Standard

Project Safety Management

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Version Number	Version/Approval Date <yyyy-mm-dd>	Approved By	Summary of Changes
1.0	2022-01-25	Andy Reimer	New document
1.1	2023-09-28	Andy Reimer	-Appendix B added to reflect adaptation of PSMS to Program work processes beginning in 2022. -Section 9.23 revised to apply use of tongs for pipe handling during horizontal directional drilling to all projects (not just GTM US) -Section 9.29 added which specifies ATV/UTV use
1.2	2023-11-30	Andy Reimer	Added Section 9.30 - Suspension of Outdoor Work Activities During Lightning
1.3	2024-09-25	Julia McElroy	Replace 'incident' with 'event' Remove FDC reference and replaced w/ Enforms Updated Originator and Approver name
2.0	2025-10-29	Julia McElroy	Added Section 9.14 Critical/Serious Lifts Removed all Ground Disturbance content/section
3.0	2026-01-16	Julia McElroy	Created as US-specific Version -Section 2 Scope: Added authority for company to require extra controls based on performance/challenges. - Section 7.2 Health and Safety Project Resources: added the requirement for process to ensure competency and retention of training and orientation including OQs -Section 9.5 – Job Hazard Assessment – changed from Job Hazard Analysis to align to Hazard Management Standard -Section 9.6 – Safe Work Permit – removed reference to Work Authorization Section 9.7 – Field Level Hazard Assessment: Added Energy Wheel reference and hazard recognition definitions (High Energy Hazard, Icons, Direct Control). -Section 9.10 - Personal Gas Monitor Use: Added requirement for continuous air monitoring in hazardous atmospheres. -New Section 9.11 - Grinding/Welding/Cutting: Added PPE (dual eye protection, long sleeves), grinder guard rule, Fire Watch near hazards, fire extinguisher requirements -Section 9.13 - Motorized & Heavy Equipment: Expanded section; added seatbelt use, backup alarms, CO monitors, no cell phones, JHA for towing/winching, and fire extinguisher requirements -Section 9.16 - Overhead Utilities: Added 3-control requirement (Signage, Barriers, Spotter, Alarms, Utility Controls) designated Spotter; diagrams updated. -New Section 9.17 – Bonding & Grounding: Added grounding requirements, induced voltage checks, and 15V safe limit. -Section 9.19 - Parking Safety: Added best practice: park for forward motion; use spotter where injury/property damage risk exists. -New Section 9.20– Personal Protective Equipment: Replaced Company Hand Protection Specification. Broadened PPE: safety glasses, hard hats, safety footwear, hazard-based hand protection, high-visibility clothing.

			-New Section 9.21- Flame Resistant Clothing: Added FRC requirements for hazardous areas; specified approved standards; listed tasks requiring FR protection. -Section 9.24 - Hoisting & Rigging: Broadened section; added hooks with safety latches and proper tag line use. -New Section 9.34 - Lockout Tagout: Added contractor LOTO requirements: OSHA compliance, permit process, lock application/removal, PIC role. -Section 9.29- UTV Requirements: Added helmets, proper ramps, visibility flag, operator training. -Section 10.5 – Medical Management of Personal Injury Program: added contractors are required to incorporate a Medical Management of Personal Injury Program -Section 12.5- Health and Safety Leadership Training – Added that Contractors to verify that subcontractors have completed H&S Leadership Training -Section 13.3 – Safety Stand Down changed to Scheduled and Ad-Hoc Safety Discussions - Section 15.2 Emergency Equipment: Added legislative requirements around AEDs required in First Aid Room. Consideration for extra AEDs if EMS >20 mins or safety plan requires

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1. Purpose

The Projects Safety Management Standards have been created to set out the processes and requirements mandated by Projects Safety for:

- Enbridge employees and contracted representatives participating in the planning and execution of an Enbridge Project.
- Companies contracted by Enbridge to execute work on an Enbridge Project.

This Standard outlines the Projects-specific processes and requirements that must be applied in addition to any procedures or controls mandated by the applicable Business Unit specific manuals or standards applicable to Contractors. This includes, but is not limited to:

- LP Contractor Safety Specifications (applicable to Liquids Pipelines Business Unit in the US and Canada)
- Gas, Transmission, and Midstream (GTM) Construction Safety Manual (applicable to Projects for the GTM Business Unit in Canada)
- GTM Contractor Safety Specifications (applicable to Projects for the GTM Business Unit in the US)
- GDS Safety Manual; Union Gas Environment, Health and Safety (EHS) Manual: and/or Enbridge Gas EHS Manual (applicable to Projects for the Gas, Distribution, and Storage Business Unit)

Additional HS controls may also be mandated to meet unique project elements on a project-by-project basis, and these will be communicated by the Company to its Contractors via:

- The Project Hazard Assessment and Control process

Key safety or risk management activities and processes mandated by the Projects Safety Management Standard for execution by the Company are integrated into and governed by the application of the Project Lifecycle Gating Control (PLGC) process.

2. Scope

The Projects Safety Management Standard sets out those practices and requirements that are unique to the function of safety within the Enbridge Projects service organization. As such it:

- seeks to ensure the minimum requirements set out by the Enbridge specific safety standards or manuals are met or exceeded by the Projects Contractors' safety management programs;
- clarifies how Enbridge business unit requirements and Projects specific requirements are managed and measured; and
- does not replicate any requirements or controls already stipulated within BU specific documents.

NOTE: There may be an exception to this rule on occasions where Projects Safety has elevated a BU-specific requirement and applied it to all projects (and it does not appear as such in another BUs' requirements)

The Projects Safety Management Standard is designed to set out the dominant model for Company Health and Safety oversight in a Projects context. Note that in certain contexts, especially where OHS regulations allow for a greater transfer of site responsibility and accountability to the contractor, deviations in Company safety oversight practices and Contractor responsibilities from those outlined in this document are possible. For example, a Contractor may be designated as "Prime Contractor" under Alberta OHS Regulations or the "constructor/owner" distinction under the Ontario Health and Safety Act

may be applied with resultant changes in safety oversight. If the Projects Safety Management Standard is still utilized and/or referenced in these contexts, significant deviations from the practices set out in this document should be noted in the Project Hazard Assessment and Control, the Project Safety Management Plan documentation, and applicable contractual documents. Company reserves the right to require Contractor to apply additional controls and mitigations based on historical performance or current challenges.

3. Terms and Definitions

3.1. Terms

Term	Definition
BU	Business Unit
Company	Enbridge, Inc. and Enbridge (U.S.) Inc., hereinafter will be referred to as “Company”.
CAPA	Corrective and Preventive Actions
CEO	Contractor Event Owner
CMP	Cargo Management Plan
EASL	Enbridge Approved Supplier List
EGD	Enbridge Gas Distribution
EMT	Emergency Management Team
ERP	Emergency Response Plan
FLHA	Field Level Hazard Assessment
H&S	Health and Safety
HECA	High Energy Control Assessment
HSMS	Health and Safety Management System
JHA	Job Hazard Assessment
LOTO	Lockout Tagout
NAICS	North American Industry Classification System
PHAC	Project Hazard Assessment and Control
PLGC	Project Lifecycle Gating Control
PMT	Project Management Team (includes all Company personnel functioning under the Project Manager and as such includes Construction Management once engaged)
PSMS	Project Safety Management Standard (this document)
PSSP	Project Specific Safety Plan
OQ	Operator Qualification
RAMP	Risk Activities Management Plan
RFP	Request For Proposal
ROW	Right of Way
S&R	Safety and Reliability
SIC	Standard Industrial Classification
SDS	Safety Data Sheet
TDG	Transportation of Dangerous Goods

4. Roles and Responsibilities

The Enbridge Projects organization relies heavily on third party contractor services at multiple stages in the Project Lifecycle. In particular, the construction, commissioning and start-up activities of Stage 4

require heavy reliance on third party contractors and in many cases their subcontractors. Enbridge Projects' approach to safety management is premised on the belief that Enbridge Projects and its contractors have complementary roles to play within the Project Lifecycle. In general terms, on any given project:

Unless otherwise agreed to within a contract, Contractors working on Enbridge Projects execute their activities under the contractor's safety management system/safety program. Through its ongoing engagement with its contractors throughout the Project Lifecycle, Enbridge Projects Safety Management seeks to ensure that the execution of the Contractors' safety programs will meet or exceed Enbridge Safety Requirements.

Roles / Titles	Responsibilities
Enbridge Projects Team	Provide its contractors with its safety requirements in the form of applicable B/U Manual/ Safety Specifications, this document, and any other relevant safety program documents. Work to anticipate the hazards and controls required for a specific project. Communicate these to the contractors who will work on the project. Reviews and accepts the Contractor's safety program and project plans prior to mobilization. Provide an appropriate level of oversight and assurance to ensure the Contractor is executing their safety program and project plan and meeting agreed upon control requirements.
Contractor	Have a safety management system and/or safety program, and a project specific safety plan capable of addressing the project's hazards and risks and execute the required controls. Actively identify and control hazards and risks pertaining to their specific activities as specified by their safety management system/safety program and project specific safety plan. Execute as per the direction of their safety management system/safety program and their project specific safety plan so that Enbridge safety requirements are met or exceeded.

5. Project Safety Management Overview

As a service organization within Enbridge, Projects executes its work on behalf of other Enbridge business units. These business units have an Integrated Management System (IMS) that establish Safety Programs applicable to that unit. When executing projects for a given business unit, Project Management seeks to ensure that any project activities will meet or exceed the safety requirements set out by the respective Safety Programs.

The Projects Lifecycle Gating Control (PLGC) process is the structure by which Project Management manages all projects. As such, execution of business unit specific Safety Program requirements is conducted within that management structure.

The Project Safety Management Standard provides a standardized approach that Project Management will follow to ensure Projects' worksite safety and sets out specific requirements to ensure individual projects executed for a business unit achieve equivalency to that unit's Safety Program requirements within the PLGC management model.

As such, the PSMS, in conjunction with the contract document(s) and any applicable business unit specifications, establishes the requirements for key safety program elements and roles and responsibilities within those elements. This would include traditional health and safety management system elements such as:

- Management Commitment and Administration.

- Contractor Safety Management.
- Hazard Identification, Assessment and Control.
- Event Reporting and Analysis.
- Inspections and Audits.
- Health and Safety Recognition.
- Health and Safety Training and Awareness.
- Health and Safety Performance Monitoring.
- Emergency Preparedness and Response.

6. Documentation, Policy, and Legislation

6.1. Documentation

The Project team will create an HS Document Control Strategy that will guide all project-specific documentation processes. This strategy will identify safety documents provided to the contractor during the contractual RFP stage, required safety documents to be submitted by the Contractor to Enbridge and the Enbridge project safety records required to be archived and submitted to Enbridge Document Control during the project closeout.

6.2. Policy

Work conducted by or under the direction of Enbridge Projects Management will adhere to the guidance set out by Enbridge's Safety and Reliability Policy. This is publicly available online: https://www.enbridge.com/about-us/safety/safety-and-reliability-policy

6.3. Legislation

All Enbridge personnel and third-party Enbridge representatives working on Enbridge sites must comply with applicable local, state, provincial, and federal laws and regulations.

The Contractor is responsible to ensure that all work is completed in accordance with applicable local, state, provincial, and federal laws and regulations.

7. Management and Administration

7.1. Visibility

The Enbridge Project Management Team is committed to providing safety leadership through the regular, visible presence of project managers and/or senior leaders at project sites.

Enbridge expects the Contractor(s) Management Team to exhibit similar practices on its projects to reinforce safety messages and drive a positive safety culture through Safety Leadership.

