Occupational Health and Safety Standards for Prime/General Contractors (CAN-US)

APPROVALS

Approvals were captured electronically and attached to the published document.

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BRIEF DESCRIPTION OF CHANGE

Personnel are permitted to wear hoodies on TC Energy worksites provided that appropriate measures are taken to ensure hazards are not present that could result in injury due to the hood.

REVISION HISTORY

The Revision History table captures a high-level summary of the three most recent versions (Rev. No.) of this document and the signoffs obtained for each revision.

Revision History

Rev. No.	Date (YYYY-MMM-DD)	Document Status	Brief Description of Change History	Document Contact	Reviewer(s)	Approver(s)
16	2025-09-08	Published	Updated section 5 to align with newly published PPE standard/Requirements	Chris Topolniski	Trent McClellan Paul Campbell William Raetz	Trent McLellan
15	2021-Aug-03	Published	Removal of the word 'solely' or 'sole' from 3 statements "…contractors are solely responsible…'.	Tim Haroldson	Derek Hyland	Ben Rayner
14	2020-NOV-02	Published	Revised Section 5.1.5 regarding hoodies	Lee Travis	Trent McClellan Corey Holowaychuk	Heather Krislock
13	2020-JUL-02	Published	Conducted a comprehensive review and updated the document per Commissioning and Construction Management Services and Project Safety Leads review committees. Revision included additions to clearly define Prime/General Contractor and Project linkages to TC Energy's Operating Management System (TOMS).	Lee Travis	Pieter van Wouw Corey Holowaychuk	Jason Groot Heather Krislock
12	2018-AUG-17	Issued	Revised Section 5.12 for applicability and readability.	Corey Holowaychuk	Karlee Jenkins	Jason Groot and Nicole Remillard
11	2017-SEP-11	Issued	Updated document to align with Operations and Engineering document standards, as such, changed the title from Specification to Standard. Conducted a comprehensive review and updated the document per Construction Management Services and Project Safety Leads review committees.	Derek Hyland	Corey Holowaychuk	Jason Groot and Nicole Remillard

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1 INTRODUCTION

1.1 Purpose

The purpose of this document is to assist prospective Prime/General Contractors in the development of their own Project specific safety documentation by providing TC Energy's minimum performance expectations and standards with respect to the occupational health and safety aspects associated with the Work. TC Energy recognizes its regulatory accountabilities for the oversight of safety and nothing in this document is intended to lessen such accountabilities.

Note: Throughout this document, **"Must"** will be used to identify regulatory and/or TC Energy requirements that must be complied with, and **"Should"** statements are recommendations that are not mandated, but may be implemented based upon the scope of the Project and associated risks.

1.2 Scope

This document ("OHS Standard") stipulates the minimum requirements Prime/General Contractors are required to adopt in order to comply with applicable laws, acts, regulations and/or codes, and TC Energy's 9 Life Saving Rules. It is the Prime/General Contractor's responsibility to ensure that all applicable occupational health and safety requirements have been identified and are complied with in the performance of the Work associated with the Agreement. By providing these minimum requirements, TC Energy is not directing the work or assuming control over occupational health and safety. The Prime/General Contractor is responsible for compliance with the requirements and for implementing measures necessary to achieve compliance.

Prospective Prime/General Contractors are required to carefully review all occupational health and safety requirements and the contents of this OHS Standard to ensure that they have identified and addressed the applicable components relevant to the nature and scope of the Work. Direct any questions regarding this OHS Standard to the TC Energy Company Representative as identified in the Agreement.

While TC Energy does not specifically reference a standalone Construction Safety Manual, the compilation of several processes and related documents meet the overall purpose of a Construction Safety Manual. Documents that support this requirement are linked to TC Energy's Operational Management Systems (TOMS) through the Project Delivery Standard (PDS) process and include, when available:

- Project Execution Plan (PEP; TC Energy);
- Health, Safety, Security & Emergency Response Plan (HSSEM Plan)/Safety Management Plan (SMP; TC Energy); and,
- Prime/General Contractor's Project/Site Specific Safety Plan (P/SSSP) and Emergency Response Plan (ERP) (post Agreement award).

The Prime/General Contractor must ensure that the compilation of documents making up the Construction Safety Manual is posted in a conspicuous location at the Work Site and available to all Work Site personnel.

Definitions of terms and references that are used throughout this OHS Standard can be found in Section 2 below.

2 OCCUPATIONAL HEALTH AND SAFETY DOCUMENTATION

2.1 Prime/General Contractor's Occupational Health and Safety Policy

The Prime/General Contractor must provide TC Energy with its written occupational health and safety policy as signed, dated and endorsed by the Prime/General Contractor's management as part of its submission. The Prime/General Contractor will also provide TC Energy with written confirmation that its occupational health and safety policy is, and will be, widely disseminated and understood by all Work Site personnel. This occupational health and safety policy must be in the official language(s) of the jurisdiction in which the Work is being carried out by the Prime/General Contractor.

2.2 Prime/General Contractor's Corporate Occupational Health and Safety Management System or Program

As part of its submission, the Prime/General Contractor must provide TC Energy with its written corporate occupational health and safety management system or program which must meet or exceed all relevant statutory and industry standards as well as TC Energy's 9 Life Saving Rules and associated policies, procedures, specifications, and standards.

2.3 Project/Site Specific Safety Plan

The Prime/General Contractor must develop a Project/Site Specific Safety Plan (P/SSSP) for the Work. The P/SSSP must meet and/or exceed any applicable occupational health and safety requirements and the standards set out in this OHS Standard.

For the purposes of the Prime/General Contractor's submission, and in accordance with the requirements of this OHS Standard for Prime/General Contractors as included in the Agreement, the Prime/General Contractor must submit a detailed draft P/SSSP to TC Energy for review and acceptance by a TC Energy Company Representative, within the time-period set forth in the Agreement. An alternative schedule may be acceptable provided there is agreement by the Project Management Team. A final version of the P/SSSP must be signed off by the Prime/General Contractor prior to Work commencement and a copy must be made available to its personnel and provided to TC Energy and Subcontractors. Review and comment by TC Energy on the P/SSSP will not result in the transfer of any responsibility or liability for occupational health and safety of the Work to TC Energy. Once reviewed, accepted, and signed off, the P/SSSP must be included as part of the Agreement documents for the Work.

Prime/General Contractor must review, update, and communicate changes to the P/SSSP(s) throughout the duration of the Work to ensure all reasonably foreseeable occupational health and safety risks and exposures are proactively identified, assessed and appropriately managed. Revisions to the P/SSSP must be reviewed and accepted by a TC Energy Company Representative.

2.4 TC Energy's 9 Life Saving Rules

The Prime/General Contractor must ensure that all personnel are informed of TC Energy's Life Saving Rules and that these rules are complied with at all times. If non-conformances are identified at any time during the course of the Project, the Prime/General Contractor must have mitigation processes in place to correct identified deficiencies promptly. The Prime/General Contractor must have standards, processes, procedures, and/or systems in place to meet or exceed the minimum requirements outlined

below and in TC Energy's related policies, procedures, standards, and specifications, or accept in writing that of TC Energy.

TC Energy will conduct a gap analysis to bridge the elements of each relevant procedure to ensure the Prime/General Contractor's written program(s) meet or exceed the minimum requirements (as described in the table below and in Section 5 of this Standard).

TC Energy's Life Saving Rule	**Relevant TC Energy Procedures, Standards, and Specifications (at a minimum)**
1. We will drive safely and without distraction	Motor Vehicle Operation Standard
2. We will use the appropriate Personal Protective Equipment	PPE Standard
3. We will conduct a pre-Job Safety Analysis (JSA)	Job Safety Analysis Procedure Risk Management Procedure Pre-job Planning Procedure Working Alone
4. We will work with a valid work permit when required	General Work Permit Procedure Hot Work Permit Procedure Electrical Work Permit Portable Gas Detection of the Atmosphere Associated Forms/Checklists
5. We will obtain authorization before entering a confined space	Confined Space Procedure Associated Forms/Checklists
6. We will verify isolation before work begins	LOTO Procedure Electrical Work Permit Associated Forms/Checklists
7. We will protect ourselves against a fall when working at heights	Working at Heights Procedure Associated Forms/Checklists
8. We will follow prescribed lift plans and techniques	Hoisting, Lifting, Towing & Winching Procedures Critical Pre-Lift Checksheet Associated Forms/Checklists
9. We will control excavations and ground disturbances	Ground Disturbance Specification Associated Forms/Checklists

Expectations:

- All personnel must follow the Life Saving Rules;
- No variances will be given for work that falls under a Life Saving Rule and any identified non-conformances must be mitigated immediately;
- Work must be planned far enough in advance to ensure plans/systems are in place to allow all personnel to adhere to the Life Saving Rules;
- In the event a task cannot be completed in compliance with one of the Life Saving Rules, the work must stop, be re-assessed, and a revised work plan developed and submitted to the TC Energy Company Representative in writing for review and acceptance prior to commencing or continuing Work;

- All personnel must intervene if they notice a job or activity that is in planning or underway without due consideration and compliance with the Life Saving Rules;
- Effective and timely solutions must be developed when conditions arise that prevent compliance with Life Saving Rules;
- All personnel must intervene if they notice a job that is in planning or underway without due consideration and compliance with the Life Saving Rules; and,
- Everyone must accept intervention where there is non-compliance with one or more Life Saving Rules.

Consequences:

The Prime/General Contractor must be authorized and prepared to impose disciplinary action on Work Site personnel who violate the Life Saving Rules, up to and including removal from the Work Site, if applicable In addition, all TC Energy personnel are empowered with stop work orders and as owner can, and have the obligation to, prevent the presence of unsafe practices, including those who cause the unsafe practice.

2.5 Definitions and Abbreviations

Definitions and Abbreviations	
Term / Abbreviation	Definition / Description
Agreement	Collectively the contract, all schedules to the contract, and any applicable release order(s), associated with and that govern the Work.
ANSI	American National Standards Institute
Construction Safety Manual	The Construction Safety Manual consists of documents that link TC Energy's Operational Management Systems (TOMS) through the Project Delivery Standard (PDS) process and include, when available: • Project Execution Plan (PEP; TC Energy); • Health, Safety, Security & Emergency Response Plan (HSSEM Plan)/Safety Management Plan (SMP; TC Energy); and, • Prime/General Contractor's Project/Site Specific Safety Plan (P/SSSP) and Emergency Response Plan (ERP) (post-Agreement award).
CSA	Canadian Standards Association
EHSM	TC Energy's Environment Health and Safety Incident Management Tool, used to report Incidents, Near Hits, Safety 24/7, Safe Acts/Hazard Identification and Safety Observations.
General Work Permit	A TC Energy document utilized to authorize work to be conducted on TC Energy owned or operated locations. A General Work Permit is required when hazardous work is being performed, the work scope directly impacts existing facilities, and/or if the work is performed by a contractor or internal TC Energy group not from the region, facility, or plant.

Definitions and Abbreviations	
Term / Abbreviation	Definition / Description
Imminent Danger	Any conditions or practices in any place of employment which are such that a danger exists which could reasonably be expected to cause death or serious physical harm immediately or before the imminence of such danger can be eliminated through the enforcement procedures otherwise provided by local safety Acts and/or regulations, orders, directives, etc. The following conditions must be met before a hazard becomes an imminent danger: • There must be a threat of death or serious physical harm. "Serious physical harm" means that a part of the body is damaged so severely that it cannot be used or cannot be used very well. • For a health hazard there must be a reasonable expectation that toxic substances or other health hazards are present and exposure to them will shorten life or cause substantial reduction in physical or mental efficiency. The harm caused by the health hazard does not have to happen immediately. • The threat must be immediate or imminent. This means that you must believe that death or serious physical harm could occur within a short time, for example before a regulatory body could investigate the problem. • If a regulatory body inspector believes that an imminent danger exists, the inspector must inform affected employees and the employer that they are recommending that the regulatory body take steps to stop the imminent danger. • The regulatory body has the right to ask a federal court to order the employer to eliminate the imminent danger.
Job Safety Analysis (JSA)	A systematic process that breaks down a job into a sequence of steps, identifies hazards in each step, evaluates the actual and potential risk of the hazard and establishes risk control measures.
Off-Highway Vehicle	**Off-Highway Vehicle** means vehicles designed and used for access into and transportation across surfaces where road vehicles including 4-wheel drive trucks and sport-utility vehicles (SUVs) could not operate. This includes, but is not limited to, all-terrain vehicles (ATV), quads, utility task vehicles (UTV), snowmobiles, side by sides, amphibious vehicles, etc.
Personnel	Refers to any person involved in the Project, including TC Energy employees, third-party contractors, subcontractors and Prime/General Contractor representatives.

