



**CONTRACTOR
ENVIRONMENTAL & SAFETY
MANUAL**

2024

Contacts /Phone Numbers

Kinder Morgan Emergency Numbers

Pipeline/Facility CCO _____

Site Emergency _____

One-Call Numbers

Alberta One-Call 1-800-242-3447

BC One-Call 1-800-474-6886

Ontario Ontarioonecall.ca

US One-Call 811 or specific
State number

Other Phone Numbers

GPS Coordinates: _____

Nearest Cross Street: _____

CONTRACTOR (ENVIRONMENTAL/SAFETY) MANUAL

*The latest update of this manual is available from the Kinder Morgan Intranet and the Kinder Morgan website. Changes are indicated in yellow highlight.

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SECTION 1: INTRODUCTION / GENERAL REQUIREMENTS / DEFINITIONS

Kinder Morgan (Company) strives to maintain a positive safety culture in addition to a safe and healthy workplace for employees and contractors. Contractors must report any unsafe work or environmental conditions which *has* or *could* have an adverse impact to human health or the environment. Contractors are to ensure the health and safety of their workers and any person likely to be affected by the workers actions. Contractors have the right to know about hazards

and the means used to control or eliminate the hazards. Contractors have the right to participate in workplace safety activities and to refuse to work in an unsafe or environmentally detrimental condition.

This document provides all contractors with the minimum Environmental, Health and Safety (EHS) standards required while working on and/or adjacent to Company premises. Facility and/or site-specific requirements may be more stringent and applicable. Kinder Morgan is committed to an operations management system (OMS) framework to direct and control work to achieve the Company's objectives in an intentional and continual manner. This document communicates OMS requirements applicable to Contractors. Non-compliance with safety and/or environmental requirements is treated the same as non-compliance with any contract provision and may result in work stoppage or contractor removal from the premises. Willful or repeated non-compliance may result in contractor dismissal and contract termination.

The Company requires that Contractors:

- Meet all guidelines outlined in Sections 2.1 and 2.2, of this manual prior to commencing any work on Company premises.
- Ensures all workers are at least 18 years of age.
- Maintain a positive safety culture.
- Contact a Company Representative before proceeding if the standards in this manual are not clearly understood or if situations arise which are not covered by this manual.

No Conduit: The Contractor has signed a contract containing an obligation to not disclose to any third party any confidential information regarding Company; which Contractor has obtained or creates as a result of performing the contract. Contractor shall review its contractual confidentiality obligation with its designated company representative and periodically inform workers and subcontractors of the requirements.

Within this manual all standard measurements are applicable in the US and the metric numbers are applicable in Canada.

Electronic copies can be found at www.kindermorgan.com – Contractor Safety.

NOTE: Consultants, Engineering Support, Minimal Risk Contractors, Temporary Labor, Visitors used in an office setting and/or escorted on project premises for general observation tasks are required to receive a general site safety orientation. The general site orientation includes elements such as; emergency procedures, PPE requirements and muster point locations.

NOTE: Unless otherwise specified by contract, contractors must supply all tools and equipment including but not limited to: portable monitoring equipment, safety equipment, communication tools, etc.

Kinder Morgan (KM) employees and contractors are expected and encouraged to report to their supervisors or authorized company representative any actual or potential noncompliance with requirements, hazards, opportunities for improvement, and ethics concerns, including environmental concerns. Kinder Morgan also maintains an ethics hotline and designated high-level personnel for reporting of noncompliance, as follows:

- *KM's Independent Third Party Hotline* — 1-800-293-2402 or www.ethicspoint.com
- *Contact Patrick Bourgoyne – KM Ethics Officer (EO) – 713-369-8913 or Patrick.Bourgoyne@kindermorgan.com*
- *Contact Pete Almaraz – KM's Environmental Compliance Officer (ECO) – 713-420-1006 or Pete.Almaraz@kindermorgan.com*

US / CANADA / MEXICO REGULATORY REQUIREMENTS CONTRACTOR RESPONSIBILITIES

Contractor is responsible for full compliance with applicable federal, state, provincial, and local laws and regulations in the jurisdiction(s) in which they operate including, but not limited to, the United States, Canada and/or Mexico concerning: the environment and the health and safety of all persons; labor (including child labor, wages and maximum working hours); fair competition; non-discrimination; and anti-corruption.

Contractor must also comply with the requirements listed in the Contractor Environmental / Safety Manual and Company site-specific and/or business unit policies and procedures that are applicable to the project scope of work (SOW).

The standards presented in this document are not an exhaustive list of all applicable requirements and regulations. As a general rule, if there is uncertainty over which legislation applies (i.e., Federal, State, Local, and Provincial) comply with the most stringent requirement.

For U.S. Contractors, Occupational Safety and Health Administration (OSHA) General Industry Standards (1910), Construction Standards (1926) and/or the Mine Safety and Health Act (MSHA) may apply depending on the nature of the work.

For Canadian Contractors, provincially regulated premises must comply with the Canada Labor Code. Provincially regulated sites must follow the Alberta Occupational Health and Safety Act, Regulations and Code, the British Columbia Occupational Health and Safety Act and Regulation, the Saskatchewan Occupational Health and Safety Regulations for work done in those provinces.

For Mexican Contractors, Normas Oficiales Mexicanas (NOMs or Official Mexican Standards) may apply dependent upon the nature of the work being performed.

Contractor is ultimately responsible for determining regulatory applicability and assuring compliance.

General Definitions / Acronyms

ASSEMBLY AREA: A pre-determined location in which to assemble and conduct a roll call in case of an emergency evacuation.

AUTHORIZED EMPLOYEE: A person who locks out and/or tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment.

CDL: Commercial Driver's License. Defined within the Federal Motor Carrier Safety Regulations

CMV: Commercial Motor Vehicle. Defined within the Federal Motor Carrier Safety Regulations

COMPANY: Kinder Morgan, Inc. or any one of its subsidiaries, affiliates and/or business units.

COMPANY REPRESENTATIVE: Any person contracted or assigned to perform short or long-term workplace inspections for the Company.

COMPETENT PERSON: A competent person is one who has been trained and is authorized by their employer to identify and implement prompt, correct actions to mitigate work site hazards.

CONTRACTOR: Any company or person contracted to perform short or long-term work for the Company. References to Contractor include Contractor's workers, subcontractors and third party inspectors and consultants.

CRIBBING / SKIDDING: Is a process of stacking wooden skids (made of hardwood) to form a sturdy platform in which to secure pipeline joints.

CSA: Canadian Standards Association

CSM Forms: Company forms are referenced within this document and are applicable to both U.S. and Canada. Forms are identified as CSM-001 through CSM-021. ALL APPLICABLE U.S., Mexico and Canada Contractor Safety Forms can be found on the Contractor Safety webpage at [Safety Compliance \(kindermorgan.com\)](https://www.kindermorgan.com/safety-compliance).

DOT: U.S. Department of Transportation

HIRING MANAGER: Includes Project Manager (PM), Supervisor, Lead and / or Manager that is accountable for applying knowledge, skills, tools, resources, and techniques to all project activities, ensuring that project results meet stakeholder needs and expectations. With input from the Project Sponsor, the Project Team, and other stakeholders, the Hiring Manager maintains and controls all logistics/mechanics related to project completion.

IMMEDIATELY DANGEROUS TO LIFE OR HEALTH (IDLH): A condition that poses a threat of exposure to airborne contaminants when that exposure is likely to cause death or immediate or delayed permanent adverse health effects or prevent escape from such an environment.

NEAR MISS: An undesired event or a condition that, under slightly different circumstances, could have resulted in injury, damage or other loss.

NEB: The National Energy Board (NEB or Board) Regulates pipelines, energy development and trade in the Canadian public interest.

NFPA: National Fire Protection Association

PHMSA: Pipeline and Hazardous Materials Safety Administration Pipeline Regulations.

PREMISES: References to Premises includes; Company property, job site, job and worksite. Any real property on which Contractor will be working, whether owned by Company or not, including facilities, terminals, roads, parking lots, pipeline rights-of-way, common areas, compressor/pump station or offices.

REPORTABLE INCIDENT: Any act, incident, injury, occurrence, unwanted release of energy, unwanted release of product or near miss that is not considered a normal operating procedure and/or an occurrence that results in worker injury or monetary loss.

SOW (Scope of Work): Includes the purpose of a Project and Project Definition to reduce and ultimately eliminate ambiguity. Scope planning will demonstrate clear, detailed communication among the project stakeholders that results in a clearly defined project with little misinterpretation. Specific project tasks, critical dates, and quality control measures are identified during scope development and project definition.

WORK: Any and all services, acts, obligations, duties and responsibilities necessary to the successful completion of the project assigned to or undertaken by Contractor under the Contract Documents, including the furnishing of all labor, services, materials, equipment and other incidentals.

SECTION 2: CONTRACTOR SAFETY PROGRAM ADMINISTRATION

Contractors are expected to read this manual and to comply with Company requirements. The Company retains the right to question Contractors regarding the content of this Manual and to stop work if Contractors are observed operating in disregard to EHS requirements.

The Company updates this document and applicable forms periodically. Contractors are advised to check the Company website for the most current Contractor Environmental / Safety Manual and forms. The Company website can be located at: [Safety Compliance \(kindermorgan.com\)](https://www.kindermorgan.com/safety-compliance)

2.1 PRE-JOB REQUIREMENTS

Contractor is required to participate in the Company's Contractor Safety Evaluation Program by subscribing to ISNetworld (ISN) or have a Contractor Exemption / Variance Safety Evaluation completed and signed by the Company Hiring Manager with required management approvals.

Each Contractor subscribing to ISN is required to enter safety statistics applicable to their country into ISN. This information includes, but is not limited to the following:

- U.S. OSHA Statistics
- Canadian WCB Statistics
- U.S. EMR Rates
- Canadian WCB Rates
- Safety Programs

The Company requires the Contractor to have satisfactory statistical scores in the above categories prior to the award of any work and must be maintained through work completion.

It is the Company's expectation that the Contractor's status within the ISN database remain satisfactory throughout the duration of the project. If at any time the Contractor's status becomes unsatisfactory, the Contractor must work with the Company Hiring Manager to develop a plan for correcting deficiencies and timelines for completion.

Contact information for ISN: <https://www.isnetworld.com/en/contact-us>

At any time during the job, an Environmental, Health & Safety (EHS) desktop, or field audit may be performed. These audits will be performed at selected facilities as determined by the Contractor Safety Department to verify the contractor's information in ISNetworld, safety culture, and safety compliance in the field. If any improvement opportunities are identified, the Contractor will be required to correct any deficiencies with timelines for completion. If the Contractor fails to meet the timelines, KM shall have the right to remove the Contractor from the project. Once the audit has been completed, it will be posted in the ISNetworld database for review by other KM hiring personnel. A third party auditor may also assist KM with the coordination and completion of the contractor audits.

Contractors providing excavation services as defined in Section 12.1.1, will be required to submit their Safety Management

System (SMS) Program within their ISNetworld account for review.

2.2 KINDER MORGAN CORE ORIENTATION

After the project is awarded and prior to the start of work, the Contractor and applicable Company representatives must participate in Kinder Morgan Core, which includes:

- A review of the Company EHS requirements, site specific hazards, abnormal operating conditions, emergency preparedness and response plans, restricted areas, security, potential hazards that may be encountered, evacuation procedures, assembly areas, safety systems and contractor access and parking requirements at the worksite. The Contractor is encouraged to ask questions during the orientation process.
- Kinder Morgan's safety culture expectations as well as fundamental training topics such as First Aid, Incident Reporting, Fire Prevention and Protection, Hazard Awareness, Energy Isolation and Control, Personal Protective Equipment and Driving Safety.
- Kinder Morgan Core must be documented through ISN Online Training process, or form **CSM-003** (ONLY if Contractor is not required to subscribe to ISN or emergency on-site orientations). The Contractor must ensure that everyone that works on Company premises (including Subcontractors) receives this orientation. The orientation is required triennially.
- The Contractor Environmental / Safety Manual may be issued to each participant. At a minimum, the location of the Contractor Environmental / Safety Manual will be identified in the orientation.
- In addition, a separate site specific orientation may be required for Company operating facilities. Documentation must be kept by the facility utilizing one of the aforementioned methods or business unit specific process.

As of July 1, 2017, every individual (working for a contractor [or subcontractor] that meets Company's ISN subscription requirement) must have an ISN issued photo identification badge (or produce electronically) available upon request on any Company location or project. The Contractor must utilize ISN Quick Check badging system or equivalent, required by all assets for accountability purposes. Visitors will not be granted entry without prior permission of Contractor or Company.

