbook(s). If defects or deficiencies are discovered during the pre-lift inspection, de-energize, lock and tag the crane & the rigging, and immediately notify supervisor.

15.3.5 Perform Lift Safely

The Crane and Rigging Operator shall undertake the following while performing a lift:

17) Verify that the hoist brake is working properly by raising the load a short distance from its initial position and stop. Check the load for drift. If no drift, lower the load halfway back to the initial load position and stop. Again, check for drift. If load drift is noticed in either step, lower the load to it initial position and discontinue the use of the crane.

18) Operate the crane and rigging according to the manufacturer's safety and operation manual and to training received. Ensure that the location of the crane electrical disconnect switch is known by all parties involved in the lift. If practical have a stand-by person at the electrical disconnect switch to shut the crane down if a problem occurs during the lift.

- If defects or deficiencies are discovered during operation, discontinue use of crane. De-energize, lock and tag crane and immediately notify Area Manager. Record defects or deficiencies in the Crane and Rigging Operational Inspection Log Book(s).

15.3.6 Update Crane Operational Inspection Logbook(s)

The Crane and Rigging Operator shall record the time in service for the crane including the date and time of log entry as well as the operator's name. To be practical, this activity can be done at the end of the work shift in which the crane and rigging was used.

PART 5
ENVIRONMENTAL POLICIES / PROGRAMS

REVISION HISTORY – PART 5

Revision	Date	Author	Description of Changes

TABLE OF CONTENTS
PART 5

Chapter **Page**

1. ENVIRONMENTAL MANAGEMENT SYSTEM

1.1 Environmental Policy

Refer to CFJ Health, Safety & Environmental Policy

1.2 Scope

This procedure describes the environmental management system used by the Company, including our contractors and visitors, to safeguard the environment at all workplaces and during all phases of construction projects. To the greatest extent possible, wildlife and site vegetation will be protected with an objective to leave the site in as natural a condition as is possible at the completion of the project.

In most instances, the Company performs the work necessary to fulfill contracts on premises owned or controlled by the Customer. Since the Customer has a greater knowledge and awareness of the site and the potential for environmental risk, the Company will seek first to adopt and be trained with regard to the Customer's environmental protection program or initiative. In the event that the Company, in assessing the potential impact on the environment, determines that the program offered by the Customer does not adequately address the potential risk; the Company will follow this procedure.

1.3 Objectives

This procedure provides specific instructions for the effective management of environmental protection. Adherence to this procedure will ensure that the objectives, as stated in section 4.0 of the Company Quality Assurance Manual, are achieved, including:

Incidents: The Company will strive to reduce the total number of incidents that may or do result in personal injury, illness, equipment damage or harm to the environment, and all such incidents will be investigated and recorded to ensure suitable corrective action is taken to prevent a recurrence. The objective will be the prevention of all *critical events*, *lost time injuries*, and a minimum reduction of 10% for all recorded incidents each year.

Legislative Compliance: The Company will ensure compliance with applicable health, safety and environmental legislation at every workplace as a minimum performance standard. Any government issued orders to comply will be immediately investigated and resolved within the specified timeframe. In addition, any orders to comply must be submitted to the Regional and Corporate Management Review Committees for further corrective / preventive action as to eliminate any similar non-compliance.

2. ROLES AND RESPONSIBILITIES

2.1 Health and Safety Program

Refer to Part 1, Section 2 and Quality Manual Section 7.0 for job specific roles and responsibilities related to Health, Safety and Environmental Protection. Additional responsibilities as they apply to the environmental management system include:

2.2 Management

CFJ management is committed to protecting the environment and preventing pollution. To accomplish this, we all must do our part by ensuring that the measures and procedures prescribed by the Act, Regulations and CFJ Nuclear Contractors Ltd Health and Safety Program are implemented, administered and enforced at the workplace.

Defined management responsibilities are as follows:

- Management is directly responsible for the proper implementation and administration of the CFJ Environmental Management System within their area of responsibility
- Be knowledgeable of the contents of the Health and Safety Program and ensure its contents are integrated into the operations of the company.
- Be knowledgeable of the health and safety legislation that applies to the area of operation, and ensure compliance to that legislation.
- Provide the training and resources essential to the implementation, control and improvement of the Program.
- Obtain information from Clients/Constructors on any potential and/or existing hazards that will be encountered on the project.
- Monitoring environmental performance and implementing continuous improvement initiatives.

2.3 Supervision

A Supervisor means a person who has charge over a workplace or authority over an employee.

The responsibilities of supervision as it pertains to environmental protection include:

- Demonstrate safety leadership and actively promote safe work behaviours and practices at the workplace.
- Take every precaution reasonable in the circumstances for the protection of the environment

- Upon becoming aware of hazardous conditions, a Supervisor must take action to adequately correct the occurrence. If such remedial action is beyond his / her authority, he / she will report the problem to his or her immediate Supervisor. A written report indicating that remedial action has been taken should be completed and maintained on a permanent record.
- Administer the contents of the Environmental Management System by:
  - Ensuring the work to be performed under their supervision is assessed and planned as to ensure environmental impacts are identified and the work can be performed without damage to the environment.
  - Ensure that all employees under their supervision are adequately instructed and / or trained to actively identify environmental hazards.
  - Ensure that all employees under their supervision follow the precautions and use or equipment required to complete the job safely.
  - Performing routine inspections of the worksite and, where necessary, enforcing compliance to Environmental Legislation and conformance to the contents of the Health and Safety Program.
  - Ensure all environmental incidents associated with the work being performed under their supervision is adequately investigated to ensure the causes are identified and appropriate corrective actions are taken to prevent a re-occurrence.

2.4 Employees / Contractors / Visitors

This section applies to every employee of CFJ Nuclear Contractors Ltd, including contractors and visitors. All must:

- Work in compliance of applicable health and safety legislation, and all additional requirements of the CFJ Environmental Management System
- Report to his or her Supervisor:
  - Any problem with equipment which may impact the environment,
  - Any contravention of applicable health and safety legislation, or additional requirements of the Environmental Management System,
  - Any hazard on the jobsite that they cannot immediately and directly correct in an adequate manner.
- Report all injuries and / or all incidents that could have caused an injury, property damage or environmental damage. This must be reported to the Supervisor immediately.
- All employees of CFJ Nuclear Contractors Ltd. are encouraged to actively participate in the continued development of the Health and Safety Program and to take actions to help provide a safe and healthy workplace.

3. ENVIRONMENTAL LAWS AND REGULATIONS REGISTRY

Legal and other requirements that apply to CFJ are identified, are accessible, are communicated, and are taken into account in establishing, implementing and maintaining the Environmental Program.

CFJ Safety Department keeps abreast of legal and other requirements relating to the environment, determines how these requirements apply, and ensures that the staff at CFJ are aware of the requirements. Measures CFJ utilizes to keep abreast of changes to Legal & Other Requirements include:

- CCOHS Legislation Client News (Monthly E-mail of Legislative Changes)
- BSI Publications and Standard Updates
- Client meetings
- Ministry of the Environment
- Other sources as required

When a new, or a change to an existing requirement is identified, the change is reviewed to determine its applicability and impact on the organization. If the requirement is applicable, an action plan is developed to communicate and implement the new requirement. The action plan may become a project or it may just be a task assigned to an individual or team. Action plans are controlled and tracked by the Site Safety Manager.

Once a year, the Safety Department evaluates CFJ's compliance with the legal and other requirements to which it subscribes. A record is kept of the evaluation. The record becomes an input to business planning and Management Reviews. Any non-compliances are addressed through the corrective and preventive action process.

3.1 Laws / Regulations

The Safety Department will maintain a copy or access to the most up to date Ontario Environmental Legislation.

4. ENVIRONMENTAL RISK ASSESSMENT

4.1 Environmental Risk Assessment

All CFJ workplaces are required to complete an environmental assessment to determine the relevant aspects and impacts of their operations that may cause environmental damage. This assessment is to be reviewed annually to ensure conformance to environmental requirements, as well as to ensure impacts remain current.

During the Pre-Construction Planning phase of a project, the manager, who is assigned overall responsibility for the project, will ensure that an environmental assessment is completed as per the Work Instruction below. The scope of the project, the project site conditions, the potential impact on the environment, and any planning, training or controls needed or provided will be considered as part of this assessment.

An environmental plan is necessary whenever any high-risk aspects are identified. This plan will be prepared by, or under the direction of the assigned project manager, who will determine if any of the following additional control requirements are required:

- Additional job planning including a Job Safety and Environmental Analysis (JSEA)
- Additional training requirements
- Special tools and equipment
- Additional emergency response plans
- Additional inspection requirements
- Any applicable government notifications (as required)

Typical types of aspects and impacts, used in or resulting from Company endeavours are listed in the Environmental Risk Registrar.

4.1.1 Document References

- Environmental Risk Registrar
- Form S-131A: Project Environmental Assessment

5. ENVIRONMENTAL RISK REGISTRAR

5.1 Chemical / Solvent Usage

5.1.1 Aspect

An activity or product that can interact with the environment**:**

- Use of chemicals or solvents

5.1.2 Impact

Any change to the environment that can occur as a result of the environmental aspect**:**

- Disposal of chemicals / solvents into drains may ultimately pollute municipal water sources, lakes or rivers
- Any spillage of chemicals / solvents entering the drain / sewer system may ultimately pollute municipal water sources, lakes or rivers
- Potential for fire or explosion, which may cause harm to humans, buildings, wildlife or pollute municipal water sources and air quality
- Improper labelling may cause harm to humans

5.1.3 Opportunities

- Wherever possible, use biodegradable chemicals and solvents
- Label all chemicals and solvents in accordance with WHMIS regulations
- Properly dispose of chemicals and solvents
- Use spill containment underneath large chemical and solvent storage
- Have a spill kit readily available in the near chemical or solvent use in the event of a spill
- Do not store chemicals or solvents near hot work or open flames
- Wherever possible, store flammable chemicals and solvents in a fireproof cabinet that is grounded
- Have appropriate class of fire extinguishers available near chemical or solvent use

5.1.4 Operating Procedures

- Refer to CFJ's Health & Safety Manual:
  - Part 3, Work Instruction 3WI-2 – Spills

- Part 3, Work Instruction 3WI-5 – Hazardous Waste Material
- Part 4, Section 1.4 WHMIS
- Part 4, Section 1.6 Fire Safety