Definitions and Abbreviations	
Term / Abbreviation	Definition / Description
Prime/General Contractor	Employer responsible for Work Site/Workplace safety. Means a Contractor that is: The designated “Prime Contractor” (British Columbia, Alberta, Manitoba, Saskatchewan), “Constructor” (Ontario) or where the Contractor has control of the Worksite whether as an “employer” (Worksite regulated by the Canada Labour Code, Part II), “Principle Contractor/Maitre D’oeuvre” (Quebec), “Contractor” (New Brunswick), or a “controlling employer,” “creating employer,” “exposing employer,” or “correcting employer” (United States) for Occupational Health and Safety (OHS).
Project	A defined scope of work which will be contracted to be executed within a Work Site.
Project Hazard Assessment	Process for identifying safety hazards based on scope of work, plans, as-built drawings, weather conditions, environmental considerations, actual physical site assessments.
Project Team	Refers to an individual, including contingent contractors or independent consultants, directly hired by TC Energy to perform work on behalf of the Project. Collectively referred as Project Team members.
Project/Site-Specific Safety Plan (P/SSSP)	A detailed structured plan that outlines the safety roles, responsibilities and engagement for each component of the Prime/General Contractor’s Project Management Team throughout the lifespan of the Project.
Safety Representative	Employee of the Prime/General Contractor assigned to represent all Work Site personnel on a day-to-day basis to assist with meeting occupational health and safety requirements on the Work Site and promoting occupational health and safety and loss prevention principles. Applicable where number of Work Site personnel is 20 or less.
SHARE	Safety Hazard Awareness Reporting Events are the proactive identification and reporting of work related Safe/Unsafe Acts or Conditions. Also included are Safety 24/7 events occurring outside of work, while at home or at play.
Site Safety Lead	In addition to the duties of the Safety Representative, the Prime/General Contractor’s Site Safety Lead is the Prime/General Contractor’s designated employee who applies the expertise gained from a study of safety science, principles, practices and other subjects and from professional safety experience to create or develop procedures, processes, standards, specifications and systems to achieve optimal control or reduction of the hazards and exposures that may harm people, property, or the environment. Adequate numbers of safety personnel to be based upon the geographical area to be covered (*e.g.,* Number of Spreads or Geotechnical Drilling Crews spread over distances).
Stop Work Authority	All personnel have the right and the obligation to stop unsafe work activities

Definitions and Abbreviations	
Term / Abbreviation	Definition / Description
Subcontractor	Each and every supplier, subcontractor, or contractor at any tier performing any part of the Work or providing any equipment, supplies, or materials to the Contractor in connection with the Work, directly or indirectly, for the Contractor.
TC Energy Company Representative	Person or persons designated to act on behalf of TC Energy to manage the scope of Work performed by contractors for facilities maintenance and construction in accordance with the terms, conditions and specification of the Agreement.
Work	All activities concerning the Project contemplated by the Agreement.
Work Site	A location where an employee, contractor, or other personnel is, or is likely to be, engaged in any occupation and includes any vehicle or mobile equipment used by an employee in an occupation. Note: The entire area required for the performance of the Work, including rights-of-way and temporary work space, as required.

3 PRIME/GENERAL CONTRACTOR'S ROLE AND RESPONSIBILITIES

In addition to all other responsibilities set out in this TC Energy Standards document and the Agreement, the Prime/General Contractor's responsibilities must include, but are not limited to:

- Clearly delineate the Work Site based on input from Operational and TC Energy PMT personnel – provide a detailed site map showing areas under the Prime/General Contractor's control that are clearly delineated in time and space including access/egress routes, emergency muster points, parking areas, laydown/stockpile areas, office complex areas, etc. (NOTE: this includes an 11m/36 ft buffer zone around operating equipment and/or single isolation equipment);
- The TC Energy Project Management Team (PMT)/Construction Management Team (CMT) representative and the Prime/General Contractor should complete the Prime/General Contractor Readiness Verification Form, or equivalent satisfactory to TC Energy, at the Work Site (while the form itself is not a TC Energy mandatory form, the contents listed therein are legally obligated requirements to be considered as a Prime/General Contractor; see Appendix A);
- Ensure that the Prime/General Contractor has an accepted P/SSSP in place that has been reviewed with all personnel at the Work Site prior to commencing the Work;
- Identify, assess, and implement effective operational safety controls to manage the occupational health and safety risks and exposures associated with the performance and execution of the Work; these must be aligned, at a minimum, with legislated requirements and TC Energy's 9 Life Saving Rules and associated policies, procedures, standards, and specifications;
- Coordinate, organize, and oversee the performance of all Work and the occupational health and safety programs of all employers and subcontractors at the Work Site(s) to ensure that no person is exposed to unacceptable risks to their health and safety;
- Provide Project personnel, identified within the organizational chart for the Project, with clearly defined roles and responsibilities (and with sufficient expertise, knowledge, and training) to ensure the Work is carried out in accordance with the requirements set out in the Construction Safety Manual documents and to have the authority to stop the Work if those requirements are not being met
- Provide a process to communicate to all Project personnel that they have the obligation and responsibility to stop unsafe work or refuse work if unsafe conditions or acts are present (for example, through training, orientation or safety initiatives). The supervisor will be immediately notified of these conditions.
- Control and overall responsibility for occupational health and safety at the Work Site(s) including, but not limited to, the protection of the general public and protection of all Work Site personnel including those workers employed by:
  - TC Energy;
  - the Prime/General Contractor;
  - any subcontractors;
  - any suppliers; and,
  - any other contractors.
- Adhere to, and enforce, the requirements of the TC Energy Safety Management Plan (SMP);outlined in the Agreement, this document, and the associated Project/Site-Specific Safety Plan Template;
- Maintaining all safety programs including certification, if applicable;

- Maintaining Workers Compensation Board proof of good standing (*i.e.,* Clearance Certificate), or jurisdictional equivalent if any, throughout the duration of the Work;
- Protection and preservation of TC Energy's property and the property of all third parties on, along, adjacent to or near the Work Site(s) from damage resulting from the performance of the Work, including exercising suitable precautions necessary to prevent property damage;
- Ensuring compliance with and implementation by all organizations and individuals that have duties imposed upon them under all applicable occupational health and safety laws and regulations including all orders, directives, codes, guidelines, permits, licenses and municipal bylaws;
- Monitoring activities at the Work Site(s) to ensure that the health and safety system is functioning properly, and provide such records as TC Energy may require, to verify the health and safety system is functioning - this must include items such as key performance indicator reporting, incident trending, Project close-out reporting, etc.;
- Receive from each employer (*e.g.,* subcontractors) at the Work Site the name of the person that has been designated to supervise the employer's workers at the Work Site.
- The Prime/General Contractor must ensure that the supervisor(s) have received specific training for their duties and have proven and documented competency in regards to the execution of their duties. (*e.g.,* trenching and any ground disturbance supervisor(s), coordinator, etc.).
- Ensure that work activities comply with all applicable TC Energy requirements including, but not limited to, those outlined in:
  - The TC Energy Project Safety Management Plan
  - TC Energy's OHS Standards for Prime/General Contractors
  - TC Energy's Excavation Specification
  - TC Energy's Overhead Powerline Specification
  - TC Energy's Slope Work Specification
  - TC Energy's Temporary Access Roads Specification
  - TC Energy's Incident, Quality, and Compliance Classification Guide
  - TC Energy's Contingency Planning Process
- The Prime/General Contractor must ensure that appropriate personnel have current ground disturbance training and have been trained to meet the requirements outlined in the TC Energy Excavation Specification Document.
- It is the responsibility of the Prime/General Contractor to ensure they have reviewed, and trained all workers, to carry out the duties within the scope of work as per the requirements contained in all the documents, including applicable laws, applicable to the scope of work and Agreements.

4 PROJECT/SITE-SPECIFIC SAFETY PLAN (P/SSSP)

The P/SSSP must set out in appropriate detail how the Prime/General Contractor intends to undertake occupational health and safety management of the Work. The Prime/General Contractor must develop its P/SSSP in accordance with the TC Energy P/SSSP template and submit the P/SSSP to TC Energy within the time period set forth in the Agreement for review and acceptance.

As part of their P/SSSP, the Prime/General Contractor(s) must establish and implement a process, to the satisfaction of TC Energy, for:

- The identification, analysis and reporting of all P/SSSP-related hazards, potential hazards, incidents, and near hits;
- The evaluation and management of risks associated with the identified hazards;
- The development and implementation of controls to manage and mitigate the identified hazards and risks;
- The process for identification and implementation of corrective and preventative actions;
- The process to manage imminent hazards and abnormal events;
- The communication of relevant control measures to anyone exposed to identified hazards and risks
- The Management of Change process to be utilized to document any changes that could affect safety, security, or the protection of the environment, including any new hazard or risk, any changes in a design, specification, standard, or procedure, and any change in the TC Energy and the Prime/General Contractor's organizational structure or the legal requirements applicable to the Work; and,
- The review period to ensure this P/SSSP is updated in accordance with changing Work Site conditions, work scopes, legal and regulatory requirements, and lessons learned.

The P/SSSP must include the information contained in the following subsections.

4.1 Assignment of Responsibility

- Acknowledgement of the Prime/General Contractor Readiness Verification Form (or similar form utilized by the Prime/General Contractor and accepted for use by TC Energy) and that it must be completed on-site prior to commencing the Work (see Appendix A);
- Inclusion of a Schedule of Prime/General Contractor designation for all phases/scopes of the Project – this Schedule will identify who is to retain Prime/General Contractor responsibility by work scope(s) and or work package(s);
- Inclusion of a detailed site map(s) clearly delineating the Work Site(s) that the Prime/General Contractor will have overall responsibility for safety for (Note: this must align with TC Energy requirements to retain Prime/General Contractor status when tying-in, or working on, live systems);
- Inclusion of a gap analysis confirming how/if the Prime/General Contractor's policies, procedures, standards, and specifications align with TC Energy's 9 Life Saving Rules;
    - If a Prime/General Contractor cannot meet or exceed the minimum requirements of the 9 Life Saving Rules (and the associated TC Energy procedures, standards, and specifications), then it must either create equivalent rules internally or adopt, in writing, those of TC Energy.

- Prime/General Contractor's chain of command for safety matters (*e.g.,* organization chart and/or safety resource strategy) and outlines mandatory responsibility requirements, including;
  - Name, title, and duties of persons responsible for all safety activities at the Work Site(s);
  - May include Site Safety Lead/Inspector(s) and/or Safety Representative(s) positions as required by legislation and/or the nature of the Work;
  - Must Include rationale for designations (number of Work Site personnel, risk assessment, geographical extent, or other similar rationale) and proof of qualifications (certifications and experience per Appendix B); and,
  - Training and Competency program and/or matrix outlining the requirements the Prime/General Contractor has for each role associated with execution of the Work.
- Provide Project personnel with clearly defined roles and responsibilities (and with sufficient expertise, knowledge and training) to ensure the Work is carried out in accordance with the requirements set out in the Construction Safety Manual documents and to have the authority to halt the Work if those requirements are not being met.
- Designated point(s) of contact for safety information;
- Designated contact for communication with TC Energy Company Representative; and,
- Prior to Work commencing, all foremen, supervisors, and personnel must be made aware of the requirements outlined in the P/SSSP.

4.2 Pre-Work Activities

In certain circumstances, where TC Energy has retained Prime/General Contractor status per the Schedule of Prime/General Contractor, the Contractor must obtain a General Work Permit from TC Energy where TC Energy's facilities may be affected by the Work (*i.e.,* pipeline isolation, hydro-testing, gas handling, switching and tagging, temporary work spaces, crossing agreements, or shore pulls); in all such cases, TC Energy will retain Prime/General Contractor status for the clearly delineated Work Site affected utilizing internal TC Energy Active Control measures. This must be reflected in the schedule of Prime/General Contractor responsibility and in an updated/detailed site map.

Management of Identified Risks

The Prime/General must perform a Project Hazard Assessment (PHA) as part of their P/SSSP, which will serve as an inventory of all identified hazards and potential hazards related to their scope of work. This PHA must, at minimum, include:

- A list of all of the Prime/General Contractor's activities related to their scope of work (including any subcontracted services);
- The identification of hazards related to each of those activities;
- A risk assessment of those hazards; and,
- An outline of the control measures required to mitigate the risks.

The Prime/General Contractor will be expected to provide TC Energy with copies of any operational controls (work practices and procedures), including those of subcontractors, that are referenced as part of the PHA. The Prime/General Contractor must also ensure that any operational controls implemented on the Project align with the requirements outlined and/or referenced in this document.

Beyond the initial PHA, the Prime/General Contractor must outline an effective hazard and risk management strategy that will be implemented during the execution of the Work. Industry recognized processes such as a Job Safety/Hazard Analysis and Field Level Hazard Assessment, or equivalent, are required.

During the execution of work, the Prime/General Contractor will invite TC Energy Project team members to participate in the review of JSAs and Hazard Assessments.

4.3 Review of Safety Requirements

- Review and address all Work-specific standards listed in Section 5, at a minimum.
- Align Prime/General Contractor HSE Management System with that of TC Energy's 9 Life Saving Rules to ensure they meet or exceed TC minimum requirements for Health and Safety. Results of the gap analysis must be documented in the Prime/General Contractor's P/SSSP.
- Establish safety performance standards for the Work.

4.4 Planning Work

- Identify Work Site requirements based on scope of Work and Project Hazard Assessment such as proposed traffic flow, hazardous materials management, training, inspections, security, personal hygiene, emergency response planning and mutual aid, subcontractor safety management practices, appropriate tools, and equipment and materials.
- Identify how and when JSAs and hazard assessment(s) for specific activities will be developed.

4.5 Mobilization

- Describe how the Prime/General Contractor proposes to have the appropriate resources on-site, or in place, prior to scheduled start date. Examples include:
  - Job trailer(s), permits, site plans, drawings and construction files;
  - Equipment, materials and tools;
  - Signs and barriers, fences, barricades;
  - Appropriate safety and job procedures manuals;
  - Safety files and posters;
  - Copies of applicable federal and local occupational health and safety requirements;
  - Training records and certifications;
  - PPE; and,
  - Emergency response equipment and supplies.