2.3 CONTRACTOR DUTIES AND RESPONSIBILITIES

Contractor must provide direct supervision of its subcontractors. The Contractor must have a Subcontractor Management Plan in place which has been approved through the ISN process. The Contractor may utilize form **CSM-005** or equivalent to document evaluations of their subcontractors. The Contractor must submit the required subcontractor management and evaluation documentation to the Company Representative upon request.

2.4 DISCIPLINARY ACTION

If any Contractor requires, requests or allows workers to work in or around unsafe conditions or violates environmental permits or regulations, the Company may immediately remove the Contractor or any of its individual workers from Company premises and terminate the contract. For example, immediate and permanent removal may occur if any of the following activities are observed:

- Openly exhibits disregard, defiance, or disrespect for the safety program.
- Falsifying documents or information.
- Participates in fighting, violence, threats of violence, theft, or destruction of property.
- Violates established EHS laws, safety or environmental rules, regulations, procedures or codes.
- Possesses weapons such as firearms or knives not typically used in conjunction with normal work tasks.
- Failure to comply with Company Drug and Alcohol policies.

2.5 SITE/PROJECT HEALTH AND SAFETY PLANS (HASP)

Contractor may be required to develop a site/project specific Health and Safety Plan (HASP). If required, the HASP must establish the EHS expectations for the project, describe the key processes to be utilized during the project by the Contractor and assign areas of responsibility. Based on the detailed work plan, the Contractor must conduct a Hazard Evaluation to identify hazards anticipated during the project and measures that will be implemented to eliminate or control the hazards. Additionally, the Contractor shall establish a formal system for classifying and ranking hazards according to risk. Risk may be determined by analyzing the probability of the hazard causing harm, the frequency the hazard is encountered, and the potential consequences of impact with the hazard. A risk matrix should be developed to assist employees with risk assessment. The program must also identify how hazards are mitigated with hierarchy of controls. (Elimination, engineering, and administrative controls). An example from Company is provided in Appendix A.

The Contractor must include plans for changing conditions, revised SOW, or new information that will warrant modifications to the HASP. The original HASP and any modifications or changes must be submitted to the Company Representative for review prior to the start of work. Any revisions to the HASP will be returned to the Contractor for discussion or implementation.

A project-wide HASP may be developed by the Company and may include site specific requirements not identified in this manual.

SECTION 3: ACCIDENT / INCIDENT REPORTING AND INVESTIGATION

3.1 KEY REQUIREMENTS

3.1.1 The Contractor must immediately report all accidents/incidents and near misses to the Company Representative. If applicable, the Contractor must notify the appropriate regulatory agency within the required reporting requirements.

3.1.2 Kinder Morgan requires an incident investigation to either an immediate and/or root cause level depending on the severity of the incident [contact your Company Representative to determine the level of investigation required for your incident]. For incidents involving contractors, the root cause investigation conducted by the contractor can be relied upon, even if the root cause is not completed using SCAT. Immediate and root cause investigations will be documented using the company-approved incident tracking database, IMPACT, by completing fields that correspond to type of event, immediate cause and/or root cause on the SCAT Chart (or other).

3.1.3 A root cause investigation shall be completed when required by an agency, such as certain Process Safety Management (PSM) incidents, Risk Management Program (RMP) incidents, National Energy Board (NEB) reportable incidents, and Pipeline and Hazardous Materials Safety Administration (PHMSA) reportable incidents.

3.1.4 The Contractor must determine the necessary corrective actions and provide documentation of closure/completion in a timely manner, (all incidents). In addition to the Contractor's analysis/investigation, the Company retains the right to conduct their own investigation for any illnesses, injuries, fatalities, incidents or near misses occurring on its premises.

3.1.5 The Contractor must submit a copy of the written report and investigation, (using form **CSM-001**) to the Company Representative, unless otherwise specified, within **48** hours of occurrence.

3.1.6 Contractor must maintain injury logs for their respective workers. All incidents occurring on Company premises will be documented.

3.1.7 As determined by the Company, Contractor is required to supply total worker exposure hours worked at Company projects/sites on a monthly basis using ISN Site Tracker which is due by the 10th of each month.

3.1.8 Unless otherwise specified by case-by-case concerns, all NON-WORK Related incidents (as defined by OSHA/OHS, etc.) are NOT REQUIRED to be reported into the IMPACT system. These types of incidents may be ERL'ed (Emergency Response Line) for discussion purposes, but not placed into the tracking system.

SECTION 4: ALCOHOL, ILLEGAL DRUGS AND FIREARMS

4.1 GENERAL INFORMATION

Contractor must develop and enforce a policy that prohibits the possession, distribution, promotion, manufacture, sale, use, and abuse of illegal drugs, drug paraphernalia, controlled substances, alcoholic beverages and weapons by workers while on Company premises. Unless state or local law provides otherwise, Contractors and guests, regardless of whether or not licensed to do so, may not carry or transport any firearm or weapon, whether or not concealed, at the workplace, on any Company owned or leased premises, Company-owned vehicle, or in any other vehicle while engaged in Company business.

4.2 KEY REQUIREMENTS

4.2.1. Based on the Company business unit or regulatory requirements, and contractual obligations, the Contractor must establish and maintain acceptable Anti-Drug and Alcohol Misuse Programs.

4.2.2. Where required in the U.S., the National Compliance Management Systems (NCMS) will evaluate the Contractor's drug/alcohol programs. The plan must be submitted to NCMS for evaluation and approval by the Company. Contact NCMS at www.nationalcompliance.com.

4.2.3. Contractor programs must include post-incident testing criteria. Examples of these criteria include but are not limited to:

- An event that involves the release of product
- Death or personal injury requiring inpatient hospitalization
- Explosion or fire
- Release of >5 gallons (19 liters) of hazardous substance or carbon dioxide
- Accidents/Incidents involving vehicles and/or heavy equipment
- An event that results in a premises shutdown

4.2.4. CONTRACTOR WORKERS MUST BE TESTED WITHIN THE FOLLOWING TIMELINES:

- FOR ALCOHOL: Within 2 hours, but no later than 8 hours after the accident/incident
- FOR DRUGS: Within 32 hours of the accident/incident

4.2.5. If testing is conducted based upon suspicion, the Contractor worker under suspicion, must be removed from service pending test results.

4.2.6. Contractor workers are subject to searches including personal effects and automobile if located on the job site. Such searches may be conducted when there is a reasonable basis to suspect that the work performance or on-the-job behavior may have been affected by alcohol/drug use or that the Contractor has sold, purchased, used, or possessed illegal drugs or alcohol on the job site.

4.2.7 Where NCMS is not required, the contractor programs must include pre-employment testing criteria. All contracted workers must provide a negative drug test result (as part of contractors pre-employment testing program) prior to working on any company owned or leased property, or any other company jobsite.

4.2.8 Where NCMS is not required, the contractor programs must include random testing criteria. All contracted workers must subject contracted workers to unannounced random drug and alcohol testing at a minimum of 25% of the employee/provided personnel engaged in the work spread reasonably over a 12-month period with no advanced notice. If contractor is performing work under the Federal Motor Carrier Safety Administration (49 CFR), then the minimum random testing percentage is 50%."

SECTION 5: ASBESTOS

5.1 GENERAL INFORMATION

The potential of encountering Asbestos-Containing Material (ACM) while performing work on Company premises exists. The Company will identify those areas where ACM may be or is present, if known. All historical information pertaining to ACM for a premise is available for Contractor to review upon request.

5.2 KEY REQUIREMENTS

5.2.1 The Contractor must contact the Company Representative prior to removal of ACM. If required, the Contractor or Company must make any notifications to the applicable regulatory agencies a minimum of ten (10) business days prior to the removal.

5.2.2 Any Contractor who performs work where a potential for exposure to ACM exists must have a written ACM Compliance Program. The work plan must be available at the jobsite.

5.2.3 Work requiring ACM removal must be supervised by an individual who has received comprehensive abatement training. In the U.S., training must meet the EPA Model Accreditation Plan criteria. In Canada, training must meet the regulatory requirements of the Province where work is taking place. Training records and certificates must be

documented and maintained by the Contractor. All training records and certificates must be readily available for review by the Company upon request.

5.2.4 To restrict emissions to adjacent areas, an enclosure must be constructed around an area from which the ACM is to be removed.

SECTION 6: CHAINS, SLINGS AND CABLES

6.1 GENERAL INFORMATION

Defective or damaged chains, slings, cables or components must be tagged and removed from service immediately. Hooks, rings, links or any coupling device must have a rating equivalent or greater than the chain, sling or cable to which it is affixed. Never use makeshift links or coupling devices.

6.2 KEY REQUIREMENTS

6.2.1 Contractor shall ensure all chain slings and cables are applicable for the job and are maintained and used according to the manufacturers' requirements.

6.2.2 Any alloy steel chain sling used for lifting must meet all applicable standards for selection, use and maintenance as outlined in ASME B30.9-2018 Chapter 9-1 and standard specification as prescribed under ASTM A906/A906M-02.

6.2.3 Daily inspections before use must be conducted and documented by Contractor to look for wear, abrasions, collapse and any other visible damage. Individual conducting the inspection must be designated as a competent person by the Contractor.

6.2.4 All chains, slings and cables must have an identification tag attached showing its load rating and limitations.

SECTION 7: CONFINED SPACE / CONFINED SPACE ENTRY PERMIT

7.1 GENERAL INFORMATION

7.1.1 A confined space is an enclosed area with a limited means of egress and may be subject to the accumulation of toxic or flammable substances, or an oxygen-deficient atmosphere. Confined Space means:

- A space that is large enough and so configured that a worker can bodily enter and perform assigned work
- Has limited or restricted means for entry or exit
- Is not designed for continuous worker occupancy

7.1.2 In the U.S. *Permit Required Confined Space* (permit space) means a confined space which has one or more of the following characteristics:

- Contains or has the potential to contain a hazardous atmosphere
- Contains a material that has the potential for engulfing an entrant
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section or
- Contains any other recognized serious safety or health hazard

7.2 KEY REQUIREMENTS

7.2.1. The Contractor is required to have a written Confined Space Entry Program which defines the roles and responsibilities for entry supervisor, attendant, entrant, fire watch, communications and emergency response and rescue for review by Company.

7.2.2. The Company shall treat all confined space areas as Permit Required Confined Spaces until proven otherwise utilizing Company re-classification checklist (re-classification not applicable in Canada).

7.2.3. A Contractor entering a Confined Space or Permit Required Confined Space must have the following:

- Training in Confined Space or Permit Required Confined Space Entry;
- A completed and posted written confined space permit at the entry location;
- Ensure that all potential sources of toxic fumes and flammable vapors have been identified and isolated;
- A trained attendant dedicated exclusively to those duties detailed in the Permit Required Confined Space procedure and is capable of initiating an emergency rescue.
- A written plan for emergency rescue is required for any Permit Required Confined Space and must be approved by appropriate Company Representative.

7.2.4. On-site contract rescue services personnel are required if an Immediately Dangerous to Life or Health (IDLH) atmosphere exists, or there is reasonable potential for one to exist, or if facility/site specific procedures mandate. On-site rescue services personnel must:

- Be properly equipped and trained.
- Receive the same training as authorized entrants. In addition, on-site rescue services personnel must be trained in using personal protective and rescue equipment, first aid, and CPR.
- Practice simulated rescues that are properly documented at least once every 12 months.
- Be available for any entry into an IDLH environment.
- Calling 911 and relying on local fire department resources is not considered an acceptable option for rescue services.

7.2.5. Training must be completed by the Contractor and records and certificates must be documented and maintained by the Contractor and made available upon Company request.

7.2.6. A permit required confined space may be reclassified under the following conditions (not applicable in Canada):

- If there are no actual or potential hazards within permit space.
- Space may remain reclassified for as long as the hazards remain eliminated.
- Hazards may be eliminated by use of energy control procedures for mechanical, but not electrical hazards.

The applicable Company re-classification checklist must be utilized and signed off by Competent Person reclassifying the space and Company Representative.

SECTION 8: CRANES, RIGGING, AND CRIBBING

8.1 GENERAL INFORMATION

8.1.1 Proper set up and operation of cranes, and rigging, is required.

8.1.2. This section applies to crawler cranes, locomotive cranes, wheel mounted cranes of both truck and self-propelled wheel type and any variations having the same fundamental characteristics. It also applies to use of any heavy equipment for lifting, setting, staging, moving, manipulating, or suspending any type of load.