5.1.5 References

- (Refer to Part 3, Section 3.2 – Environmental Laws and Regulations Registry):

National

- Canadian Environmental Protection Act
- Transportation of Dangerous Goods Act

Provincial

	AB	BC	MB	NB	NL	NS	ON	QC	SK
Dangerous Goods Transportation Acts & Regulations									
Environmental Protection/Enhancement/Management Act & Regulations									
Fire Protection and Prevention Act & Fire Code									
Occupational/Workplace Health and Safety Act, Regulations & Codes									
Ozone Depleting Substances Act & Regulation	√			√		√	√	√	
Water Resources / Protection Act – Spills					√		√		
Pesticides Act / Regulation			√						

Municipal

- Refer to local Municipal By-Laws for additional requirements

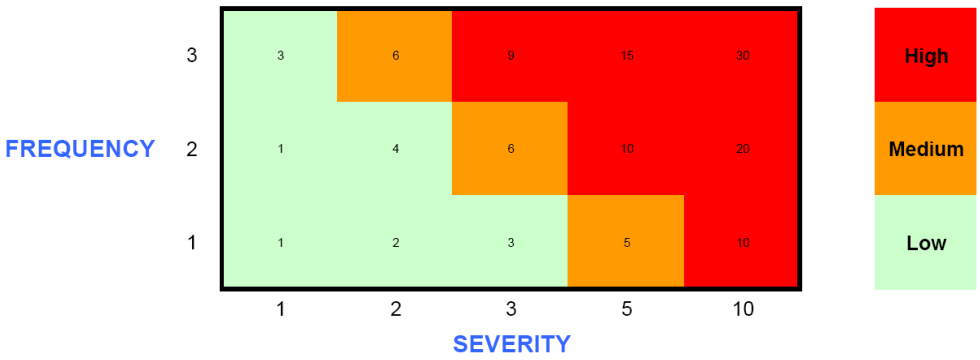
Risk / Significance:

Environmental Impact = Frequency x Severity

Frequency		
1	Unlikely	Less than once per year
2	Common	Monthly / several times per year
3	Frequent	Daily / Weekly

Severity		
1	Minimal Environmental Impact	No immediate or long-term environmental damage. No remediation required.

Severity		
2	Low Environmental Impact	Potential immediate environmental damage. No long-term environmental damage. Potential remediation required.
3	Moderate Environmental Impact	Immediate environmental damage. Potential long-term environmental damage. Potential remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
5	High Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
10	Severe Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and fine for non-compliance.



SAMPLE – Chemical / Solvent Use			
	Frequency	Severity	Environmental Impact
Normal	3	2	6
Emergency	1	3	3

5.2 Equipment Use

5.2.1 Aspect

An activity or product that can interact with the environment:

- Equipment used for construction activities (forklift, man lift, etc.)

5.2.2 Impact

Any change to the environment that can occur as a result of the environmental aspect**:**

- Leaking oil, gas, propane, hydraulics, can leach into the ground with the potential of contaminating the ground and water
- Inefficient engine operation can resulting in increased air pollution (CO2)

5.2.3 Opportunities

- Regular inspection of equipment to ensure there is no leaking
- Regular maintenance of equipment to ensure engine efficiency

5.2.4 Operating Procedures

- Refer to CFJ's Health & Safety Manual:
  - Part 3, Work Instruction 3WI-2 – Spills
  - Part 4, Section 1.2 Tools and Equipment

5.2.5 References

- (Refer to Part 3, Section 3.2 – Environmental Laws and Regulations Registry):

National

- Canadian Environmental Protection Act
- Radiation Emitting Devices Act & Safety Code
- Transportation of Dangerous Goods Act

Provincial

	AB	BC	MB	NB	NL	NS	ON	QC	SK
Environmental Protection/Enhancement/Management Act & Regulations	√	√	√	√	√	√	√	√	√
Occupational/Workplace Health and Safety Act, Regulations & Codes	√	√	√	√	√	√	√	√	√
Water Resources / Protection Act – Spills					√		√		

Municipal

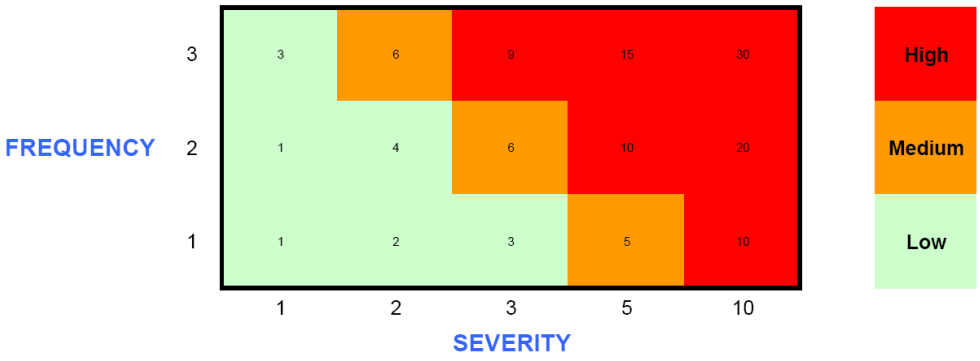
- Refer to local Municipal By-Laws for additional requirements

5.2.6 Risk / Significance

Environmental Impact = Frequency x Severity

Frequency		
1	Unlikely	Less than once per year
2	Common	Monthly / several times per year
3	Frequent	Daily / Weekly

Severity		
1	Minimal Environmental Impact	No immediate or long-term environmental damage. No remediation required.
2	Low Environmental Impact	Potential immediate environmental damage. No long-term environmental damage. Potential remediation required.
3	Moderate Environmental Impact	Immediate environmental damage. Potential long-term environmental damage. Potential remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
5	High Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
10	Severe Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and fine for non-compliance.



SAMPLE – Equipment Use			
	Frequency	Severity	Environmental Impact
Normal	3	1	3
Emergency	2	2	4

5.3 Equipment Used Indoors

5.3.1 Aspect

An activity or product that can interact with the environment**:**

- Equipment used for construction activities (forklift, man lift, etc.)

5.3.2 Impact

Any change to the environment that can occur as a result of the environmental aspect**:**

- Emissions from equipment can negatively effect air quality resulting in human exposure (increased CO2 concentrations)
- Leaking oil, gas, propane, hydraulics, can leach into the ground with the potential of contaminating the ground and water
- Inefficient engine operation can resulting in increased air pollution (CO_2)

5.3.3 Opportunities

- Electric powered equipment should be used wherever possible
- Gas or propane power equipment must be properly ventilated
- Air monitoring of indoor area's to ensure CO_2 concentrations do not exceed legal limits
- Regular inspection of equipment to ensure there is no leaking
- Regular maintenance of equipment to ensure engine efficiency

5.3.4 Operating Procedures

- Refer to CFJ's Health & Safety Manual:
  - Part 3, Work Instruction 3WI-2 – Spills
  - Part 4, Section 1.2 Tools and Equipment

5.3.5 References

- (Refer to Part 3, Section 3.2 – Environmental Laws and Regulations Registry):

Provincial

	AB	BC	MB	NB	NL	NS	ON	QC	SK
Environmental Protection/Enhancement/Management Act & Regulations	√	√	√	√	√	√	√	√	√
Occupational/Workplace Health and Safety Act, Regulations & Codes	√	√	√	√	√	√	√	√	√

Municipal

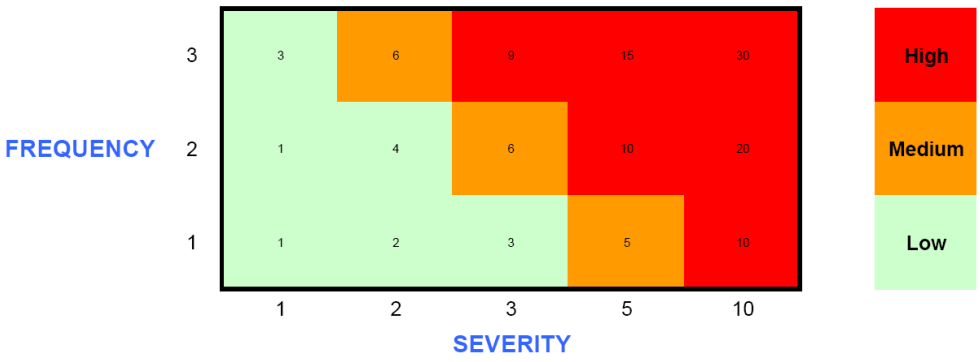
- Refer to local Municipal By-Laws for additional requirements

5.3.6 Risk / Significance

Environmental Impact = Frequency x Severity

Frequency		
1	Unlikely	Less than once per year
2	Common	Monthly / several times per year
3	Frequent	Daily / Weekly

Severity		
1	Minimal Environmental Impact	No immediate or long-term environmental damage. No remediation required.
2	Low Environmental Impact	Potential immediate environmental damage. No long-term environmental damage. Potential remediation required.
3	Moderate Environmental Impact	Immediate environmental damage. Potential long-term environmental damage. Potential remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
5	High Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
10	Severe Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and fine for non-compliance.