4.6 Orientation and Training

- Identify the system or program used to determine the selection, placement, training, ongoing assessment, and verification of the qualifications, abilities, and competencies of all personnel required to meet the work standards, including:
  - Training Matrices for all personnel;
  - Mandatory occupational health and safety orientation for all Work Site personnel;
  - Identification of trained Work Site personnel (*e.g.,* hard hat stickers or cards or a "Green Hands" program);
  - Training record-keeping system;

- TC Energy HSE Field Orientation for external contractors (applicable only where Work is being completed at an existing TC Energy facility (available online at http://tc.icomproductions.ca));
- Excavation training where applicable (available on line at http://tc.icomproductions.ca);
- Heavy mobile equipment training, certification and proficiency assessments, where applicable; and,
- All regulatory and industry standard safety training requirements.

- When required by law, only qualified trainers with the ability to issue certificates of completion must be used; and,
- See Appendix D for examples of safety training requirements that may be applicable to the Work.

4.7 Operational Controls

- Provide general and specific safety programs, practices, and procedures to mitigate the occupational health and safety risks and exposures associated with the Work. These must align with and meet, or exceed, the minimum requirements contained within TC Energy's 9 Life Saving Rules and the associated policies, procedures, standards, and specifications.
- See Section 5.0 and Appendix E for specific occupational health and safety programs, practices, and procedures required to provide minimum operational controls.
- For the purposes of the Work, occupational health and safety programs, practices, and procedures must meet all occupational health and safety requirements, TC Energy's 9 Life Saving Rules, and the standards set out in Section 5.
- Safe work plans must be developed, reviewed, and accepted by TC Energy for all high-risk activities (*e.g.,* Confined Space, Lockout/Tagout, Working at Heights, Critical Lifts, and other high-risk activities as identified via hazard assessment(s)) prior to commencing these activities.

4.8 Subcontractor Safety Management

- Prime/General Contractor must outline its procedures and criteria for the pre-qualification, selection, pre-job preparation, on-site monitoring, and post-Agreement performance feedback of subcontractor provision of services.

4.9 Participation and Communication

- Describe how the Prime/General Contractor proposes to have appropriate Work Site personnel participation and effective communication regarding occupational health and safety matters. For example: joint committee meetings, tailgate meetings, daily/weekly supervisory meetings; weekly safety meetings; pre-job safety meetings; newsletters; bulletin boards for posting policies, procedures and other safety information.
- Communication must be delivered in a format understood by all Work Site personnel.
- Describe how the Prime/General Contractor will ensure that all Work Site personnel will be knowledgeable in the contents of the P/SSSP.

4.10 Inspection/Periodic Evaluation/Audits

- Describe how the Prime/General Contractor will monitor and measure safety performance, identify and implement preventive and corrective measures when required, and review the on-going suitability, effectiveness, and adequacy of the P/SSSP. This may include:
  - Informal and formal documented safety inspections;

- Audits;
- Hazard identification systems; and,
- Identify the frequency of audits and inspections.

- All Prime/General Contractors awarded a scope of work or Agreement greater than $10,000,000 (local currency) and/or with an estimated duration of six months or longer, will be required to perform a health and safety audit/formal inspection that meets the following criteria (NOTE: TC Energy reserves to the right to request an audit/formal inspection regardless of Agreement value and/or duration; in addition to the Agreement dollar value and/or duration, all Projects are to be assessed based on their scope of work and the associated health and safety risk(s) and an audit/formal inspection plan is to be generated):
  - The audit/formal inspection must, at minimum, measure the Prime/General Contractor's execution against the commitments made in their P/SSSP, the Agreement, and any relevant aspects of their own health and safety management system
  - Prime/General Contractors may use any audit/formal inspection protocol they deem suitable provided it measures the criteria listed above
  - The audit/formal inspection must be conducted when a representative sample of the personnel and work activities can be observed
  - The audit/formal inspection must be scheduled at a mutually convenient time so that a representative of the TC Energy Project health and safety team may observe the audit/formal inspection being conducted
  - An audit/formal inspection report, along with an action plan to address any deficiencies or opportunities for improvement identified, will be completed and submitted to the TC Energy Project health and safety team within two weeks of the audit/formal inspection's completion
  - The Prime/General Contractor will provide the TC Energy PMT with at least bi-weekly updates on the status of any unresolved audit/formal inspection deficiencies
  - The TC Energy PMT reserves the right to request or conduct a follow-up audit/formal inspection at TC Energy PMT's discretion

4.11 Incident Management

- The Prime/General Contractor must have an Incident Management process which is aligned with that of TC Energy's Investigation Standard and related Incident, Quality, and Compliance Classification Guide (see Appendix F for details).
- The information provided by the Prime/General Contractor's incident management system must be transferable and translatable to the TC Energy Incident Management Process.
- Plan for investigation and reporting of all serious, major, critical, and high potential incidents, as well as near hits with the potential to have been critical or major and imminent danger situations, and how the Prime/General Contractor will assist subcontractors with investigations, when required;
- Procedures for regulatory reporting that meet the requirements of both TC Energy and all jurisdictional Occupational Health and Safety regulatory requirements as applicable based on the scope of work for the Project. The specific regulatory requirements will be stated in the Prime/General Contractor's P/SSSP. For example, in Canada, the Canadian Energy Regulator has strict timelines for reporting certain types of incident (see Appendix F of this document and Section 10.3 of the P/SSSP Template).

- The TC Energy PMT must be immediately notified (verbally or in writing) following any incident at the Work Site to ensure that internal and external reporting criteria/guidelines are met (NOTE: the Prime/General Contractor must receive confirmation, either verbally or in writing; if a response is not received from the initial point of contact then the Prime/General Contractor must attempt to reach another TC Energy PMT representative until they have received confirmation that the incident notification has been received);
- The Prime/General Contractor must provide a written report all incidents to a TC Energy Company Representative, including Near Hits, within 24 hours of the incident occurrence, or sooner, depending upon severity.
- The Prime/General Contractor must outline reporting requirements for daily, weekly, and monthly reports.

4.12 Emergency Preparedness and Response Plan

As part of their P/SSSP, the Prime/General Contractor(s) must establish and implement a process, to the satisfaction of TC Energy, for:

- The identification, analysis and reporting of all P/SSSP-related hazards, potential hazards, incidents, and near misses;
- The evaluation and management of risks associated with the identified hazards;
- The development and implementation of controls to manage and mitigate the identified hazards and risks;
- The process for identification and implementation of corrective and preventative actions;
- The process to manage imminent hazards;
- The hazard consequence management response process; and,
- The communication of relevant control measures to anyone exposed to identified hazards and risks.

Note: TC Energy's Emergency Management Program uses the Incident Command System methodology for emergency response operations and it is identified as a best practice in North America. It is preferred that Prime/General Contractors use this same methodology or a similar incident management system.

The Prime/General Contractor must develop an Emergency Response Plan. There must be one Emergency Response Plan per Work Site. If there are multiple Work Sites/locations then additional attachments may be needed to ensure all Work Site-specific emergency information is included. This must be submitted along with the P/SSSP to TC Energy prior to Work commencement or mobilization for review and acceptance (in line with conditions set out in the Agreement).

The Emergency Response Plan developed must include at a minimum:

- Site Description and Resources;
  - Description of the Work Site (physical location address, GPS coordinates), site map(s), site traffic routes for entrance and exit, identification of emergency exits or egress routes, and evacuation/muster points;
  - Site emergency communication systems and equipment available (such as radios, cellphones, fire suppression systems, spill response equipment, and alarms);

- Work Site local emergency response agencies and contact listings (local fire, law enforcement, public health/EMS, emergency management, and nearest hospitals);
- Work Site personnel accountability/tracking process for emergency communication purposes; and,
- Work Site fire prevention processes and equipment (*e.g.,* extinguisher inspection schedules, storage requirements for flammable and combustible substances, and fire hazard reductions site inspections).

- Organizational control of emergency;
  - Prime/Contractor emergency organization and management and contact listing;
  - Emergency roles and responsibilities; and,
  - Escalation of emergency to TC Energy and TC Energy emergency point of contact listing.
  - Response Process – response processes must include actions or steps to respond, and the emergency notifications required for each type of response. All emergencies at the Work Site require notification to TC Energy Company Representative, TC Energy safety and/or TC Energy emergency management contact;
  - Medical response actions;
  - Hazardous material release or spill response actions;
  - Fire/explosion response actions;
  - Natural hazard response actions;
  - Security incidents response actions; and,
  - Additional hazard-specific response actions as identified by the hazard and risk assessments for each Work Site.
- Evacuation procedures;
- Site recovery and return to operations (on-site authority and process to recover post-incident and resume operations); and,
- Emergency response plan training and validation process (drills/exercises).

If any of the items above are covered in another section of the P/SSSP, the ERP section does not require it to be duplicated.

A draft of the ERP must be provided to the TC Energy PMT for review and acceptance prior to the pre-job meeting held before the start of the Work. The final version of the ERP must be provided to the TC Energy PMT before the start of Work and will be included as part of the Agreement documents for the Work. Review of the ERP by the TC Energy PMT is not to result in any responsibility or liability being incurred by TC Energy.

The Prime/General Contractor must prepare a distribution matrix for the ERP and will circulate this matrix to all ERP recipients. A copy of the ERP must be kept at all Work Sites used by the Prime/General Contractor in relation to the Work.

All forms and procedures referenced in the ERP must be attached to the ERP.

4.13 Security Management

To ensure a reasonable level of security, including steps and measures taken to secure access to and from Projects and Work Site(s), the Prime/General Contractor must develop and complete a security assessment and security plan.

The plan must be posted and communicated at the Work Site and at a minimum take into consideration the requirements identified below.

- Identify security resources;
- Determine who is accountable for communication procedures, security reporting, records management, and training, for example;
- Define who identifies and implements security management during the different phases of construction;
- Identify who assesses and reviews the adequacy and effectiveness of construction security and the security plan;
- Define internal and external security reporting procedure;
- Define storage, handling, and destruction process for security information including sensitive materials;
- Outline security training as needed for the individual accountable for construction security and awareness training for personnel at the site;
- Complete security assessment to include:
  - Asset characterization, vulnerability, threat and risk assessment;
  - Pandemic assessment;
  - Inventory of security risk equipment, material, buildings, etc.; and,
  - Physical security measures (access control(s), barriers fence gates, lighting, lock and keys, vehicles/heavy equipment, photograph restrictions, alarms, tool/equipment management, restricted area signage, explosives management, protest and opposition activity, communications, fire arms, unusual activity at/near the Work Site, unknown site workers/trespassing, evacuation, theft/vandalism, work stoppages/disruptions, workplace violence/harassment, sabotage (bomb threats), and response to terrorist threat levels).

4.14 Documents and Records

- Outline Prime/General Contractor's proposed reporting and recordkeeping procedures regarding:
  - Implementation of the P/SSSP by personnel involved with the Work or Work Site;
  - Required certifications and permits (WCB/IMMS or equivalents);
  - Job Safety Analysis reports;
  - Tailgate meetings;
  - Investigation reports; and,
  - Training and competency records, fit testing records, calibration records, and other records required to show all aspects of the Work have been carried out in accordance with the Agreement, this document, and applicable federal, provincial, and state health and safety legislation.
- Provide for monthly occupational health and safety reporting to TC Energy including KPI's, the number of hours worked, and kilometres or miles driven by all Work Site personnel.
- All documents and records will be subject to audit by TC Energy at any time during the performance of the Work and after completion of the Work in accordance with Agreement requirements.

5 OCCUPATIONAL HEALTH AND SAFETY STANDARDS

For the purposes of the Work to be contracted and completed by the Prime/General Contractor, the following Standards must be met by the Prime/General Contractor through its P/SSSP and related occupational health and safety programs, practices, and procedures.

5.1 Personal Protective Equipment

While the Personal Protective Equipment listed under this section provides minimum requirements, it is the responsibility of the Prime/General Contractor to identify any additional exposure hazards (*i.e.,* NORMs, PCBs, asbestos, lead, etc.) and provide the necessary protective equipment, including any fit-testing and training requirements, prior to starting the Work.

5.1.1 Eye Protection

Eye protection meeting the most current CSA standard for Eye and Face Protectors or the most current ANSI standard for Occupational and Educational Personal Eye and Face Protection. All employees working on the Project must wear eye protection with rigid side shields (e.g., rigid snap-on, wrap-around, permanently attached) at all times.

Splash goggles must be worn when there is a possibility of eye contact with chemicals or particulates as determined the JSA.

5.1.2 Hearing Protection

The Prime/General Contractor must have a Hearing Conservation Program. The program must include audiometric testing requirements for personnel in the jurisdiction in which the work is being conducted.

Hearing protection when noise levels are at or above 85 dBA (dual hearing protection in areas where noise levels are 105dBA or greater) that meets, at a minimum, the most current standards for Hearing Protection in the jurisdiction in which the Work is being conducted. Hearing protection must have a minimum noise reduction rating (NRR) of 27 dBA.

In planning for proper hearing protection for all personnel at the Work Site, the Prime/General Contractor must indicate how they will accommodate the potential for blowdowns and venting that may occur intermittently and/or unexpectedly at, or near, operational facilities.

5.1.3 Head Protection

- Hard hats must be, at a minimum, Type 1 Class E meeting the requirements of the current CSA Z94.1 and ANSI Z89.1 standard.
- A site-specific hazard assessment should be performed when there is a risk of side impact to determine if controls are adequate to mitigate side-impact, and where controls a not adequate, a Type 2 Class E hard hat is required.

5.1.4 Footwear

Footwear at a minimum must meet the most current ASTM, CSA Standard, for Protective Footwear, sole puncture protection (when working in Canada), and with a Grade 1 protective toecap. All footwear must be high cut above the ankle (minimum 15 cm (or 6 inches) measured from the top of the sole), and must have aggressive soles with flexible treads. Open-toed shoes or sandals are not permitted.