8.1.3 Contractor must have a Lift Plan for all anticipated lifts requiring use of specialized equipment. Specialized equipment may include, but is not limited to: Lulls, Cranes, Telehandlers, Excavators, Forklifts and Boom Trucks. Equipment and/or rigging gear must follow the Original Equipment Manufacturers (OEM) recommended lift specifications and capacities.

8.1.4 Critical Lifts are defined below and must be completed using an acceptable Critical Lift Plan such as CSM-019.

- Any lift over an operating unit, shelter, or building.
- Any lift with a load greater than 50 tons.
- Any lift in which the combination of weight and lift radius will load the crane in the use above 75% of its rated capacity.
- Any lift requiring the use of more than one crane.
- Any lift in which the significant risk of injury or property damage is possible.

8.1.5 Lift Plan Coordinator is considered to be the contractor representative responsible for approving all Critical Lifts and overseeing plan, operators and spotters/flaggers.

8.2 KEY REQUIREMENTS

8.2.1 A competent person must conduct and document a daily inspection of cranes. If a crane is moved or the lifting process changes during operation it must be re-inspected prior to performing the lift in order to reflect the changes. If the crane or its associated rigging exhibits any damage or excessive wear during daily inspection, the crane cannot be used.

8.2.2 Crane inspection records must be kept on site with the crane or in the Contractor's temporary office and readily available for inspection.

8.2.3 Rigging devices must have permanently affixed identification stating size, grade, rated capacity, and manufacturer.

8.2.4 If it is determined that any portion of equipment being operated under a power line can be within 20' feet (6m) of a power line, a plan must be developed following guidelines set forth in the regulatory requirements.

8.2.5 Contractor must clearly mark all lifting or boom type equipment to show the maximum height or extension measured from the ground level. If the work cannot be performed while maintaining the proper working clearances, Contractor must hold a detailed work planning meeting with the Company Representatives, Contractor and utility company.

8.2.6 Tag line(s) must be used on all lifts.

8.2.7 Contractor must develop a Lift Plan and utilize only documented, qualified riggers when lifting any load.

8.2.8 For Pipeline Construction Projects in the U.S - Safety Latches should be used when they make the task safer. The determination of whether or not if a hook should be used with or without a latch is dependent on the circumstances and whether the addition of the latch will result in a safer operation instead of creating an additional hazard.

8.2.9 The determination must be based upon the applicable requirements and the manufacturer's recommendations for the type of hook. The Contractor may consider without limitation, the following:

- All applicable regulatory standards and interpretation letters.
- Pre-arranged means of communication and placement of the load.
- Pre-planned routes for suspended loads designed to minimize workers from being below or near a moving or suspended load.
- Any required training for workers hooking and unhooking loads.

8.2.10 Contractor shall develop a Cribbing/Skidding Plan when working with large diameter pipe (30" and larger) or using mechanized welding. At a minimum the procedure must address the following requirements:

- When cribbing is initially set up, personnel shall inspect the skids for defects (cracks, splintering, other deformations). Defective skids shall be discarded from use and removed from the site for disposal. Inspect and monitor all piping on cribbing before work begins.
- Where welded sections of pipe joints are strung, crutching shall be installed on the 1st, 3rd and 5th cribbing from any loose end and every 5th set of cribbing thereafter.
- Where soil conditions or terrain may cause cribbing to sink or lean to one side, increase the area of the base by adding more timbers, utilize a mat, or plywood (of adequate thickness) under the cribbing to help distribute the weight more evenly.
- If none of the above is appropriate to safely support the weight of the pipe section then a wide base configuration shall be utilized every 5th joint. A wide base configuration usually encompasses a double sized crotch that is set up transverse to the pipe section which in turn will provide a larger base.
- Pipe shall not be solely supported vertically by a side-boom, crane, or loader during the welding process. Cribbing shall be utilized under the pipe. At no time shall anyone be allowed to work under or around a load until it is safely supported.

8.2.11 Contractor must utilize documented, qualified signal persons when the point of crane operation is not in full view of the operator.

8.2.12 Contractor shall only utilize qualified or certified operators per the applicable Federal, State/Provincial, and/or Local governmental entity jurisdiction.

8.2.13 All Lifts setting pipe in rack, setting equipment or pipe on supports, or any other lifting by crane, will utilize the proper crane with an operator that is trained, certified/licensed, and evaluated in accordance with 29 CFR 1926.1427 and require either a Critical or general Lift Plan (see 8.1.4 for criteria).

8.2.14 Standing or working under any suspended load at any time is prohibited.

SECTION 9: DRONES/UNMANNED AIRCRAFT

9.1 GENERAL INFORMATION

The use of drones by contractors performing work for Company is permissible provided an executed agreement is in place, that an acceptable grade in ISNetwork exists, and key requirements are met.

9.2 KEY REQUIREMENTS

9.2.1 Contractor agreements that are using un-manned aircraft/drones must be modified to include specific comprehensive aircraft liability insurance verbiage.

9.2.2 All contractors are required to comply with the following FAA regulations as outlined in Summary of Small Unmanned Aircraft Rule (Part 107) and verified (through ISN) prior to the usage of unmanned aircraft/drones when working for Company.

SECTION 10: ELECTRICAL SAFETY AND OVERHEAD POWER LINES

10.1 GENERAL INFORMATION

This section applies to the use of electrical power to operate equipment and electrical power tools, and all work near electrical systems including, but not limited to, overhead or underground power lines.

10.2 KEY REQUIREMENTS

10.2.1 Power cable systems within the work area must be de-energized during excavation whenever there is doubt about cable location.

10.2.2 The Contractor must protect workers from electric shock while using power tools, appliances and related equipment by using Ground Fault Interrupter (GFI) systems on all power outlets/sources during construction and maintenance.

10.2.3 Only qualified and authorized Contractors are permitted to work on electrical equipment.

10.2.4 All electrical equipment must be properly grounded and/or bonded.

10.2.5 Electrical equipment must be treated as if it were energized and be verified for de-energization.

10.2.6 The Contractor must place guards and/or barriers to prevent incidental contact with exposed electrical equipment. Cover plates must be correctly placed on equipment when they are not monitored.

10.2.7. Contractor must provide and use applicable PPE and test equipment per regulatory requirements. For example, high voltage proximity detectors, rubber insulating gloves, blankets, hoods, sleeves and line hoses.

10.3 OVERHEAD POWER LINES

10.3.1 When performing work under overhead power lines, Contractor must either meet the minimum distance to overhead lines outlined in section 10.3.5 below or make arrangements with the local utility and Company to have the overhead power lines de-energized and grounded during the work.

10.3.2 Before commencing work under overhead power lines, the Contractor shall contact the local utility company to understand the voltage of the overhead line and any requirements that apply.

10.3.3 Before commencing work under overhead power lines, the Contractor must conduct a planning meeting with its workers to discuss: the location of overhead power lines, hazards involved, what work must be conducted only by qualified persons, the protective measures to ensure lines are not hit and the protective measures to ensure that workers do not contact such lines.

10.3.4 Mandatory preventative controls for vehicles and equipment while working under overhead power lines must include:

- “Beware of Overhead Lines” signs must be placed at equipment operator’s eye level and must be a minimum of feet by 2 feet (60cm by 60cm). Hazard alerting signs shall be placed to alert and inform the viewer from a safe viewing distance.
- Dedicated spotter – A dedicated, trained person to monitor and direct traffic around and under lines. The dedicated spotter must:
 - Be continuously visible to the operator or in constant contact via electronic means.
 - Give timely information to the operator so that the required clearance distance can be maintained.
 - Use an appropriate audible alarm (i.e. an air horn or whistle) to warn operators of the hazard.
 - Be equipped with a visual aid to assist in identifying the minimum clearance distance.
 - Be positioned to effectively gauge the clearance distance.
- In addition to the two controls above, at least one additional control must be utilized based upon the hazards identified in the planning meeting:
 - Physical barriers – A non-conductive barrier, (i.e., goal posts with rope and ribbons/flagging), must be set outside the limits of the approach on both upstream and downstream sides at a minimum of 10 feet.
 - Proximity alarms – Alarms attached to the equipment that are set off when equipment is too close to an energized source.
 - Utility controls – site specific controls (i.e., line insulators, line raising or outage(s)).

10.3.5 Contractor must maintain the following minimum vehicle and equipment clearances from overhead lines:

- Vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines shall be operated so that a clearance of 10 ft. (305 cm) is maintained. If the voltage is higher than 50kV, the clearance shall be increased 4 in (10 cm) for every 10kV over the voltage.
 - The restriction above does not apply if an appropriate insulated barrier rated for the voltage of the line (and not part of an attachment to a vehicle or its raised structure) is installed by a qualified person to prevent contact with the line.
- A vehicle or mechanical equipment in transit with its structure lowered shall maintain a minimum clearance of 4 ft. (122 cm). If the voltage is higher than 50kV, the clearance shall be increased 4 in. (10 cm) for every kV over that voltage.
 - If insulating barriers are installed to prevent contact with the lines, and if the barriers are rated for the voltage of the line being guarded and are not a part of or an attachment to the vehicle or its raised structure, the clearance may be reduced to a distance within the designed working dimensions of the insulating barrier.
 - Mechanical equipment in transit under overhead lines must have a dedicated spotter (defined in 10.3.4 above).
- Vehicles or mechanical equipment without the capability of having its structure elevated, or vehicles or equipment with that capability but that do not have parts elevated must maintain a minimum clearance of 4 feet from all overhead power lines.
- Any other exceptions to the minimum vehicle and equipment clearances must be in compliance with the OSHA regulations including 29 CFR 1910.333 and 1926.1409-1411 and discussed in advance with the Company Representative.

SECTION 11: EMERGENCY ACTION / RESPONSE

11.1 GENERAL INFORMATION

When required by the Company, the Contractor must develop a project specific Emergency Action Plan, including the location of assembly areas and routes of evacuation. In the event of a fire or hazardous materials release, the Contractor and its personnel are to follow the direction of Company personnel unless otherwise directed by its Emergency Action Plan and/or emergency personnel (e.g., fire department, police or other regulatory personnel).

11.2 KEY REQUIREMENTS

11.2.1. If Contractor suspects that an emergency condition exists, they must immediately contact the local authorities, as applicable (e.g., 911 or the particular emergency phone number in the area) and then the Company Representative.

11.2.2. Contractor must shut-off all equipment if doing so does not pose risk of injury.

11.2.3. Contractor must evacuate to the pre-determined assembly area by the safest available route.

11.2.4. Contractor must account for all workers.

11.2.5. Contractor must remain in the assembly areas until otherwise directed.

11.2.6 Contractor must address in their Emergency Action Plan, their system (e.g. telephone system, siren, air horn, etc.) for alerting onsite workers in case of an emergency. The alarm system must be capable of alerting all workers of a site emergency and the need to evacuate.

SECTION 12: EXCAVATIONS / TRENCHING AND SHORING

12.1 GENERAL INFORMATION

12.1.1 Excavation services are any operation in which earth, rock, or other material in the ground is moved, removed, or otherwise displaced by means of tools, equipment, or explosives in any of the following ways: grading, trenching, digging, ditching, drilling, auguring, tunneling, scraping, cable or pipe plowing and driving, or any other way.

12.1.2. In ALL work areas where the exact location of underground utilities is known or unknown, the appropriate Dig Safe or One Call system must be notified so the owner / operators can locate and clearly identify their utilities prior to beginning excavation work. This notification must be conducted at least 2 days (U.S.) and 3 days (Canada) prior to start of work.

12.2 KEY REQUIREMENTS

12.2.1. The Contractor must provide adequate protective systems such as benching, sloping, or shoring when the sides of a trench are more than 5' / 1.5m deep and intended for worker entry.

12.2.2. Excavations over 20' / 6.1m deep or that do not meet regulatory requirements must have protective systems designed by a Professional Engineer (PE/PEng) within the same state/province. The PE/PEng design documentation must be onsite and available for inspection.

12.2.3. The Contractor's Competent Person must conduct daily excavation inspections and document on form CSM-002, prior to anyone entering an excavation. This documentation must be located at the excavation. If the inspection shows the area to be unsafe, the unsafe condition must be mitigated prior to resuming work.

12.2.4. The Contractor's Competent Person will conduct and document periodic inspections throughout the day when work is being performed in an excavation.

12.2.5. A secured ladder, ramp, or other means of egress must be provided within 25' (7.6m) of all workers in a trench that exceeds 4' / 1.2m in depth and/or when using a trench box.