Safety leadership starts with senior management and should be of concern to all levels of people leaders during project planning and execution phases. The following represents the types of activities that demonstrate visible safety leadership. There is an expectation that the Enbridge Project Management Team and its representatives within projects will engage in these as applicable:

- Promote and participate (as applicable) in the hazard identification and risk management activities in the planning stage of the project

- Engage in site field tours that include asking questions about project or personal safety concerns, identifying and communicating positive observations and address opportunities to improve project or personal safety.
- Participate in and/or lead safety communication efforts or targeted safety campaigns.
- Engage counterparts on the Contractor team to address safety concerns, align on safety messaging and strategy, and encourage or collaborate as appropriate on safety improvements.
- Provide an immediate and visible Event response by following the appropriate emergency response plan(s) in the event of a site emergency.
- Perform their assigned roles within event management as per the Projects Event Analysis Standard.
- Regularly review events and event analysis learnings with their teams
- Recognize excellent health and safety performance

Both Contractor and Company project management teams shall be represented and participate in regularly scheduled meetings in which project safety performance and concerns and events are discussed and addressed.

7.2. Health and Safety Project Resources

Company and Contractor Management are accountable for providing the necessary resources to ensure the health and safety of their respective personnel and, to that end, the efficient functioning of their respective safety systems and programs. This includes, but is not limited to, providing resources to ensure:

- Their workforce consists of sufficiently qualified personnel that meet the requirements of the scope of work.
- Applicable general and specialized training and orientations are delivered as required.
- A process for assuring competency and retention of training and orientations (including OQs for contractors performing Covered Tasks)
- Adequate time is provided for safety functions such as pre-job hazard management activities (JHAs, Safe Work Permits, FLHAs) and safety related meetings (see further section 13).
- Necessary controls for hazards are acquired, provided and implemented in a timely fashion.
- Additional subject matter expertise is brought to bear when dealing with hazards or risks outside the knowledge and experience of Contractor personnel.

7.3. General Site Roles and Responsibilities

The Company Project Team and the Contractor(s) will develop and maintain an accurate description of the associated roles and responsibilities for all key individuals with safety accountability and/or oversight.

The Contractor shall assign a supervisor for an active worksite and no work shall be performed without a designated supervisor onsite.

The Contractor must ensure they have a supervisor onsite whenever one of their subcontractors is performing work on the Company worksite. Any exception to this practice must be approved by the Company on a case-by-case basis.

All personnel working on a construction project will receive a site-specific orientation that as a minimum will set out health and safety requirements, expectations, including accountabilities focused on any site-specific hazards and controls. Orientation requirements are further outlined in Section 12.1. Every

individual is responsible to ensure their own safety, to conduct their work in a safe manner, and to look out for their fellow workers' safety.

All site workers carry the obligation to stop work in the event they recognize hazards or issues arising that make the work unsafe or place anyone in imminent danger. The immediate course of action for front line workers should be to contact a supervisor.

The Contractor must assign roles and responsibilities for their stop and restart work authority processes. In the event of an escalation of a work stoppage due to hazards arising, the Contractor shall clearly identify the individual who may speak on behalf of the Contractor to resolve the issue. The right and responsibility to stop work should be clearly communicated to all site workers. The process to manage work stoppages due to safety issues and restart work authority processes should be posted and understood by Company and Contractor site management and supervisors.

See further Appendix: Stop Work, Imminent Hazard, and Right to Refuse Unsafe Work Process.

7.4. Visitor Access to Project Work Site

The Contractor shall provide the Company notification of their intent to bring visitors on site. Unauthorized persons will not be allowed on Company property. All visitors shall report to the person in charge of the site prior to accessing any Company station, terminal, or pipeline construction or maintenance site.

With the exception of Company workers or guests, the Contractor shall provide visitors all the necessary control and guidance to ensure their protection, including minimum emergency response measures and, as applicable, provide appropriate personal protective equipment for their use. Visitors to any site will be for work specific purposes only and be visibly identified as visitors when in work areas.

8. Contractor Safety Management

8.1. Contractor Safety Management Responsibility

As the employer of record, Contractors are responsible to manage their worksites to ensure the health and safety of their workers and execute their organization's safety systems and programs to that end. For the purposes of this document, the following definitions are intended to provide clarity regarding the safety role of various types of Contractors involved on the Projects:

- Contractor: The employer designated as having the overall responsibility for the project, work site and workplace safety and security, including Contractor and Subcontractors' activities.
- Subcontractor: An employer under the direction and control of the Contractor.

As a project requirement, the Contractor must ensure that any subcontractor they hire meets the pre-qualification safety requirements as defined in their 'Subcontractor Qualification Program.' Once awarded a contract, the Subcontractor/Contractor must comply with the Contractor's safety and security requirements as specified in their Project Specific Safety Plan.

Contractors shall retain control of their workforce and the work site. Enbridge and its authorized representatives shall always have access to the worksite for the purpose of inspecting the ongoing work and worksite for verification of compliance with the terms of the contract.

As such, Enbridge and its representatives shall not monitor work activities in a "controlling or directing" function with respect to health or safety requirements at the worksite. Enbridge representatives have the authority to stop or suspend work activities if the representative observes or reasonably believes work activities are placing personnel, facilities, or the environment in harm's way or in the event of a breach of contract.

8.2. Contractor and Subcontractor Prequalification / Management

Contractor selection is managed by Project Management and Enbridge Supply Chain Management (SCM). When selecting a Contractor through a Request for Proposal (RFP) process or hiring a Contractor based on an existing Master Service Agreement (MSA) or Master Construction Agreement (MCA), prospective Contractors must be subject to a Contractor Performance Pre-Evaluation.

The Contractor Performance Pre-Evaluation provides a record of a Contractor's past safety performance, enabling Project Management and SCM to use safety performance as a vetting or selection criterion prior to contracting.

The Supplier/Contractor Safety Evaluation and Variance/Exclusion Form Procedure sets out minimum scoring criteria and the resulting actions when scores indicate the potential for poor safety performance or fall below minimum established thresholds by the applicable Enbridge BU.

8.3. Enbridge Project Requirements

8.3.1. Contractor Requirements

The Contractor must be registered with "ISNetworld" and participate in the review and verification process. The Contractor is required to accurately identify all relevant work types within ISNetworld and provide verification through ISNetworld of the applicable work type review and acceptance.

Contractors shall make available copies of their Health and Safety Program / Manual to Enbridge.

Contractors are required to maintain approved status within ISNetworld while performing Work activities for Enbridge. Any changes in status need to be reported to Enbridge immediately. Contractor shall submit a completed "Subcontractor Safety Checklist" to the Company project team for review and acceptance for each proposed Subcontractor prior to subcontracting, assigning, or subletting any portion of the Work.

8.3.1.1. Subcontractor Pre-qualification / Management

The Contractor is required to evaluate whether a Subcontractor can satisfy:

- The Contractor's H&S Program requirements; and
- Enbridge minimum criteria as set out in the Subcontractor Safety Checklist

Contractor shall submit a completed "Subcontractor Safety Checklist" to the Company project team for review and acceptance for each proposed Subcontractor prior to subcontracting, assigning, or subletting any portion of the Work.

Contractors shall be prepared to demonstrate their process and justify selections based on their established criteria and/or submit their Subcontractor's safety programs upon request from Company.

Company reserves the right at its sole discretion to reject the Contractor's selection of any Subcontractor. An explanation of the Company's justification will be provided in writing to the Contractor at the Contractor's request.

Enbridge strongly encourages including subcontractor management, SMEs, and supervisors as applicable in site visits that may be a part of the contracting / planning process as well as pre-mobilization meetings. Subcontractors shall be informed of the relevant site hazards and controls that may impact their work as well as participate in pre-

job hazard assessment processes, especially where they are bringing specialized skills and equipment to the work at hand.

8.3.1.2. Contractor Project Specific Safety Plan

The Project Specific Safety Plan (PSSP) is a document produced by the Contractor that sets out the Contractor's intentions for managing the safety hazards and control requirements of a project they have been awarded. There is scope for some variety in the contents and approach of a PSSP. However, typically the following topics will be addressed (even if simply to reference another document that contains the necessary information):

- Safety philosophy or core commitments (e.g., Contractor's formal Safety Policy, Safety Principles, Values, etc.)
- Project description / Scope of Work
- Key Contacts / Emergency Contacts
- Safety Responsibilities/Accountabilities
- Safety Resources
- Identification of known Project Hazards and required Controls (for the specific scope of work and based on regulation, Contractor's safety program and/or Company safety requirements)
- High Energy Control Assessment (HECA) Program
- Ongoing Hazard Identification and Control Process
- Jobsite Inspections
- Safety Communication and Engagement
- Subcontractor Management
- Qualification/Training/Competency
- Emergency Management and Response Plan
- Event Reporting and Event Analysis
- Key Safety Performance Metrics

Additional topics may be addressed as applicable for the Contractor's safety program, the Contractor's safety program, unique circumstances, or by special request from the Company Projects Team.

The following considerations should be applied when creating a Project Specific Safety Plan:

- The PSSP is not a repeat of a Contractor's Safety Program documentation – it should show evidence that there has been thought as to how the Contractor's program and requirements will apply to the unique demands of the specific project.
- The PSSP may reference other documents (for example a Contractor's SOPs, Safety Manual, Safety Program documents, etc.). Any referenced documents must be included with the submission.
- The PSSP should show evidence of the Contractor having worked through the Hazard Assessment process including hazards and controls identified by the Company as well as an understanding of hazards and associated controls generated by the tasks they specialize in.
- The PSSP needs to be realistic and achievable as this document will be taken as the Contractor's commitment to how their work and related safety program will be executed and their execution activities measured against this commitment.

- The Contractor may engage the Company Projects Team if they have questions pertaining to the PSSP.

Once submitted by the Contractor, the PSSP is:

- Reviewed by the Company Projects Team with subject matter expertise input from Company Projects Safety.
    - The Company Projects Team may request clarifications, revisions, or additions by the Contractor.
- Accepted by the Company Projects Team.
    - This final accepted version must be maintained on record (even if later revised)
- Revised if the information in the plan becomes:
    - Out of date, new hazards arise, new control requirements are implemented, or any other significant change in safety strategy or safety management.

NOTE: Revisions are subject to consultation between the Company Projects Team and the Contractor.

- Always available for consultation on the Project worksite(s).
- Strict version control should be applied, and the Project record and Project worksites should always maintain a copy of the most recent version.

8.4. Contractor Supervisor and Safety Representatives

Each Contractor performing work must each have a designated Contractor Supervisor Representative present and a designated Contractor Safety Representative at all times while engaged in work on Site unless otherwise specified by Company in writing via a Transmittal or Notice.

The levels of safety representation required by Contractors and Subcontractors when not expressly stated in the Project bid, contracting documents, or other documented project agreement are as follows:

- Level 1 (15 people or less on worksite, single individual is both supervisor and safety representative):
    - In the USA, a combined Supervisor and Worker/Safety Representative is required to have the OSHA 510/30 hour (current within the last five years) or approved equivalent training.
    - In Canada, a combined Supervisor and Worker/Safety Representative is required to have, at a minimum, industry recognized safety leadership training or approved equivalent training on projects (current within the last five years of the start date of their scope of work)
- Level 2 (16 people or more on worksite):
- A minimum of one full-time Safety Representative with NO OTHER field construction duties is required for any project with 16 or more people on worksite (or equivalent).
- Contractor Safety Representative(s) shall have the experience and/or qualifications through education, training, or certifications to fulfill this role on the project.
- The Contractor’s Safety Representative’s resume of qualifications and experience shall be submitted prior to work for approval by the respective Company Safety Lead / Coordinator. As applicable, accredited training and certification program requirements may be applied.
- Additional Contractor Safety Representatives shall be required when the workforce exceeds 51 personnel and at every interval of 50 after that.