5.1.5 Work Wear - General Clothing Requirements

Loose-fitting work wear and jewelry must not be worn near machinery or equipment where it may become entangled. Similarly, loose, long hair must be tied back when working on or near machinery or equipment where it may become entangled.

Clothing requirements for general wear at field sites includes:

- Clothing must be made from primarily natural fibers (e.g., tight–weave cotton, wool) ;
- Shirts with long sleeves or short sleeves (e.g., 3-4 in. / 7-10 cm) and long leg trousers must be worn at all times; Sleeveless shirts, muscle shirts, and tank tops are prohibited.
- Personnel are permitted to wear hoodies on TC Energy worksites provided that appropriate measures are taken to ensure hazards are not present that could result in injury due to the hood. Hoods are not permitted to be worn under a hard hat and may not interfere with the wearer's visibility. If wearing a hoodie presents a clear danger relative to the task being performed, such as rotating equipment or entanglement, the hoodie shall be removed prior to performing the task.
- Parka hoods are acceptable on TC Energy worksites. A parka hood shall be worn above the hard hat and the hood may not interfere with the wearer's visibility. Parka hood strings/cords must be secured or removed to avoid being caught in rotating/moving equipment when performing tasks associated with rotating/moving equipment.

5.1.6 Fall Protection Equipment / Working at Heights

Fall protection systems must be established when work is being done at a temporary or permanent work area that is not protected by guardrails at or above a height of 2.4 meters or 8 feet in Canada, and 1.8 meters or 6 feet in the U.S.

Fall protection equipment including full body safety harnesses, lanyards, energy absorbers and other components must meet the requirements of the appropriate CSA Z259 Standard (Canada) or ANSI/ASSE Z359 Standard (U.S.):

- Existing equipment must meet the applicable standard for the year the equipment was manufactured and must pass the pre-use/annual inspection requirements.
- Any new equipment that is to be purchased must meet the current applicable standard.
- Components from different manufacturers cannot be mixed for use unless a competent person reviews the personal fall arrest system components to verify component compatibility and to approve, in writing, compliance of the assembled system with applicable Manufacturer's specifications if applicable, ANSI/CSA Standards and the requirements for such systems.
  Note: It is mandatory for all connecting devices, snap hook and/or carabiners, to have a 3600 lb. gate strength (per ANSI 359.1-2007 or CSA Z259.12-11 or later standards) if we are mixing manufacturers equipment.
- ANSI A10.32-2012 Personal Fall Protection Used in Construction and Demolition Operations must serve as a guide for the performance criteria for personal fall protection equipment and systems as well as their use and inspection.

5.1.7 Respiratory Protection

All personnel who are required to wear respiratory protective equipment must be medically cleared to wear a respirator and fit-tested on the type of respirator that is needed (*i.e.,* half-face, full-face, SCBA, etc.).

Only NIOSH approved respiratory protective equipment is to be selected and used to complete the Work. Respiratory equipment must meet, at a minimum, standards for selection, use, and care of respirators in the jurisdiction in which the Work is being performed.

5.1.8 Flame Resistant Clothing

Flame resistant clothing, in addition to the general clothing requirements, must be worn in locations where there is the presence of flammable gasses, vapors, liquids or combustible dust (i.e., hazardous or classified locations). Examples include but are not limited to:

- In an energized facility such as a compressor station, meter station, regulator station or valve site.

  Exception: Office buildings or warehouse buildings within fenced facilities (including walkways to and from the buildings) do not require the use of flame-resistant clothing.

- While performing work on an energized right-of-way where there is potential for a hazardous atmosphere (e.g., excavations, leak detection).

  Exception: while performing work on an energized right-of-way that has been assessed by a site specific hazard assessment, is completely covered, and there is no known leak source resulting in limited potential for a hazardous atmosphere (e.g., surveying, visitor walkthrough).

- Performing tasks under a hot work permit or in a hazardous area.

Gas detection (personal or otherwise stated in project hazard assessment) is required in all work areas where flame-resistant clothing is required.

All outer layer flame-resistant clothing must meet:

- ASTM F1891, ASTM F2733, NFPA 2112 and NFPA 70E industry standards as listed and/or
- Have a minimum arc rating (ATPV) of 8 cal/cm2 rating and Hazard Risk Category (HRC) 2.

Flame resistant clothing must be worn and maintained according to the manufacturer's instructions and must cover the torso, arms, and legs completely, with sleeves rolled down and garments fully zipped or buttoned to ensure full coverage.

> **Note:** Where there is a risk of heat stress, consideration should be given to flame resistant clothing constructed of lighter weight materials in addition to other heat exposure mitigation methods as noted in applicable hazard assessments.

The outermost garment worn (e.g., high visibility apparel, coveralls) must be made of flame-resistant material.

> **Note:** Tyvek® suits, high-visibility apparel, blasting suits, and similar protective gear often do not meet HRC 2 standards. Consequently, the clothing worn underneath these items must comply with HRC 2 requirements to ensure adequate protection.

Garments worn beneath flame-resistant clothing must be made from primarily natural fibers (e.g., tight-weave cotton, wool). Small or incidental amounts of elastic material are permitted in undergarments only.

5.1.9 Hand Protection

The Prime/General Contractor must provide protective hand-wear appropriate for potential hazards associated with Work-related tasks. Protective hand-wear requirements will be based on the Project/task hazard assessment.

Specially insulated gloves meeting the requirements of the most current ANSI/ISEA Standard for Hand Protection Selection Criteria to be selected for Work involving electricity over 600 volts.

5.1.10 Safety Visibility Vests

High visibility safety vests and clothing must meet, at a minimum, the standards within current CSA Standards and the US Department of Transportation Federal Highway Administration (FHWA) Part VI of the Manual on Uniform Traffic Control Devices (MUTCD - current edition).

5.1.11 Welders

Welders must use a CSA Z94 3-02, or ANSI Z87.1 2015, welding hood at all times when welding. Welder's helpers must use face shields in combinations with safety glasses when face hazards, such as flying debris are present during welding operations. Welders at a minimum must meet the expectations of the CSA W117.2-12 (Standard Safety In Welding, Cutting, and Allied Processes) and evaluate the requirement for ventilation and/or NIOSH approved respiratory equipment; this evaluation must be documented (*e.g.*, via a JSA).

Note: Pancake welding helmets are not approved for use and must not be permitted on any TC Energy Work Site in Canada.

Note: Additional jurisdictional based PPE requirements can be found in Appendix C

5.2 Overhead Power lines

Identify all overhead power lines and erect signage and install guards (*e.g.,* goal posts) at all overhead power line locations with appropriate 48 to 72-hour advance notice to the affected electric utility company.

The Prime/General Contractor must meet or exceed the requirements contained in TC Energy's Overhead Powerline Specification.

5.3 Excavations and Trenches

The Prime/General Contractor must meet or exceed the requirements contained in TC Energy's Excavation Specification.

5.4 Steep Slopes

The Prime/General Contractor must meet or exceed the requirements contained in TC Energy's Steep Slope Work Specification.

5.5 Temporary Access Roads

The Prime/General Contractor must meet or exceed the requirements contained in TC Energy's Temporary Access Roads Specification.

5.6 Marking of Facilities

The color code convention used to mark right-of-ways (ROWs) and buried facilities must meet or exceed the American Public Works Association (APWA) Uniform Color Code and the most current ANSI Safety Color Code standard for buried facilities in addition to any applicable regulatory requirements.

5.7 Drug and Alcohol/Fit for Duty Program

The Prime/General Contractor must have an alcohol and drug policy that:

- Sets out fitness for work requirements, including how safety sensitive roles will be determined;
- Establishes pre-site access testing for all individuals accessing the Work Site, where applicable and jurisdictionally required;
- In jurisdictions where pre-site access is permitted, the pre-site access testing must be conducted no more than 60 days prior to site access;
- Outlines pre-employment, reasonable cause, random testing (where required), and post-incident testing requirements (in particular, describe specific scenarios/incidents where post-incident testing will be implemented);
- Details the procedure for administering alcohol and drug testing and the method to be used for analyzing results;
- Where applicable, conforms to all US Department of Transportation 49 CFR part 40 guidelines for alcohol and drug testing in the workplace, as well as part 199 for PHMSA and Part 382 for FMCSA; and,
- Addresses Prime/General Contractor and subcontractor requirements.

Managed Camps

- At the Prime/General Contractor's (*i.e.*, Camp Service Provider) discretion, consumption of alcohol may be permitted outside of working hours for guests only where an approved alcohol consumption facility (*e.g.,* a bar) has been established in the camp and in the guest's private room.
- All guests must agree to and abide by "Camp Rules & Regulations" upon initial check-in to the facility which will specify rules on general behaviour and consumption of alcohol and/or drugs.

5.8 Control of Hazardous Energy

The Hazardous Energy Control procedure must, at a minimum, meet or exceed those of TC Energy as well as the standards of the most current ANSI/ASSE Safety Requirements for the "Lock Out/Tag Out" of Energy Sources in addition to any applicable regulatory requirements.

5.9 Confined Space

The confined space procedure must, at a minimum, meet or exceed those of TC Energy as well as the standards of the most current ANSI/ASSE Safety Requirements for Confined Spaces in addition to the applicable regulatory requirements.

5.10 Radiography

A radiographic safe work procedure is required and will meet or exceed the following minimum requirements:

- No single person units are permitted at the Work Site;
- Barricades or warning devices to identify radiography is in progress; and,
- Radiographic inspection trucks must be equipped with 360-degree amber rotating lights on top of the unit clearly visible to all Work Site personnel and turned on when radiography is in progress. Lights must be turned off when radiography is not in progress.

5.11 Heavy Mobile Equipment Operations

The Prime/General Contractor's heavy mobile equipment, or equivalent, policy, procedure, or program must include the following minimum requirements for heavy mobile equipment operations:

- Assignment of competent, qualified personnel for the equipment operations tasks;
  - Only competent and authorized personnel who are familiar with all applicable safety and operating procedures must be permitted to operate heavy equipment;
  - Heavy equipment operators must receive adequate instruction, be familiar with the operating instructions of the equipment and be able to demonstrate their competence/proficiency; and,
  - Where applicable, the heavy equipment operator must be licensed/certified to operate the heavy equipment.
  - Spotters who are trained must be utilized wherever heavy mobile equipment is operated in congested areas and/or where the operator does not have clear visibility to the work activities and/or work area.
- Operator awareness of duties and responsibilities;
  - The operator is directly responsible for the safe operation of the heavy equipment;
  - Whenever the operation of heavy equipment may pose a safety hazard, no operator must operate, or be requested to operate, the equipment until the hazard has been adequately corrected or controlled; and,
  - Operation of equipment must be in accordance with the manufacturer's operating specifications and procedures (*i.e.,* pre-use equipment inspections, proper load securement, balanced within equipment engineering rated load capacities, steep slopes, ground conditions, and type of tracks to be utilized specific to the ground conditions).

5.12 Rollover Protection Structure

The Prime/General Contractor's heavy mobile equipment or equivalent policy, procedure or program must include the following minimum requirements for pipe laying equipment:

- Pipe layers or side boom tractors must be fitted with a rollover protection structure (ROPS) designed, engineered, installed, and certified to meet the applicable ISO, SAE, CSA or OSHA standard.
- The ROPS must be permanently marked with the manufacturer's or professional engineer's name and address, model and serial number, the make and model or series number of machines the ROPS is designed to fit, maximum weight of machine the ROPS is designed for, and identification of the standard to which the ROPS was designed, manufactured, and installed.

- All ROPS must be inspected for defects and damage on an annual basis. Equipment must be fitted with seat belts that meet the applicable SAE standard and restraining devices to prevent the displacement of the battery if the equipment turns over.

5.13 Motor Vehicle Operation

The Prime/General Contractor's Motor Vehicle Operation (or equivalent) policy, procedure or program must align with TC Energy's Motor Vehicle Operation Standard. This is to be captured by the TC Energy Safety Management Plan and the Prime/General Contractor's Project/Site Specific Safety Plan(s) created by the Project Management Team and the Prime/General Contractor, respectively, and must include, at a minimum, the following requirements:

- Identify safe motor vehicle operating practices to protect the safety of employees, personnel, the public and assets. This includes a risk assessment of operator experience and Work Site conditions that personnel and subcontractors will or may experience while operating a motor vehicle (*e.g.,* steep slopes, winter conditions, isolated environments, operating on public roads, etc.). The risk assessment will evaluate and determine:
  a. The level of training required (who, when, and how) for personnel including subcontractors (*e.g*. High risk driving conditions will require in class and in car driver evaluations) is similar to TC Energy's Motor Vehicle Operation Standard);
  b. A Situational Awareness Practice (*i.e.*, cone or an alternative method to trigger a 360 walk around prior to departure);
  c. Requirements for driving in inclement weather and/or road conditions similar to TC Energy's Know When to Go Guidelines; and,
  d. Appropriate training must also be in place for drivers that tow trailers, operate articulating vehicles and/or operate vehicles with a Gross Vehicle Weight over 4500 kg (10,000 lbs).
- Use of electronic communication devices, including hands-free, is prohibited while operating a motor vehicle on behalf of TC Energy or a TC Energy Project;
- A vehicle maintenance/inspection program;
- When operating any motor vehicle on the Company's right of ways or within Company facilities the maximum speed limit is 25 kph/15 mph unless otherwise posted. Speed must be reduced to 15 kph/10 mph when within 100 meters/330 feet of pedestrians. These limits may be superseded by more stringent requirements as determined and posted by the local facilities.
- A parking practice that meets TC Energy Project requirements.