12.2.6. The Job Hazard Assessment will determine what atmospheric monitoring (e.g. O₂, LEL, H₂S, CO), will be conducted prior to a worker entering an excavation that exceeds 4' / 1.2m in depth and has the potential to contain a hazardous atmosphere. **See Section 19.1 below for further atmospheric monitoring requirements.**

12.2.7. Excavated material must be placed at least 2' (US) / 1 m (Canada) away from the edge of the excavation (e.g., spoil pile, rocks, broken concrete or other debris).

12.2.8. If walkways are provided over excavations, they must be capable of supporting the weight of the traffic, guardrails and toe boards. Every crossover must have engineering design documentation and meet regulatory design standards. Contractor must use toe boards if working below the walkway.

12.2.9. Excavations must be secured to keep vehicles and unauthorized personnel out. High visibility fencing material placed 4' / 1.2m from the edge of the excavation when possible must be used to warn of the danger in high profile/vehicular traffic areas. Traffic impact plans may be required in high vehicular traffic areas.

SECTION 13: FALL PROTECTION

13.1 GENERAL INFORMATION

Contractors must review the job hazards and develop a Fall Protection Plan to address the hazards, and a Rescue Plan wherever personal fall arrest equipment is used.

13.2 KEY REQUIREMENTS

13.2.1 Contractor must be protected from fall hazards of 4' / 1.2m or more by guardrails or personal fall arrest systems. Personal fall arrest systems must be rigged so that the Contractor cannot free-fall more than 6' / 1.8m or contact any hazardous point at a lower level. Positioning or fall prevention devices must be rigged to prevent free falls more than 2' / 0.6m. See Section 35 for specific Scaffold fall prevention/protection requirements.

13.2.2 Full body harnesses, shock absorbing lanyards, and a proper attachment point are the minimum requirements for a personal fall arrest system. All fall protection devices must be properly stored, maintained and inspected for defects before each use. Harnesses, lifelines, retractable lifelines and lanyards must be marked with a tag stating maximum load and name of the manufacturer. Lanyards and vertical lifelines must have a minimum breaking strength of 5,000 lbs. / 2267 kg. All anchor points for fall arrest or restraint must meet minimum regulatory requirements and engineering design criteria for the weight. The Contractor is responsible for supplying all fall protection equipment required for their personnel.

13.2.3 The Contractor must provide a Competent Person to oversee fall protection compliance.

13.2.4 The Contractor must develop a written "Rescue Plan" wherever personal fall arrest equipment is used.

SECTION 14: FATIGUE MANAGEMENT**14.1 GENERAL INFORMATION**

14.1.1 Contractor shall have a Fatigue Management program in place. Fatigue has shown to be a major contributor to workplace injuries. Fatigue slows reaction time, impairs judgement and heightens distractibility.

14.2 KEY REQUIREMENTS

14.2.1 Contractors program shall address initial and annual training for workers on fatigue and controlling it.

14.2.2 Contractors program shall address limiting work hours and controlling job rotation schedules to help control worker fatigue.

14.2.3 Analysis of work tasks to control fatigue must be documented.

14.2.4 Roles and responsibilities of workers to report tiredness/fatigue to supervision and those supervisors responsibility to take appropriate action shall be addressed in the contractors program.

SECTION 15: FIRE PROTECTION AND PREVENTION**15.1 GENERAL INFORMATION**

15.1.1 A *Fire Watch* is a designated individual who monitors the hot work site where open flames are present, work on in-service equipment is being performed, or sparks may land on adjacent in-service equipment. This individual must be capable of evaluating unsafe conditions and taking necessary actions to mitigate and communicate the conditions. The Fire Watch may not have other assigned duties while conducting this task.

15.1.2 A Fire Watch shall be maintained for at least 30 minutes after completion of welding or cutting operations to detect and extinguish possible smoldering fires. Fire watchers may be required to stay longer than the minimum 30 minutes for special hazards or concerns.

15.2 KEY REQUIREMENTS

15.2.1 Firefighting equipment and a Fire Watch must be supplied by the Contractor and must be present during any hot work. Access to firefighting equipment must be maintained at all times and be inspected as required to ensure proper working condition.

15.2.2 Smoking and use of electronic cigarettes are allowed in designated areas only. Designated areas will be identified during the project pre-job construction meeting or work permitting process.

15.2.3 Matches or uncovered and trigger-type lighters are not allowed.

15.2.4 All non-intrinsically safe devices are permitted only in Company approved areas. Devices include, but are not limited to, cell phones, pagers and cameras.

15.2.5 Unless otherwise specified by the Authority Having Jurisdiction, (AHJ), all flammable and combustible liquids must be stored in metal enclosures and must be placed at least 3' (0.9m) away from other flammable storage cabinets. For Canada, portable storage containers for flammable liquids must meet either the Underwriter's Laboratories of Canada or Canadian Standards Association requirements.

15.2.6 Unless otherwise specified by the AHJ, the volume of Class I, Class II, and Class IIIA liquids stored within a single approved storage cabinet must not exceed 120 gallons / (454 L).

15.2.7 Unless otherwise specified by the AHJ, approved storage cabinets must be UL (Underwriters Laboratory) Listed or fire marshal approved for indoor storage of flammable or combustible liquids.

SECTION 16: FIRST AID/CPR/AED & BLOOD-BORNE PATHOGENS

16.1 GENERAL INFORMATION

16.1.1. First aid is used for temporary treatment of on-the-job injuries and minimizes occupational exposure to hepatitis B virus (HBV), human immunodeficiency virus (HIV), and other blood-borne pathogens.

16.1.2. CPR (Cardio Pulmonary Resuscitation) is a lifesaving procedure that is performed when someone's breathing or heartbeat has stopped, as in cases of electric shock, drowning, or heart attack.

16.1.3 AED (Automated External Defibrillator) is a medical device designed to analyze the heart rhythm and deliver an electric shock to victims of ventricular fibrillation to restore the heart rhythm to normal. Ventricular fibrillation is the uncoordinated heart rhythm most often responsible for sudden cardiac arrest.

16.2 KEY REQUIREMENTS

16.2.1 Minimum first aid/CPR/AED requirements for Contractors working at Company premises:

- The Contractor must have personnel trained and immediately available to provide first aid/CPR/AED treatment on site. Contractor must provide a current first aid/CPR/AED certificate.
- The Contractor must have applicable first aid supplies at the premises.

16.2.2 Contractor must develop an Emergency Plan for the premises and have it available at all times. The Emergency Plan must include, at a minimum:

- Location of the job site
- Name of hospital or Emergency Care Center where Contractor personnel would be transported
- Travel route
- A statement saying: "In Case of Serious Injury Call 911" or a specific number
- For remote premises, the Plan will include applicable transportation (e.g., helicopter services).

16.2.3 The following are the minimum requirements for Contractor working at Company premises who might be exposed to blood-borne pathogens:

- The Contractor personnel must be properly trained in basic blood-borne pathogen exposure, control and post-incident sanitation procedures.
- The Contractor must provide accessible blood-borne pathogen cleanup supplies.

SECTION 17: FLOORS, ROOFS AND WALL OPENINGS

17.1 GENERAL INFORMATION

17.1.1 The Contractor must prevent falls from roofs, wall and floor openings by ensuring proper safeguards are in place.

17.1.2 Guarding and covers should be removed only after other means of protection are in place. Contractor installing or removing guarding and covers must be protected by alternative means throughout the process.

17.1.3 Installation of a standard railing is required for floor perimeter and wall opening protection.

17.2 KEY REQUIREMENTS

17.2.1 Wire rope used as top rail or/mid-rail must be ½" / 1.27cm in diameter with at least three J-type fist grip wire rope clamps at each connection and turn buckles every 100' / 30.4m. Use thimbles where the wire rope is connected.

17.2.2 For construction work performed on low sloped roofs (less than 4:12 pitch), or work areas within 25' / 7.6m of an unprotected edge, a warning line system may be used as alternative protection.

17.2.3 Stair railings must be constructed similar to a standard railing, but the vertical height must be 34-36" / 86.3-91.4cm from the top rail to the surface tread in line with the face of the riser, at the forward edge of the riser.

17.2.4 Floor opening covers must be used for openings greater than 2" / 5cm and capable of supporting the maximum intended load and installed to prevent accidental displacement.

17.2.5 During construction, Contractor must provide temporary stairs on structures that are two or more floors or more than 20' / 6.1m high until permanent stairways are in place.

17.2.6 Runways must be guarded by use of standard railing, or the equivalent, on open sides above the ground level. When tools, machine parts, or materials are likely to be used on the runway, provide a toe board on each exposed side.

SECTION 18: HAZARD COMMUNICATIONS (HAZCOM – US / WHMIS - CANADA)

18.1 GENERAL INFORMATION

Contractor must establish and maintain a written, comprehensive Hazard Communication Program (HAZCOM/WHMIS). Hazard Communication Programs may differ between sites, areas, and business units. Contact the Company representative or the site safety representative for specific hazard communication concerns relevant to the location.

18.2 KEY REQUIREMENTS

18.2.1 Contractor must prepare and provide to the Company Facility Manager or EHS, a hazardous materials list including the quantity, planned use of, storage of, and duration the material will be onsite before the materials arrive on Company premise.

18.2.2 The use of hazardous materials on Company premises requires consultation with the Company. Per- and polyfluoroalkyl substances (PFAS) containing substances or products are not to be used or stored on Company projects or sites without prior written consent of the Company.

18.2.3 Contractor must maintain the most current SDS sheets provided by manufacturers and distributors of the material.

18.2.4 Contractor must label all hazardous materials entering the premises. All labels must be intact and legible utilizing the new Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

18.2.5 Contractor shall inform personnel of the hazardous materials associated with the work they perform, and communicate hazards where work is being conducted.

18.2.6 Storage cabinets must be marked in conspicuous lettering: FLAMMABLE — KEEP FIRE AWAY.

18.2.7 Unless otherwise specified by AHJ, regulations require that flammable and combustible liquids be stored:

- In a quantity insufficient to produce an explosive atmosphere if inadvertently released.
- More than 100' / 30.4m away from an underground shaft.
- Away from the air intake of ventilation system, an internal combustion engine, or the fire box of a fired heater or furnace.
- Only in containers approved to NFPA standards, CSA Standard B376-M1980 (R1998), "Portable Containers for Gasoline and other Petroleum Fuels" or ULC Standard C30-1995, "Containers, Safety".

SECTION 19: HAZARDOUS ATMOSPHERES

19.1 GENERAL INFORMATION

A hazardous atmosphere is an atmospheric condition that may expose workers to a risk of death, incapacitation, and impairment of ability to escape unaided, injury or acute illness. Testing of hazardous areas is required prior to entry into an area of concern. Contractor shall not enter ANY area containing hazardous concentrations of toxic gases unless properly trained, protected, and utilizing the proper calibrated air monitoring equipment. The air monitor testing equipment must have a "pump" style 4 gas monitor. Passive, or personal 4 gas monitors designed for monitoring the breathing zone are not allowed for continuous monitoring or permit compliance purposes.

19.2 KEY REQUIREMENTS

19.2.1 All personnel working in a potential H₂S environment must have certificates verifying proper training. Additionally, all personnel working in an H₂S environment must be clean-shaven per the accepted practices governing SCBA (Self-Contained Breathing Apparatus) use.

NOTE: A SCBA is required for H₂S levels exceeding the permissible exposure limit: THE PERMISSIBLE EXPOSURE LIMITS (PEL) VARY IN U.S., CANADA, AND MEXICO CHECK REGULATIONS FOR PEL LIMITS.

19.2.2 In areas where potential concentrations of Benzene and H₂S may be present, applicable monitoring must be conducted using appropriate air monitoring equipment. Immediately exit the area if monitoring results are above the permissible exposure limit. Personnel must wear appropriate respiratory protection if concentration exceeds PEL.

NOTE: THE PEL VARY IN US, CANADA, AND MEXICO. CHECK REGULATIONS FOR PEL LIMITS.

19.2.3 Oxygen levels must be between 19.5% and 23.5% (U.S.) and 19.5% and 23% (Canada).

SECTION 20: HOUSEKEEPING

20.1 GENERAL INFORMATION

Good housekeeping is mandatory. Work areas must be kept neat, clean, and orderly. If a Contractor's work area is not kept clean, the Company may have the area cleaned and charge the cost to the Contractor. The Company may also stop work until the area has been cleaned.

20.2 KEY REQUIREMENTS

20.2.1. Keep work areas, passageways, fire exits, fire lanes, and stairs in and around the buildings and structures clear of debris at all times.

20.2.2. Properly store all tools and equipment after use. Keep walkways free of dangerous depressions, obstructions, and debris.

20.2.3. Clean the work area daily and dispose of debris in dumpsters, or off site in accordance with the environmental requirements.