- Additional safety personnel may be required as specified in bid or contracting documents.
- Company reserves the right, at its sole discretion, to change the number of required Contractor Safety Representatives assigned to the Work and accept or reject the suitability of any Contractor Safety Representative. When making a change or rejecting a Contractor Safety Representative, Company will provide the Contractor with written justification of that decision.
- Contractor shall give Company Notice of any Change in dedicated safety professionals.
- The Project Safety Lead / Coordinator is responsible for the review and acceptance/rejection of contractor safety representatives.

8.5. Pre-Bid Meeting

An RFP (pre-bid) meeting should be held with all proposed Contractors (MSA/MCA Contractors may not require this section). The meeting should be held on site whenever practical. The following should be in attendance:

- Contractor Management
- Contractor Supervision/Foreman
- Contractor Safety Representative
- Company Project Manager
- Company Construction Manager
- Company Safety Lead / Coordinator

Where applicable, subcontractors conducting specialized work and/or bringing specialized expertise to the scope of work should be included in such site visits. Site hazards and safety considerations should be addressed as a component of this meeting.

8.6. Pre-Job / Kick Off Meeting

A pre-job meeting shall be held prior to work commencing with the awarded Contractor (minimum of two weeks out when possible). The following should be in attendance (as applicable):

- Contractor Supervision/Foreman
- Subcontractor’s Supervision/Foreman
- Contractor Safety Representative
- Company Project Manager
- Company Construction Manager
- Company Safety Lead / Coordinator
- Company Chief Inspector, Safety Inspector / Advisor & Craft Inspectors
- A local Operation’s Representative

Where the start of work operations is controlled by a Notice to Proceed from the Company Construction Management team, there should be confirmation that all required safety document submissions have been received and accepted prior to issuing notice.

8.7. Contractor Pre-Mobilization Requirements

Contractor’s required documentation prior to work commencing at site shall include, but not limited to, the following documents and must be provided to Company, for the Project Safety Lead / Coordinator’s review and approval, prior to site mobilization and the commencement of work.

- PHAC
- PSSP
- Any documents referenced in either the PHAC or PSSP

9. Risk and Hazard Identification, Assessment and Control

9.1. H&S Risk Activities Management Plan (RAMP) and Project Safety Management Plan (PSMP)

On all Projects, risk and hazard management begins in the earliest stages of project development. The H&S Risk Activities Management Plan (RAMP) process ensures that all projects have considered and/or addressed risk and hazard management activities at the applicable stage in the Project Lifecycle. The H&S RAMP Guideline sets out the process by which applicable risk and hazard management activities are considered, selected and their completion tracked across the Projects Lifecycle process (Company PLGC) process. The goal or outcomes of these activities is to ensure robust planning on the part of Enbridge projects, aligned to project risk and scope, is executed. As risk and hazard management activities are conducted as per the H&S RAMP, establishing known risks and hazards and determining appropriate controls, these outcomes shape the Enbridge Project Management Plan and are foundational to the Project Hazard Assessment and Control process which communicates these to the Contractor.

Every project has a Project Management Plan – one section of which is safety management, hereafter referred to as the Project Safety Management Plan (PSMP). The PSMP sets out the project specific plan as it pertains to Enbridge oversight of project safety. The PSMP is not intended to capture first principles or replicate descriptions of standard safety activities or safety requirements. These already exist within the BU specific safety standards and within this document and should be referenced as required. The goal of the PSMP is to ensure Enbridge project management and Enbridge representatives on the project are fully aware of specific decisions which have been made with respect to how Enbridge will provide safety oversight given the scope and risks of the project and the overall project plan.

Typical or appropriate content for the PSMP would include:

- Specifying a safety management model that may have regional regulatory implications (e.g., designating a Contractor as “Prime”)
- Specifying this document and identifying the applicable BU specific safety standard as the minimum standard for safety practice for the Project
- Specifying the Project Hazard Assessment and Control (PHAC) as the document where all project specific hazards and safety controls are identified, documented, and communicated to the Contractor
- Personnel requirements for Enbridge safety oversight (e.g., number of Safety Advisors/Inspectors, assigning Safety Inspector / Advisor duties to craft inspectors)
- Project specific safety engagement/alignment activities with Contractor(s)
- Unique or non-standard risks or hazards that require additional or extraordinary oversight
- Mitigation plans enacted in the event the nature of the work and/or the Contractor or Subcontractor conducting the work creates additional risk (e.g., mitigation plans put in place as a result of the Contractor Exclusion or Variance process)

As the PSMP is an element of the overarching PMP, changes or additions to the PSMP must follow processes set out by Project Management for the PMP.

9.2. Project Hazard Assessment and Control

The Project Hazard Assessment and Control (PHAC) process must be used to facilitate the following:

- Communication of operations identified hazard and mandatory controls from a business unit's Operations to the Project Team
- Identification of all the relevant hazards and mandatory controls for a given project by the Project Team
- Communication of these identified hazard and controls to Contractors as a part of the RFP or pre-contracting process
- Acknowledgment and confirmation by the selected contractor that they have addressed the hazards and controls within their project plan
    - This is done by mapping each specified hazard and control to the applicable section of the Contractor's Project Specific Safety Plan, other safety documents, or other project plan documents.
    - Any referenced Contractor document would need to be submitted when the completed PHA&C document is returned.
- Review by the Project Team to ensure Contractor's plan has addressed the specified hazards and controls
- The PHAC document must be accepted as complete by Company Projects Management prior to Project mobilization. This version should be archived and maintained as an original contract document.

The PHAC should then be used throughout the project as a reference document for both the Project Team and Contractor as to agreed upon controls. In this capacity, the PHAC may be updated to reflect communication and agreements between the Project Team and the Contractor any new hazards or control requirements arising that were not originally anticipated or where circumstances have forced a change of control strategy. Extended projects should consider a risk-based strategy for periodic review of the PHAC between the Company Project Team and the Contractor (e.g., 6 month cycle or phase change in project). The latest PHAC may also be used by the Project Team to measure Contractor compliance to agreed upon hazard controls.

9.3. Brownfield Arrangements

A Projects worksite that is immediately adjacent or within an active Company Operations area is designated as a Brownfield site. If any part of a Project will be conducted on a Brownfield site, the Project Team and the applicable Company Operation shall meet to ensure a common understanding on Contractor safety oversight on the Brownfield site(s) during the full lifecycle of project execution. Documenting the decisions reached between Company Operation and Project and ensuring these are communicated to local Operations personnel and onsite Company Projects personnel is critical to safe and effective Brownfield site management. The arrangements between Company Operations and Projects may cover a variety of topics based on the scale, scope, and complexity of the Brownfield scenario. However, it should address the following at minimum:

- Process and accountabilities for communicating hazards and risks created by activities of either party that could impact the other.
- Any unique or unusual control requirements due to the nature of the operations or activities of either the operation or project.
- The management of day-to-day Safe Work Permitting for the Projects activities.
    - See further below, Safe Work Permitting and Work Authorization

9.4. Worksite Hazard Assessment and Control Process

Worksite hazard assessment and control processes on Company Projects sites may vary in some details, based on unique requirements specified within the individual business units (BUs) safety standards or

manuals. However, all projects must incorporate the following elements with respect to worksite hazard assessment and control:

- Job Hazard Assessment (JHA)
- Safe Work Permit (and Work Authorization if applicable)
- Field Level Hazard Assessment

9.5. Job Hazard Assessment (JHA)

All Contractor work activities on a Company Projects site must be subject to a hazard assessment process whereby the hazards and corresponding controls are documented for individual tasks and as applicable, for individual steps or stages in more complex tasks. Company typically refers to this as a Job Hazard Assessment (JHA) but Contractors may apply other labels to this type of documented task-based hazard assessment.

The Contractor's JHA (or JHA equivalent) should:

- Anticipate hazards across the scope of a job or task
- Provide a control(s) for each hazard identified
- Be documented and distributed in such a way that they are available for review by field workers prior to conducting the applicable job

NOTE: JHAs may also be created on the worksite immediately prior to conducting the work and involve the workers conducting the task

- Be reviewed prior to site mobilization (when applicable)
- Be archived with the Safe Work Permit

NOTE: In lieu of attaching, JHAs may also be referenced on the SWP and maintained in such a way as to allow for future review.

On a Brownfield site, Company operations may provide a JHA or review the Contractor's JHA for tasks that impact operations.

Contractors may use JHAs as documented evidence for managing hazards identified in the PHAC process.

9.6. Safe Work Permit

The Safe Work Permit is a process that ensures hazards have been identified and applicable controls communicated and agreed upon for an individual or group of workers conducting an agreed upon scope of work. On a Company Projects worksite, hands on work is only authorized to begin once a Safe Work Permit has been issued by the applicable Company representative (the Safe Work Permit Issuer).

A Safe Work Permit is issued daily at minimum—more frequently if multiple tasks start and stop over the course of a given shift. To facilitate efficient and effective Safe Work Permitting, a daily work forecast describing work to be completed the following day should be submitted by the Contractor to the Enbridge representative, issuing SWPs not later than 3:00 pm to allow for any permit pre-planning for the scope of work for the following day.

The Safe Work Permitting function on a Company Projects worksite is the responsibility of Construction Management or equivalent Company representative in charge of Contractor oversight. As such, Company representative craft inspectors are typically assigned the duty of Safe Work Permit Issuer on Company Projects worksites.

On a Greenfield site (where Company Projects are sufficiently segregated or away from active operations), the above model of safe work permitting shall apply.

NOTE: In a Greenfield Project site scenarios where regulations allow for the Company to divest additional levels of responsibility and accountability to the Contractor (e.g., “prime contractor” designation under the Alberta OHS Act or the “owner/constructor” designations under Ontario OHS Act), Safe Work Permitting practices may be altered. In this case, if the above model of Safe Work Permitting is set aside, the Company and Contractor shall agree to an alternative model that ensures a two-way communication of hazards and controls prior to the start of work. The decision shall be documented as well as the alternative model stipulated in the PHAC and PSSP documents and the Project Safety Management Plan (in the PMP).

On a Brownfield site (where Projects are adjacent to or within active operating areas), the Safe Work Permitting process is co-managed with the local Company Operation based on arrangements reached between the Company Operations and Projects representatives. Brownfield arrangements may specify up to three different models for permitting (and when each apply), including:

- Safe Work Permitting by Company Projects representatives (as per Greenfield practices).
- Safe Work Permitting by Company Projects representatives under the conditions and requirements set out by the Work Authorization issued by the local Company Operations.
- Safe Work Permitting by a Company Operations representative.

Note: Work Authorization processes shall be adhered to according to the BU specific Work Authorization Standard in accordance with the Hazard Management Standard.

9.7. Field Level Hazard Assessment

High Energy Control Assessments (HECA) are critical for identifying and prioritizing hazards that could most likely cause a Serious Injury of Fatality (SIF). The Field Level Hazard Assessment is an exercise in situational awareness immediately prior to worksite activities. It is designed to ensure all participants in a given scope of work:

- Have been informed of and understand the hazards identified and the controls they must execute as per the JHA and/or Safe Work Permit (and their specific role within that).
- Have considered any additional unique hazards for the worksite in its present state and under present conditions.
    - This is an exercise in asking, “What is different today?” and could cover a wide range of hazards from the more obvious such as hazards arising from weather conditions to hazards of simultaneous operations to more subtle hazards such as the presence of new or inexperienced workers or schedule pressure.
- Have agreed on and understand any additional controls to be applied for these unique hazards.

Hazard recognition is crucial to any JHA, especially for the prioritization of hazards that could most likely cause a Serious Injury or Fatality (SIF). Relevant hazard recognition and prioritization tools are defined as follows.

- **Energy Wheel**: A tool used to help identify and evaluate potential sources of hazardous energy in a workplace or during a specific task.
- **High Energy Hazard**: A hazard that exceeds 1500 Joules (roughly equivalent to 500 foot-pounds) of physical energy and is most likely to cause a SIF if a worker contacts the energy.