5.14 Off-Highway Vehicles (ATV's, UTV's etc.)

The Prime/General Contractor's Off-Highway Vehicle (OHV) (or equivalent) policy, procedure or program must meet TC Energy's Off-Highway Vehicle Operation requirements as provided in TC Energy's Motor Vehicle Operation Standard, and will include, at a minimum, the following requirements:

- All OHVs must be legally registered where required by provincial, state or federal law.
- Operator training, which includes a competency assessment process, must be in place for personnel that operate OHVs (*i.e.,* ATV's, UTV's, snowmobiles).
- The use of OHVs must be aligned with the TC Energy Slope Specification.

- Passengers are only permitted on straddle seating type OHVs when the vehicle is designed to carry both a driver and a passenger. The only exception is in the event of an emergency or breakdown.
- Helmet Requirements - It is mandatory that all personnel operating or riding on/in an OHV outside of a TC Energy fenced operating facility wear an approved helmet as outlined below. This is in addition to the requirements within the TC Energy Personal Protective Equipment Standard.
  a. DOT or SNELL certification.
  b. Three quarter or full-face helmets require goggles be worn.
  c. Chin straps must be three quarter (¾) or full-face helmets meeting CSA Standard D230 or SNELL and/or bearing the Department of Transport properly and securely fastened during OHV movement, including loading/unloading.
  d. Half face/skull cap style helmets are prohibited.
- Helmet Requirements - Wearing a helmet while operating OHVs within a TC Energy fenced operating facility is optional WHEN ALL of the following criteria has been met:
  a. The OHV must have side by side seating. Straddle seating OHVs always require a helmet;
  b. The facility location has been evaluated and it has been determined that roll over potential or other site hazards are not present that would impact operating OHVs without a helmet;
  c. An initial JSA must be completed in addition to a site-specific facility evaluation. The JSA must be updated if any conditions affecting OHV use without a helmet change;
  d. Operation of the OHV must comply with the speed limits within the facility;
  e. Driving paths must be present and established for OHVs within the facility; and,
  f. Operators of OHVs must have current training to operate the equipment.
- Seatbelts/life restraints must be worn at all times in OHVs equipped with seatbelts/life restraints.
- UTV's must be equipped with ROPS and must be permanently marked with the manufacturer's or professional engineer's name and address, model and serial number, the make and model or series number of machines the ROPS is designed to fit, maximum weight of machine the ROPS is designed for, and identification of the standard to which the ROPS was designed, manufactured, and installed.
- Vehicles without seatbelts/life restraints must be used only as a last resort and use justified and approved in writing by the Prime/General Contractor.
- Vehicles transporting OHVs must be equipped with loading ramps that can be secured to the transporting vehicle to prevent slipping during loading and unloading. The ramps must be sufficiently sized and capable of supporting the weight of the OHV to be loaded and have a surface which provides adequate traction for the OHV.
- All OHVs must be secured to the transport vehicle during transportation. Operators must inspect the transport vehicle and the OHV for loose debris that may present hazards to other traffic prior to transport.
- The Operators manual for OHVs must be kept clean in a secure place with the vehicle or at another location readily accessible to the operator and passengers to review prior to operating.
- Winches must be equipped with a bell or similar stopping device that prevents the hook from being pulled into the rollers.

- Prior to the operation of an OHV, a JSA, or similar form of hazard assessment, must be completed to ensure the hazards have been identified and the proper controls are implemented. This assessment will determine the need for buggy whips, communications etc.

5.15 Hoisting and Conveying Equipment/Powered Industrial Trucks

Specific requirements regarding hoisting and conveying equipment (*e.g.,* side booms, cranes, man lifts), and powered industrial trucks (*e.g.,* forklifts, mobile cranes) are provided as part of the Agreement. The Prime/General Contractor must refer to the Agreement for these specific requirements.

5.16 Scaffolds and Elevated Work Platforms

The Prime/General Contractor's Scaffolding or equivalent policy, procedure, or program must meet all applicable regulatory requirements for the erecting, inspecting, use, modifications, and dismantling of work platforms.

The Prime/General Contractor's Scaffolding or equivalent policy, procedure or program must include the following minimum requirements for erecting scaffolding:

- Scaffolds must be erected, inspected and dismantled by competent personnel.
- Personnel must be trained in the use, maintenance, inspection and building of scaffolds.
- The Work area must be assessed for hazards (*e.g.,* overhead power lines) in which the scaffold is to be erected.
- Scaffolds and planks must be inspected prior to use to ensure they are maintained in good condition.
- Inspect daily, before use, and following any modifications.
- Upright supports must be placed on firm foundations or sills.
- All pins and braces must be locked into position.
- Work platforms must meet regulatory requirements; and will be fully decked. Planks must be secured to prevent movement in any direction.
- All openings/hatchways must be barricaded to prevent falling and/or unauthorized access.
- Flexible materials, such as cables and chains are not to be used in the guardrail system
- Guard rails (top and mid-rail) and toe boards must be in place.
- Ensure the minimum toe board height is 125 mm (5 in) in Canada (Exception is Alberta which requires the toe board height to be a minimum of 140 mm (5.5 in)) and no gaps exist between the toe board and the scaffold platform
- Ensure the minimum toe board height is 4 inches (100 mm) US and no gaps exist between the toe board and the scaffold platform
- Toe boards must be in place on all sides
- Toe boards may be omitted at the access opening/s
- Note: In the event the gap is greater than 6 mm (0.25 in), employees may mitigate the risk to persons working below the elevated platform by conducting a JSA and erecting a visual barrier and signage.
- Fall protection equipment must be worn if the installation of guard rails is impractical and if scaffolding is more than 2.4 metres (8 feet) in Canada and 1.8 metres (6 feet) in US above the ground or floor.

- Note: Fall arrest systems cannot be attached to a scaffold framework unless specified by the manufacturer or approved by a professional engineer licensed in the jurisdiction where the work is being conducted.
- Wheel locking devices or use blocking must be engaged when employees are on scaffold.
- If scaffolding exceeds the height by three times the smallest dimension/base, ensure it is supported by outriggers and/or secured by tying to a permanent fixture.
- Ensure safe access and egress is attached to scaffolding work platform.
- Scaffolding must be of sufficient strength and rigidity to support four times the weight of personnel and material to which it will be subjected.
- Personnel must not remain on the scaffold while it is being moved due to the potential for falling.
- Personnel must not work on scaffolds during storms or high winds.
- For extensive scaffolding requirements (*i.e.,* engineering design; whenever scaffolding is to be erected over three sections and out-riggers are required), contract a professional scaffolding company. In the event an outrigger scaffold is being erected and/or used, then an inspection tagging process must be followed:
  a. A green tag with “Safe for Use”, to indicate it is safe for use;
  b. A yellow tag with “Caution: Potential or Unusual Hazard”, to indicate the presence of a potential or unusual hazard (no barrier at one end due to configuration of structure being worked around); and,
  c. A red tag with “Unsafe to Use”, to indicate it is unsafe to use (*e.g.,* while still in the process of being erected).
- Scissor and Boom Lifts are to be operated and inspected following manufacturer’s specifications and training provided by vendor.

5.17 Cell Phone and Personal Communication Devices

Unless authorized, the use of cellphones and/or other personal devices (*e.g.,* smart watches or earbuds) is strictly prohibited while on active Work Sites. The prohibition of the use of cell phones and/or other personal devices includes, but is not limited to; sending or receiving calls, texts, instant, messaging, SMS, browsing the Internet, sending or receiving email, checking phone messages, taking any photos, and having phone conversations.

Individuals who violate this policy may be subject to disciplinary action, up to and including removal from the Work Site/Project.

5.18 Safety Stand Downs/Work Stoppages

TC Energy and Prime/General Contractor personnel can address unsafe acts and conditions or trends through a safety stand down (Stand Downs). In order to ensure these Stand Downs are effectively addressing the issues, are well implemented, and understood, refer to Appendix G for additional guidance. The guidance includes factors to consider in stopping unsafe work and implementing a Stand Down, including: criteria for initiating a Stand Down, communication, escalation, return to work criteria that must be satisfied prior to resuming work, and identifying and following up on action plans.

5.19 Equipment and Vehicle Positive Air Shut-offs

When deemed necessary through the use of the Prime/General Contractor's hazard assessment processes, diesel powered vehicles and equipment working on or near facilities or areas where hazardous atmospheres may develop must be equipped with spark-arresting muffler, catalytic converter and/or positive air shut-offs.

The Prime/General Contractor's equipment and vehicle operating or equivalent policy, procedure or program must include the following minimum requirements:

- The use of a hazard assessment in determining positive air shut-off equipment requirements;
- Confirmation of the functionality of positive air shut-off equipment prior to entering hazardous areas; and,
- Inspection, testing and maintenance pursuant to the schedule outlined in its procedure and/or in accordance with manufacturer's specifications.

5.20 Medical Surveillance and Monitoring (Industrial Hygiene and Occupational Health)

The Prime/General Contractor must have a policy, procedure or program that addresses legislative and regulatory requirements and standards applicable to industrial hygiene and industrial health (*e.g.*, respiratory and breathing protection, blood-borne pathogens, respirable silica/crystalline dust exposure, audiometric monitoring, surveillance and conservation).

5.21 Firearms

The P/SSSP must strictly prohibit firearms in vehicles or on any Work Site, including camps, unless specifically authorized in writing by TC Energy.

5.22 Wildlife Management

The Prime/General Contractor must have a wildlife management policy, procedure, or program in place which mitigates the hazards associated with aggressive wildlife that may be present in the area(s) where Work will be taking place. The program must include a written site/location specific hazard assessment of potential threats and controls associated with the potentially dangerous wildlife that may be encountered by personnel performing Work for the Project(s).

The potential control measures include but are not limited to the following : schedule planning to reduce interface and conflict, food waste control and management, barriers, deterrents, wildlife monitors, etc.

If an evaluation identifies that wildlife monitors are required, they may be armed with wildlife deterrents up to and including firearms. The Prime/General Contractor must ensure endangered species are accounted for and the wildlife monitor has, at a minimum, the following training and certification:

Training and Certifications

Individuals who fulfill roles as Wildlife Monitors must have the following training and certifications:

- Possession and Acquisition License (PAL), where applicable;
- Familiarity and compliance all federal, local, and tribal or indigenous area requirements
- Proof of completion of a Firearm Safety Certificate or equivalent;
- First Aid Level 1 or more advanced;

- ATV/Snowmobile Operation (when applicable);
- Wildlife Monitor Training/Certification including Firearms Proficiency (when firearm use is implemented); and,
- Written procedures, policies and practices.

If the evaluation indicates that firearms are necessary, they will only be deployed by the Wildlife Monitor. These Monitors will undertake no other duties other than those associated with monitoring and protecting workers and animals from aggressive encounters.

Deterrents such as bear bangers, pepper spray and firearms require training, written procedures as well as TC Energy Director level sign off.

NOTE: Pets are prohibited at TC Energy managed facilities, pipelines and Work Sites.

Background Check (proof required)

Criminal record check must not contain any convictions of violent crime

5.23 Working Near Watercourses & Working on Ice

The Prime/General Contractor must develop a safe work plan when crossing or working on or near watercourses and/or ice that meets or exceeds industry and/or government guidance (*e.g.,* the Government of Alberta Work Safe Alberta "Best Practice for Building and Working Safely on Ice Covers in Alberta" (Publication Number SH010 and ISBN 978-0-7785-8735-5)).

5.24 Hazardous Atmospheres & Substances

The Prime/General Contractor must have a program in place for air monitoring when hazardous atmospheres may be present. This includes providing personnel with the appropriate air monitoring equipment (*i.e.,* personal gas detection monitors and/or direct reading instruments).

The Prime/General Contractor must have a program in place, including education and training with respect to hazard prevention and control of hazardous substances, meeting WHMIS and/or Hazard Communication legislative requirements, for the storage, handling and use of hazardous products/chemicals.

Work involving potential exposure to hazardous substances, such as Asbestos, Benzene/Hydrocarbons, H2S, Lead, Mercury, NORM, PCBs, Silica, and Welding Fumes, will require Exposure Control Plans.

5.25 Waste and Materials Management

To be developed by Prime/General Contractor.

5.26 Chemical Approval and Handling

To be developed by Prime/General Contractor.

5.27 Polyurethane Spray Foam (PSF) Trench Breakers Containing Isocyanates

The Prime/General Contractor must meet or exceed the requirements contained in TC Energy's Trench Breaker Specification and Pipeline Construction Specification, Typical Polyurethane Foam Breaker Standard.

The usage of polyurethane spray foam containing isocyanates is to be avoided where no other option is available, or suitable for the circumstances, the Prime/General Contractor must submit a detailed justification and plan for acceptance by TC Energy. The plan must include the following information:

- Safety Data Sheet of trench breaker material
- Equipment to be used during installation
- Foam mixing ratios including quantity of spray to minimize combustion potential
- Foam density
- Exposure and Control Procedure that contains:
  a. Roles and Responsibilities;
  b. An assessment of the workplace hazards (*i.e.,* where workers are likely to be exposed to isocyanates);
  c. Sampling methods used for isocyanate (*i.e.,* surface/skin sampling, air sampling);
  d. Safety controls being used to reduce the hazards;
  e. Hierarchy of controls beyond substitution/elimination (for example, ventilation, barriers, or personal and respiratory protective equipment);
  f. Written safe work procedures, first aid and emergency response procedures (*i.e*., rescue procedures);
  g. Education and training provided to personnel;
  h. Records and statistics (*i.e.,* first aid records for workers who are exposed to isocyanates); and,
  i. Medical monitoring (*i.e.,* post/suspected exposure, medical fitness to wear respiratory/PFT).