SAMPLE – Equipment Use - Indoors			
	Frequency	Severity	Environmental Impact
Normal	3	2	6
Emergency	1	3	3

5.4 Excavated Material

5.4.1 Aspect

An activity or product that can interact with the environment**:**

- Excavating material to accommodate construction activities

5.4.2 Impact

Any change to the environment that can occur as a result of the environmental aspect**:**

- Destruction or damage to vegetated areas or wildlife habitat
- Potential for the excavated material that is being stored to erode, or wash into body of water, causing environmental harm

5.4.3 Opportunities

- As far as is possible, return the excavated material to the excavation site
- Surround material with a temporary barrier to prevent material erosion
- Follow disposal protocols dictated by owner / client if available

5.4.4 Operating Procedures

- Refer to CFJ's Health & Safety Manual:
  - Part 3, Work Instruction 3WI-6 – Excavated Material

5.4.5 References

- (Refer to Part 3, Section 3.2 – Environmental Laws and Regulations Registry):

National

- Canadian Environmental Protection Act

Provincial

	AB	BC	MB	NB	NL	NS	ON	QC	SK
Contaminated Sites Remediation Act & Regulation		√	√	√	√			√	
Environmental Protection/Enhancement/Management Act & Regulations	√	√	√	√	√	√	√	√	√
Occupational/Workplace Health and Safety Act, Regulations & Codes	√	√	√	√	√	√	√	√	√
Water Resources / Protection Act – Spills					√		√		

Municipal

- Refer to local Municipal By-Laws for additional requirements

5.4.6 Risk / Significance

Environmental Impact = Frequency x Severity

Frequency		
1	Unlikely	Less than once per year
2	Common	Monthly / several times per year
3	Frequent	Daily / Weekly

Severity		
1	Minimal Environmental Impact	No immediate or long-term environmental damage. No remediation required.
2	Low Environmental Impact	Potential immediate environmental damage. No long-term environmental damage. Potential remediation required.
3	Moderate Environmental Impact	Immediate environmental damage. Potential long-term environmental damage. Potential remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
5	High Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
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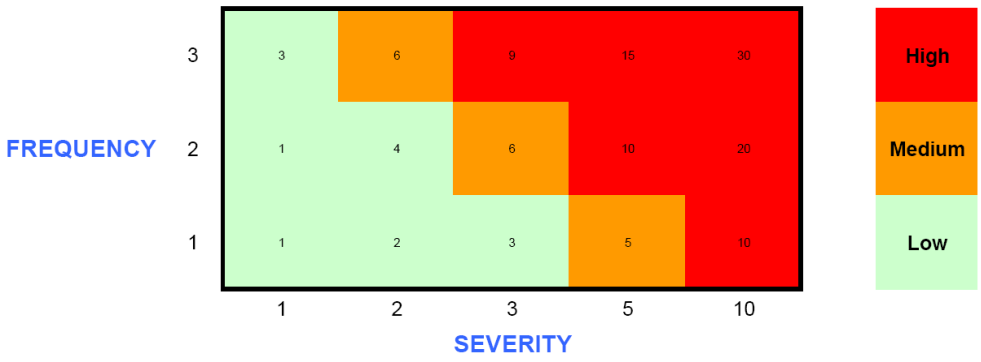

SAMPLE – Excavated Material			
	Frequency	Severity	Environmental Impact
Normal	1	1	1
Emergency	1	2	2

5.5 Excessive Noise

5.5.1 Aspect

An activity or product that can interact with the environment**:**

- Activities / location produce excessive noise (+90dBa)

5.5.2 Impact

Any change to the environment that can occur as a result of the environmental aspect**:**

- Potential harm to humans working in area with excessive noise
- Can cause noise disturbance in the neighbourhood

5.5.3 Opportunities

- Limit worker's daily noise exposure
- Wear appropriate personal protective equipment for level of noise

5.5.4 Operating Procedures

- Refer to CFJ's Health & Safety Manual:
  - Part 1, Section 1.1 Personal Protective Equipment Policy
  - Part 4, Section 1.1.2 Noise / Hearing Conservation

5.5.5 References

- (Refer to Part 3, Section 3.2 – Environmental Laws and Regulations Registry):
  - Refer to local Municipal By-Laws for additional requirements

5.5.6 Risk / Significance

Environmental Impact = Frequency x Severity

Frequency		
1	Unlikely	Less than once per year
2	Common	Monthly / several times per year
3	Frequent	Daily / Weekly

Severity		
1	Minimal Environmental Impact	No immediate or long-term environmental damage. No remediation required.
2	Low Environmental Impact	Potential immediate environmental damage. No long-term environmental damage. Potential remediation required.
3	Moderate Environmental Impact	Immediate environmental damage. Potential long-term environmental damage. Potential remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
5	High Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
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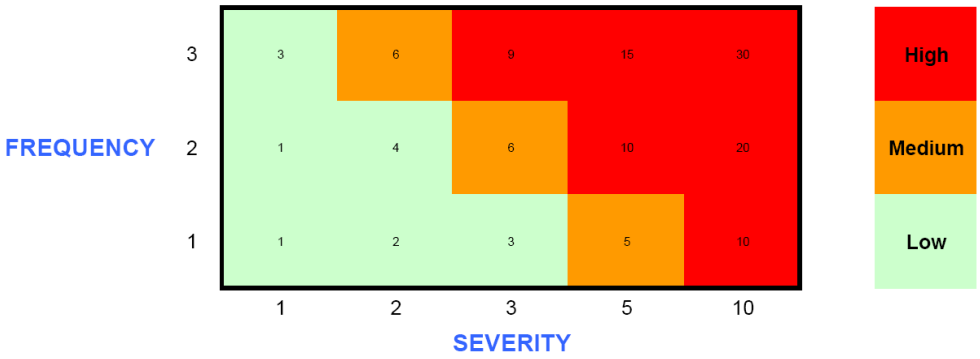


SAMPLE – Excessive Noise			
	Frequency	Severity	Environmental Impact
Normal	2	1	2
Emergency	1	2	2

5.6 Gas Consumption

5.6.1 Aspect

An activity or product that can interact with the environment**:**

- Gas consumption by equipment & vehicles

5.6.2 Impact

Any change to the environment that can occur as a result of the environmental aspect**:**

- Gas is a natural resource and is limited in the long term.
- Vehicles consume gas or diesel and generate CO_2, $S0_2$, and $N0_X$, affecting air quality.

5.6.3 Opportunities

- Do not idle cars / trucks
- Regular inspection and maintenance of Company vehicles
- Plan route and combine trips needed to limit driving to locations

5.6.4 Operating Procedures

- CFJ Fleet & Driver Program

5.6.5 References

- (Refer to Part 3, Section 3.2 – Environmental Laws and Regulations Registry):
  - Refer to local Municipal By-Laws for Idling By-Laws

5.6.6 Risk / Significance

Environmental Impact = Frequency x Severity

Frequency		
1	Unlikely	Less than once per year
2	Common	Monthly / several times per year
3	Frequent	Daily / Weekly

Severity		
1	Minimal Environmental Impact	No immediate or long-term environmental damage. No remediation required.
2	Low Environmental Impact	Potential immediate environmental damage. No long-term environmental damage. Potential remediation required.
3	Moderate Environmental Impact	Immediate environmental damage. Potential long-term environmental damage. Potential remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
5	High Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
10	Severe Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and fine for non-compliance.

5.7 Gas / Oil

5.7.1 Aspect

an activity or product that can interact with the environment**:**

- Gas or oil used or stored in containers on site

5.7.2 Impact

Any change to the environment that can occur as a result of the environmental aspect**:**

- Any spillage of gas /oil entering the drain / sewer system may ultimately pollute municipal water sources, lakes or rivers.
- Potential for fire or explosion, which may cause harm to humans, buildings, wildlife or pollute municipal water sources and air quality.
- Improper labelling may cause harm to humans

5.7.3 Opportunities

- Use spill containment underneath storage areas
- Label all containers in accordance with WHMIS regulations
- Have a spill kit readily available in the near vicinity of oil / gas storage to use in the event of a spill
- Do not store containers near hot work or open flames
- Have appropriate class of fire extinguishers available near chemical or solvent use

5.7.4 Operating Procedures

- Refer to CFJ's Health & Safety Manual:
  - Part 3, Work Instruction 3WI-2 – Spills
  - Part 4, Section 1.4 WHMIS
  - Part 4, Section 1.6 Fire Safety

5.7.5 References

- (Refer to Part 3, Section 3.2 – Environmental Laws and Regulations Registry):

National

- Canadian Environmental Protection Act

PROVINCIAL

	AB	BC	MB	NB	NL	NS	ON	QC	SK
Contaminated Sites Remediation Act & Regulation		√	√	√	√			√	
Dangerous Goods Transportation Acts & Regulations	√	√	√	√	√	√	√	√	√
Environmental Protection/Enhancement/Management Act & Regulations	√	√	√	√	√	√	√	√	√
Fire Protection and Prevention Act & Fire Code	√	√	√	√	√	√	√	√	√
Occupational/Workplace Health and Safety Act, Regulations & Codes	√	√	√	√	√	√	√	√	√
Water Resources / Protection Act – Spills					√		√		
Technical Standards & Safety Act/Codes & Regulations (Gas, Fuel, Propane Store/Handle)	√	√	√	√	√	√	√	√	

Municipal

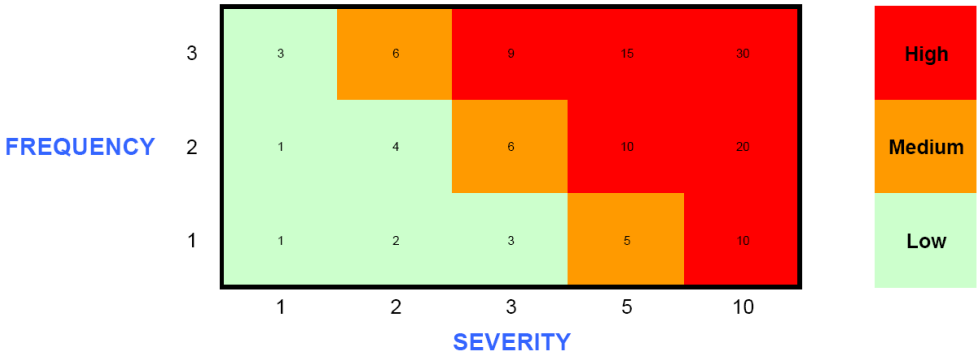
- Refer to local Municipal By-Laws for additional requirements

5.7.6 Risk / Significance

Environmental Impact = Frequency x Severity

Frequency		
1	Unlikely	Less than once per year
2	Common	Monthly / several times per year
3	Frequent	Daily / Weekly

Severity		
1	Minimal Environmental Impact	No immediate or long-term environmental damage. No remediation required.
2	Low Environmental Impact	Potential immediate environmental damage. No long-term environmental damage. Potential remediation required.
3	Moderate Environmental Impact	Immediate environmental damage. Potential long-term environmental damage. Potential remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
5	High Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
10	Severe Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and fine for non-compliance.



SAMPLE – Gas / Oil Storage			
	Frequency	Severity	Environmental Impact
Normal	2	2	4
Emergency	1	3	3

5.8 Hydrostatic Testing

5.8.1 Aspect

An activity or product that can interact with the environment**:**

- Chemical additives used to prevent freezing during hydrostatic testing

5.8.2 Impact

Any change to the environment that can occur as a result of the environmental aspect**:**

- Any spillage or leakage of hydrostatic test water entering the drain / sewer system may ultimately pollute municipal water sources, lakes or rivers.