20.2.4 Contractor must remove all unused material and equipment upon the completion of the project.

SECTION 21: JOB HAZARD ANALYSIS/RISK ASSESSMENT

21.1 GENERAL INFORMATION

Contractor must conduct a daily Job Hazard Analysis (JHA) and (if applicable) Safe Work Permit to identify Personal Protective Equipment (PPE) requirements, special equipment or operators and to develop controls for any potential hazards based on the daily job scope and work area.

Also, (if applicable) Safe Work Permit to identify Personal Protective Equipment (PPE) requirements, special equipment or operators and to develop controls for any potential hazards based on the daily job scope and work area.

21.2 KEY REQUIREMENTS

21.2.1 The JHA and/or Safe Work Permit must be documented and utilized on a daily basis and communicated at each daily tailgate meeting. Contracted workers must be actively involved in the risk identification process. If subcontractors are performing work at the location, they must be included. Identified hazards and risks must be reviewed with all affected workers.

21.2.2 If the scope of work changes during the day, the Contractor must update the Job Hazard Analysis and/or Safe Work Permit and communicate these changes by conducting a tailgate meeting. If requested, Site Operations must be notified of all changes and updates.

21.2.3 Job Hazard Analysis and/or Safe Work Permits must be available for review and retained in the job file.

SECTION 22: LADDERS**22.1 GENERAL INFORMATION**

Ladders used on Company premises must meet appropriate guidelines. In the US, manufactured ladders must comply with ANSI specifications. In Canada, ladders must comply with CSA Standard Can 3-Z11-M81 (R2001) portable ladders, and ANSI Standard A14.5-2000 portable reinforced plastic ladders.

22.2 KEY REQUIREMENTS

22.2.1 Metal ladders are prohibited for electrical work.

22.2.2 Stepladders must be fully opened when in use. Safety latches on extension ladders must be fully engaged.

22.2.3 Always face the ladder when climbing or descending. When working, face the ladder with both feet securely on the rungs. Never stand, step or sit on the top of the ladder, straddle the ladder, work on leaned stepladders, or work with two people on the same ladder.

22.2.4 The Contractor must ensure ladders are:

- Before each use. Do not use ladders with broken or missing rungs, broken or split side-rails, without legible load ratings, or damaged components. Defective ladders must be tagged out of service and removed from job site.
- Extend 3' / 0.9m above the upper landing surface.
- Secured to prevent slippage and workers must use the three point contact rule while ascending or descending a ladder
- The Contractor must use barricades or guards for areas impacted by ladder use. Areas include, but are not limited to, passageways and doorways.
- Ladders must meet maximum load ratings.

SECTION 23: LEAD IN CONSTRUCTION**23.1 GENERAL INFORMATION**

Company will identify and communicate to Contractor areas where lead may be present. Company Representative will advise on how to proceed.

23.2 KEY REQUIREMENTS

23.2.1. All Contractors who perform work where there is exposure to regulated levels of lead must have a written Lead Abatement Program.

23.2.2. All Contractor lead abatement workers must be adequately trained to understand the hazards associated with lead exposure. This includes the nature of operations that could expose them to lead, the purpose of medical surveillance, use of engineering work practices and appropriate PPE to minimize exposure.

23.2.3. Training records and certificates must be documented and maintained by the Contractor and made available to the Company upon request.

SECTION 24: LOCKOUT / TAGOUT (CONTROL OF HAZARDOUS ENERGY)

24.1 GENERAL INFORMATION

24.1.1 Guidelines and safeguards must be in place to protect Company and Contractor from unexpected startup or energy release.

24.1.2 Contractor shall Lockout and/or Tagout any energy isolating device when performing maintenance or service/repair of equipment. If an energy-isolating device is not capable of being locked out and a tag provides equal protection, tagout is acceptable.

24.1.3 Contractor shall supply all required materials, equipment and training for their workers to comply with this requirement. The Contractor shall discuss the proposed lock and tag locations with the Company Representative before they are allowed to proceed with their planned work.

24.2 KEY REQUIREMENTS

24.2.1 All Lockout/Tagout shall be coordinated with Company before working in an area of hazardous or stored energy.

24.2.2 The Contractor shall follow applicable JHA and/or Work Permit requirements before performing work.

24.2.3 The Contractor shall review and understand the Company's Lockout/Tagout procedures (O&M 152) and adhere to all warnings including:

- Unauthorized removal of lockout/tagout devices is prohibited;
- Unauthorized operation or servicing of equipment is prohibited.

24.2.4 Only the Contractor's authorized employees may service or perform maintenance on equipment where hazardous energy must be/is being controlled. Each authorized employee shall have personal Lockout/Tagout device(s), on the equipment or on a satellite lockbox over which they shall maintain exclusive control.

24.2.5 When servicing and/or maintenance is performed by a crew, craft, department or other group, they shall utilize a procedure which affords the employees a level of protection equivalent to that provided by the implementation of a personal lockout or tagout device.

24.2.6 Contractor shall follow specific Company procedures (O&M's) when working on Company equipment. Contractor shall develop and follow their own Lockout/Tagout procedures prior to working on equipment during new construction.

SECTION 25: MANAGEMENT OF CHANGE

25.1 GENERAL INFORMATION

25.1.1 While not always required by law, Company uses a Management of Change (MOC) procedure to effectively manage certain changes and reduce risk. Changes to technology, equipment, standards, procedures, and organizational changes may be made in accordance with the appropriate corporate or regional MOC procedure. MOC procedures also address permanent and temporary modifications and include the granting of occasional waivers. The Company Representative will notify Contractor if Contractor needs to be involved in an MOC. Should a Contractor identify the need for an MOC, the Contractor shall document the reason and justification for the change as well as the wording of any proposed standard or specification and submit to the Company for consideration.

25.1.2 MOC procedures include the following:

- reason for change
- authority for approving changes
- analysis of implications
- acquisition of required work permits
- documentation of change process
- communication of change to affected parts of the organization
- time limitations
- qualification and training of personnel affected by the change

SECTION 26: NOISE / HEARING PROTECTION

26.1 GENERAL INFORMATION

Hearing protection must be worn in all areas where ear protection requirements are posted by the Company and/or the Contractor. Hearing protection is required at all times when operating or using any equipment emitting noise greater than 85 decibels.

SECTION 27: PERSONAL PROTECTIVE EQUIPMENT (PPE)

27.1 GENERAL INFORMATION

Contractor must maintain a written PPE program and provide training in the proper use, maintenance and inspection of PPE prior to beginning work. The daily JHA and/or Safe Work Permit must identify and specify any special or additional PPE requirements based on the scope of work to be conducted.

27.2 KEY REQUIREMENTS

27.2.1 The Contractor must supply all required PPE to its personnel.

27.2.2 Unless otherwise specified in a WHA (Workplace Hazard Assessment) and/or Company Business Unit requirement, the minimum PPE shall include

- Hard hats [compliant with ANSI Z.89.1 and CSA Z94.1-05 and worn per manufactures instructions]
- Safety glasses with side shields or side impact protection [compliant with ANSI Z87]
- Safety toe shoes/boots (steel/composite toe or approved toe caps) [compliant with applicable ASTM and ANSI standards].
- Additional PPE may be required by some business units and could include
 - Fire Retardant Clothing
 - High Visibility Clothing
 - Reflective Clothing
 - Task appropriate gloves
 - Hearing protection

27.2.3 PPE must be upgraded when changes in conditions are noted during monitoring of the site. PPE requirements for handling hazardous substances are available in the specific SDS.

27.2.4 Additional PPE is required per the above for working on, in or near water and also for land clearing activities. Specifications can be found in Sections 42 and 59 below.

SECTION 28: PROCESS SAFETY MANAGEMENT (PSM) AND RISK MANAGEMENT PLAN (RMP)

28.1 GENERAL INFORMATION

Contractors working at a facility under the jurisdiction of PSM and/or RMP must comply with all regulatory requirements. Contractors working on or around the covered process in a PSM and/or RMP facility are required to:

- Provide its personnel information on the hazards of the process, including instruction in the known potential fire, explosion, or toxic release hazards related to his/her job and the applicable provisions of the emergency action plan.
- Train personnel to safely perform assigned tasks and document that each worker has received and understood the training. The record shall contain the identity of the worker, the date of training, and the means used to verify the worker understood the training.
- Assure personnel follow facility safety rules and implement safe work practices to provide for control of hazards such as hot work, LOTO, confined space entry, and opening equipment or piping.
- Inform personnel of their obligation to follow the Company's procedures for controlling entrance into a facility. Advise the Company of any special or unique hazards associated with its work on the covered process.

Additional site specific requirements may apply and the Contractor must check with a Company Representative to identify them.

SECTION 29: PROTECTING THE PUBLIC

29.1 GENERAL INFORMATION

Contractor must protect the public with appropriate and visible protective systems when the public could be exposed to hazards.

29.2 KEY REQUIREMENTS

29.2.1 Exterior Protection Procedures

- Keep sidewalks, entrances, lobbies, corridors, aisles, doors, and exits clear of obstructions to permit safe entrance and exit at all times. Post appropriate warning and instructional safety signs. Barricades must be provided where sidewalks, sheds, bridge fences, or guardrails are not required between work areas and pedestrian walkways, roadways and occupied buildings. Barricades must be secure, except where temporary removal is necessary to perform work.

29.2.2 Interior Protection Procedures

- Before starting work in occupied buildings, contractors must coordinate with a Company Representative and develop a work plan. The SOW must include risks such as: electricity or gas outages, excessive noise generation, chemical fumes, asbestos, and fire exit blockages. The work plan must address provisions for proper communication and related control measures. Control measures may include providing PPE, scheduling work during non-business hours, or area evacuation. Contractor must notify the Company of revisions to this plan.

SECTION 30: RADIATION PRODUCING EQUIPMENT

30.1 GENERAL INFORMATION

30.1.1 Prior to operating any radiation producing equipment, the Contractor shall coordinate with the Radiation Safety Officer (RSO) assigned to that facility and/or project. Only properly trained, qualified personnel are allowed to use radiation producing equipment or materials on Company premises. The Contractor must maintain records of all training and qualifications.

30.1.2 Place radiation warning devices and signs containing the internationally recognized symbol for radiation around the perimeter of any area which may be affected by radiation.

30.2 KEY REQUIREMENTS

30.2.1 When radiographic equipment is used, the Contractor must ensure the area is clear and all personnel are at a safe distance from the radiation source.

30.2.2 All dark rooms must have a carbon monoxide monitor/alarm installed.

30.2.3 Contractor working with equipment that contain radioactive sources must:

- Coordinate work activities with the Company Representative (RSO). If the Contractor must work in proximity to radioactive material, work time around the radioactive source must be minimized by task planning
- If the Contractor damages a radioactive source and/or a x-ray producing machine or observes one that may be damaged, they must contact the Company Representative (RSO) immediately.

SECTION 31: REGULATORY AGENCY INSPECTIONS / CITATIONS / NOTICE OF VIOLATIONS**31.1 GENERAL INFORMATION**

31.1.1 Company policy is to cooperate with authorized regulatory agency inspections. The Contractor is required to ensure that regulatory inspections are treated with high priority and with the utmost professionalism.

31.1.2 Contractor shall inform their Company Representative and KM Contractor Safety of any and all potential or actual findings, citations, notice of violations (NOV's), or other corrective actions stemming from work being completed for the Company.

31.2 KEY REQUIREMENTS

31.2.1 For any agency audit or inspection, the Contractor represents itself, and not the Company, during the inspection. Upon notification of a regulatory agency audit or inspection, the Contractor must inform the Company Representative. If possible, this should be done prior to beginning the inspection. The Company will determine the appropriate Company representation at the inspection based on the regulatory agency involved and the type of compliance issues or corrective actions being addressed.

31.2.2 The Contractor should ask the regulatory inspector for applicable credentials and have them sign the visitor's register/log.

31.2.3 The Contractor should ensure the regulatory inspector follows all safety requirements, procedures and PPE requirements.

31.2.4 The Contractor should verify any equipment readings by performing parallel sampling and/or monitoring.

31.2.5 When the inspection and exit interview are completed:

- The Contractor must coordinate with the Company Representative and KM Contractor Safety to discuss any findings, actions for compliance, responsible parties and estimated completion date for actions. The Contractor must take immediate action to correct all identified citations or violations and document actions taken.
- The Contractor must supply documentation of the corrective actions to the Company Representative and KM Contractor Safety.

SECTION 32: RESPIRATORY PROTECTION**32.1 GENERAL INFORMATION**

32.1.1 The Contractor must develop a written respiratory protection program relating to respirator use during work activities.