6 HOURS OF WORK

This standard sets out TC Energy's requirements respecting maximum allowable hours of work and consecutive days of work. For the purposes of the Work, the Prime/General Contractor must ensure the standard is followed by all Work Site personnel. It is the Prime/General Contractor's responsibility to ensure all applicable legal requirements are met.

Note: In the event that this standard exceeds the maximum hours of work or consecutive days of work prescribed by any applicable federal, provincial, state and local legislation, the applicable legislation governs.

Hours worked in a single day and consecutive days must be within the guidelines found in this section, including any exceptions to work extended hours and/or days. Prime/General Contactors must provide a formal request to work extended hours for TC Energy's review and acceptance. The requests must outline, at a minimum, what work tasks may require extended hours, the notification process to affected personnel including employees, support crews, and inspection staff, what additional fatigue management safeguards must be implemented, and what process must be implemented to monitor the hours and days worked to maintain compliance to the standard outlined below and/or any approved extended hours. In some cases, a revision to the Prime/General Contractor's P/SSSP or an addendum may be needed.

Consecutive Hours worked guidance:

- Contractors may work up to 12 consecutive hours per day
- Any hours worked beyond 12 hours requires TC Energy's acceptance of the Prime/General's request

- Contractors may work up to a maximum of 16 Hours for emergency work, pending TC Energy acceptance of the Prime/General Contractor's request
  - There may be occasions where it is necessary for personnel to work up to 16 consecutive hours to complete work tasks which must be completed without delay (*i.e.,* creek crossings, tie-ins, horizontal directional drill (HDD) pulls, etc.)
  - Prime/General Contractor must request authorization (in writing) from the TC Energy Construction Manager and/or Project Manager to obtain authorization to work the extended hours. The Prime/General Contractor's request must include what additional resources or coverage will be in place for the extended hours work (*i.e.*, emergency response resources, safety resources, etc.).
  - TC Energy PM/CM have the authority to approve work hours greater than 12 hours, which would include work up to 16 consecutive hours to complete a task considered "emergency" work.
  - Emergency work is defined as any activities directly related to, and necessary to address the impacts of, a sudden, unusual, unforeseen, or unpreventable occurrence that is either seriously interfering with, or could seriously interfere with the Work.
- Personnel must be given a minimum 8 hours rest in a 24hr day.
  - The requirement for 8 hours rest in any 24-hour period eliminates the ability to work longer than 16 hours.
- Travel time
  - Travel time is considered "yard-to-yard" – travel time from the Prime/General Contractor's yard to the ROW and back are considered travel time and part of the work day.
  - Travel time from residences (*e.g.,* hotel, camper, etc.) to the initial Work Site is considered personal commute time, not Project-related, and thus not included in travel time.
    NOTE: personal commute times should be considered as part of the Prime/General's Fatigue Management Plan

Considerations for accepting Prime/General requests to work extended hours and/or days:

- In order to modify existing work schedules, TC Energy PM's/CM's will work with the Prime/General Contractor to confirm the conditions under which modified work schedules will be documented and implemented at their locations.
- The day-to-day requests will be handled between the TC Energy PM/CM working with the Prime/General Contractor. Blanket agreements to work extended hours on a routine and/or daily basis must be avoided.
- The TC Energy PM/CM should outline a daily deadline by which requests by the Prime/General Contractor to work extended hours must be made. The intent is for the requests to be limited to specific crews/activities to avoid the entire Work Site working extended hours on a daily basis. This approach provides ample notification to both construction and inspection resources for preparation activities.
- When reviewing these requests, consideration will be given to inspection resources and support crews (*e.g.,* survey, NDT, emergency response, etc.) as they would also be affected by the extended hours.

- Language that allows the TC Energy PM/CM to immediately revoke any extension based off of safety performance without prior notice must be included in the acceptance/authorization documents.

Consecutive Days worked Requirements:

Subject to prescribed limitations in any applicable legislation, Work Site personnel may be scheduled to work up to a maximum of 24 consecutive days. Following 24 consecutive days of work, personnel must be given at least four consecutive days of rest (the equivalent of one day off for each workweek).

EXAMPLES have been provided below and are for Guidance Purposes ONLY

Examples of work schedules up to the maximum 24 consecutive days of work are:

- 6 consecutive days worked requires 1 consecutive day off; or,
- 12 consecutive days worked requires 2 consecutive days off; or,
- 18 consecutive days worked requires 3 consecutive days off; or,
- 24 consecutive days worked requires 4 consecutive days off.

APPENDICES

APPENDIX A PRIME/GENERAL CONTRACTOR READINESS VERIFICATION FORM

NOTE: The form itself is provided as a separate attachment to the Agreement.

- *GUIDELINES AND INSTRUCTIONS FOR USE:*
- *General Form Instructions:*

When two or more employers are working at the same work site and at the same time, occupational health and safety laws, regulations, orders, directives, codes and guidelines (collectively, "**OHS Legislation**") require that one of the employers take on the responsibility of Prime/General Contractor with respect to safety. This means the Prime/General Contractor must ensure its health and safety management system is implemented on that work site and that personnel from all employers performing work on the work site are in compliance with OHS Legislation, regardless of whether or not it is a Greenfield, Brownfield or Operational work site (NOTE: Under OHS Legislation the Prime/General Contractor designation is solely based on the presence of two or more employers working at a work site and only regarding the responsibility of health and safety). If the Prime/General Contractor responsibility is not formally assigned within the Contract Documents, the responsibility of Prime/General Contractor is automatically retained by the owner of the work site (*i.e.*, TC Energy). "**Contract Documents**" means any executed written agreements between Contractor and TC Energy including, without limit, master service agreements and change orders.

In all cases where TC Energy, or its subsidiaries, has designated a Prime/General Contractor in a Contract Document, the delineation of the responsibility with respect to health and safety at the work site needs to be clearly defined. This form is intended to verify the readiness of the Prime/General Contractor to fulfill its responsibility under relevant legislation, with respect to work site safety.

Note: This form may only be used to verify the designation of Prime/General Contractor, which term is meant to be equivalent to alternative terms that may be used in OHS Legislation in various jurisdictions, between TC Energy and another contractor who is party to the Contract Documents. It may not be utilized to verify the responsibility to third parties who are not party to the Contract Documents.

- *The purpose of this form is to:*
- *Provide a mechanism to verify that, prior to starting any work under a Contract Document, the Contractor is sufficiently prepared to bear the responsibility of a Prime/General Contractor for the work and in accordance with the OHS Legislation, and to clarify which portion of the work site (i.e., all or a portion thereof) such Contractor will be Prime/General Contractor for.*

The TC Energy representative (*e.g.,* Regional Operations Representative, Project Manager, Construction Manager, etc.) and Contractor representative (*e.g.*, Prime/General Contractor Construction Manager, Supervisor, Foreman, Superintendent, etc.) are to complete this form at the work location immediately following an inspection of the work site and prior to commencing the work to ensure Prime/General Contractor is prepared to take responsibility for the occupational health and safety of all personnel on the work site or the portion of the work site for which it is designated Prime/General Contractor. The TC Energy representative is accountable for preparing the Prime/General Contractor Readiness Verification Form ("**Form**") with the assistance of the designated TC Energy Safety Representative.

Detailed descriptions, information, and other pertinent reports are to be inserted, referenced, or attached to this Form (*e.g.*, survey drawings, Project- or Site-Specific Safety Plans, etc.).

Formatting instructions:

Delete the "GUIDELINES AND INSTRUCTIONS FOR USE".

- ***Filing Instructions:*** *This Form and any exhibits within are to be attached as part of the Contract Terms and Conditions between TC Energy and the Contractor.*
- *Capital Projects:*
- *File this Form(s) and all supporting documents according to the Document Control and Records Management Plan, within the Project Delivery Standard (PDS) – Control of Documents and Records process.*
- *Operations and Engineering Projects:*
- ***Electronic Filing****: Attach completed Prime/General Contractor Readiness Verification Form(s) to the SAP Work Order. Refer to the Identify Plan Schedule Execute Close Analyze Work Management Quick Reference Guide (Page 88).*
- ***Hard Copy Filing****: Completed Form(s) are to be classified as 'SA-03 Workplace Safety' per the Corporate Records Classification System and entered into iRIMs by the Records Administrator for life of the facility plus two (2) years.*

Company Name (Contractor):	
Agreement Document Granting Prime/General Contractor Designation: NOTE: The Agreement Document must indicate that the Contractor is approved to carry out the work under the Prime/General Contractor designation (e.g., MSA or another contractual document).	
Date of Verification (yyyy/mm/dd):	Time of Verification hh:mm (AM/PM):
Project Name: Attach or Reference Scope of Work as defined and described in the Agreement Document [or Project Execution Plan]	
Work Site Delineation: Provide a detailed survey/map and description of the work site where the Prime/General Contractor responsibility is assigned in accordance with the Agreement Documents, including if possible: name of work site/location and address (street address, LSD, latitude/longitude etc.). You must also include a diagram of the work site defining which area(s) are designated under the Prime/General Contractor's control for the purposes of occupational health and safety, and how such work site within the control of Prime/General Contractor is physically delineated. NOTES: 1. Areas of Prime/General Contractor responsibility for safety cannot overlap; if the work site cannot be clearly delineated in time and space then TC Energy retains Prime/General Contractor responsibility in those areas. 2. A detailed survey/map(s) is not required for linear work sites (e.g., pipeline Right-of-Way) where the work does not overlap and/or is not adjacent to an existing TC Energy facility (for example, Compressor Station, Meter Station, etc.); however, a description showing that the Prime/General Contractor has considered any possible conflicts/overlaps is still required in this section of the Form. 3. A detailed survey/map is required for all work sites where there are multiple Prime/General Contractors carrying out work adjacent to each other and/or on work sites which are on, or adjacent to, TC Energy Facilities such as Compressor Stations, Meter Stations, etc.	

Conditions to Verify Prime/General Contractor Readiness:			
	YES	NO	TC Energy Representative (Initial)
Safety Management Plan reviewed by TC Energy and Contractor at the work site and a Pre-Job Meeting has taken place	☐	☐	_____
Project/Site-Specific Safety Plan reviewed by TC Energy and Contractor prior to starting the work	☐	☐	_____
Site-Specific Emergency Response Plan, including Primary and Alternate Muster Points, in place and reviewed by TC Energy and Contractor prior to starting the work	☐	☐	_____
Contractor has TC Energy-approved site processes in place to manage safety (*e.g.*, LOTO, Working at Heights, General Work Permit, Excavation, Working Alone, etc.)	☐	☐	_____
Signage has been posted at entrances to the work site indicating who is Prime/General Contractor (company name, primary contact at the site, contact information, etc.)	☐	☐	_____
	NOTE: If "NO" is selected then you are not permitted to proceed		

Agreed by TC Energy:		Agreed by Contractor:	
Name (Printed):		Name (Printed):	
Employer Name:		Employer Name:	

Date (yyyy/mm/dd):		Date (yyyy/mm/dd):	
Signature:		Signature:	

APPENDIX B QUALIFICATIONS FOR SITE SAFETY LEAD AND SPAN OF INFLUENCE

For the purpose of the Work the Prime/General Contractor must have a strategy that addresses legislative and regulatory requirements applicable to span of influence and control. The Prime/General Contractor must provide an adequate number of qualified safety resources to deliver effective safety oversight on the Project and to verify that occupational health and safety aspects associated with the Work are functioning adequately. The Prime/General Contractor must develop a monitoring and oversight strategy that demonstrates how the adequacy and effectiveness of its occupational health and safety program will be maintained throughout the lifecycle of the Project.

The Prime/General Contractor must staff the Project in accordance with the Prime/General Contractor's safety resource qualifications and span of influence/control guidelines and as identified through the Agreement terms and conditions.

Prime/General Contractor key safety resources must be qualified and accepted by the Company prior to assignment to the Project.

Safety resourcing strategy items for consideration:

- Level of field safety presence expected by Company and contractor to monitor/manage a proactive safety culture;
- A dedicated, experienced and qualified Safety Representative for each Work location and scheduled shift (e.g. Back-Shifts, Night Shifts etc.) unless the location allows for a qualified Safety Lead to cover several sites within the day;
- Legislated Span of Influence/Control where applicable and per the Prime/General Contractor's safety resourcing strategy;
- A minimum one (1) qualified designated safety representative to be provided by the Prime/General Contractor's safety resourcing strategy for the first 20 workers where high risk Work is involved and any additional qualified safety resources as deemed necessary and agreed upon by the Prime/General Contractor and the Company;
- Additional qualified safety representatives as deemed necessary and agreed upon by the Prime/General Contractor and the Company;
- Work schedules;
- Number of Work personnel;
- Geographic location(s);
- Length of spread/size of facility;
- Project risks; and,
- Prime/General Contractors safety performance.

Site Safety Lead – Qualifications

Education:

- At a minimum, must hold an Occupational Health and Safety certificate, diploma and/or degree from a recognized educational institution.

Experience/Knowledge:

- Familiarity with applicable federal, state, and/or provincial occupational health and safety legislation, regulations and codes.
- A minimum of 10 years of working experience in the construction of heavy industrial, oil, gas and/or power plant facilities or equivalent training.

- At least 3 years of continuous occupational health and safety experience.
- Knowledge of any potential or actual danger to health or safety at the Work Site.
- Competent in hazard assessments, conducting investigations and use of investigation tools (*e.g.*, Cause/Effect, TapRoot®, etc.).
- Competent in conducting Health and Safety Program Audits.
- Specifically trained in and/or equivalent experience with one or more of the following CSTS, PSTS, STEP, OSHA 40 Hour.
- Certification and appropriate trade tickets/government certifications where required by regulation (*i.e.,* Canadian Registered Safety Professional (CRSP), Certified Industrial Hygienist (CIH), Associated Safety Professional (ASP), Certified Safety Professional (CSP), etc.).