- **High Energy Icons**: 13 icons that represent hazard types that are categorically almost always more than 1500 Joules of physical energy
- **Direct Control**: A barrier that is specifically targeted to the high energy source; effectively mitigates exposure to the high-energy source when installed, verified, and used properly; and is effective even if there is unintentional human error during work that is unrelated to the installation of the control

The Contractor may use their equivalent hazard assessment (by whatever title) that captures these elements provided that it meets the following criteria:

- It is conducted on site when the conditions on the worksite can be physically observed.
- It involves all workers involved in a given scope of work or task and the names of all participants are documented.
- It includes a discussion that will meet the three purposes outlined above (hazard and controls set out in JHA and/or SWP; additional hazards arising; controls for hazard arising).

In the event that the JHA for a scope of work or task has not already been documented and is created immediately prior to work, JHA and FLHA activities may be combined (i.e., JHA creation with all the workers in lieu of JHA review).

Where a Contractor does not have their own FLHA / FLHA equivalent, the Company FLHA form should be applied.

9.8. Control of Identified Hazards

9.8.1. Contractor Requirement:

It is the responsibility of the Contractor(s) to keep the work areas free from hazards which could negatively always affect workers' health and safety and cause damage to the environment. The Contractor shall implement necessary safety performance and control measures to verify the effectiveness of their safety management systems and to ensure the compliance with the contract and regulatory safety requirements. All safety issues shall be appropriately identified and tracked up until completion.

The Contractor must effectively evaluate the work site and perform hazard assessments on an on-going basis to adequately identify additional hazards at the site or as a result of the work activities.

9.8.2. Company Project Requirement:

The Project Inspection Staff shall evaluate the work site for hazards by field presence, involvement, Safe Work Permitting, completion of FLHA Quality Evaluations, Observation and Coaching and inspection activities.

The Inspection Staff shall communicate discovered hazards to the Contractor and, as applicable, may recommend controls or control strategies (if these have not already been specified within existing project safety standards or plans). Hazards that are not addressed sufficiently will be escalated to Enbridge Construction and/or Project Management.

9.9. Hazardous Materials

All hazardous materials entering the work site must have a Safety Data Sheet (SDS) and be labeled with the product name, hazardous ingredients, hazard warnings and the manufacturers' information.

9.9.1. Contractor Requirement:

Contractors are required to:

- identify the chemicals they bring to or use on the worksite,
- provide a list of all controlled products on the site to Company, and
- maintain a SDS binder that is readily available to all workers.

Workers transporting hazardous materials to site must comply with the applicable Transportation of Dangerous Goods (TDG) / DOT Hazardous Materials regulations.

9.9.2. Company Project Requirement:

- Enbridge Inspection Staff shall:
- verify SDS availability to workers on site, and
- identify chemical usage in work areas and verify controls are in place as per SDS.

9.10. Personal Gas Monitor Use

When Personal Gas Monitor (PGM) use is specified by the PHAC or by the Contractor's PSSP, it is the Contractor's responsibility to ensure that all personnel, are equipped with and use a Personal Gas Monitor that meets the project specification (i.e., has sensor heads for gases that need monitoring), is properly calibrated and bump tested as per manufacturers specifications. The Contractor should also be prepared to provide PGMs for authorized site visitors and may provide PGMs for Enbridge representatives on site.

Continuous air monitoring is required for any actual or potentially hazardous atmospheres.

9.11. Grinding, Welding, and Cutting

For all Grinding, Welding, and cutting activities**:**

- ANSI (or equivalent) dual eye protection (face shield & safety glasses with side shields) and head-gear, including pancakes, is required.
- Arms & upper body will be covered by long sleeve cotton clothing by any personnel within 50 feet of the activity unless otherwise determined in the JHA.
- Factory installed grinder guards will not be removed or otherwise altered.
- At least two dry chemical fire extinguishers shall be continuously available and manned during cutting or welding activities"
    - US Two 30-lbs (14 kg) extinguishers
    - CAN Two 20-lbs (9 kg) extinguisher
- Post a Fire Watch for all welding and cutting operations when it takes place:
    - In a designated hazardous/classified location; or
    - Where there are combustible and flammable materials that cannot be removed, protected, or shielded within 11 m (35 ft.).

9.12. Standards, Procedures, and Work Instructions

The Contractor shall ensure:

- All hazardous activities and the supporting tasks have written procedures or work instructions.

- All health and safety standards, procedures, and work instructions applicable to a given activity are readily accessible for all Contractor employees and Subcontractors completing these activities.

9.13. Motorized and Heavy Equipment

- A Project may require proximity sensors and/or camera safe monitoring systems on all heavy mobile equipment. For specific requirements, refer to the Proximity Detection Guideline.
- This shall be specified in and communicated via the Project Hazard Assessment and Control document if required.

The Contractor shall ensure:

- Seatbelts are worn and maintained on vehicles originally equipped with manufacturer installed seatbelts, when the vehicle is in operation.
- Heavy equipment and off-road equipment (other than UTVs) will have functional and audible back-up alarms installed.
- Trucks with auxiliary powered generators will have CO monitors installed inside the operating spaces.
- Use of cell phones is prohibited while operating mechanized equipment.
- All motorized equipment shall be equipped with a fire extinguisher of appropriate size and type
- Equipment operations including towing, winching, working in close proximity or has become stuck, requires a specific written JHA.

9.14. Signal Persons / Spotters

Contractor must have a signal person/spotter program that includes the following:

- Training for equipment operator and spotter
- Clear and specific guidance when a spotter is required (e.g.) subject to project review and acceptance.
- Utilization of document requiring agreement / signatures between Equipment Operator and Spotter.
- Program is subject to Company review and acceptance (Company Equipment Operator / Spotter Program may be provided when requested).

9.15. Critical/Serious Lifts

It is the General contractor's responsibility to have a subject matter expert (SME), such as an engineer familiar with critical lifts*, cranes, and lift plans, complete a documented review of the subcontractor's plan. This review is essential to ensure:

- Technical Accuracy: The SME Shall assess the technical details of the lift plan, confirming that it meets industry standards and regulations.
- Risk Assessment: The SME Shall identify all potential risks associated with the lift and recommend mitigation strategies and controls, ensuring that safety is prioritized.
- Compliance with regulatory requirements: This review ensures that the lift plan aligns with minimum regulatory requirements, preventing any discrepancies that could lead to delays or unmitigated/unidentified hazards.
- Equipment Suitability: The SME Shall evaluate whether the selected crane and equipment are appropriate for the specific lift, considering factors like load capacity and site conditions.

- Operational Feasibility: By analyzing the lift plan, the SME Shall determine if the proposed methods and procedures are practical and safe for execution.
- Coordination with Other Trades: The SME must ensure that the lift plan considers the work of other trades on site, minimizing conflicts and enhancing overall project efficiency.

This documented review must encompass key controls and assurances pertinent to the lift, including but not limited to:

- Operator Experience and Qualifications
- Crane Inspection
- Signaling and Communications
- Rigging
- Any Special Conditions (working around Power Lines)

Additionally, all affected contractors and subcontractors shall complete a non-loaded trial lift (dry run or tabletop review) prior to executing each lift. This assessment and trial lift is to be facilitated by the lift SME. Company construction team will be responsible for ensuring the completion of the documented assessment and trial lift.

9.16. Overhead Utilities

The Contractor shall provide an overhead utility crossing plan, which includes at a minimum:

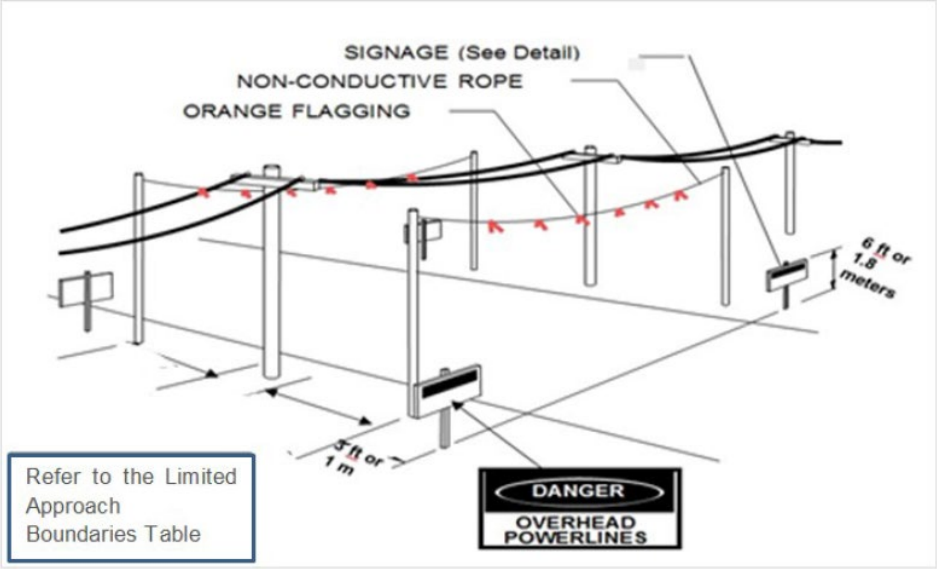
- Requirement for a dedicated spotter during work/crossing activities
- Roles, Responsibilities, Training and Qualification requirements
- Drawing(s) outlining precautionary measures for work/crossing, e.g., identification, design, and placement of “goal posts”
- Identification of voltages
- Measurement of line heights
- Placement of cones/barrels within the travel lane
- Controlling induced voltage
- Signage and barriers
- Consideration of power poles and guy wires
- Pre/post crossing inspection sheet(s)
- Goal post crossing maintenance personnel and schedule(s)
- Additionally, overhead utility crossing plans shall include at least 3 controls from any of the following control families: Signage, Physical Barriers, Dedicated Spotter, Proximity Alarms, and Utility Controls.
- A designated Signaler/Spotter shall monitor movements of all Workers, tools, and equipment when work is in progress near Energized lines.

Goal post(s) or similar shall not be taken down for any reason during work/crossing activities.

Minimum Clearance Distances

Voltage (Nominal, kV, alternating current)	Minimum Clearance Distance (ft)
Up to 50	10
Over 50 to 2000	15
Over 200 to 350	20
Over 350 to 500	25
Over 500 to 750	35
Over 750 to 1000	45
Over 1000	(as established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution)

***NOTE**: The value that follows "to" is up to and includes that value. For example, over 50 to 200 means up to and including 200kV.*



Typical Goal Post Setup

9.17. Bonding, Grounding, and Induced Voltage

The Contractor shall ensure**:**

- Prior to use and during use, all portable equipment used in Bonding and Grounding work (e.g., welding units, generators, portable light plants, air compressors, etc.) shall be properly grounded, in accordance with manufacturers' specifications and Worksite requirements.

- Once a Below Grade Facility is exposed, it shall be checked for induced voltage prior to commencing work on the Facility. The Facility shall be continually checked for induced voltage as required or monitored based on the Hazard Assessment.
- The industry-accepted safe limit for induced voltage limit on pipelines, Appurtenances and other below grade facilities is 15V. Bonding and Grounding is therefore required to bleed off any charge more than 15V.
- If further aid is required to reduce the induced voltage to below 15V, contact Company Operations Engineering to determine the need to install a grounding grid for Bonding and grounding Below Grade Facilities, vehicles, and equipment. If a grounding grid is installed, before starting work, ensure induced voltages on the bonded pipe, vehicles and equipment have been reduced to an acceptable level
- Potential induction sites/areas shall be tested by a Qualified Worker.
- Only Qualified Workers are to mitigate induced voltage hazards

9.18. Cargo Management

Contractors handling Type 3 Deliveries and Shipments are required to submit a Cargo Management Plan (CMP) that, at a minimum, incorporates the Company Cargo Management Assessment for Type 3 Deliveries and Shipments.