32.1.2 Any Contractor potentially exposed to hazardous atmospheres or substances in excess of permissible exposure limits must have applicable respiratory protection.

32.2 KEY REQUIREMENTS

32.2.1 Contractor's respiratory protection program must include, training records, medical clearance and fit test records. Air purifying cartridges must be tagged. The records must be documented and maintained by the Contractor. Contractors subject to a respiratory protection program must be clean-shaven at all times. Mustaches are permitted, provided that a proper seal can be maintained. Specific Company facility or Business Unit requirements may be more stringent, and therefore supersede this section.

32.2.2 Contractor must designate an individual to perform air monitoring at the premises to ensure Contractor is not overexposed. This individual will inform Contractor when respiratory protection is required and must continue to monitor the premises to determine if conditions change.

32.2.3 Supplied Breathing Air Use

Contractor must ensure supplied breathing air sources meet the applicable requirements. In the US, Grade D breathing air is required and described in ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989. In

Canada air must meet the requirements of CSA Z180.1 (Compressed Breathing Air and Systems). If compressors are used to supply breathing air, they must have suitable in-line air purifying devices to ensure air quality.

For oil-lubricated compressors, Contractor must use a high-temperature or carbon monoxide alarm, or both, to monitor carbon monoxide levels. If only high-temperature alarms are used, the air supply must be monitored at intervals sufficient to prevent carbon monoxide in the breathing air from exceeding 5 PPM. Locate compressors in an area to prevent taking in contaminated air.

For compressors that are not oil-lubricated, the Contractor must also ensure that carbon monoxide levels in the breathing air do not exceed 5 PPM.

Air-purifying devices must be tagged with the most recent date of change-out.

32.2.4 Where a spray booth or room is being utilized, proper ventilation and other precautions must be in accordance with US OSHA standards 1910.94 or 1926.57, as applicable.

SECTION 33: RIGHT-OF-WAY / ROADSIDE WORK / WORKING NEAR RAILROAD CROSSINGS

33.1 GENERAL INFORMATION

33.1.1 Work on or adjacent to existing public roadways must be performed in accordance with the requirements of applicable Traffic Control Programs. In the US this includes MUTCD (Manual of Uniform Traffic Control Devices) requirements.

33.1.2 Contractor must obtain applicable permits.

33.1.3 Contractors working near an active railroad crossing, must document that all employees have been made aware of the associated driving hazards.

33.2 KEY REQUIREMENTS

33.2.1 Contractor must develop an approved written plan relating to vehicular traffic control during roadside work activities. The plan must include the proper placement of barricades, cones, signs, flashers and warning signs and must be available at all times.

33.2.2 Contractors exposed to vehicular traffic must be provided with and wear warning vests meeting regulatory requirements.

33.2.3 All flaggers must be trained or certified based on the applicable Federal, State, Provincial, and Local County and/or City requirements.

33.2.4 During sunrise/sunset or night time, lighted flashers and proper overhead illumination must be used so flaggers, personnel and equipment can be seen by oncoming traffic.

33.2.5 Contractors approaching a railroad crossing must abide by all applicable Federal, State, Provincial and Local laws.

SECTION 34: SAFETY PERMITS FOR SAFE WORK OR HOT WORK

34.1 GENERAL INFORMATION

34.1.1 Company premises have site specific procedures and permit requirements. Examples include, but are not limited to, the following: permit to work, hazardous energy control, hot work permit, excavation permit, and confined space permit. These site specific requirements and the requirements in this Manual must be defined during pre-job meetings and met with the most stringent requirements taking precedence.

34.1.2 Where applicable, the Company may require Contractor to obtain a Safe Work Permit on a daily basis from a Company Representative prior to the start of work. The permits must identify work to be completed, additional permits that may be required, potential hazards, and safety measures to be followed.

34.1.3 Unless otherwise agreed in the contract, Contractor is responsible for obtaining all applicable permits and for making all required notifications prior to the start of work, including One Call or excavation notices.

34.1.4 The Contractor must not operate any Company valves, equipment, fire suppression systems or alarm systems unless specifically outlined in the work permit or at the direct approval and/or presence of a Company Representative.

34.2 KEY REQUIREMENTS

34.2.1 *Hot Work* is defined as any work that involves the use of open flames or other sources of ignition with the potential to generate a spark, heat or static electricity that could cause a fire or explosion.

34.2.2 Hot work permits will be coordinated with Company Representative prior to commencing any hot work. Contractors performing hot work are responsible for the safe execution of assigned tasks. If an unsafe condition or potentially unsafe condition arises, work must be stopped and the condition reported to a Company Representative.

34.2.3 Proper safeguards must be implemented to guard against changes in the working conditions. Hot work on “in-service” equipment must follow special precautions and must be identified in the hot work permit.

34.2.4 Unless permitted by site specific policies or rated for the hazardous area, non-intrinsically safe devices such as cell phones, computers, radios, lighting or pagers are not allowed in the area.

34.2.5 Passive, or personal 4 gas monitors designed for monitoring the breathing zone are not allowed for continuous monitoring or permit compliance purposes.

SECTION 35: SCAFFOLDS**35.1 GENERAL INFORMATION**

35.1.1 Scaffolds must be designed, built, inspected and tagged by a Competent Person and must conform to the applicable requirements. Conduct and document daily inspections before use.

35.1.2 Lean-to scaffolds and make-shift platforms are prohibited.

35.1.3 Do not store material on scaffolds except if using material while on the scaffold. Place material over cross members.

35.2 KEY REQUIREMENTS

35.2.1 Contractor must provide a Competent Person to oversee scaffold erection, inspection and permitting.

35.2.2 Contractor must ensure scaffolding design and construction provides:

- A guard rail fall protection system or personal fall arrest system when contractors are working at heights 4' / 1.2m or greater and less than 10' feet / 3m.
- A guard rail fall protection system and personal fall arrest system when contractors are working at heights greater than 10' feet / 3 m;
- Level footing capable of supporting the loaded scaffold without settling; and
- Components that can support at least 4 times the maximum intended load.
- In addition:
 - Wire or fiber rope used for scaffold suspension must be capable of supporting at least six times the intended load
 - All platforms must overlap at least 12" / 30.5cm and be secured from movement
 - Contractors to provide overhead protection when working on or near scaffolding
 - Pole scaffolds must be tied to the building or structure at intervals of no more than 25' / 7.6m

35.2.3 Contractor shall follow all applicable Company procedures, including use of specific forms, when scaffolding will be used by Company employees and/or Contractor employees at operational facilities.

SECTION 36: SECURITY REQUIREMENTS

36.1 GENERAL INFORMATION

36.1.1 Prior authorization is required by Contractor, vendors, or suppliers to access Company premises.

36.1.2 Use only designated roads, gates, and doors for entry or exit and park in designated areas.

36.1.3 Where permitted by law, US Contractor may be required to undergo successful background screening prior to being granted access to Company premises. The term premises is used in its broadest sense and includes, but is not limited to, all jobsites, projects, network or cyber access, and property owned, leased, operated or otherwise under the control of the Company .

36.2 KEY REQUIREMENTS – SECURITY FOR NON MARINE PREMISES

36.2.1 When entering and exiting Company premises, vehicles and belongings are subject to screening. Contractor must present valid government photo identification (e.g., State/Province Issued Driver's License, Passport, Government Agency ID) to security or premises personnel and sign in and out of the premises.

36.2.2 Contractor may be required to review security requirements, undergo training sessions, understand information protection requirements which in the US may include Security Sensitive Information (SSI), Chemical Vulnerability Information (CVI), and obtaining a CVI Authorized User Training Certificate, and complete certain security paperwork (e.g., a Non-Disclosure Agreement) before entry to Company premises. Contractor must cooperate with all security requirements.

36.2.3 A Facility Specific Security Plan has been implemented at each premise that prescribes the security measures based on national and/or local threat levels. The Company has adopted the three-tier National Terrorism Advisory System (NTAS). The NTAS system provides uniform guidance to citizens, the private sector and public agencies on the perceived threat posed to the country by terrorists. Depending on the nature of the threat, there may be heightened law enforcement or military presence at the premises.

36.2.4 Anyone entering the premises should be aware at all times and report to a Company representative anything suspicious, which includes at a minimum:

- Recognition of characteristics and behavioural patterns of persons who are likely to threaten security.
- Observation of any suspicious activity, theft, vandalism, and suspicious or dangerous substances or devices.
- Any unauthorized filming or photography.
- Security awareness for information protection must include:
 - Contractors should exercise discretion in discussing proprietary information in public places where conversations can be easily overheard.
 - Proprietary information, in any form, should be handled and stored in a manner which ensures its security.
 - Care should be taken to protect documents, conversations, and information posted in public view from visitors to company offices.

36.3 KEY REQUIREMENTS – SECURITY FOR MARINE PREMISES

36.3.1 Contractor entering a marine premises is subject to the measures required under the Maritime Transportation Security Act of 2002 (MTSA), the U.S. Coast Guard, International Ship and Port Facility Security regulations and Transport Canada's Marine Transportation Security Requirements. Failure to abide by security procedures may result in denial or revocation of authorization to access the premises.

36.3.2 Transportation Workers Identification Credential ("TWIC"): A TWIC is a valid, non-revoked transportation worker identification credential. Any person needing unescorted access to Company premises regulated by MTSA must possess a valid TWIC. Individuals that do not possess a valid TWIC may be escorted by an individual that has a valid TWIC and has been trained to be an escort for that specific facility.

36.3.3 Maritime premises have a similar system to the Department of Homeland Security’s threat advisory system. The Maritime Security Levels are referred to as MARSEC levels and are set at three levels (MARSEC Level 1, Level 2 or Level 3) similar to the National Terrorism Advisory System (NTAS).

Department of Homeland Security’s National Terrorism Advisory System (NTAS)	Equivalent maritime security (MARSEC) level
Baseline/ Normal	MARSEC Level 1.
Elevated	MARSEC Level 2.
Imminent	MARSEC Level 3.

36.3.4 The current MARSEC Level must be posted on signs at access points or other common premises within the premises. Elevations in the MARSEC Levels must be taken seriously. The Facility Security Officer (FSO) ensures threat level information is communicated throughout the premises. At heightened MARSEC levels, the FSO must inform premises personnel about the threats, stress reporting procedures and the need for increased awareness.

36.3.5 Department of Homeland Security’s Chemical Facility Anti-Terrorism Standards (CFATS)

36.3.6 Contractor must notify Company thirty (30) days in advance of any plans to bring any chemical of interest (COI) onto the Premises and obtain the facility’s Company Representative’s written approval prior to bringing any COI onto the facility.

SECTION 37: SMALL TOOLS (POWER, AIR AND HAND TOOLS)

37.1 GENERAL INFORMATION

Contractor must follow the manufacturers’ guidelines and guidelines from this section, for using small tools.

37.2 KEY REQUIREMENTS

37.2.1 Power, air, and hand tools must be in good working condition. Replace worn tools immediately.

37.2.2 Remove damaged or frayed cords from service. Do not hoist or lower tools by the cord or hose.

37.2.3 Do not use power tools if safety equipment such as shields, tool rests, hoods, and guards have been removed or rendered inoperative.

37.2.4 As stated in the Job Hazard Assessment (or Workplace Hazard Assessment), contractor must wear identified PPE when using tools.

37.2.5 Ground electrically powered tools by ground-fault-circuit interruption devices.

37.2.6 Reduce the operating pressure of compressed air used for cleaning purposes to 30 psi or less. NOTE: Compressed air cannot be used to clean substances from workers clothing or bodies.

SECTION 38: STOP WORK AUTHORITY & RESPONSIBILITY

38.1 GENERAL INFORMATION

38.1.1 All Contractor and / or Company representatives have the authority, responsibility, and are required to suspend a work task or group operation when the control of safety or environmental risk is not clearly established or understood.

38.1.2 *Stop Work Authority* ensures the right thing is done the right way. This program manages risk, protects personnel, the environment and assets. Intervention will be supported by the Company and no action will be taken against anyone who, in good faith, uses the Stop Work Authority.

38.2 KEY REQUIREMENTS

38.2.1 Work must be stopped when:

- Any Contractor brings attention to an unsafe act or condition.

- An unsafe condition could result in an undesirable event.

38.2.2 The steps to take:

- Stop work activities, remove workers from area and stabilize the situation. Make the area as safe as possible.
- Notify all affected personnel and Company Representative of the stop work issue.

38.2.3 Most issues can be adequately resolved in a timely fashion at the job site.

38.2.4 Any reprisal against a person using stop work authority because that individual, in good faith, stopped work is strictly forbidden.