Recognized Qualifications:

- In Canada, a Canadian Registered Safety Professional (CRSP), Registered Occupational Hygienist (ROH) and/or Registered Occupational Hygiene Technologist (ROHT).
- In the US, an Occupational Health and Safety Technologist (OHST), Associate Safety Professional (ASP), and/or Certified Safety Professional (CSP).

In addition to the above, the following competencies are required:

- Hazard Assessment;
- Inspection;
- Incident Investigation;
- Report Writing;
- Root Cause Analysis;
- Incident Trending; and,
- Auditing.

Jurisdictional Requirements:

- In the province of Quebec, a certification issued by the Ministère du Travail, de la Main-d'oeuvre et de la Sécurité de Revenue is required for a Construction Safety Officer.
- In the province of Ontario: The Health and Safety Awareness Training for Workers and Supervisors is required (http://www.labour.gov.on.ca/english/hs/training/).

APPENDIX C CANADA/US GAS & POWER ENERGY SOLUTIONS (PES) SPECIFIC JUSRISDICTIONAL PPE REQUIREMENTS

ADDITIONAL CANADA GAS REQUIREMENTS

SCOPE

This section only applies to personnel performing work at any Canada Gas owned or operated locations where TC Energy is the Controlling Authority. This includes Canada Gas Operations, Canada Gas Projects, Corporate Services owned assets within Canada (i.e., Warehouse) and any support groups (e.g., Environment, Land, Safety and Technical Services) working within those assets.

This section does not apply to Canadian Power and Energy assets, or US Gas.

Section	Additional Requirements for Canada Gas
General Requirements	Hazard assessment tool must be used in Canada are the Job Safety Analysis Form (JSA) Form (CAN) (Item ID CD90001103) and Field Level Hazard Assessment Form (FLHA) CAN (Item ID CD90001110)
General Clothing	No Additional Requirements
Flame-Resistant Clothing – Permissible Clothing	Permissible flame-resistant (FR) clothing must be the following: • FR Coveralls • Bib-style coveralls with FR long sleeve shirt • FR long sleeve • FR jeans • FR lab coats for measurement labs only
Flame-Resistant Clothing – Visible Label	All permissible FR clothing must have a visible label that Arc Thermal Protection Valve (ATPV) requirement of 8 cal/cm^2 and Hazard Risk Category (HRC) 2.
Flame-Resistant Clothing – Personal gas monitors	Personal gas monitors must be worn on the worker's breathing zone in work areas where flame-resistant clothing is required. Employees that have been assigned a Blackline (either G7x or G7c) monitors are required to wear their assigned device for personal gas monitoring and working alone. **Exceptions:** at least one personal gas monitor must be available to a group of visitors, which are in close proximity to each other (e.g., within 10 feet or 3 meters). **Note:** working alone requirements are set forth by the Working Alone Standard (CAN-US-MEX) (Item ID 003743627) and are only met if you are using a personal gas monitor that has dual capability such as the Blackline monitor.
High-Visibility Apparel	Outside the office locations and associated walkways, a minimum of high visibility striping on your upper body is required in all Canada Gas worksites and warehouses. See A-1 High Visibility Requirements for Canada Gas below and Work Aid: High Visibility Guidelines for Canada (Item ID CD90001101) for more details. **Exception:** If there are risks present that require the use of Tyvek coveralls, high-visibility apparel is not required if there is no moving equipment present. If there are moving

	equipment present in the area where Tyvek is required use a site-specific hazard assessment to determine the appropriate controls.
Hard Hats	Hard hats must be Type 2 Class E, which are good for electrical and side impact hazards in all Canada Gas locations and warehouses.
Hand Protection	No Additional Requirements
Foot Protection	Permissible foot protection must include the green CSA triangle • Electric shock resistant soles are marked with a white patch (with an Omega on the boot **Exception:** In instances where personnel are arriving from different countries, such as the United States, to work in Canada, they may comply with the equivalent standards of the green CSA triangle.
Eye & Face Protection	Pancake welding helmets are not permitted.
Hearing Protection	No Additional Requirements
Respirator Protection	No Additional Requirements
Fall Protection	No Additional Requirements
Drowning Protection	For federally regulated assets, life jackets and personal flotation devices must meet Canadian Occupational Health and Safety Regulations (COHSR) Section 12.15.

High-Visibility Requirements for Canada Gas

Additional high visibility may be required as determined by your specific regulatory requirements (e.g., provincial roadway requirements), JSA or FLHA.

High-visibility stripping must, at a minimum, be:

- One vertical stripe on either side of the front of the garment with an X pattern on the back. A waist-level horizontal stripe or band that goes completely around the body at the navel or belly button.
- Stripes of colours that contrast (have a distinct colour difference) with the material beneath the stripping to provide increased visibility.
- At least 50-mm (2-in.) wide.
- Made either from combined performance material (a single strip that is both fluorescent and retro-reflective) or separate performance materials (two strips — one fluorescent and one retro-reflective)

- a colour that contrasts with the surroundings. The front and back of the clothing must also have at least 775 cm^2 (120 sq. in.) of fluorescent trim for daytime use and retroreflective trim for nighttime use.

Note: Personnel designated as signalers or spotters may need to wear distinct apparel, such as gauntlets, to differentiate themselves from other workers on site.

Velcro must not be used in potentially explosive environments because of the risk of static electricity.

ADDITIONAL US GAS JURISDICTIONAL REQUIREMENTS

SCOPE

This section only applies to personnel performing work at any US Gas owned or operated locations where TC Energy is the Controlling Authority. This includes US Gas Operations, US Gas Projects, Corporate Services owned assets (i.e., Warehouse) and any support groups (e.g., Environment, Land, Safety and Technical Services) working within those assets.

This section does not apply to Canada Gas, Canadian Power and Energy assets.

Section	Additional Requirements for US Gas
General Requirements	The designated hazard assessment tool for use within the United States is the Job Safety Analysis (US) (Item ID CD90001019) .
General Clothing	No additional requirements
Flame-Resistant Clothing	Permissible flame-resistant (FR) clothing must be the following and take into account seasonality (Winter/Summer) • FR Coveralls • FR Outerwear (Parka, Hoodie, Jacket, Coat, Zip Up) • Bib-style coveralls • FR long sleeve • FR jeans/pants
Flame-Resistant Clothing – Visible Label	All flame-resistant (FR) labels must be maintained in a legible condition at all times.
Flame-Resistant Clothing – Personal gas monitors	For US Operations Personnel who have been assigned a Blackline gas monitor, it must be worn on the worker's breathing zone in work areas where flame-resistant clothing is required and/or when working alone. **Exceptions:** at least one personal gas monitor must be available to a group of visitors, which are in close proximity to each other (e.g., within 6 feet). **Note:** working alone requirements are set forth by the Working Alone Standard (CAN-US-MEX) (Item ID 003743627) and are only met if you are using a personal gas monitor that has dual capability such as the Blackline monitor or Everbridge Safety Connection is employed should a Blackline monitor not be assigned. For US Projects follow applicable Project permit to work, gas handling and SSP requirements.
High-Visibility Apparel	High visibility apparel is required to be worn as the outermost garment for all construction activities or when working at a location that has active construction in progress and in warehouses where mobile equipment is being used.

	• For work activity on or within 15 feet or 4.5 meters of a roadway, or as determined as part of a JSA or other hazard assessment, high visibility apparel must always be worn. **Note:** In the event local jurisdictional codes are more stringent, follow those codes as directed. • **Note:** Personnel performing the duties designated signaler or spotter may be required to wear an additional gauntlet or some other form of apparel differentiating them from the other workers on the job site. **See Work Aid**: High Visibility Safety Apparel Guide – (US) (Item ID CD90001127)
Hard Hats	No additional requirements
Hand Protection	No additional requirements See Work Aid: "Hand Hazards PPE Guide- (US) (Item ID CD90001126)
Foot Protection	No additional requirements
Eye & Face Protection	No additional requirements
Hearing Protection	No additional requirements
Respirator Protection	No additional requirements
Fall Protection	No additional requirements
Drowning Protection	Flame-resistant (FR) clothing and safety boots are not required during water transit. Drowning Prevention PPE must be worn at all times during water transit. All personnel must wear U.S. Coast Guard-approved Personal Flotation Devices (PFDs) appropriate to the operational environment and activity being performed. PFDs must be selected and used in accordance with their designated Type classification as defined in 46 CFR Part 160 and 33 CFR Part 175: • **Type I (Offshore Life Jacket):** Required for operations in open, rough, or remote waters where rescue may be delayed. These devices provide the highest buoyancy and are designed to turn most unconscious wearers face-up in the water. Due to their bulk they are typically used in severe conditions. • **Type II (Near-Shore Buoyant Vest):** Suitable for calm, inland waters where quick rescue is likely. These provide moderate buoyancy and may turn some unconscious wearers face-up, though not reliably. • **Type III (Flotation Aid):** Intended for calm, inland waters with a high likelihood of quick rescue. These offer the same buoyancy as Type II, but are not designed to turn unconscious wearers face-up. Each PFD must bear a legible U.S. Coast Guard approval label indicating its Type classification (I, II, or III) and must be maintained in good condition, properly fitted to the wearer, and worn at all times when required by operational procedures or hazard assessments

ADDITIONAL POWER ENERGY SOLUTIONS (PES) JURISDICTIONAL REQUIREMENTS

SCOPE

This section only applies to personnel performing work at any Power & Energy Solutions owned or operated locations where TC Energy is the Controlling Authority.

This section does not apply to Canada Gas, US Gas.

Section	Additional Requirements for Power Energy Solutions
General Requirements	Personnel within Power & Energy Solutions shall use a job safety analysis (JSA) and/or field level hazard assessment (FLHA) to ensure the appropriate PPE is selected.
General Clothing	No Additional Requirements
Flame-Resistant Clothing	Permissible flame-resistant (FR) clothing must be the following: • FR Coveralls • Bib-style coveralls with FR long sleeve shirt • FR long sleeve • FR jeans
Flame-Resistant Clothing – Personal gas monitors	Personal gas monitors must be worn on the worker's breathing zone in work areas where flame-resistant clothing is required, and as required by Portable Gas Detection Standard. **Exceptions:** at least one personal gas monitor must be available to a group of visitors, which are in close proximity to each other (e.g., within 10 feet or 3 meters). **Note:** Gas detection requirements at Host facilities will be followed as per Host requirements/expectations.
High-Visibility Apparel	Outside the office locations and associated walkways, a minimum of high visibility stripping on your upper body is required in all P&ES worksites and warehouses. See A-4 High Visibility Requirements for P&ES below and Work Aid: High Visibility Guidelines for Canada (Item ID CD90001101) for more details.
Hard Hats	No Additional Requirements
Hand Protection	Cut 4 resistant gloves, at a minimum, must be worn when completing work at Power & Energy Solutions operating facilities. As a rule, anytime standard PPE (hardhat, safety glasses, high-vis, safety boots) are donned, gloves must be worn.
Foot Protection	No Additional Requirements
Eye & Face Protection	No Additional Requirements
Hearing Protection	No Additional Requirements
Respirator Protection	No Additional Requirements

Fall Protection	No Additional Requirements
Drowning Protection	No Additional Requirements

D-1 HIGH-Visibility RequirEments for Power and Energy Solutions

Additional high visibility may be required as determined by your specific regulatory requirements (e.g., provincial roadway requirements), JSA or FLHA.

High-visibility stripping must, at a minimum, be:

- One vertical stripe on either side of the front of the garment with an X pattern on the back. A waist-level horizontal stripe or band that goes completely around the body at the navel or belly button.
- Stripes of colours that contrast (have a distinct colour difference) with the material beneath the stripping to provide increased visibility.
- At least 50-mm (2-in.) wide.
- Made either from combined performance material (a single strip that is both fluorescent and retro-reflective) or separate performance materials (two strips — one fluorescent and one retro-reflective)

- a colour that contrasts with the surroundings. The front and back of the clothing must also have at least 775 cm2 (120 sq. in.) of fluorescent trim for daytime use and retroreflective trim for nighttime use.

Note: Personnel designated as signalers or spotters may need to wear distinct apparel, such as gauntlets, to differentiate themselves from other workers on site.

Velcro must not be used in potentially explosive environments because of the risk of static electricity.

APPENDIX D SAFETY TRAINING REQUIREMENTS

Tunnels, Shafts, Caissons, and Cofferdams	Motor Vehicle Control – Driver Training
Supervision	Traffic Control
Scaffolds	Signaler
Hazardous Materials (WHMIS / GHS)	Helicopter
Pipeline Repair	Propane
Explosive-actuated Fastening Tool	Formwork
Drowning Protection	Elevating Work Platforms
Chainsaw	Compressed Air
ATV	Forklift Operations
Construction Safety Association Health and Leadership Safety Training	Rigging Safety
Collision Avoidance	Ground Disturbance
Excavation and Trenching	Pipe and Cable Locating
Confined Space Entry and Rescue	H2S Alive or equivalent
Welding and Cutting	Working at Heights
Crane Operations	Hearing Conservation
Industrial Hygiene	Ergonomics
Defensive Driver	Radiation Safety
Scaffolding	Emergency Response
Electrical Safety	Respiratory Protection
Personal Protective Equipment	Lock-out and Tag-out Systems
Standard First Aid and CPR	Substance Abuse Systems
Fire Fighting and Suppression	Transportation of Dangerous Goods
Safe Work Permit or Permitting/Work Authorization	Hazard Identification, Assessment and Control
Hazard Communication	Reporting (hazards, spills, incidents and near hits)
	Working Alone

Note: Training requirements are based on jurisdictional requirements, the Project PHA, Prime/General Contractor policy, and the Work. Accordingly, not all requirements will be required for all Projects or Work.