5.8.3 Opportunities

- Wherever possible, no environmentally hazardous additives should be used
- System should be inspected during test to ensure there are no leaks or spills

5.8.4 Operating Procedures

- Refer to CFJ's Health & Safety Manual:
  - Part 3, Work Instruction 3WI-2 – Spills

5.8.5 References

- (Refer to Part 3, Section 3.2 – Environmental Laws and Regulations Registry):

Provincial

	AB	BC	MB	NB	NL	NS	ON	QC	SK
Environmental Protection/Enhancement/Management Act & Regulations	√	√	√	√	√	√	√	√	√
Water Resources / Protection Act – Spills					√		√		

Municipal

- Refer to local Municipal By-Laws for additional requirements

5.8.6 Risk / Significance

Environmental Impact = Frequency x Severity

Frequency		
1	**Unlikely**	**Less than once per year**
2	**Common**	**Monthly / several times per year**
3	**Frequent**	**Daily / Weekly**

Severity		
1	Minimal Environmental Impact	No immediate or long-term environmental damage. No remediation required.
2	Low Environmental Impact	Potential immediate environmental damage. No long-term environmental damage. Potential remediation required.
3	Moderate Environmental Impact	Immediate environmental damage. Potential long-term environmental damage. Potential remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
5	High Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
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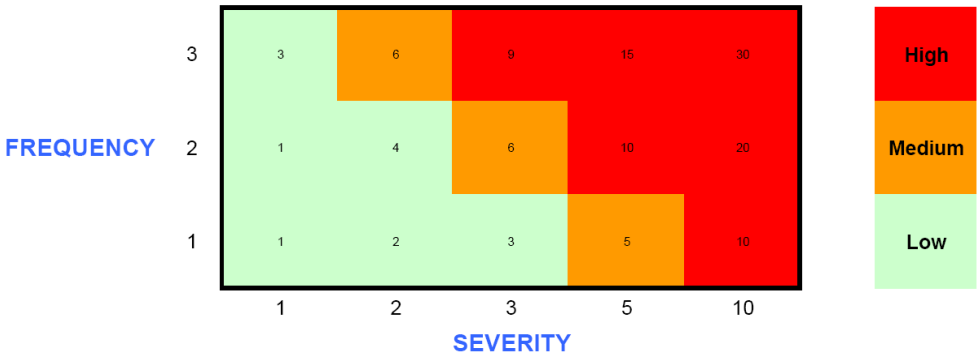


SAMPLE – Hydrostatic Testing			
	Frequency	Severity	Environmental Impact
Normal	2	2	4
Emergency	2	3	6

5.9 Non-Destructive Radiography Testing

5.9.1 Aspect

An activity or product that can interact with the environment**:**

- Radiation source used to complete non-destructive testing

5.9.2 Impact

Any change to the environment that can occur as a result of the environmental aspect**:**

- Radiation exposure

5.9.3 Opportunities

- Minimize access to work area's during non-destructive testing
- Complete non-destructive testing during off-shift

5.9.4 Operating Procedures

- As per qualified non-destructive testing company procedures

5.9.5 References

- (Refer to Part 3, Section 3.2 – Environmental Laws and Regulations Registry):

National

- Radiation Emitting Devices Act & Safety Code

Provincial

	AB	BC	MB	NB	NL	NS	ON	QC	SK
Radiation Protection & X-ray Act / Regulation	√	√	√	√	√		√		√

Municipal

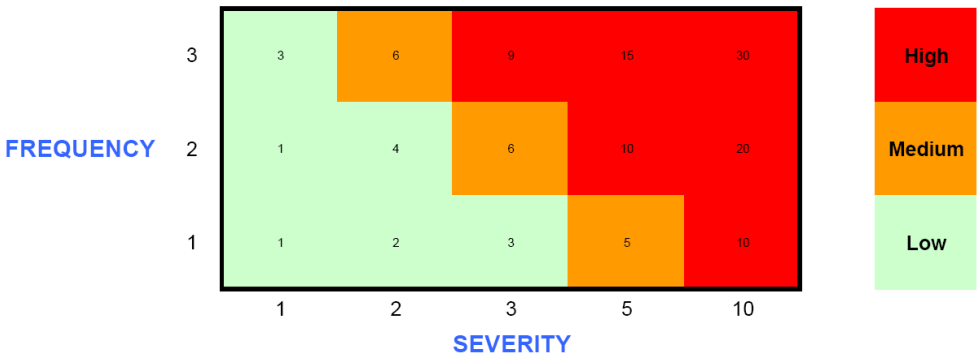
- Refer to local Municipal By-Laws for additional requirements

5.9.6 Risk / Significance:

Environmental Impact = Frequency x Severity

Frequency		
1	Unlikely	Less than once per year
2	Common	Monthly / several times per year
3	Frequent	Daily / Weekly

Severity		
1	Minimal Environmental Impact	No immediate or long-term environmental damage. No remediation required.
2	Low Environmental Impact	Potential immediate environmental damage. No long-term environmental damage. Potential remediation required.
3	Moderate Environmental Impact	Immediate environmental damage. Potential long-term environmental damage. Potential remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
5	High Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
10	Severe Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and fine for non-compliance.



SAMPLE – X-Ray Testing			
	Frequency	Severity	Environmental Impact
Normal	2	1	2
Emergency	1	3	3

5.10 Paper Usage

5.10.1 Aspect

An activity or product that can interact with the environment**:**

- Paper used for business activities

5.10.2 Impact

Any change to the environment that can occur as a result of the environmental aspect**:**

- Paper waste which is not recycled is sent to landfill which is a potential land pollutant
- Organic waste in landfill generates methane which filters up into the atmosphere as a greenhouse gas
- Additional use of natural resources caused by failure to recycle material

5.10.3 Opportunities

- Recycle paper products

5.10.4 Operating Procedures

- N/A

5.10.5 References

- (Refer to Part 3, Section 3.2 – Environmental Laws and Regulations Registry):

Provincial

	AB	BC	MB	NB	NL	NS	ON	QC	SK
Environmental Protection/Enhancement/Management Act & Regulations	√	√	√	√	√	√	√	√	√

Municipal

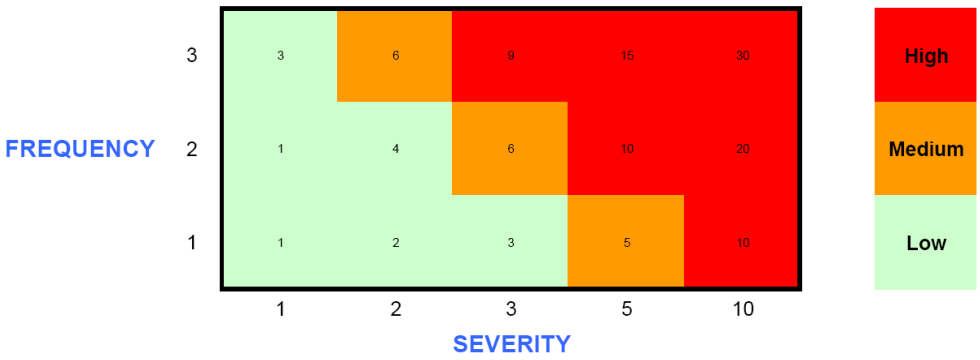
- Refer to local Municipal By-Laws for additional requirements (recycling)

5.10.6 Risk / Significance

Environmental Impact = Frequency x Severity

Frequency		
1	Unlikely	Less than once per year
2	Common	Monthly / several times per year
3	Frequent	Daily / Weekly

Severity		
1	Minimal Environmental Impact	No immediate or long-term environmental damage. No remediation required.
2	Low Environmental Impact	Potential immediate environmental damage. No long-term environmental damage. Potential remediation required.
3	Moderate Environmental Impact	Immediate environmental damage. Potential long-term environmental damage. Potential remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
5	High Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
10	Severe Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and fine for non-compliance.



SAMPLE – Paper Usage			
	Frequency	Severity	Environmental Impact
Normal	3	1	3
Emergency	N/A	N/A	N/A

5.11 Propane / Oxygen / Acetylene Storage

5.11.1 Aspect

An activity or product that can interact with the environment**:**

- Storage of propane / oxygen / acetylene containers on site
- Use of propane as fuel
- Use of oxygen / acetylene for welding and burning operations

5.11.2 Impact

Any change to the environment that can occur as a result of the environmental aspect**:**

- Potential for fire or explosion, which may cause harm to humans, buildings, wildlife or pollute municipal water sources and air quality
- Improper labelling may cause harm to humans

5.11.3 Opportunities

- Segregate propane, oxygen and acetylene bottles in accordance with Occupational Health and Safety Act requirements
- Ensure propane, oxygen and acetylene bottle are used and stored in a manner that prevents damage
- Label all hazardous products in accordance with WHMIS regulations
- Do not store containers near hot work or open flames

5.11.4 Operating Procedures

- Occupational Health and Safety Act R.S.O. 1990
  - REGULATION FOR CONSTRUCTION PROJECTS – Ontario Regulation 213, 628/05
- Refer to CFJ's Health & Safety Manual:
  - Part 4, Section 1.6 Fire Safety

5.11.5 References

- (Refer to Part 3, Section 3.2 – Environmental Laws and Regulations Registry):

Provincial

	AB	BC	MB	NB	NL	NS	ON	QC	SK
Environmental Protection/Enhancement/Management Act & Regulations	√	√	√	√	√	√	√	√	√
Fire Protection and Prevention Act & Fire Code	√	√	√	√	√	√	√	√	√
Occupational/Workplace Health and Safety Act, Regulations & Codes	√	√	√	√	√	√	√	√	√
Technical Standards & Safety Act/Codes & Regulations (Gas, Fuel, Propane Store/Handle)	√	√	√	√	√	√	√	√	

Municipal

- Refer to local Municipal By-Laws for additional requirements

5.11.6 Risk / Significance

Environmental Impact = Frequency x Severity

Frequency		
1	Unlikely	Less than once per year
2	Common	Monthly / several times per year
3	Frequent	Daily / Weekly