NOTE: Type 3 deliveries and shipments are defined as all loads that are strapped, tethered, or otherwise tied down and/or requires any mechanized equipment to load or unload.

Contractors shall utilize ratchet-style load binders or other similar devices in lieu of a lever style or break-over style binder.

NOTE: The use of break-over, lever style, or snap-over style binders is strictly prohibited for use on Company worksites

9.19. Parking Safety

To prevent unattended idling vehicles (without driver) from moving, the park brake must be set or a wheel chalk placed to prevent unexpected movement.

Whenever possible, vehicles shall be parked in a fashion to promote forward motion upon departure and maximize visibility (“First Move is Forward” practice). Where personal injury or damage to property and/or equipment could occur, a dedicated spotter will be utilized. Ensure a safe distance when parking personal vehicles and parked and/or operating heavy equipment.

9.20. Personal Protective Equipment

- Safety glasses with side shields (including prescription eyewear) shall be worn at all times, except when in vehicles and administrative areas.
- Hard-hats shall be worn at all times except when in vehicles and in administration offices. Hard hats may be removed by welders during welding operations ONLY if all overhead hazards have been eliminated from the immediate work area. Hard hats shall be worn in accordance with manufacturer’s specifications.
- Safety-toed footwear with puncture resistant sole, shall be worn at all times. In addition, based on hazards, footwear will conform to applicable electrical rating standards.
- All Contractors, employees, and visitors shall wear appropriate hand protection based on hazard assessment. Hand hazards and associated hand protection assessments and selection will

consider, at minimum, abrasion resistance, chemical protection, puncture resistance, impact protection, thermal protection, and electrical protection.

- High visibility, retro-reflective clothing, based on applicable regulations, and hazards (proximity to roads, highways, railways, working at night, etc.) is required except when in vehicles and administrative areas and during hot-work operations.

9.21. Flame Resistant Clothing (FRC)

FRC is required for all Workers (this includes all Enbridge employees, contractors, and visitors) working in hazardous/classified locations.

Workers and Visitors must wear FRC inside fenced or operating facilities or where hot work is being performed on the Right of Way (ROW), or as required by an assessment of the task hazards.

Contractors shall provide FRC in a sufficient number and style to protect workers and Visitors.

Specific Hazards that Require FRC:

- Working within 4.6 m (15 ft.) of a planned release of flammable liquids or gases to the environment including but not limited to: Pipeline and facility release during gas blowdowns, gas evacuations and gas purges
- Blowing down valve bodies
- Blowing down, evacuating, and purging launchers and receivers
- Installing leak clamps
- Working in areas where there is a risk of an unintentional release of flammable liquids or gas, including but not limited to:
- During a leak investigation when working within the vicinity of the expected leak
- During repairs to damaged pipeline
- Assembling and disassembling truck connections for flammable liquid transfer
- Removing or inserting a pig into a pig barrel
- While installing a stopple or hot-tap
- During hot and cold cutting of live lines
- When working within 4.6 m (15 ft.) of an operating air mover that is being used to pull potential leaking gas away from a work area

Approved FRC: Flame resistant clothing (FRC) that meets the performance requirements of the following standards.

- NFPA 2112 Standard on Flame-Resistant Garments for Protection of Industrial Personnel Against Flash Fire
- ASTM F2733 Flame-Resistant Rainwear for Flame Hazards
- ASTM F1891 Standard Specification for Arc and Flame-Resistant Rainwear
- CAN/CGSB-155.21-2001 Recommended Practices for the Provision and Use of Workwear for Protection Against Hydrocarbon flashfire; or
- CAN/CGSB-155.20 Workwear for Protection against Hydrocarbon Flash-fire.

9.22. Safe Cribbing & Skidding

A Project may require the Contractor to follow the Company Safe Cribbing and Skidding Guideline:

- This shall be a requirement on all Canadian LP mainline projects
- This shall be specified in and communicated via the Project Hazard Assessment and Control document if required on other types of projects.
    - At a minimum, skids and cribbing shall be inspected prior to use.
    - Properly maintained skid sets, tripod stands, or other approved means will be used to support piping or materials to prevent inadvertent movement.

9.23. Mechanical Powered Post Drivers and Pullers

Metal T-Posts or environmental containment devices (silt fence) shall be installed by mechanical means,

- T-posts shall be removed by utilizing a manual puller.

NOTE: *This would not apply to survey staking activities.*

9.24. Hoisting and Rigging

Job or home-made lifting tools and devices shall not be used on any project unless inspected and approved in writing by a professional engineer.

Hooks with self-closing safety latches shall be used to prevent components from slipping out of the hook when working near a suspended load. Components on hooks may be secured by using bailing wire.

Tag line(s) of appropriate length, number and position shall be used to control load swing, rotation and/or balance, when necessary, to prevent a hazard to workers. When the bottom of the load is waist high or lower, tag lines are not required but can be used if additional stability is desired.

9.25. Standing or Walking on Pipe

All personnel are strictly prohibited from standing or walking on pipe.

9.26. Horizontal Drilling Pipe Handling Requirement

Hydraulic style tongs (i.e., “deckhands”) shall be used to handle drill pipe during horizontal drilling.

9.27. Performing Work Outside of Regular Scheduled Hours

At times, it may be necessary to perform work outside of regular scheduled hours. These activities may include but are not limited to completing equipment inspections, pump watch, and starting and fueling equipment.

Any work activities outside of regular scheduled hours must be approved by Company project management.

Company representatives must be informed when a Contractor’s work activities will be performed outside of regular scheduled hours. The plan for this work shall be included in the Contractor submittals and reviewed by a Company safety representative and approved by Company project management.

The logistics of Safe Work Permitting for these work activities need to be determined in advance as all work is subject to a SWP. On a Brownfield site, a Work Authorization for work during nonstandard hours

may need to be obtained from Company Operations. Safe Work Permit extensions or early issuance of the SWP with the later start time, location, and scope of work specified may be necessary. In the case where the SWP issuing inspector will not be on site at work commencement, a communication plan, reviewed by the Company Safety Representative and approved by the Company Management representative, must be in documented. In this scenario, a minimum of two persons are required to be onsite at all times during work outside regular scheduled hours.

9.28. Fatigue Management

Contractor shall implement their Fatigue Management Plan when:

- Extended length of shift worked (beyond 12 hours plus travel time),
- Extended consecutive days worked (beyond 12 consecutive days),
- Extended travel time to and from the Worksite (total workday, including travel, exceeds 14 hours),
- Excessive physical effort required as part of normal work activity, and/or
- Working in environmental extremes (e.g., heat, cold, noise, vibration, lighting).

The Contractor shall provide advanced notice to the Company Representative of work that falls under the Fatigue Management Plan.

9.29. Alcohol and Drug Policies

All Contractors working on Company Projects construction sites shall have an Alcohol and Drug Policy that meets or exceeds applicable local, state, federal laws and regulations, and applicable Company Contractor A&D Policy. The policy must include Site Access, Reasonable Cause, and Post-Event Alcohol and Drug Testing. The systems and procedures for policy enforcement must ensure Site Access Alcohol and Drug Testing of all personnel and prospective personnel prior to being dispatched to the worksite.

The Contractor shall make the following available for review by Company upon request:

- Alcohol and Drug Policy
- Site Access Alcohol and Drug Testing procedures
- Evidence of workers meeting pre-access requirements

Any Person employed or contracted by Contractor shall not be permitted to perform any Work nor be permitted to enter the Site or ROW following a post-event drug and alcohol test, required by the Department of Transportation or any other Government Instrumentality. Persons will only be allowed to resume Work functions once Company has received confirmation of negative test results in writing from the Contractor.

9.30. Safe Cellphone Communication

Use of cellphones, including hands free, is prohibited while driving on Company business.

This Policy applies to employees, contractors, consultants, professional advisors and other third parties (users) who provide services to Company. Compliance with this policy is mandatory.

The use of cell phones is prohibited while operating mechanized equipment.

9.31. Banned Items

The following prohibited on all Company locations:

- Smoking, including electronic cigarettes (with the exception of specially designated areas).
- Firearms, weapons, and archery equipment.
- Pets.

9.32. ATV and UTV Use

All Terrain Vehicle (ATV) (off road vehicle the operator straddles, with handlebar steering, and no rollover protection) use is prohibited on Company project worksites. Utility Terrain Vehicles (UTVs) (offroad vehicle with Rollover Protection and seatbelt) may be used by workers with the appropriate training and qualifications. Any variance requires Company Vice President approval.

Should a UTV be used, the following requirements shall be followed:

- DOT or CSA approved safety helmets shall be worn when driving UTVs in the construction yard or on any area of the ROW.
- Truck ramps for loading or unloading UTVs shall be designed for fit and purpose.
- A high visibility flag (“whip”) will be affixed to UTVs
- Operator training is required for all UTV operators from recognized organizations and/or as per manufacturer requirements.

9.33. Suspension of Outdoor Work Activities During Lightning

Unless otherwise stated in the Project Hazard Assessment and Control, the contractor must have a If lightning is visible or thunder can be heard, all outside work activities shall be halted immediately (with consideration for safe wind down of task depending on activity) and workers sheltered indoors or in vehicles.

- Outside work activities shall not restart until 30 minutes has past since the final thunder or lightning event.

Contractors may create a plan or program based on the use of an online weather application provided it meets or exceeds the safety margin provided by the “hear it / see it” approach above. The application must be a commercial application engineered for worksite or occupational use (e.g., Weather Sentry, EarthNetwork, StormGeo, etc.). At minimum, to meet or exceed the safety margin of the “hear it / see it” approach, the plan or program must:

- Mandates a 10 mile (16 km) “lightning exclusion zone” (at minimum).
    - i.e., Workers must seek and remain in sheltered locations as long as the weather application is indicating lightning activity or a heightened risk of lightning activity within 10 miles of the worksite.
- The plan/program includes parameters for issuing a caution to workers of an impending lightning shut down.

9.34. Lockout Tagout (LOTO)

Contractors shall meet requirements established in OSHA 29CFR 1910.147 and Canadian Standard CSA Z460-13. Contractors Shall:

- Implement an effective Control of Hazardous Energy program that meets or exceeds all applicable regulatory requirements and the Company’s specifications.
- Incorporate the Contractor’s Lockout/Tagout (LOTO) program into the Company program.

- Ensure workers are aware of and comply with requirements through formal and informal inspections.
- Follow the direction of the Authorized Worker and Person in Charge (PIC) regarding LOTO activities.
- Remove personal lock(s) when the task is complete or prior to leaving site (whichever comes first).
- Stop and/or correct work if LOTO procedures are not being followed.
- Provide lockout/tagout equipment required and ensure it is readily available to workers.
- Participate in the completion of all necessary LOTO forms including but not limited to the Enbridge Energy Isolation Form, the GTM LOTO Form, and/ or the Safe Work Permit
- Ensure workers are trained in Control of Hazardous Energy/ LOTO as required
- Provide records of training upon request.

10. Event Reporting, Assessment, and Management

All events, including Near Misses, must be reported immediately.

The Contractor will specifically and regularly reinforce to their workers the importance of reporting all events, near misses and hazards. The importance of reporting is to prevent an event from occurring by eliminating the hazard or to make the task safe to perform. The contractor will specifically use elements of their Hazard Assessment Program to support the initiative.

10.1. Event Documentation

The Company Project Team is responsible for the input of event information into EnCompass.

10.2. Event Analysis Process

The Company Project Team, Contractors and subcontractors shall comply with the Projects Event Analysis Standard.

A management review shall take place, involving both Company and Contractor representatives, following a significant event The intent of the meeting shall be to review the event, define the appropriate response, and include the appropriate corrective actions with Contractor management representatives to be identified for corrective action implementation and completion.