SECTION 39: TRAINING

39.1 GENERAL INFORMATION

39.1.1 The Contractor shall assure that personnel have an appropriate level of competence in terms of education, training, knowledge and experience.

39.1.2 All Contractor workers (including subcontractors) must complete Kinder Morgan Core Training in ISN every three years.

39.1.3 Contractor must perform applicable training relative to the scope of work. Conduct training and document the proper application, use, care and maintenance of safety equipment for all affected workers.

39.1.4 Contractor must conduct safety meetings to instruct on the recognition and avoidance of hazards in the work place. Safety meetings must focus on topics related to the scope of work to be conducted to ensure all contract workers understand potential hazards and mitigation steps.

39.2 KEY REQUIREMENTS

39.2.1 Daily tailgate safety meetings are required prior to work commencing. These tailgate meetings are intended to review applicable safety permits, the JHA, and/or lessons learned.

39.2.2 Detailed safety meetings must be conducted at least once per week.

39.2.3 Safety meetings/training and tailgates must be documented by the Contractor. The documentation must include each topic discussed, content, attendees, dates and the name(s) of instructors or persons presiding.

39.2.4 Company Representatives/Inspectors may attend these meetings to evaluate their value and improve two-way communications.

39.2.5 Contractor must implement a Short Service Worker (SSW) Program for all Contractor workers that have less than 6 months of experience in a specific discipline. It is the Contractor's responsibility to have a means of identifying short service workers. This can be accomplished with a unique colored hard hat or distinctive and easily visible marker or identifier.

39.2.6 Contractor must be able to provide documentation of training and/or qualification for individuals assigned to specific tasks.

SECTION 40: UNDERGROUND UTILITY LOCATING (ONE CALL)

40.1 GENERAL INFORMATION

Line hits can impact the general public, additional pipeline owner-operators and Company operations. Contractors have a legal and contractual requirement to complete the One - Call process.

40.2 KEY REQUIREMENTS

40.2.1 THE EXCAVATOR IS RESPONSIBLE FOR HAVING ALL UTILITIES LOCATED AT THE SITE.

40.2.2 One - Calls are a mandatory notification requirement. This allows underground facility owners to identify their facilities before excavation occurs. This potentially avoids the damage, injury or service disruption that can occur by an excavator digging into underground facilities. These facilities include, but are not limited to, electrical lines and pipelines carrying natural gas, liquid petroleum products, water and sewage.

40.2.3 Excavators are required by law to notify applicable One - Call Centers at least two working days (US) or three working days (Canada) in advance before starting an excavation project or otherwise applicable state requirement.

40.2.4 All utility lines on or near the job site must be identified and marked at this time using flags, spray paint, or both. Survey the area for identifiers such as pipeline line markers, depressions or other indicators of underground utilities.

40.2.5 Once utilities are marked, respect the demarcations and dig carefully in their proximity. Always expose underground installations by a safe and acceptable method. It may be necessary to excavate by hand in congested areas such as pump stations or when underground utility locations are unknown. Review available detailed underground facilities drawings before beginning an excavation. While the excavation is open, protect, support, or remove such installations to safeguard employees.

40.2.6 Always call One-Call before beginning an excavation project. Every digging project, no matter how large or small, no matter what the location, warrants a One - Call. Example digging projects include tasks as simple as installing a mailbox, building a deck, planting a tree or more complex tasks such as major road or building construction.

40.2.7 Depending on the location in relation to the excavation, a Company representative may be required at the job site to monitor excavation activity and can help determine the most appropriate digging method. Alert Company if work crews will be crossing the right-of-way with motorized equipment or vehicles.

40.2.8 If you accidentally damage or hit the Company pipeline or damage a pipeline marker, contact the Company immediately. All dents, scrapes or other damage need to be assessed and repaired to prevent a future leak or serious accident.

SECTION 41: VEHICLES – HEAVY EQUIPMENT (MOBILE POWERED) – LOADING, UNLOADING, AND LIFTING

41.1 GENERAL INFORMATION

41.1.1 Inspect, test, and certify vehicles and heavy equipment brought on site to be in safe operating condition. The certification documentation must be available for review.

41.1.2 Contractor equipment operators must be licensed or certified to operate equipment. Certification is required for crane operations, powered industrial trucks, and others as applicable. Training documentation must be current and operator certification documentation must be readily available upon request of Company Representative.

41.1.3 Contractor shall provide trained spotters/flaggers in sufficient numbers, whenever heavy equipment is being utilized near existing property and/or congested areas.

41.2 KEY REQUIREMENTS

41.2.1 All Contractor personnel must have the proper commercial driver's licenses to operate equipment on public roadways.

41.2.2 Special permission by Company is needed for vehicles to enter restricted areas such as dike areas.

41.2.3 Contractor must be transported to and from the job site in a safe manner. Each passenger must have adequate seating. Standing up in a moving vehicle is strictly prohibited. While on Company Right-of-Way (ROW), riding in the back of a pick-up or similar truck that has not been equipped with adequate seating is prohibited. Seat belts must be worn at all times by driver and all passengers while on public roadways and in any type of vehicle on Company premises or ROW.

41.2.4 Observe all posted speed limits and traffic regulating signs. Only drive on designated roads or rights-of-way.

41.2.5 Reckless driving and horseplay is prohibited.

41.2.6 Mobile Equipment Operation

- Only properly trained, qualified personnel are permitted to operate equipment or machinery.
- Contractor is prohibited from operating Company owned equipment or machinery, with the following exceptions;

This does not include Contractor personnel considered to be temporary workers or Company Representatives; Company Facility Managers may waive this prohibition if operational needs require.

- Company workers are prohibited from operating Contractor owned equipment or machinery.

This does not apply to equipment the Company rents.

41.2.7 Contractor must ensure all warning signs, rated load capacity charts, recommended operating speeds and other information is available for all mobile heavy equipment.

41.2.8 Audible back-up alarms must be correctly installed and maintained on Contractor equipment.

41.2.9 Contractor shall secure and/or remove keys from all vehicles and mobile equipment remaining on the right-of-way without supervision or security.

41.2.10 Spotters/flaggers must be trained to understand the proper signs, symbols, hand signals used in direct communication with a vehicle or equipment operator.

41.2.11 Contractors shall provide audible warning devices (that can be heard above normal equipment noise) to their dedicated spotters.

41.2.12 Excavators with an operator that is trained and certified as competent will be allowed to set pipe on supports, in an excavation and position pipe within this same area. A general Lift Plan detailing setting pipe in an excavation or positioning pipe will be required.

41.2.13 Forklifts with an operator that is trained and certified as competent must be utilized for material movements (i.e. moving valves to the worksite, moving items in the laydown area, etc.) and loading/unloading trucks. A general Lift Plan will be necessary covering these operations and can be included as part of the Job Hazard Analysis (JHA/JSA) process.

41.2.14 Mobile equipment (i.e. Telehandlers) may be used to set equipment/pipe on supports, or piping/beams vertically into place, provided the following conditions are met:

- Lifting over and around any process piping would require a Critical Lift Plan (see 8.1.4 for criteria).
- That the mobile equipment is equipped with the correct attachment per manufacturer specifications.
- That the operator is trained and certified on the mobile equipment pursuant to 29 CFR 1910.178(l).

If these conditions cannot be met, then a crane is required as prescribed in Section 8 above.

41.3 Loading and Unloading of Heavy Equipment

41.3.1 Only trained operators (as defined by CFR 1910.178) are allowed to load and/or unload equipment from delivery trailers. If equipment is being delivered by an equipment rental vendor, then only they are allowed to unload the equipment.

41.3.2 Trained, qualified spotters and/or flaggers must be utilized in sufficient numbers and adhere to Kinder Morgan's Spotter/Flagger policy as outlined in Section 58 of this manual.

41.3.3 Kinder Morgan recommends the use of Lowboy, Landoll, or Step Deck trailers to be used to transport construction equipment.

41.3.4 For wheeled equipment (not tracked equipment), delivery trailer deck and ramps must be **at least** as wide as distance from outside of right wheel to outside of left wheel, verified per visual inspection.

41.3.5 All precautions shall be made for equipment to be delivered on level ground. If that is not available, then all potential hazards will be identified and mitigated appropriately and documented utilizing a Job Hazard Analysis (JHA/JSA) or other acceptable means.

41.4 ALL-TERRAIN VEHICLES (ATV) AND UTILITY VEHICLES (UTV)

41.4.1 ATV's and UTV's include any motorized off highway vehicles having a bench or seat to be straddled by the Contractor and a handlebar or wheel for steering control.

- Where ATV/UTV's are utilized, a daily JHA must be written and reviewed.
- Under no circumstances may Contractor use three-wheeled ATVs.
- All ATVs and UTV's must have proper warning placards (general safety requirements, weight capacities, and tire pressures assigned by the manufacturer) affixed to them.
- Seat belt use is required on UTV's if the vehicle is equipped with them.
- Unless allowed by local traffic laws, do not operate ATVs and UTV's on public roads or public drives.

- PPE must be worn when operating an ATV including:
 - A DOT, Snell, CSA or ANSI approved helmet with face shield and/or impact resistant goggles.
 - Long sleeved shirt and long pants.
 - Leather, heavy cotton, or company issued work gloves.
 - Other PPE that may be required for the working conditions.
- Minimum PPE must be worn when operating an UTV including:
 - Hard hat
 - Safety glasses with side shields or side impact protection
 - Safety toe shoes/boots (steel/composite toe or approved toe caps)

41.4.2 All Contractors operating ATVs and/or UTV's must complete a safe operations training course.

41.5 CONTRACTOR TRANSPORTATION DRIVERS

41.5.1 Contractor transportation drivers associated with any construction project entering a Company premises must either be escorted by a KM Representative, a designated contractor representative or receive an appropriate safety orientation. **CSM-009** (US/Canada), CSM-003 or site/project specific form can be used for documentation of any orientation.

41.5.2 A "Driver" is defined as: Any Contractor who will be operating a vehicle including loading or unloading of a vehicle/trailer at the job site without performing additional work. (This does not include delivery services such as UPS or FEDEX).

41.5.3 In the US, drivers are required to obtain and hold a CDL for the proper vehicle class being operated.

41.5.4 Any violations of Company Policy, posted signs, or the law while operating a motor vehicle may result in immediate dismissal of the Driver or the Contractor from a Company project. Examples of issues resulting in immediate dismissal from a Company project include:

- Being under the influence of alcohol or controlled substance.
- Leaving the scene of an accident Speeding Driving recklessly.
- In the US, driving a CMV without a CDL in the driver's possession.
- Not completing required inspections as outlined.
- Not maintaining equipment to recognized standards. (NOTE: At any time a Company Representative can question the quality of the equipment being used on the project. If the equipment is deemed unsafe, it may be tagged out of service and not allowed to operate on the project).

41.6 Steep Slope Descent Plan and Vehicle Winching

41.6.1 A Safety Plan must be provided to give direction and instruction for the winching of vehicles both up and down steep slopes. (Steep Slopes are classified as 12% or greater in grade.) These slopes will be identified prior to actual work beginning.

SECTION 42: WORKING ON, IN, OR NEAR WATER

42.1 GENERAL INFORMATION

The focus and intent of this section is to provide for the waterside safety of all contractor workers involved in work on, in, or near water by preventing Man Overboard (MOB) and/or diving incidents. Emergency Action Plans (EAP) are required per Section 11 of the KM Contractor Environmental Safety Manual. Contractors working on or near water should include in their EAP identification of provided resources for MOB rescue operations, including site specific rescue plans, and a MOB rescue checklist.

Man overboard risks should be identified and addressed in the JHA for all work being performed on, in, or near water. Designated access/egress points shall be clearly identified on docks, work barges and boats. Ladders and gangways should be used at all times. Ladders should always be secured for use. Gangways shall be installed between permanent work barges. Never use a rope or cable as a ladder or gangway. First aid kits shall be weatherproof and shall contain individual

sealed packages for each item that must be kept sterile. The contents of each kit shall be in accordance with ANSI Z308.1. Every work area (including boats, docks and work barges) shall have sufficient lighting to enable normal operations at any time of the day. Lighting on the waterside work area shall meet 29 CFR 1917.123 and 29 CFR 1918.92 requirements, unless conditions meet U.S. Coast Guard illumination requirements, per 33 CFR 126.15(1) and (n) which are as follows:

- Installed outdoor lighting, adequately illuminates the transfer work area.
- Must be shielded and located so it cannot be mistaken for an aid to navigation or interfere with navigation on waterways.