Severity		
1	Minimal Environmental Impact	No immediate or long-term environmental damage. No remediation required.
2	Low Environmental Impact	Potential immediate environmental damage. No long-term environmental damage. Potential remediation required.
3	Moderate Environmental Impact	Immediate environmental damage. Potential long-term environmental damage. Potential remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
5	High Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
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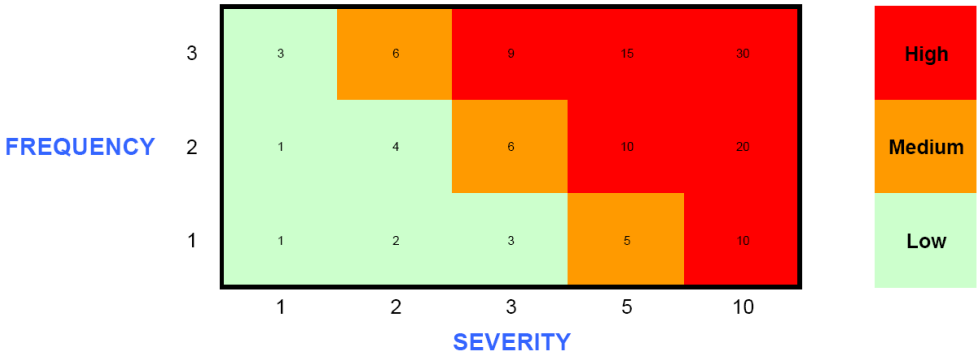


SAMPLE – Propane / Oxygen / Acetylene Storage			
	Frequency	Severity	Environmental Impact
Normal	3	1	3
Emergency	1	5	5

5.12 Traffic

5.12.1 Aspect

An activity or product that can interact with the environment**:**

- Traffic to / from site

5.12.2 Impact

Any change to the environment that can occur as a result of the environmental aspect)

- Can cause noise disturbance and pollution in the neighbourhood

5.12.3 Opportunities

- Do not idle cars / trucks
- Regular inspection and maintenance of Company vehicles

5.12.4 Operating Procedures:

- CFJ Fleet & Driver Program

5.12.5 References

- (Refer to Part 3, Section 3.2 – Environmental Laws and Regulations Registry):

Municipal

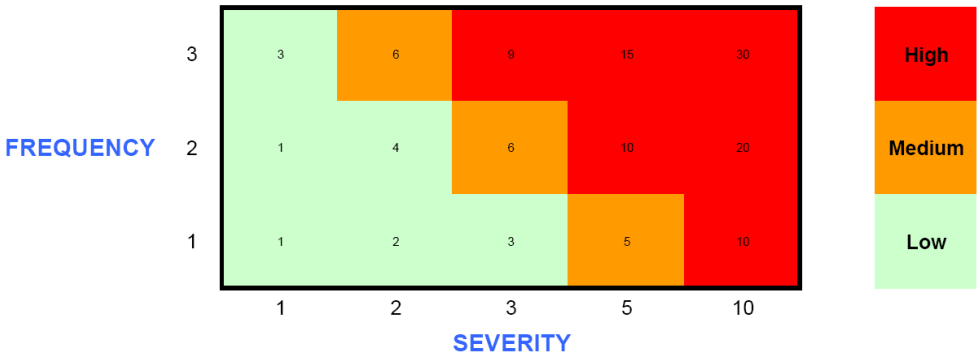
- Refer to local Municipal By-Laws for Idling y-Laws

5.12.6 Risk / Significance

Environmental Impact = Frequency x Severity

Frequency		
1	Unlikely	Less than once per year
2	Common	Monthly / several times per year
3	Frequent	Daily / Weekly

Severity		
1	Minimal Environmental Impact	No immediate or long-term environmental damage. No remediation required.
2	Low Environmental Impact	Potential immediate environmental damage. No long-term environmental damage. Potential remediation required.
3	Moderate Environmental Impact	Immediate environmental damage. Potential long-term environmental damage. Potential remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
5	High Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
10	Severe Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and fine for non-compliance.



SAMPLE – Traffic			
	Frequency	Severity	Environmental Impact
Normal	3	1	3
Emergency	1	2	2

5.13 Waste - General

5.13.1 Aspect

An activity or product that can interact with the environment**:**

- Waste generated from normal business activities

5.13.2 Impact

Any change to the environment that can occur as a result of the environmental aspect**:**

- Waste which is not recycled is sent to landfill which is a potential pollutant
- Additional use of natural resources caused by failure to recycle material

5.13.3 Opportunities

- Regular clean up and disposal of waste
- Segregation of all waste that can be recycled.

5.13.4 Operating Procedures

- N/A

5.13.5 References

- (Refer to Part 3, Section 3.2 – Environmental Laws and Regulations Registry):

Provincial

	AB	BC	MB	NB	NL	NS	ON	QC	SK
Environmental Protection/Enhancement/Management Act & Regulations	√	√	√	√	√	√	√	√	√

Municipal

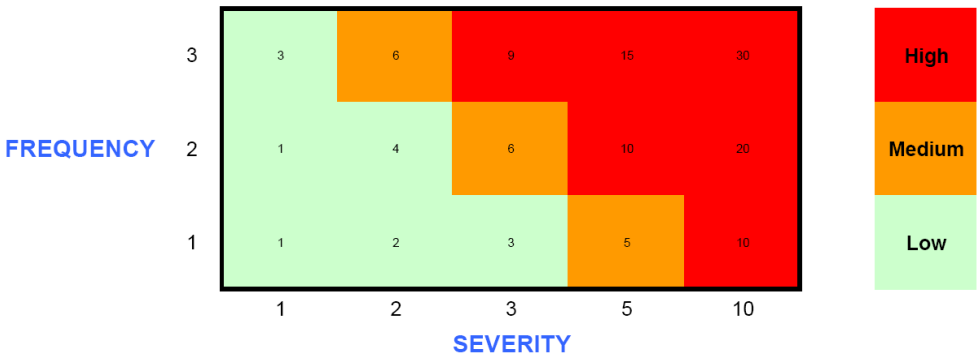
- Refer to local Municipal By-Laws for additional requirements

5.13.6 Risk / Significance

Environmental Impact = Frequency x Severity

Frequency		
1	Unlikely	Less than once per year
2	Common	Monthly / several times per year
3	Frequent	Daily / Weekly

Severity		
1	Minimal Environmental Impact	No immediate or long-term environmental damage. No remediation required.
2	Low Environmental Impact	Potential immediate environmental damage. No long-term environmental damage. Potential remediation required.
3	Moderate Environmental Impact	Immediate environmental damage. Potential long-term environmental damage. Potential remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
5	High Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
10	Severe Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and fine for non-compliance.



SAMPLE – General Waste			
	Frequency	Severity	Environmental Impact
Normal	3	2	6
Emergency	N/A	N/A	N/A

5.14 Waste - Hazardous

5.14.1 Aspect

An activity or product that can interact with the environment**:**

- Hazardous waste chemicals / products

5.14.2 Impact

Any change to the environment that can occur as a result of the environmental aspect**:**

- Handling of hazardous waste can lead to human exposure
- Liquid hazardous waste can leach into the ground with the potential of contaminating the ground and water
- Improper disposal of hazardous waste is sent to landfill which is a potential land pollutant
- Any spillage of hazardous waste entering the drain / sewer system may ultimately pollute municipal water sources, lakes or rivers.
- Potential for fire or explosion, which may cause harm to humans, buildings, wildlife or pollute municipal water sources and air quality.
- Improper labelling may cause harm to humans

5.14.3 Opportunities

- Use spill containment underneath hazardous waste storage
- Label all hazardous in accordance with WHMIS regulations
- Use a registered hazardous material transportation and disposal company for the transportation and disposal of all hazardous liquid and solid waste
- Follow disposal protocols dictated by owner / client if available
- Do not store containers near hot work or open flames
- Have appropriate class of fire extinguishers available near chemical or solvent use

5.14.4 Operating Procedures

- Refer to CFJ's Health & Safety Manual:
  - Part 3, Work Instruction 3WI-2 – Spills
  - Part 3, Work Instruction 3WI-5 – Hazardous Waste Material
  - Part 4, Section 1.4 WHMIS
  - Part 4, Section 1.5 Designated Substances

- Part 4, Section 1.6 Fire Safety

5.14.5 References

- (Refer to Part 3, Section 3.2 – Environmental Laws and Regulations Registry):

National

- Canadian Environmental Protection Act
- Transportation of Dangerous Goods Act

Provincial

	AB	BC	MB	NB	NL	NS	ON	QC	SK
Contaminated Sites Remediation Act & Regulation		√	√	√	√			√	
Dangerous Goods Transportation Acts & Regulations	√	√	√	√	√	√	√	√	√
Environmental Protection/Enhancement/Management Act & Regulations	√	√	√	√	√	√	√	√	√
Fire Protection and Prevention Act & Fire Code	√	√	√	√	√	√	√	√	√
Occupational/Workplace Health and Safety Act, Regulations & Codes	√	√	√	√	√	√	√	√	√
Water Resources / Protection Act – Spills					√		√		

Municipal

- Refer to local Municipal By-Laws for additional requirements

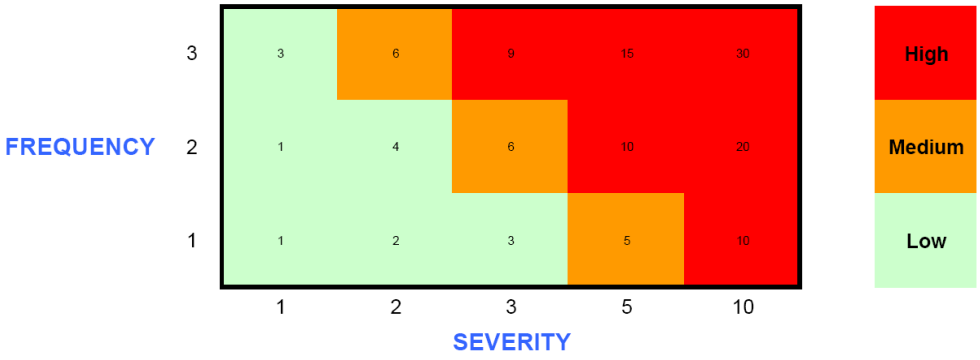
5.14.6 Risk / Significance:

Environmental Impact = Frequency x Severity

Frequency		
1	Unlikely	Less than once per year
2	Common	Monthly / several times per year
3	Frequent	Daily / Weekly

Severity		
1	Minimal Environmental Impact	No immediate or long-term environmental damage. No remediation required.
2	Low Environmental Impact	Potential immediate environmental damage. No long-term environmental damage. Potential remediation required.
3	Moderate Environmental Impact	Immediate environmental damage. Potential long-term environmental damage. Potential remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.