10.3. Company Event Reporting

Prior to the start of construction, the project team will develop an Event Communication Plan to guarantee appropriate communication to those individuals with accountability for safety and reporting on the project. The Preliminary Event Notification Guideline should be consulted when developing the Event Communication Plan to ensure it contains sufficient instructions and information to ensure the event notification flows up the chain of command, to the applicable level, in an orderly and timely manner.

An on–call list should be generated by an Enbridge representative in the event communication plan for reporting needs to take place outside of the normal business hours.

If an event has environmental impacts, the Enbridge representative must also contact the Company Environmental Department immediately. An on-call list for environmental reporting should also be considered.

10.4. Injury Management

Contractors shall provide the Company a copy of their Modified Work Program for review before the project starts to ensure it meets or exceeds the Company requirements.

The Contractor Safety Representative or Designate will accompany any worker to the hospital to ensure the Contractor's Modified Work Program is followed.

The Contractor shall provide the appropriate Company representative with a daily update of the injured worker's condition.

10.5. Medical Management of Personal Injury Program

Contractors are required to incorporate a Medical Management of Personal Injury Program.

- Contractor(s) and their subcontractors shall utilize an occupational medical management firm or equivalent to manage events in conjunction with the Contractor program.
- The occupational medical management firm shall be reviewed and approved by the Company.

11. Inspections and Audits

11.1. Informal / Formal Inspections

Company and the Contractor will conduct ongoing informal and formal inspections of the work site conditions and safety compliance for the duration of the project.

Informal inspections will be conducted daily by the Contractor and Inspection Staff to include (but not limited to):

- Site conditions
- Work area layout and associated hazards
- Contractor Project Specific Safety Plan compliance
- Adherence to the applicable permitting

All projects shall include formal safety inspections conducted by the Contractor personnel, Company representatives, and, in some cases, joint inspections with Contractor and Company personnel. The following must be documented in the Project-Specific Safety Plan:

- Purpose of the safety inspection
- Who should be conducting inspections
- Any standardized inspection forms
- Where and when inspection results will be posted and discussed
- Frequency of the inspections

Company work sites are subject to planned or unplanned inspections or audits by Project Management personnel, leadership and/or external parties at the request of Company.

Contractors shall participate in Audits as requested by Company.

11.2. Regulatory Inspections

The Contractor will fully cooperate with all regulatory health and safety inspections and provide a copy of any of the associated reports to the appropriate Company representative while also maintaining a copy on site for the duration of the Project.

12. Health and Safety Orientation and Training

12.1. Orientation

All personnel entering active work areas shall complete all applicable orientations, including, but not limited to:

- BU specified H&S Orientation requirements.
    - For Contractor workers this will typically involve annual completion of the Enbridge General Safety Orientation.
    - On Brownfield sites, this may include a site-specific orientation delivered by the local operation.
- A site-specific orientation under the direction of the Contractor.

Company, in its sole discretion, may require any member of Contractor Group to attend additional site-specific orientations as required by land/facility owner and/or operator(s) or that Company deems necessary.

12.2. New Worker / Short Service Worker Program

Each Contractor will have an element within their safety program that addresses the need to provide adequate supervision and coaching for inexperienced workers who lack field experience. The program shall make such workers easily identifiable to others (e.g., green hardhat, sticker or other suitable alternative) and provide clear guidance on supervision requirements of such workers.

The Project Team will verify that the new worker/short service employee is implemented per the Contractor's Project Specific Safety Plan.

12.3. Training and Competency Assurance Program and Records Requirements

The Contractor must have a fit-for-purpose training and competency program that ensures only workers qualified for their respective tasks are assigned and complete such work. Workers not qualified to work independently on assigned tasks must remain under the direct supervision of a qualified supervisor. Where regulatory certification or accreditation is required to complete a task, the Contractor shall ensure only personnel who meet those requirements ***at the time of the work*** may perform the task.

For Canadian projects, all Contractor personnel performing hands on work must have completed either:

- Pipeline Construction Safety Training; or
- Construction Safety Training System

The Company shall ensure any specific safety training or training certification requirements associated with Company site hazards or known task hazards are communicated to the Contractor via the Project Hazard Assessment and Control process. ***Examples*** of hazard-specific training would include but not be limited to:

- Confined Space Entry / Attendant
- Fall Protection

- H2S Alive certification
- Asbestos Exposure Awareness / Management

With respect to safety training requirements, the Contractor and applicable Company safety and construction SMEs shall review the Contractor's safety training and competency program, including, as applicable, any Contractor safety training matrix. The program should be described or referenced (with supporting documentation) as part of the Project Specific Safety Plan submission. This program review may be conducted as part of a larger training and competency program review that covers other technical competencies.

The Contractor's individual worker training or competency records must be maintained and electronically or physically stored such that they are accessible for inspection or audit by the Company on request.

The Company shall perform assurance activities on the Contractor's training or competency program and individual training/competency records during the project based on project risk and Contractor past performance.

12.4. Safety Bulletins / Alerts

Safety Bulletins or Alerts should be created and/or distributed as required and applicable by Company Projects Safety SMEs. These should be posted in lunchrooms or other conspicuous common areas and discussed during daily meetings and/or weekly safety meetings.

The Contractor should also have a process for creating and distributing safety bulletins or alerts to its worksites and workers.

12.5. Health and Safety Leadership Training

Company, Contractor management, supervisors and foremen shall participate in, obtain, or demonstrate compliance with any required Company approved H&S leadership training. Contractors shall also verify that their respective subcontractors have completed H&S Leadership training.

13. Expectations on Meetings and Engagement Strategies

Successful project safety management requires early and ongoing discussions and contact points between the Company and the Contractor to ensure alignment on safety expectations and assist both parties in anticipating and/or addressing safety related issues arising over the course of project execution. While each project may require additional or unique safety engagement or safety related meeting schedules, the following represent the generally expected pattern with each Enbridge project:

- Safety Alignment Meeting
- Safety Engagement Meeting
- Safety Stand-Down
- Safety Meetings
- Daily Meetings

13.1. Safety Alignment Meeting

The Safety Alignment Meeting is typically held within a week after a contract has been awarded.

The attendees for this meeting should include applicable Company Project and Construction Management leadership, the Company Safety Lead/Coordinator assigned to the project, and counterparts within the Contractor's management team and safety function.

The purpose of the meeting is to ensure the awarded Contractor and Company Project Management Team are aligned on H&S objectives, expectations, and deliverables for the specific projects. Specific questions or clarifications based on the information exchange conducted through the Project Hazard Assessment and Control (PHAC) process and on Project Specific Safety Plan expectations may be addressed at this meeting. Any additional or unique Company or Contractor safety initiatives that will be integrated into the project should also be discussed at this meeting.

13.2. Safety Engagement Meeting(s)

Safety Engagement Meetings should be scheduled as part of the overall project plan. At minimum these should be conducted quarterly. However, if there are other program considerations, for example, review of safety scorecards with H&S performance bonus/penalty at stake, these may be conducted more frequently (e.g., monthly).

The attendees for this meeting should match that attending the initial Safety Alignment Meeting, including Company and Contractor Project and Construction Management, ideally site managers as applicable, and Company Safety Lead/Coordinator and Contractor equivalent.

The purpose of the meeting is to allow both Company and the contractor to review the most recent H&S performance, review both successes and areas for improvement, raise and discuss future anticipated risks, address any changes within the Contractor's safety program or site safety management, and ensure any opportunities for mutual support on safety performance are captured and executed.

13.3. Scheduled and Ad-hoc Safety Discussions

Safety discussions may be conducted for two different purposes:

- Pre-scheduled into the project lifecycle as a way to promote and reinforce key safety messages, address slippages in safety performance and recognize excellence in safety performance.
- In response to a significant event or series of serious events in the course of the project which indicate larger systemic safety issues presenting significant or ongoing risk and require participation from all parties and the whole workforce to address.

The attendees for these safety discussions are typically the whole workforce on a given project site or across a larger project with multiple worksites. The Contractor and Company project and site management should collaborate in the planning and execution of the discussion.

The purpose of these safety discussions may include but are not limited to:

- A review of project safety performance and recent trends.
- Recognition of individual employees, work groups, or workforce as a whole for positive safety performance.
- Discussion of opportunities for improvement or upcoming challenges in the project execution lifecycle.
- Awareness level training / presentations on any required changes to project / work execution brought about by a review of safety performance or significant event (s).
- Visible reinforcement of key safety messages by Company and Contractor project and construction leadership.

Company and/or Contractor-initiated safety discussions, initiated due to a breech in contract documents, including Company's Contractor Safety Specifications, shall be performed at no additional cost to Company.

13.4. Safety Meetings

Safety meeting frequency should be specified within the Contractor's Project Specific Safety Plan (PSSP). The general expectation is that these would be held weekly on the project worksite. However, other arrangement may be agreed to by Company and Contractor that may be more effective based on shifts and/or workflow.

The attendees shall include Contractor and Company worksite leadership and representatives. These may be incorporated within other regularly scheduled meetings; however, they should include Company and Contractor safety personnel. These meetings should include:

- A report and/or discussion on events or safety issues arising.
- A review of information arising from the Company's or Contractor's safety inspection or safety observation programs.

13.5. Daily Meetings

The Daily Meeting is an on-site meeting prior to the start of daily work activities and is the Contractor's responsibility. Any deviation from this pattern should be arranged between the Company and Contractor and specified within the Contractor's Project Specific Safety Plan (PSSP).

All work activity personnel shall attend and be encouraged to participate. Attendance shall be documented.

The Daily Meeting should be used to discuss the day's work activities, safety concerns, and any potential changes to the work site or concurrent work. As such, this meeting may be used to complete daily hazard management activities such as completing JHAs, Safe Work Permits or other special permits or safety documentation (e.g., Confined Space Entry), and FLHAs. As such, Company inspectors that will be issuing Safe Work Permits must attend.

- **NOTE:** Based on the nature of work activities, Safe Work Permits, FLHAs, and other special permits or safety documentation requirements may also be conducted outside of this daily meeting.
- FLHAs require those completing it to know the state and hazards of the worksite in order to meet the intent of the FLHA. Where this is not practical before or during the daily meeting itself, FLHAs may be completed immediately following the daily meeting when the workers are physically present where they will be conducting their tasks just prior to beginning work.

Workers arriving on-site after the Daily Meeting must review any meeting documents or minutes, in addition to the applicable FLHA (and Safe Work Permits or other safety documentation as applicable) and sign-off prior to commencing work activities.

14. Health and Safety Performance Monitoring

14.1. Project Documentation

The Contractor will keep copies of the following documents for review by the Company:

- Daily Meeting Minutes
- Safety Meeting Minutes
- Project Hazard Assessments
- Task Hazard Assessments
- Field Level Hazard Assessments

- Event Analysis Reports detailing who was involved and details of the event
- Follow up reports to events and action items
- Inspection/Audit Reports
- Safety Data Sheets (SDS)
- Worker Certifications (where applicable)
- Equipment Certifications and Inspections
- Safety Training documentation

14.2. Contractor Safety Performance

The Contractors are responsible for tracking their safety performance and assessing the effectiveness of their plan in addressing safety issues. The Project Specific Safety Plan should outline or reference what and how the Contractor will measure and track as key safety performance indicators.

Contractors are expected to prepare an adequate report on the status of the key performance metrics and subsequently their project performance for the required project meetings as identified in the contract documents. Maintaining the data up to date is necessary to recognize trends and apply corrective measures so that the risks can be minimized and timely improvements in the safety program on the project can be implemented.

14.3. Safety Performance Statistics

All Contractors are required to prepare and submit safety performance statistics as required by the applicable BU.

If a Contractor has Subcontractors working for them, the information requested above will be provided to Company in the same format.