APPENDIX E PROGRAMS FOR OPERATIONAL CONTROL

9 Life Saving Rules (LSR) and Other Minimum Requirements	Additional Based on Scope-Specific Risk Assessment
Motor Vehicle Operation and Driving (LSR #1)	Mobile Cranes (LSR #8)
Personal Protective Equipment (PPE) (LSR #2)	Cranes and Boom Trucks
Job Safety Analysis (JSA) (LSR #3)	Heavy Mobile Equipment (LSR #8)
Hazard Communication (LSR #3)	Hand and Power Tools
Safe Work Permitting Processes (General Work Permit, Hot Work Permit, Confined Space, etc.) (LSR #4)	Overhead Powerlines
Confined Space (LSR #5)	Sanitation
Control of Hazardous Energy (LOTO) (LSR #6)	Blood-borne Pathogens
Working at Height (LSR #7)	Machine Guarding
Lifting, Hoisting, Winching and Towing (LSR #8)	Welding, Cutting and Brazing
Excavations, Trenching, Shafts, Underground Works and Ground Disturbance (LSR #9)	Handling and Storage of Compressed Gas Cylinders
Occupational Noise & Hearing Conservation	Foreign Line Crossings (LSR #9)
Housekeeping	Explosives and Blasting
Use and/or Storage of Flammable and Combustible Materials	Heat and Cold Stress
Manual Material Handling and Lifting (LSR #8)	Demolition
Hazardous Materials Exposure (Asbestos, NORMs, Pb, Hg, PCB)	Diving
Transportation of Dangerous Goods	Working Near or Above Water
Traffic Control and Site/Journey Management (LSR #1)	Radiation Safety
Drugs and Alcohol/Fit for Duty	Camps
Fitness to Work	Electricity
Workplace Hazardous Materials Information System (WHMIS)/Global Harmonization System (GHS)	
Ergonomics	
Warning Signs, Tag and Barriers	
Security	
Work Platforms, Scaffolds and Ladders	

APPENDIX F OUTLINE OF TC ENERGY'S INCIDENT MANAGEMENT PROCESS

TC Energy's Incident Management Process includes response, notification, investigation, documentation, and follow-up procedures for all incidents. Incidents are categorized and responded to in accordance with the Safety Incident Response Table on the following page.

All incidents related to Work Site personnel must be reported immediately and a documented preliminary report must be submitted to TC Energy's Company Representative within 24 hours of occurrence. In cases of serious, major, critical, and high potential incidents, or near hits with the potential to have been critical or major as well as imminent danger situations, Prime/General Contractors must verbally notify the TC Energy Company Representative immediately of the incident. Where instructed, the Prime/General Contractor will submit a formal written incident investigation report to TC Energy within 30 days or such other period stipulated by TC Energy. The Prime/General Contractor is responsible for reporting the incident to the applicable regulatory authority for health and safety in accordance with applicable provincial or federal law. In addition, the Prime/General Contractor must cooperate and provide all requested information to assist TC Energy's parallel investigation of any incident. If the investigation report is to be posted to an EHSM record by TC Energy Company Representatives, the report must be redacted of all personal and confidential information in accordance with TC Energy's privacy office and protection of personal information policy.

The Prime/General Contractor's Site Safety Lead or Safety Representative must have access to all reports maintained at the Work Site. The Prime/General Contractor is required to investigate and report the incident to any applicable regulatory agencies in accordance with regulatory requirements. The Prime/General Contractor will regularly update TC Energy's Company Representative on the status of follow-up actions associated with addressing the root causes identified in an incident investigation report.

An incident investigation report must contain, at a minimum, the following information:

- Date, time and place of the incident;
- Investigation team;
- Incident description including:
  - Role(s) of worker(s) and extent of injuries;
  - Name of hospital and/or doctor where injured worker was treated and a classification of the incident;
  - A description of any policies, programs, procedures, practices and/or legislation/regulation contravened, if applicable;
  - Circumstances and sequence of events surrounding the incident; and,
  - Any other pertinent observations.
- Incident Classification, including actual and potential severity, in accordance with TC Energy's *Incident, Quality, and Compliance Classification Guide*;
- Identification of any causal factors and root cause(s); and,
- Recommendations for corrective action(s) and corresponding Corrective Action Plan.

NOTE: The purpose of incident investigation is to determine Causal Factors, Root Cause(s), Corrective Measures, and developing a Corrective Action Plan which includes the implementation of corrective measures with accountable parties and associated timelines for implementation.

CANADA ONLY - Timely Reporting to Canadian Regulatory Compliance (CRC) Within 2 Hours
In order to meet regulatory timely reporting requirements and comply with Government regulations, an emergency or significant event is reportable immediately but no later than 2 hours after the event occurred to TC Energy's Canadian Regulatory Compliance (CRC) 24/7/365 hotline at **403-920-7733**.
In the event of any of the following occurrences, call **CRC IMMEDIATELY at 403-920-7733**:

- Death
- Suspected or actual serious injury
  - Suspected or actual fracture of a major bone (skull, mandible, spine, scapula, pelvis, femur, humerus, fibula, tibia, radius or ulna) (see note below)
  - Loss of a body part, including amputation or potential or actual loss of function of a body part
  - Loss of sight in one or both eyes
  - Suspected Internal hemorrhage
  - Third degree burns
  - Unconsciousness for any period of time

Note: A suspected or actual work-related injury or death does not necessarily mean being at a work site during a work shift e.g. a work-related injury resulting in a fatality may not always present itself during the work shift. Similarly, a suspected or actual fracture may present itself after a work shift has been completed.

- Unintended or uncontrolled releases:
  - **a liquid hydrocarbon release > 1.5 m^3** that leaves company property or occurs on or off the right-of-way
  - a sweet natural gas or HVP release >30,000 m^3
  - **a rupture** (an instantaneous release that immediately impacts the operation of a pipeline segment such that the pressure of the segment cannot be maintained)
  - **a toxic plume** (a band of service fluid or other contaminant resulting from an incident that causes people to take protective measures (e.g., muster, shelter-in-place, evacuation))
  - a release of sour natural gas or hydrogen sulfide

- Potential or significant adverse effect on the environment
  - Release of a substance (chemical or physical) at a concentration or volume sufficient to cause or potentially cause:
    - an irreversible; or
    - long-term; or
    - continuous change

    to the environment in a manner that causes harm or potential harm to human life, wildlife or vegetation.
  - Examples of locations include:
    - **watercourse or wetland** (*e.g.*, frac-outs of any volume into a watercourse during HDD); or
    - **pathway** to ground or surface water that is used for drinking, irrigation or by livestock; or

- **designated national/provincial** area (*e.g.*, National Park, Provincial Park, wildlife refuge); or
- critical habitat.

TC Energy's CRC team must contact the Canada Energy Regulator (CER) or the provincial regulatory body (when applicable) immediately, but no later than 3 hours after an event involving any of the above. This applies to events that occurred on a Project, regardless of size, as well as on any of TC Energy's operational assets (pipelines and associated facilities). The requirement to contact **(403) 920-7733** immediately but no later than 2 hours after an event is necessary to give CRC time to determine reportability to a regulator.

It is recognized that TC Energy may not always have all the facts immediately after such an event; however, CRC must report such an event to the CER/provincial regulator as a "precautionary" within 3 hours (or less) of event occurrence to ensure compliance. If, at a later point in time, further facts demonstrate that the event was not reportable to the regulator, CRC will request a retraction. However, if further facts demonstrate the event to be reportable, CRC will then use that information to finalize a report about the event for submission to the regulator.

If any of the following has occurred, please contact **CRC IMMEDIATELY at 403-920-7733**:

- **Events which attract media or social media coverage, or was identified by a member of the public** (*e.g.*, unplanned blowdown in a populated area where a member of the public has called TC Energy); or
- **US Operations impacting Canadian Operations** where an unplanned shutdown on US facilities due to an integrity issue resulted in a shutdown of Canada facilities.
- **Someone from a Federal or Provincial regulatory authority has contacted you.** To maintain one window contact, do not provide responses but please do the following:
  - Request contact information (name, job title, phone number, email address)
  - Record their questions and time of call
  - Advise the caller that someone from TC Energy will contact them with responses
  - Call **CRC immediately at 403-920-7733** and provide the above details

Safety Incident Response Table

	Loss Criteria						
Category	Public Consequence	Consequence in Terms of Worker Safety	Environmental Consequences	Consequences in Terms of Production Losses	Consequences in Terms of Property Damage	Incident Outcome	Near Hit Outcome
Critical	Life threatening injuries, illnesses or death	Life threatening injuries, illnesses or death	Adverse effects that requires emergency response, mitigation costs exceeding $500,000	More than six months	Damage exceeding $500,000	Construction Shut Down Crew Shut Down	Crew Shut Down Crew time Out
Major	Medical treatment injury with hospitalization or health effects	Medical treatment injury with hospitalization or health effects	Adverse effects, mitigation costs of $25,000 - $500,000	Between one and six months	Damage costing $100,000 - $500,000	Crew Shut Down Crew Time Out	Crew Time Out Tailgate
Serious	Medical treatment injury or verified exposure to hazardous chemicals effects	Medical treatment injury or verified exposure to hazardous chemicals effects	Mitigation costs of $5,000 - $25,000	Between one week and one month	Damage costing $25,000 - $100,000	Tailgate Tailgate	Trend Trend
Minor	First aid injury or no health effects	First aid injury or no health effects	Mitigation costs of less than $5,000	Less than one week	Damage costing less than $25,000	Trend Trend	Trend Trend

Notes:

Trend:	Daily reporting and analysis of all incidents and near hit construction items by Prime/General Contractor.
Tailgate:	Affected crew holds tailgate meeting next day prior to construction start-up to discuss/prevent incident or near hit.
Crew Time-Out:	Affected crew holds tailgate immediately following incident or near hit.
Crew Shut-Down:	Affected crew must shut down immediately following incident or near hit. Work resumes at Prime/General Contractor's discretion.
Construction Shut-Down:	All crews must shut down operations immediately following incident. Work resumes at Prime/General Contractor's and TC discretion.
Progressive Disciplinary Process	1. Issue discussed with party responsible; 2. Written warning of repeat violation; 3. Suspension without Pay 4. Dismissal.

APPENDIX G SAFETY STAND DOWN GUIDANCE

Scope of Stand Down	Considerations for Stand Down	TC Energy personnel to be notified	Contractor personnel to be notified	Communication	Considerations for Start-up
Multiple Spreads / Sites	• Critical event that impacts the entire job / multiple spreads / sites. • Systemic issue that impacts multiple spreads / sites.	Vice President / Sr. VP / Executive VP	Vice President / President	• If > 1 d, Executive must be notified and should be on site • Communication to full Work Site; consideration for how to coordinate to minimize impacts via travel, traffic, etc.	• Action plan in place and being implemented. • Any actions that have been identified as being required prior to start-up must be completed and documented. • Work resumes at Prime/General Contractor's and TC discretion.
Full Spread / Site	• Critical event that impacts a full spread / site • Systemic issue that impacts the full spread / site.	Vice President	Vice President	• If > 1 d, Executive must be notified and should be on site • Communication to full Work Site; consideration for how to coordinate to minimize impacts via travel, traffic, etc.	• Action plan in place and being implemented. • Any actions that have been identified as being required prior to start-up must be completed and documented. • Work resumes at Prime/General Contractor's and TC discretion.

Multiple Work Fronts	• Critical event that impacts multiple work fronts. • Systemic issue that impacts multiple work fronts.	Director	Director	• At minimum, a conference call between Prime/General Contractor and TC Energy (at various levels) must take place	• Action plan in place and being implemented. • Any actions that have been identified as being required prior to start-up must be completed and documented. • Work resumes at Prime/General Contractor's and TC discretion.
Single Work Front (e.g., welding; lowering-in; tie-ins)	• Critical event that impacts multiple work fronts. • Systemic issue that impacts multiple work fronts.	Construction Manager	Superintendent	• Meeting between site management should be held; • Tailgate meeting with crew must be held.	• Action plan in place and being implemented. • Any actions that have been identified as being required prior to start-up must be completed and documented. • Work resumes at Prime/General Contractor's discretion.
Any work activity	• Right, responsibility and obligation to refuse and report work they consider imminently dangerous to the environment, property, personnel or the general public; • Right to know what the workplace health and safety hazards are, appropriate precautions to take, and	All Personnel	All Personnel	• Straw boss/foreman, superintendent and construction manager must be informed.	• Review of issue to ensure all hazards and concerns have been addressed • Another JSA is required that addresses the concern / hazard • All actions deemed necessary to ensure the work is safe

	procedures to follow in the event of an incident; • Right to participate in the Work Site health and safety program; and, • Right to protection from retaliation for exercising their rights.	• Work resumes at Prime/General Contractor's discretion.

The arrow indicates the flow of information/communication; the communication must happen immediately or as soon as possible at the level of the decision and at least one level above (*i.e.*, an employee stopping work must immediately communicate to his/her supervisor; the Construction Manager, or designate, must communicate to the Director level). Occupational health and safety legislation provides that all personnel have the right, responsibility, and obligation to stop work they consider to be imminently dangerous to the environment, property, personnel or the general public.