Severity		
5	High Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
10	Severe Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and fine for non-compliance.



SAMPLE – Hazardous Waste			
	Frequency	Severity	Environmental Impact
Normal	2	2	4
Emergency	1	3	3

5.15 Waste - Packaging

5.15.1 Aspect

An activity or product that can interact with the environment**:**

- Packaging from delivery of construction materials (cardboard, skids, etc.)

5.15.2 Impact

Any change to the environment that can occur as a result of the environmental aspect**:**

- Packaging waste which is not recycled is sent to landfill which is a potential pollutant
- Additional use of natural resources cause by failure to recycle

5.15.3 Opportunities

- Recycle packaging products (cardboard, skids)

OPERATING PROCEDURES

- N/A

5.15.4 References

- (Refer to Part 3, Section 3.2 – Environmental Laws and Regulations Registry):

Provincial

	AB	BC	MB	NB	NL	NS	ON	QC	SK
Environmental Protection/Enhancement/Management Act & Regulations	√	√	√	√	√	√	√	√	√

Municipal

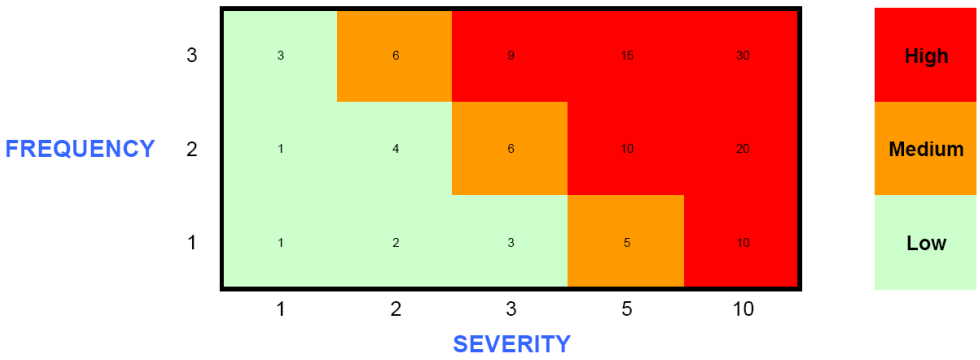
- Refer to local Municipal By-Laws for additional requirements (recycling)

5.15.5 Risk / Significance

Environmental Impact = Frequency x Severity

Frequency		
1	Unlikely	Less than once per year
2	Common	Monthly / several times per year
3	Frequent	Daily / Weekly

Severity		
1	Minimal Environmental Impact	No immediate or long-term environmental damage. No remediation required.
2	Low Environmental Impact	Potential immediate environmental damage. No long-term environmental damage. Potential remediation required.
3	Moderate Environmental Impact	Immediate environmental damage. Potential long-term environmental damage. Potential remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
5	High Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
10	Severe Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and fine for non-compliance.



SAMPLE – Packaging Waste			
	Frequency	Severity	Environmental Impact
Normal	3	1	3
Emergency	N/A	N/A	N/A

5.16 Waste - Scrap

5.16.1 Aspect

An activity or product that can interact with the environment**:**

- Scrap waste from construction

5.16.2 Impact

Any change to the environment that can occur as a result of the environmental aspect**:**

- Improper disposal of metal scrap and scrap that cannot be recycled is sent to landfill which is a potential land pollutant
- Decomposition of metals will leach into the ground with the potential of contaminating the ground and water

5.16.3 Opportunities

- Segregate, recycle & sell scrap material (aluminium, tin, cables, etc.)

5.16.4 Operating Procedures

- N/A

5.16.5 References

- (Refer to Part 3, Section 3.2 – Environmental Laws and Regulations Registry):

Provincial

	AB	BC	MB	NB	NL	NS	ON	QC	SK
Environmental Protection/Enhancement/Management Act & Regulations	√	√	√	√	√	√	√	√	√

Municipal

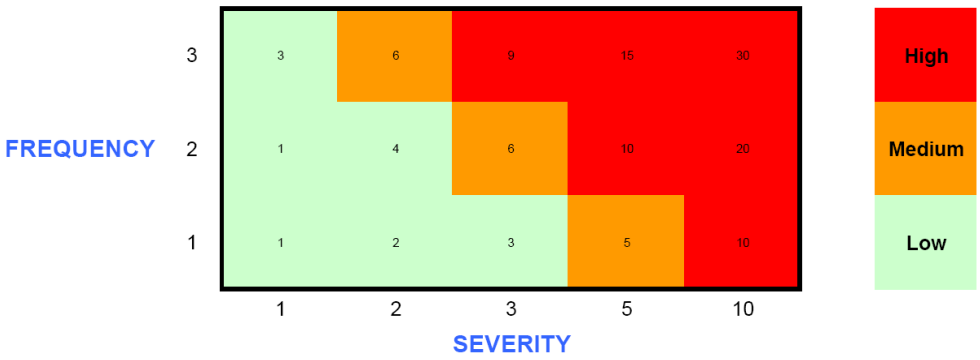
- Refer to local Municipal By-Laws for additional requirements

5.16.6 Risk / Significance

Environmental Impact = Frequency x Severity

Frequency		
1	Unlikely	Less than once per year
2	Common	Monthly / several times per year
3	Frequent	Daily / Weekly

Severity		
1	Minimal Environmental Impact	No immediate or long-term environmental damage. No remediation required.
2	Low Environmental Impact	Potential immediate environmental damage. No long-term environmental damage. Potential remediation required.
3	Moderate Environmental Impact	Immediate environmental damage. Potential long-term environmental damage. Potential remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
5	High Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
10	Severe Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and fine for non-compliance.



SAMPLE – Scrap Waste			
	Frequency	Severity	Environmental Impact
Normal	3	2	6
Emergency	N/A	N/A	N/A

5.17 Water Consumption

5.17.1 Aspect

An activity or product that can interact with the environment**:**

- Water consumption

5.17.2 Impact

Any change to the environment that can occur as a result of the environmental aspect**:**

- Water is a natural resource. Due to increasing demands and periodic dry spells, water shortage can occur

5.17.3 Opportunities

- Periodic inspection of water storage to ensure there is no leaking
- Ensuring water sources are turned off when not in use

5.17.4 Operating Procedures

- N/A

5.17.5 References

- (Refer to Part 3, Section 3.2 – Environmental Laws and Regulations Registry):

Provincial

	AB	BC	MB	NB	NL	NS	ON	QC	SK
Water Resources / Protection Act – Water Conservation	√								

Municipal

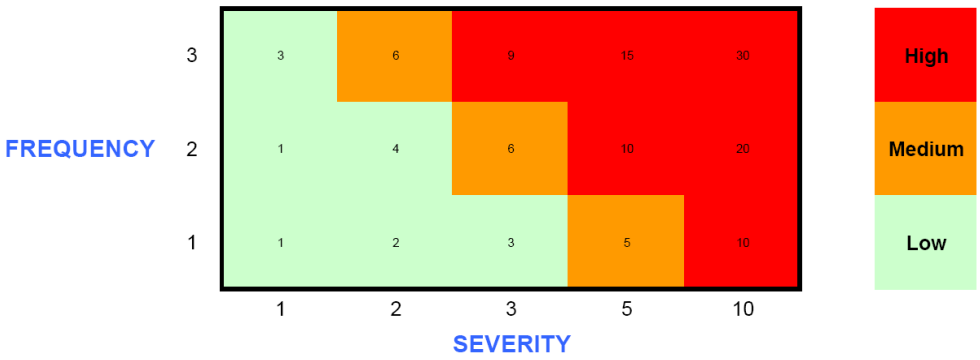
- Refer to local Municipal By-Laws for any additional requirements

5.17.6 Risk / Significance

Environmental Impact = Frequency x Severity

Frequency		
1	Unlikely	Less than once per year
2	Common	Monthly / several times per year
3	Frequent	Daily / Weekly

Severity		
1	Minimal Environmental Impact	No immediate or long-term environmental damage. No remediation required.
2	Low Environmental Impact	Potential immediate environmental damage. No long-term environmental damage. Potential remediation required.
3	Moderate Environmental Impact	Immediate environmental damage. Potential long-term environmental damage. Potential remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
5	High Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
10	Severe Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and fine for non-compliance.



SAMPLE – Water Consumption			
	Frequency	Severity	Environmental Impact
Normal	3	1	3
Emergency	N/A	N/A	N/A

5.18 Welding & Burning

5.18.1 Aspect

An activity or product that can interact with the environment**:**

- Construction activities that require welding and/or burning

5.18.2 Impact

Any change to the environment that can occur as a result of the environmental aspect**:**

- Potential for fire or explosion, which may cause harm to humans, buildings, wildlife, or pollute municipal water sources and air quality
- Fumes from welding and burning can negatively affect air quality, causing harm to humans

5.18.3 Opportunities

- Fire prevention methods including removal of flammable substances from the immediate area, fire permits, fire blankets, fire watch and fire extinguishers.
- Use of air movers and ventilation systems to minimize hazardous concentrations of fumes
- Use of personal protective equipment including air purifying respirators

5.18.4 Operating Procedures

- CFJ Health and Safety Program:
- Part 4, Section 1.6 – Fire Protection and Prevention
- Applicable Occupational Health and Safety Act Regulations governing: hot work, welding, burning.