14.4. Project Reviews

Prior to the start of the project, Company and the Contractor shall collaboratively agree on the frequency of the project safety review meetings. Depending on the duration and safety risk of the project, considerations may include quarterly or mid-project reviews. For short duration projects (< 6 months) these meetings may not be applicable.

The meeting is to review Project safety performance, events, issues, action item review, audit results and upcoming safety initiatives. A summary report will be prepared by the Company personnel with a copy provided to the Contractor upon request.

There shall be appropriate representation from the Company and the Contractor to include their Contractor/Subcontractor(s), but at a minimum the Contractor Management, Company Project and Construction Managers, Company Project Safety Lead / Coordinator or Project Safety Inspector / Advisor/Coordinator are required to attend this meeting.

14.5. Project Completion Review

When the Contractor has completed the work outlined in the contract, the Company Project Team will arrange for a project completion review.

The meeting is intended to capture the applicable lessons learned from the project. The safety portion of the meeting shall review the effectiveness and adequacy of the Project Specific Safety Plan and associated documentation, the identification of any significant gaps or improvement opportunities for future projects, positive aspects of the Project Specific Safety Plan, safety performance or trends.

A summary report will be prepared by the Company personnel with a copy provided to the Contractor upon request.

14.6. Contractor Post Evaluation

Project Team shall utilize Contractor Post Evaluation to evaluate contractors' safety performance on each project.

15. Emergency Response Plans (ERP)

15.1. Company Project Requirement:

The Company Project Team shall ensure a fit for purpose ERP for a project has been developed prior to mobilization. This ERP shall align (where applicable) to the Company local operations ERP.

The Company Project Team will provide any Contractor preparing an ERP for a Company Project with the following to ensure a fit for purpose ERP:

- The Company local operations ERP

  The Company Project Team should also facilitate the exchange of information required to align the Contractor's ERP with local operations expectations in the event of an emergency.

- Any unique emergency potentials that have been identified by the Company Project Team that require additional emergency response measures (communicated via the Project Hazard Assessment and Control Process).

Project Manager and project team should also consider emergency response possibilities that might occur ***prior to start of construction*** and plan accordingly.

15.2. Contractor Requirements:

All Contractors required to provide an Emergency Response Plan (ERP) for the Project as a component of delivering a Project Specific Safety Plan. This ERP shall be reviewed by the Company.

The Company expects that as part of their ERP development process, the Contractor shall:

- Work with the Company Project Team to ensure alignment with any applicable Company operations ERP.
- Inform and liaise with municipal (state/provincial/federal, county) emergency response agencies as applicable, in the event their assistance is required, (e.g., ambulance, fire departments, hospitals, and police).
- Work with the Company Project Team to determine how the ERP shall be tested, the nature of on-site emergency drills, and the frequency of these tests and/or drills.

  ERP testing may range from tabletop to full simulation as deemed suitable, with defined goals and expectations that allow meaningful evaluation of the plan.

  Emergency response post analysis shall be completed after a test or drill to identify gaps and opportunities for improvement with learnings shared with Company projects and identified actions for improvement completed in a timely fashion.

The ERP shall include (but is not limited to):

- Instructions for immediately dealing with and reporting events and/or injuries,
- Effective means for communication, (cell phones, satellite phones, two-way radio), This should include both internal site communications as well as off-site communications.

- Contact list for any event which occurs including both Company Projects personnel, Company Operations (if required) and the contractor's internal notification process.
- Emergency telephone numbers and locations for police, fire, ambulance, and hospitals.
- Emergency Medical Transportation Plan that contains instructions on how to transport injured or ill persons to the nearest hospital or evacuation site for pick up by ambulance or helicopter. This plan should include:

  A process to ensure position information (e.g., GPS coordinates, legal land descriptions, closest ambulance, or helicopter evacuation sites) is made available to all personnel on site and is updated and updates communicated as necessary for the Project.

  Area maps indicating the location of immediate and alternate medical services.
- If a project is legally required to have a first aid room, an AED shall be kept in the room. Consider placement of an AED at additional Sites or locations, in cases where:
  - the emergency medical response time for that location is greater than 20 minutes; and/or
  - the project safety plan determines their need.
- Contact numbers for notifying authorities having jurisdiction (e.g., lands and forests, environment) and the Contractor's and the Company designated personnel (including afterhours phone numbers and location),
- Response plans (if applicable) in the event of a hydrocarbon or other toxic or flammable release, fire/explosion event, or storm event that includes:
  - Muster points (that may vary based on wind conditions)
  - Site evacuation procedures
  - Shelter-in-place locations/procedures (if applicable)
- Response plans for unique rescue situations for planned work. This may include (as applicable based on the scope of work and the information provided by the Project Hazard Assessment and Control document):
  - Suspended worker
  - Working on elevated platforms
  - Confined space
  - water rescue.
  - Response plans for environmental emergencies to mitigate environmental damage (e.g., fuel, oil or chemical spills, silt, and erosion control).
  - Readily available access to the onsite products Safety Data Sheets.
  - A plan that outlines the number and nature of Emergency Drills. (This should be finalized in consultation with Company Projects and confirmed at Project pre-job/kick-off meetings.)

To ensure an effective and functional ERP, as part of Project mobilization and execution, the Contractor is responsible to:

- Ensure the required number of workers / supervisors are trained in First Aid
- Provide their own equipment for response and rescue in accordance with their ERP

    - This equipment must be readily available for use and must be inspected weekly to ensure operational readiness
  - This equipment shall include (as applicable) such items as air horns, windsocks, gas detectors, respiratory equipment, firefighting equipment, spill response materials and equipment, silt fencing and filter cloth, etc.
- Ensure each of their workers understand their roles within the ERP
- Ensure minimum required ERP information is communicated as part of site-specific orientations for all workers and visitors coming on site
- Display their ERPs at prominent locations to make available to all workers, such as in lunch trailers, poster boards and/or crew transportation vehicles
- Clearly identify muster point locations and alternative muster points (other than Operations controlled muster points) by delineating the area with signage, staking, flagging, or using safety fence.
  - These muster points must be within a reasonable distance from personnel.
  - Provide emergency contact numbers and other applicable information or equipment such as a visible windsock at the muster point.
- Conduct Emergency Drills as per agreement with Company Projects (including all site personnel as appropriate)

If a Project has identified wildfire as a potential worksite hazard, while working during the wildfire season, the Contractor shall follow the Company Wildfire Mitigation Program. This includes the following:

- The Contractor shall complete and communicate the Company Wildfire Prevention Risk Assessment daily.
- The contractor is required to provide all specified Wildfire Emergency Response materials and equipment and ensure the equipment is ready for use.

16. Commissioning and Start-Up Requirements

The Commissioning and Start-up (CSU) phase of a project marks the transition from construction to permanent operations and presents unique health and safety challenges. This often includes a transition from a construction contractor to contractors specializing in CSU activities, and overlapping activities on a single site may well be under the control of multiple groups each with their own H&S management system (e.g., construction contractor, CSU contractor, Enbridge operations). The duration of this period can be significant for greenfield projects. With brownfield projects, the issues can even have a permanent character for the duration of the project. Risks present during this period of complex parallel activities must be Identified and mitigated.

This phase of the project requires development of a Commissioning Plan by the Project Commissioning Lead in advance of the CSU activities. The Enbridge Commissioning Guide sets out what is expected within a Commissioning Plan. H&S considerations must be included within the Plan.

Within the Commissioning Plan, each commissioning activity shall have an attached Job Hazard Assessment / Job Safety Assessment (JHA or JSA) that identifies the key hazards and risk mitigation for that specific activity.

- If identified hazards are assessed to require mitigating actions beyond the capability of the commissioning team, the commissioning coordinator (CC) will advise the project manager, and commissioning work will be deferred until all hazards are mitigated.

Contractors brought in for CSU stage work must be provided a set of instructions pertaining to H&S requirements for their scope of work. This is a critical activity that shall be completed as part the Project Lifecycle Gating Control (PLGC) Stage Gate 3 (and as such should be included in the H&S RAMP Checklist). These instructions should include the requirement to:

- Ensure a competent person is onsite to support their H&S program,
- Participate in the commissioning plan and start-up plan,
- Set up H&S touch points /hold points in the plans,
- Identify the potential H&S issues for the commissioning and start-up,
- Contribute to the definition of the H&S KPIs,
- Define (in conjunction with project team) the organizational interfaces and key positions with H&S responsibilities,
- Prepare a high-level listing of permitted (or not permitted) concurrent operations and guidance for evaluation,
- Using methods like JHA/JSA, ensure hazards identified are captured in the H&S area risk registry or alternatively integrated in the overall project Hazard register,
- Review project construction, commissioning, and start-up schedules with an aim to reduce H&S Hazard potential,
- Conduct field checks which are not included in the commissioning walk downs,
- Identify deficiencies to be included in overall deficiency list, and
- Review and signoff Management of Change (MOC), Pre-Startup Safety Reviews (PSSRs), and Operational Readiness Assurance (ORA)

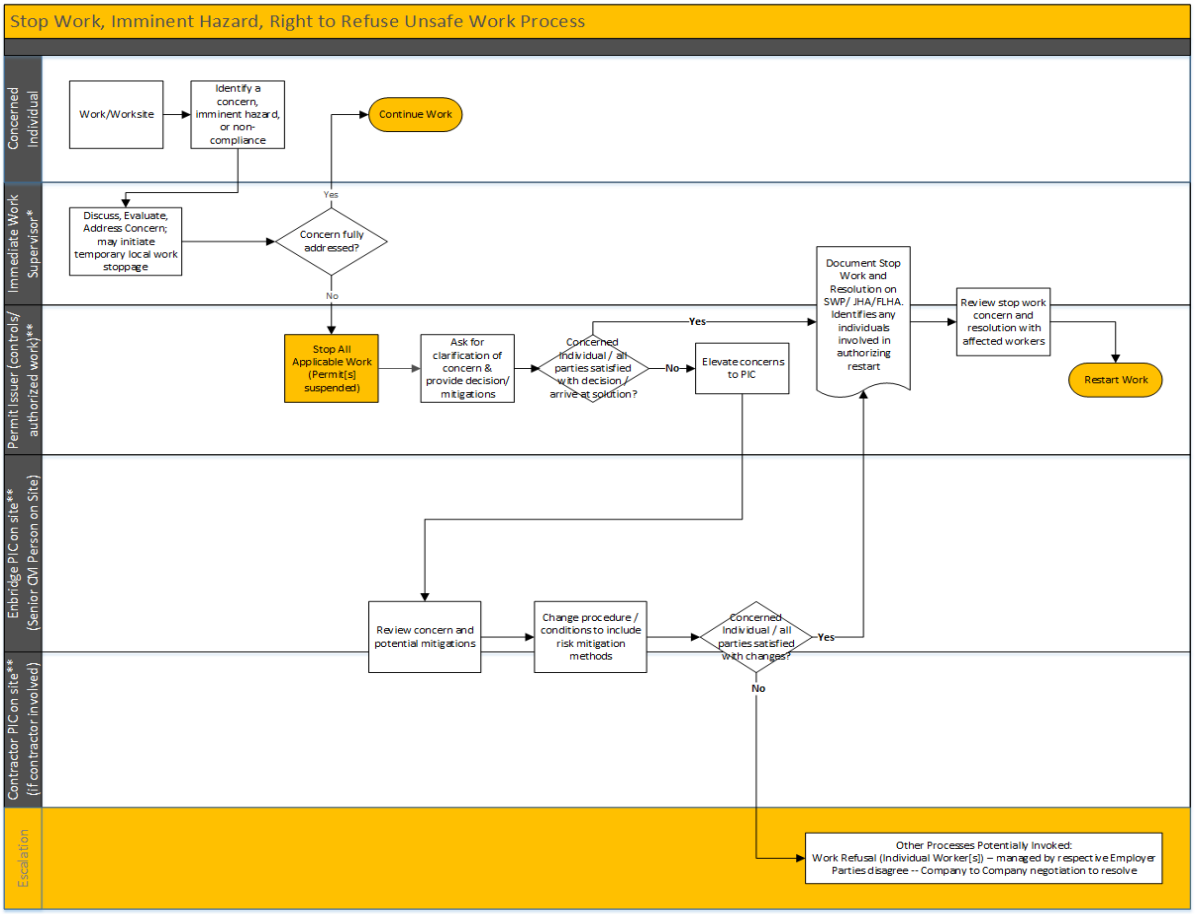
17. Related Documents

Document Number	Document Title	Location
PRJ-HS-STND-002F1	Subcontractor Safety Checklist	Projects GDL
PRJ-HS-PRCS-002	Contractor Post Evaluation – Projects Safety	Projects GDL
PRJ-HS-GUID-002	Projects H&S Risk Activities Management Plan (RAMP) Guide	Projects GDL
PRJ-HS-GUID-002F1	Projects H&S RAMP Checklist	Projects GDL
PRJ-HS-PRCS-001	Project Hazard Assessment and Control	Projects GDL
PRJ-HS-STND-001	Projects Event Analysis Standard	Projects GDL
PRJ-HS-PROC-001	Supplier/Contractor Safety Evaluation and Variance/Exclusion Form	Projects GDL

18. References

N/A

Appendix A – Stop Work, Imminent Hazard, and Right to Refuse Unsafe Work Process



*If active work underway, this would tyically be the individual immediately directing the actual work. If a condition (apart from active work) or concerned individual cannot determine or contact/engage the individual directing the work, this would be the concerned individual's supervisor or another supervisor on site.

**The Safe Work Permit Issuer and Enbridge Person in Charge (PIC) carry full Stop Work Authority and must stop work in affected areas when any unsafe work condition, imminent hazard, or non-compliance with the Safe Work Permit or BU-specific safety control is identified by any means. Work may only restart when they authorize the restart. The Enbridge Person in Charge is the most senior person on site actively involved in site management (e.g., a more senior person visiting the site not regularly engaged in onsite management would not automatically fulfill this role). The "Contractor PIC" is the senior most representative of the Contractor on site (involved in active site management).

Appendix B – Approved Adaptation of Project Safety Management Standard for Programs

[Enbridge executes certain projects that fall under the "Programs" umbrella. These are typically:

- Shorter in duration (measured in weeks, not months or years)
- Highly repetitious (same set of standard tasks for each execution instance) and executed over and over again by a subset of contractors
- Standardized in terms of practices and risk management

For these "Programs" the standard deliverables for Project Safety Management have been adapted to match the business cycle and associated risk of repeated work.

The following adaptations are acceptable with the following caveat:

- Any instance of a program execution/project that carries a higher risk profile or deemed more complex than its standard, repeatable counterpart, must follow the practices set out for individual projects in the body of this standard.
    - Criteria for determining whether a given program instance warrants safety planning and engagement that exceeds the adapted process below should be determined by the Program Team in consultation with Project Safety and other applicable SMEs and documented (e.g., within the Work Type Program Management Plan).

Adapted Safety Deliverables:

- H&S RAMP Mapping Tool
    - This document is not required where the following standardized program practices/deliverables are applied.
- Project Hazard Assessment and Control (PHAC)
    - Executed generically for all instances of a given work type (or regional or BU-specific instance of work type as warranted) and should include program management, construction/field-execution management/representatives, and Project Safety representative (as well as any applicable SMEs are required)
    - Executed and/or reviewed and revised on an annual basis
    - PHAC produced provided to all applicable contractors
    - Note: the annually produced PHAC requires a supplement to address individual worksite or unique work considerations (see PHAC/PSSP Supplements below)
- Project Specific Safety Plan (PSSP)
    - Contractors who will execute program work provides this in response to the PHAC delivered by the Program Team (on an annual basis)
    - Program Team reviews PSSP for acceptance

- The PSSP is applicable to all worksites the Contractor is working on for the Program unless documented otherwise

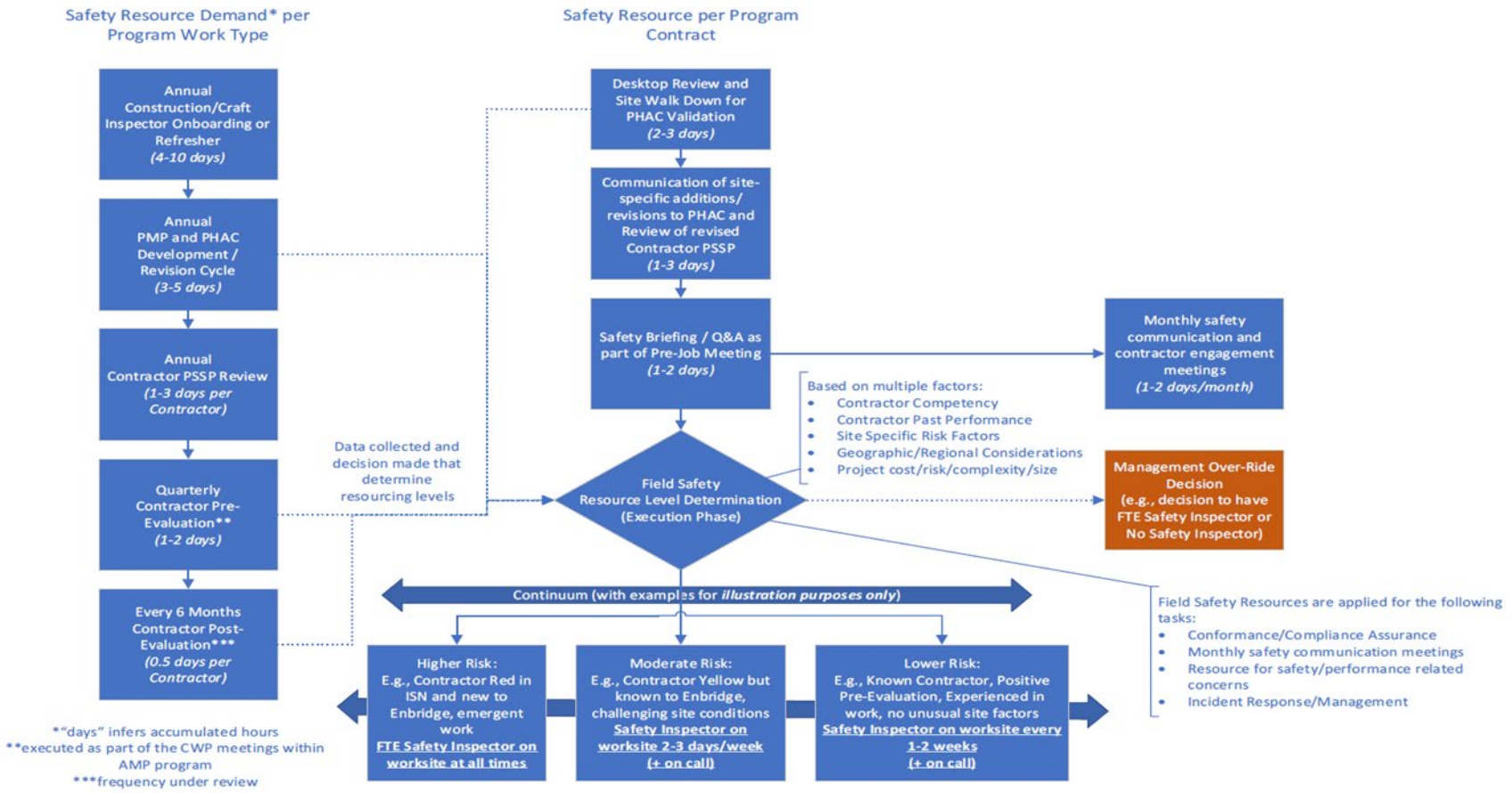
- PHAC/PSSP Supplement for individual worksite
    - A walkdown is required for each Program worksite. The walkdown is executed by Enbridge program representatives, including a Safety SME prior to execution to determine any site specific conditions that may require additional control requirements (beyond those already set out in their existing PHAC/PSSP)
    - Two-way communication of any new control requirements or site specific safety plan adjustments or additions arising must to be documented and saved so both Enbridge and the Contractor may access these prior to and during program execution.
    - Site-specific supplements must be addressed and included in that worksite's Pre-Job / Kick Off Meeting.
    - Minimum Frequency: Prior to start of work on a new worksite
- Pre-Job / Kick Off Meeting
    - Minimum Frequency: Prior to the start of work on a new worksite or introduction of new contractor to a worksite
- Contractor Pre-Evaluation
    - Minimum Frequency: Typically, quarterly—with the goal of aligning with Work Packages and Contractor Selection Meetings
- Contractor Post-Evaluation
    - Minimum Frequency: Every six months for all contractors used within that period or immediately following any individual contract instance where the contractor's safety performance was notably poor based on the judgment of Enbridge personnel on the worksite.

The above deliverables require the involvement of Program team members with accountability for successful program execution, individuals with firsthand expertise and experience in the nature of the work involved, as well as Project Safety personnel who may provide facilitation and/or SME support for these deliverables.

During field execution, standard project safety oversight practices on the part of Enbridge representatives on site as set out in the Project Safety Management Standard continue to apply (e.g., Safe Work Permitting, Safety Meetings, etc.).

Safety Resource Requirement/Determination

During execution, individual safety personnel will have multiple program worksites under their remit. The number of worksites assigned to safety personnel or time allocated to a given worksite depends on nature of the work, its inherent risks or challenges, and contractor experience. The safety professionals duties include site safety inspections on a rotational basis and working with the Enbridge program team and contractors as issues and questions related to safe work performance arise. Other safety duties such as safe work permitting or assuring contractor compliance with control requirements on a daily basis fall to the Enbridge craft/construction inspectors.


Safety Resource Demand* per Program Work Type
Safety Resource per Program Contract
Annual Construction/Craft Inspector Onboarding or Refresher (4-10 days)
Annual PMP and PHAC Development / Revision Cycle (3-5 days)
Annual Contractor PSSP Review (1-3 days per Contractor)
Quarterly Contractor Pre-Evaluation** (1-2 days)
Every 6 Months Contractor Post-Evaluation*** (0.5 days per Contractor)
Desktop Review and Site Walk Down for PHAC Validation (2-3 days)
Communication of site-specific additions/ revisions to PHAC and Review of revised Contractor PSSP (1-3 days)
Safety Briefing / Q&A as part of Pre-Job Meeting (1-2 days)
Monthly safety communication and contractor engagement meetings (1-2 days/month)
Data collected and decision made that determine resourcing levels
Based on multiple factors:
Contractor Competency
Contractor Past Performance
Site Specific Risk Factors
Geographic/Regional Considerations
Project cost/risk/complexity/size
Field Safety Resource Level Determination (Execution Phase)
Management Over-Ride Decision (e.g., decision to have FTE Safety Inspector or No Safety Inspector)
Continuum (with examples for illustration purposes only)
Higher Risk: E.g., Contractor Red in ISN and new to Enbridge, emergent work FTE Safety Inspector on worksite at all times
Moderate Risk: E.g., Contractor Yellow but known to Enbridge, challenging site conditions Safety Inspector on worksite 2-3 days/week (+ on call)
Lower Risk: E.g., Known Contractor, Positive Pre-Evaluation, Experienced in work, no unusual site factors Safety Inspector on worksite every 1-2 weeks (+ on call)
Field Safety Resources are applied for the following tasks:
Conformance/Compliance Assurance
Monthly safety communication meetings
Resource for safety/performance related concerns
Incident Response/Management
**"days" infers accumulated hours
**executed as part of the CWP meetings within AMP program
***frequency under review