5.18.5 References

- (Refer to Part 3, Section 3.2 – Environmental Laws and Regulations Registry):

Provincial

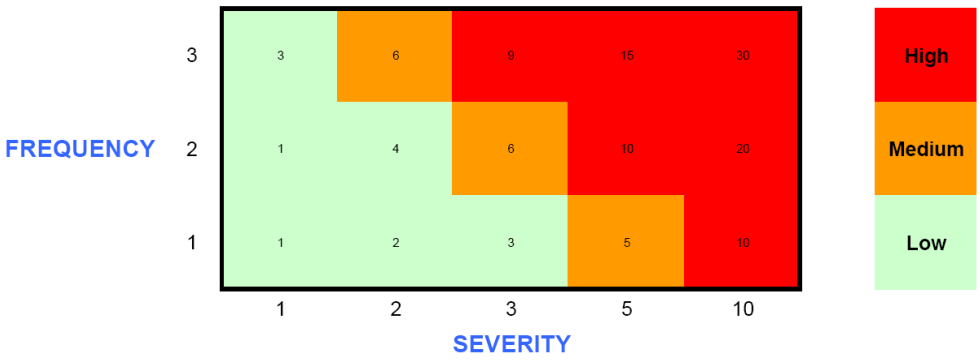
	AB	BC	MB	NB	NL	NS	ON	QC	SK
Fire Protection and Prevention Act & Fire Code	√	√	√	√	√	√	√	√	√
Occupational/Workplace Health and Safety Act, Regulations & Codes	√	√	√	√	√	√	√	√	√

5.18.6 Risk / Significance

Environmental Impact = Frequency x Severity

Frequency		
1	Unlikely	Less than once per year
2	Common	Monthly / several times per year
3	Frequent	Daily / Weekly

Severity		
1	Minimal Environmental Impact	No immediate or long-term environmental damage. No remediation required.
2	Low Environmental Impact	Potential immediate environmental damage. No long-term environmental damage. Potential remediation required.
3	Moderate Environmental Impact	Immediate environmental damage. Potential long-term environmental damage. Potential remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
5	High Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
10	Severe Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and fine for non-compliance.



SAMPLE – Welding & Burning			
	Frequency	Severity	Environmental Impact
Normal	3	1	3
Emergency	2	3	6

5.19 Work Near Water Source

5.19.1 Aspect

An activity or product that can interact with the environment**:**

- Construction activities performed either in direct contact, or close proximity to water sources

5.19.2 Impact

Any change to the environment that can occur as a result of the environmental aspect**:**

- Water contamination

5.19.3 Opportunities

- Spill barriers and containment near water access points
- Eliminate or minimize storage of hazardous substances near water sources

5.19.4 Operating Procedures

- CFJ Health and Safety Program
  - Part 3, Work Instruction 3WI-2 – Spills

5.19.5 References

- (Refer to Part 3, Section 3.2 – Environmental Laws and Regulations Registry):

National

- Canadian Environmental Protection Act

Provincial

	AB	BC	MB	NB	NL	NS	ON	QC	SK
Environmental Protection/Enhancement/Management Act & Regulations	√	√	√	√	√	√	√	√	√
Fire Protection and Prevention Act & Fire Code	√	√	√	√	√	√	√	√	√
Water Resources / Protection Act – Spills					√		√		

Municipal

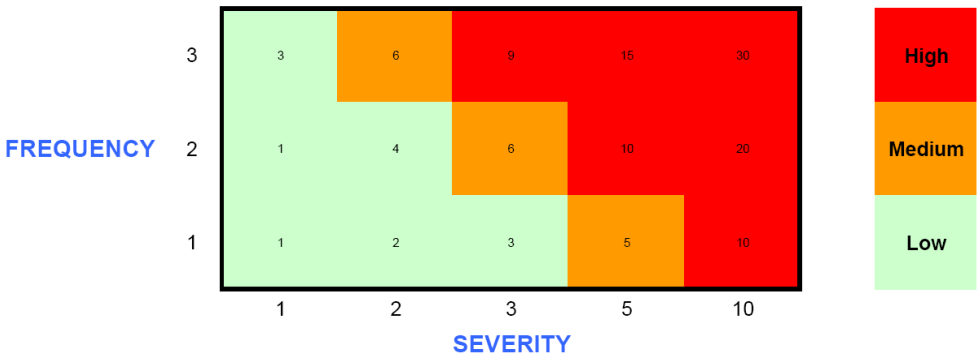
- Refer to local Municipal By-Laws for additional requirements

5.19.6 Risk / Significance

Environmental Impact = Frequency x Severity

Frequency		
1	Unlikely	Less than once per year
2	Common	Monthly / several times per year
3	Frequent	Daily / Weekly

Severity		
1	Minimal Environmental Impact	No immediate or long-term environmental damage. No remediation required.
2	Low Environmental Impact	Potential immediate environmental damage. No long-term environmental damage. Potential remediation required.
3	Moderate Environmental Impact	Immediate environmental damage. Potential long-term environmental damage. Potential remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
5	High Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
10	Severe Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and fine for non-compliance.



SAMPLE – Work Near Water Sources			
	Frequency	Severity	Environmental Impact
Normal	1	3	3
Emergency	1	5	5

5.20 Work near Wild Life

5.20.1 Aspect

An activity or product that can interact with the environment)**:**

- Construction activities performed either in direct contact, or close proximity to wildlife and vegetated areas

5.20.2 Impact

Any change to the environment that can occur as a result of the environmental aspect**:**

- Forest fire
- Destruction or damage to vegetated areas
- Contact with wildlife

5.20.3 Opportunities

- Consultation and compliance to all applicable requirements set out by the Ministry of Natural Resources or equivalent governing body
- Fire / forest fire prevention plans

5.20.4 Operating Procedures

- CFJ Health and Safety Program
  - Part 3, Work Instruction 3WI-2 – Spills
- As per client requirements where available
- As per requirements set out by the Ministry of Natural Resources or equivalent governing body

5.20.5 References

- (Refer to Part 3, Section 3.2 – Environmental Laws and Regulations Registry):

National

- Canadian Environmental Protection Act

Provincial

	AB	BC	MB	NB	NL	NS	ON	QC	SK
Environmental Protection/Enhancement/Management Act & Regulations	√	√	√	√	√	√	√	√	√
Fire Protection and Prevention Act & Fire Code	√	√	√	√	√	√	√	√	√
Wildfires / Forest Fires Act	√	√	√		√	√	√		√
Wildlife Act / Regulation	√	√	√			√		√	√

- Contact local Ministry of Natural Resources for additional requirement

Municipal

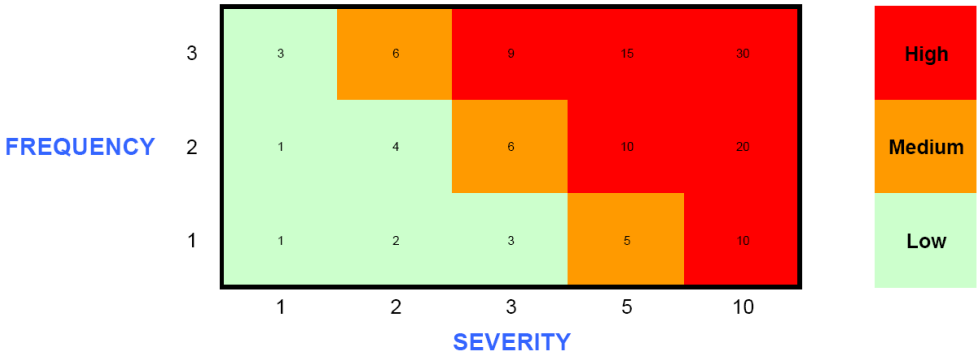
- Refer to local Municipal By-Laws for additional requirements

5.20.6 Risk / Significance

Environmental Impact = Frequency x Severity

Frequency		
1	Unlikely	Less than once per year
2	Common	Monthly / several times per year
3	Frequent	Daily / Weekly

Severity		
1	Minimal Environmental Impact	No immediate or long-term environmental damage. No remediation required.
2	Low Environmental Impact	Potential immediate environmental damage. No long-term environmental damage. Potential remediation required.
3	Moderate Environmental Impact	Immediate environmental damage. Potential long-term environmental damage. Potential remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
5	High Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and potential fine for non-compliance.
10	Severe Environmental Impact	Immediate and long-term environmental damage. Remediation required. Reportable to the body governing environmental protection and fine for non-compliance.



SAMPLE – Work Near Wildlife / Vegetated Areas			
	Frequency	Severity	Environmental Impact
Normal	1	3	3
Emergency	1	10	10

6. WORK INSTRUCTION – ENVIRONMENTAL ASSESSMENT

No.	Action	Responsible Position
1	Complete a Project Environmental Assessment (Form S-131A), and identify all environmental aspects associated with the project, including tasks performed by sub-contractors.	Project Manager
2	Reference Section 3.4 Environmental Risk Registrar for any applicable aspects to identify potential impacts, opportunities, operating procedures and legal requirements.	Project Manager
3	If an Environmental Risk Registrar does not exist for an aspect identified, utilize the 'ERR blank template' to create an aspect profile. Note1: Specific federal, provincial and municipal legal requirements can be reviewed and accessed via the CFJ Resource Library. Note 2: All Environmental Risk Registrars that are created must be forwarded to the corporate safety department for inclusion into the program for future reference.	Project Manager
4	Once all environmental aspects are identified, evaluate the frequency and severity associated with the aspects utilizing the criteria located on the Environmental Risk Registrar and/or Form S-131A. To evaluate the environmental impact both 'normal', 'abnormal' and 'emergency' situations must be considered. The overall impact is based on the higher of the two situations	Project Manager
5	Mandatory significant aspects that apply to all offices and projects include: Any aspects determined to have a 'high' environmental impact based on the assessment completed in Steps 1-4 of this Work Instruction. General Waste Management / Recycling Hazardous Waste Management	Project Manager

No.	Action	Responsible Position
	Other significance of aspects will be determined based on four primary criteria: Overall Environmental Impact – As determined based on the frequency and severity of the aspect as per Section 3.4 of the Environmental Management System. Cost Savings – Potential for controls to minimize waste or maximize productivity. Legislative Requirements – Potential for fines and penalties resulting from non-compliant practices or accidents. Public & Client Perception – Degree to which the public or clients perceive the environmental impact associated with the Company's practices.	
6	Determine which aspects represent a potentially adverse impact to the project and which controls will be used, the Customer's or CFJ's, to limit the impact of these aspects. These will be documented on the Project Environmental Assessment (S-131A) and/or Environmental Plan. Mandatory controls are required for all aspects determined to have the potential for high risk impacts including: Reduce, Reuse, Recycle Additional job planning including a Job Safety and Environmental Analysis (JSEA) Additional training requirements Additional or special tools and equipment Additional emergency response plans Additional inspection requirements Any applicable government notifications (as required)	Project Manager
7	Based on the significant aspects identified outline the emergency plans that will be enacted in the event of an accident.	Project Manager
8	Any significant / high-risk aspects and controls must be communicated to the employees who may have involvement with the activity, process or service.	Project Manager / Supervisors

7. TRAINING AND COMMUNICATION

As the normal operations of CFJ do not present any 'high' risks to the environment, CFJ will not communicate its environmental aspects externally. However, the CFJ Health, Safety and Environmental Policy will be made available to interested parties.

Health, Safety & Environmental Program Training: Training of managers, supervisors and employees regarding the CFJ Health, Safety & Environmental Program will be completed as per Part 1, Section 4 of the manual.

Workplace Hazardous Material Information System (WHMIS): All site personnel are required to have WHMIS training and will be informed of all potentially hazardous materials on the site, and will be notified of the location of applicable Material Safety Data Sheets (MSDS).

General Environmental Training: All employees will be trained with regard to the requirements of the CFJ Safety, Quality and Environmental Orientation (SEQ).

Site Specific Environmental Training: All employees who are assigned the responsibility of managing, supervising or completing activities that may represent a significant aspect, must receive site specific training including:

- Review of the significant aspect(s) and potential impacts,
- Instruction on applicable control practices and/or procedures, including spill response,
- Reporting of applicable incidents or accidents,
- Review of applicable emergency response plans.
- Additional specialized training as may be required, including:
    - Transportation of Dangerous Goods (waste manifest),
    - Handling of designated substances,
    - Use of specialized tools, equipment or personal protective equipment.

Training for employees will be documented using form number G-005, Record of Training (or equivalent). The completed form will be retained in the Company training files or in the project files as a record of training.

Relevant environmental protection requirements will be reviewed as part of the project safety meeting.

8. INSPECTIONS AND AUDITS

For projects with a duration longer than two months, the Project Manager will ensure that a SEQ Project Risk Survey (S-150, SEQ Project Site Survey or equivalent) is conducted on at least a monthly basis. On completion of the survey, any corrective actions will be completed and the report will be filed in the project filing system.

Field Supervisors will conduct weekly inspections on at least a weekly basis (S-151 – Supervisor SEQ Inspection or equivalent). All Supervisor inspections will be forwarded to the Project Manager to ensure any corrective actions are completed.

Internal Audits of the Environmental Management System will be conducted annually. A Legal compliance audit will be completed once every three years.

9. INCIDENT RESPONSE AND INVESTIGATION

All company employees will be instructed that they have the responsibility to identify and report problems via the annual SEQ Orientation.

The responsibility of any Employee, who discovers an incident that could have a negative impact on the environment, is first to contain the incident. This should only be attempted if personal safety is not jeopardized and Company safety rules are not violated. Second, each Employee is responsible to report the incident to a Company Field Supervisor who will initiate the official reporting process required by the nature of the incident.

The responsibility of the Supervisor is to:

- Initiate a response or containment action designed to minimize the effect of the incident. Detailed instructions are given in the Work Instructions 9.1 Work Instruction Spills, 9.2 Work Instruction Gaseous Discharge, 9.3 Work Instruction Asbestos Removal, 9.4 Work Instruction Waste Material, or 9.5 Work Instruction Excavated Material.
- Initiate the reporting process required by the nature of the incident,
- Generate a Safety Investigation and Corrective Action Report (S-160) or non-conformance report utilizing form number Q-010 Non-conformance Report, as required in Section 18 of the MSM.

Incidents that exceed limits set in jurisdictional laws, requirements or guidelines, will be reported immediately, through normal reporting channels, to the Regional General Manager, Vice President or Safety Department.

The Regional Manger, Vice President, Safety Department or a designate, will notify the applicable jurisdictional authority of the incident.

Incidents that exceed the limits set by the Customer or those detailed in the Customer's Environmental Protection Program will be reported immediately, through normal reporting channels, to the Manager who is assigned overall responsibility for the project. The assigned manager will notify the Customer.

Regardless of size or type, any incident that could have a negative impact on the environment will be reported and verified as corrected on a Safety Investigation & Corrective Action Report (S-160) or Non-Conformance Report.

10. OPERATING PROCEDURES AND WORK INSTRUCTIONS

10.1 Work Instruction - Spills

No.	Action	Responsible Position
1	The source of the spill or leak will be identified and will be stopped or reduced immediately, or as soon as it is considered safe.	Any Employee
2	Report the spill to a Company Field Supervisor	Any Employee
3	Initiate response or containment action as per the following instructions.	Field Supervisor
4	Notify responsible person through normal communication channels as per Section 3.7 Incident Response and Investigation	Field Supervisor
Spill on land (Steps 5 through 13)		
5	Contain the spill and prevent it from entering any body of water by forming a dyke using earth or any other readily available, suitable barrier material.	Assigned Employee
6	Ensure that the source of the spill has been isolated and further leaks prevented.	Field Supervisor
7	Collect pooled liquids and place in a drum for temporary storage and disposal. Liquids will be stored in separate drums from solids.	Assigned Employee
8	Dry up residual liquids by using a suction device or by using absorbent materials.	Assigned Employee
9	Collect spent absorbent material and any contaminated soil or dyke material and place in a drum for disposal. Liquids will be stored in separate drums from solids.	Assigned Employee
10	Determine if the spill is considered a hazardous material. If considered hazardous notify the General Manager and Safety Department to determine if government notification is required.	Assigned Manager
11	If considered hazardous, sub-contract the transportation and disposal of the liquids and solids to a licensed hazardous material transportation and disposal company.	Hazardous Material Contractor
12	If not considered hazardous, dispose of the liquids and solids at an approved landfill site.	Field Supervisor
13	Prepare a Safety Investigation and Corrective Action Report (S-160).	Assigned Manager

No.	Action	Responsible Position
	Spill into a body of water (Steps 14 through 19)	
14	If the spill is not compatible with or floats on the water, contain the spill by using a floating boom.	Assigned Employee
15	If the spill is compatible with water or sinks into the water, contain the spill by using a dam arrangement to contain the affected area.	Assigned Employee
16	Ensure that the source of the spill has been isolated and further leaks prevented.	Field Supervisor
17	Determine if the spill is considered a hazardous material. If considered hazardous notify the General Manager and Safety Department to determine if government notification is required.	Assigned Manager
18	Sub-contract the clean up, transportation and disposal of the liquids to a capable or licensed clean up, transportation and disposal company.	Spills Contractor
19	Prepare a Safety Investigation and Corrective Action Report (S-160).	Assigned Manager

10.1.1 References

- Environmental Risk Registrar
  - Chemical Solvent
    - Equipment Use
    - Equipment Use (Indoors)
    - Gas / Oil
    - Hazardous Waste
    - Hydrostatic Testing
- Training & Communication
  - Emergency Response
  - Spills Training
- Incident Response and Investigation

10.2 Work Instruction - Gaseous Discharge

No.	Action	Responsible Position
1	The source of the discharge will be identified and will be stopped or reduced immediately, or as soon as it is considered safe to do so.	Any Employee
2	Report the discharge to a Company Field Supervisor.	Any Employee
3	Initiate response or containment action as per instruction. 6.0 and 7.0	Field Supervisor
4	Notify responsible person through normal communication channels as per this manual.	Field Supervisor
5	Determine if the discharge is considered a hazardous material. If considered hazardous notify the General Manager and Safety Department to determine if government notification is required.	Assigned Manager
Hazardous Discharge (Steps 6 through 10)		
6	Notify all Company employees and other personnel of the discharge and direct them to assemble upwind of the sources of the discharge.	Field Supervisor
7	If the discharge is considered flammable, instruct all persons to locate and shutdown any potential ignition source.	Field Supervisor
8	Notify the local authorities to initiate a warning to the general population that may be affected by the discharge.	Assigned Manager
9	Make Company resources available to Ministry of Environment or Jurisdictional response team.	Assigned Manager
10	Prepare a Safety Investigation and Corrective Action Report (S-160).	Assigned Manager
Non-Hazardous Discharge (Steps 11 through 14)		
11	Notify all Company employees and other personnel of the discharge and direct them to assemble upwind of the sources of the discharge.	Field Supervisor
12	If the discharge is considered flammable, instruct all persons to locate and shutdown any potential ignition source.	Field Supervisor
13	Make Company resources available to the discharge response team.	Assigned Manager
14	Prepare a Safety Investigation and Corrective Action Report (S-160).	Assigned Manager

10.2.1 References

- Training & Communication
  - Emergency Response
- Incident Response and Investigation

10.3 Work Instruction - Asbestos Removal

No.	Action	Responsible Position
1	Asbestos removal and disposal is a task that requires specialized procedures, equipment and training in order to safeguard the health of Company and Customer employees and the public at large. The Company will therefore subcontract this work in its entirety to a competent licensed asbestos removal and disposal contractor.	Assigned Manager

10.3.1 References

- Part 4, Section 1.5.1 - Asbestos

10.4 Work Instruction - Hazardous Waste Material

No.	Action	Responsible Position
1	Contaminated or spent liquid or solid that has been used or generated in a Company process and is considered hazardous to the environment will be collected and stored in a metal or plastic container that can be sealed.	Assigned Employee
2	The following control practices will be put in place: Container must be sealed Secondary spill containment for container Spill kit including absorbent material to prevent flow of waste available near point of use / storage Transportation of Dangerous Goods training for individual signing the transportation manifest	Assigned Employee
3	Sub-contract the transportation and disposal of the liquids to a licensed hazardous material transportation and disposal company.	Hazardous Material Contractor
4	Non-hazardous waste, that is, material that is not a toxic chemical, dangerous goods or has not been contaminated by the same, will be collected at the site and disposed of at an approved location such as municipal landfill site.	Assigned Employee

10.4.1 References

- 3.4 Environmental Risk Registrar
  - Hazardous Waste
- 3.5 Training & Communication
  - Spills Training
  - Transportation of Dangerous Goods training

10.5 Work Instruction - Excavated Material

No.	Action	Responsible Position
1	Prior to beginning the excavation process, determine the storage location and containment requirements for the material to be removed.	Field Supervisor
2	Deposit the excavated material in the planned location.	Assigned Employee
3	If there is a potential for the excavated material to erode, or wash into a stream or any other body of water, contain the material by surrounding it with a temporary barrier.	Assigned Employee
4	As far as is possible, return the excavated material to the excavation site. Excess material will be disposed of as directed by the owner or to an approved disposal site.	Assigned Employee

10.5.1 References

- 3.4 Environmental Risk Registrar
  - Excavated Material
  - Hazardous Waste