42.2 PPE REQUIREMENTS

Personal Protective Equipment (PPE) shall be required per the KM Contractor Environmental Safety Manual, respective Business Unit O&M 120 procedures, the Workplace Hazard Analysis (WHA, or the site specific PPE Matrix), and the Safety Data Sheet (SDS) (as applicable).

Additionally, the following is required:

- USCG 46 CFR Part 160 approved Personal Flotation Device (PFD).
- Rescue whistle
- Water activated strobe light affixed to the shoulder

42.3 TOOLS & EQUIPMENT

42.3.1 RESCUE AND FALL PROTECTION/RESTRAINT: Any recovery tools or devices used should be United States Coast Guard (USCG) approved. All locations that have contractor workers where there is the danger of drowning must maintain adequate retrieval and rescue equipment in order to facilitate a response to a Worst Case Scenario (WCS) event (i.e. Man Overboard (MOB) in cold water, face down and unresponsive). Where applicable, properly engineered fall protection or fall restraint systems shall be utilized.

42.3.2 EQUIPMENT INSPECTION

Inspect all equipment for working operation in accordance with applicable O&M procedures and manufacturers manuals. PFDs should be inspected before each use for general condition and serviceability. If any defect or damage is observed, **DO NOT USE THE PFD..**

Safety boots should be inspected regularly.

- Unsafe boots significantly increase the possibility of a MOB incident occurring and all worn and unsafe boots should be replaced immediately.

MOB rescue devices shall be inspected at least monthly for general condition and serviceability.

- Inspections shall be documented and records retained for a minimum of one year.
- Before any operation on or near the water begins, rescue boats (if applicable) and associated equipment shall be inspected daily for condition and serviceability.
- Inspections shall be documented and records retained for a minimum of one year.

All two-way radios shall be checked and the battery condition verified (spare batteries readily available).

42.4 WEATHER PRECAUTIONS

Each location shall monitor weather conditions by subscribing to a weather service or using an equally effective means (i.e. a weather alert radio in operation 24/7). Waterside operations shall be stopped when directed by the USCG or when strong currents, high water levels, high winds, lightning or other conditions could endanger workers or the use of cranes and excavators and other waterside equipment or machinery. Fog reduces visibility and may make visual communication difficult. Ensure that a good communication link is established and tested before operating in these conditions. The JHA should take into consideration poor visibility.

42.5 DIVING SAFETY

Contractors providing commercial diving services to Company must adhere to the following requirements found in OSHA Subpart T, Commercial Diving Operations 29 CFR 1910.420 through 1910.427:

- 1910.420 Safe practices manual
- 1910.421 Pre-dive procedures
- 1910.422 Procedures during dive
- 1910.423 Post dive procedures
- 1910.424 SCUBA
- 1910.425 Surface supplied air
- 1910.426 Mixed gas diving
- 1910.427 Liveboating.

SECTION 43: WELDING SAFETY

43.1 GENERAL INFORMATION

43.1.1 Contractor must follow approved, site-specific procedures for welding, cutting, and heating. If no site specific procedures exist, Contractor must develop procedures using guidelines in this section.

43.1.2 Contractor must meet all requirements related to welding safety and compressed gas cylinders.

43.2 KEY REQUIREMENTS

43.2.1 Contractor personnel performing welding and cutting must be qualified and trained in accordance with applicable standards and be thoroughly familiar with potential hazards and precautions necessary to ensure safety.

- Grinder guards are required on all abrasive grinding wheels.
- Safety glasses must be used when hoods or pancake hoods are not in use

43.2.2 Mechanical Plugs, air bags, aqua-gel mud packs, dry ice, spheres or other approved sealants must be used to prevent flammable atmospheres/air mixtures from contacting possible sources of ignition (e.g., grinding, brushing, beveling). **Warning:** Mechanical plugs or air bags are not pressure holding devices and must not be used as pressure plugs. Air bags may not be approved for use in all business units.

43.2.3 Mechanical plug requirements:

- Extend the vent to an adequate location away from the work area to prevent possible ignition.
- Do not install anything that restricts or narrows the inner diameter of the hose or piping.
- Use a reinforced vent hose to prevent hose crimping, which would restrict venting. Ensure pressure gauges and related openings are free from obstructions. Verify ounce / millibar gauge accuracy before each use. If any pressure builds up, immediately declare the area unsafe and eliminate the pressure before resuming work.

SECTION 44: WORK CLOTHING

44.1 GENERAL INFORMATION

Sleeved shirts and long pants are required at all times. Where hazards exist due to moving parts on machinery or equipment, maintain clothing and hair to avoid entanglement.

44.2 KEY REQUIREMENTS

Wear special work clothing where exposure to fire, extreme heat or cold, corrosive chemicals, electrical hazards, body impacts, cuts from handled materials or other specialized hazards are possible. See the premises or business unit's site specific requirements for any additional needs, such as Fire Retardant Clothing (FRC). Contractor shall supply special work clothing, ensure it is in good condition, and worn properly.

SECTION 45: WORKSITE SAFETY

45.1 GENERAL INFORMATION

45.1.1 Contractor shall inspect each work area at the beginning of each shift, and periodically thereafter, to maintain safe working conditions.

45.1.2 Contractor shall provide illumination bright enough for work to proceed safely.

45.1.3 Contractor shall follow all applicable Company rules and governmental laws/regulations related to the prevention of distracted driving while on Company premises or Right-of-Way. The most stringent requirement supersedes unless otherwise note herein.

45.1.4 Contractor must ensure protection from severe weather conditions including, but not limited to, hurricanes, extreme winds, tornadoes, lightning storms, extreme heat or cold, and flooding. Contractor must develop for implementation a severe weather safety action plan. The Project/Site Safety representative or Facility Manager will identify any work task that may continue on a case-by-case basis and communicate to the contractor.

45.1.5 If the English language is a communication barrier, Contractor at its expense shall timely convert/translate the Kinder Morgan Contractor Safety Manual accurately into the appropriate language for its employees and subcontractors.

45.1.6 The use of headphones for any purpose other than work related communications is prohibited.

45.1.7 Contractors shall take measures necessary to secure materials, debris and tools stored and generated at heights (Over 6 feet). Minimum steps should include a pre-job evaluation of needs with the project manager, identification of hazards associated with materials, debris and tools either becoming windborne or drop hazards to workers below. The strategy should identify storage needs and securement methods, with attention given to the likelihood of a material becoming windborne.

If the Company site requires a safe work permit, the strategy should be presented to the permit writer prior to issuance. If an unanticipated event occurs that prevents the contractor from properly securing materials (i.e. quick forming storm, required shelter in place), they are responsible for immediate notification of the circumstances to the most immediately available member of Kinder Morgan management.

45.2 KEY REQUIREMENTS

45.2.1 Lightning and weather can be unpredictable. If at any time, equipment operator believes that a weather condition creates an unsafe working condition, work should be stopped pursuant to Section 36 "Stop Work Authority" of this manual.

45.2.2 Lightning within six (6) miles of an operating facility or project site will be cause for immediate work stoppage for all outdoor operation, until such time there is no sound of thunder for at least thirty (30) minutes.

45.2.3 Lightning detection systems (fixed or portable) or National Weather Service information shall be used as a formal means of determining proximity of lightning to the site or facility.

45.2.4 Contractors will adhere to a wind speed limit of 30 MPH sustained (average of observed values over two-minute period), or 35 MPH gust or the lesser of any manufacture listed recommendation or operating limit. At or above this threshold all exposed lifting and crane operations and any elevated work will be ceased and equipment secured.

45.2.5 Work stoppage for wind speed will continue for 30 minutes past the point that wind speeds drop back within limits. If multiple wind measuring devices exist within a facility or project the device indicating the highest wind speed shall be utilized.

45.2.6 The Contractor needs to evaluate the environmental extremes of the project, such as the ability of their personnel to work in areas of excessive cold or heat and implement appropriate procedures to provide a safe work environment.

45.2.7 Contractor shall provide an adequate supply of fresh drinking water on a daily basis for its personnel. Unless otherwise specified, Contractor shall provide and maintain clean portable restrooms.

45.2.8 No animals, except for service **dogs**, are allowed on Company premises.

45.2.9 With the exception of hands free devices, the use of a cell phone or Personal Electronic Device (PED) is prohibited while driving on Company premises or Right of Way (US only). The use of cell phones, PED's, text messaging and emailing while driving in Canada is strictly prohibited.

45.2.10 Vehicles left unattended must either be turned off or have the parking brake engaged. Specific facility or site-specific procedures may be more stringent and applicable.

SECTION 46: ENVIRONMENTAL – GENERAL REQUIREMENTS

46.1 KEY REQUIREMENTS

46.1.1 Contractor must review and comply with all applicable environmental permits and conditions, laws, regulations, and Company requirements prior to the start and during work. Contractor will be provided copies of Company-obtained environmental permits, and Contractor will provide Company with copies of environmental permits it obtained.

46.1.2 Contractor must participate in and comply with all applicable project-specific environmental training prior to commencing work.

46.1.3 For projects on which the Company has designated an Environmental Inspector, the Contractor shall recognize that the Environmental Inspector has the authority to stop activities that violate, or have the potential to violate, environmental conditions, state/provincial or federal environmental permit requirements, or landowner requirements; and to order appropriate corrective action.

46.1.4 Contractor must use only approved access roads and stay within approved and designated working, staging, temporary use, and parking area boundaries. The Contractor will stay out of exclusion zones. All motorized vehicles must be cleaned to prevent the spread of weeds.

46.1.5 Contractor must handle, treat, characterize and dispose of all waste in accordance with all applicable federal and state/provincial regulations and any specific contract requirements, such as Company approval of the disposal site. Trash, debris, and other wastes shall not be burned or otherwise disposed on site without proper permitting. Secure waste materials while on the worksite. Properly label all containers for content.

46.1.6 Contractor shall maintain a clean and safe worksite. Trash and debris will be collected at the end of each day. Dispose of cigarette butts in the receptacles provided, not in garbage bins or bags.

46.1.7 Contractor shall maintain equipment to prevent leaks. The Contractor shall take appropriate measures to contain potential leaks and repair leaks promptly.

46.1.8 Contractor must not make any discharges to water that are not permitted or otherwise approved by law. In the event that the Contractor performs a discharge under an applicable state/provincial permit or regulation, they must comply with all applicable requirements.

46.1.9 Contractor must perform work in a manner that prevents effects of soil erosion and sedimentation in compliance with applicable laws, regulations, permits, and Company requirements. Clear and grade only areas necessary for construction and within the approved construction boundaries. Separate and replace topsoil in accordance with project requirements. Erosion and sediment control must be installed, inspected and maintained to contain soil on the construction site and away from wetlands and water bodies. Disturbed areas must be stabilized and re-vegetated where applicable, as soon as possible following construction in compliance with permit conditions, local ordinances, Company requirements or in accordance with landowner requirements.

46.1.10 Contractor must not collect or disturb indigenous plants, wildflowers, cultural artifacts, fossils or human remains in compliance with historic preservation laws, regulations, permits or Company requirements. If artifacts, fossils or remains are discovered, work must stop immediately in the areas of the discovery and a Company Representative must be notified. The site must be protected from incursion. Work in the area may resume only after the Company provides approval.

46.1.11 Contractor must not agitate, take, feed or otherwise harm wildlife (mammals, birds, snakes, etc.), or livestock. If wildlife or livestock are affected by the construction activity, Contractor must notify a Company Representative.

46.1.12 Contractor must not agitate, take, feed or otherwise harm species protected by federal, state/provincial, local statutes or permits or their habitat, or migratory birds or their nests. If protected species and/or their habitat or migratory birds and/or nests are affected by the construction activity, Contractor must stop activity in the area and notify a Company Representative. Work in area may resume only after the Company provides approval.

46.1.13 All Contractors who meet the requirements for needing a Spill Prevention Control and Countermeasure plan (SPCC) must prepare an SPCC Plan and comply with all plan requirements. The SPCC, if needed, must be submitted to the Company.

46.1.14 All spills resulting from Contractor activity, regardless of size, must be reported to a Company Representative immediately. Immediate actions will be taken to safely stop the discharge, contain it, and clean it up in accordance with applicable statutory and Company requirements. Spills include, but are not limited to, small quantities of hydraulic fluid, motor oil and fuel spilled during equipment refueling operations.

46.1.15 Company facility/premise may be required to follow applicable Air Permit requirements. Contractors must review the permit with Company Representative to ensure all Air Permit requirements are followed.

46.1.16 Contractor must properly train their workers on their responsibilities regarding spill notification requirements and have all notification numbers available at all times.

SECTION 47: ENVIRONMENTAL – WASTE MANAGEMENT

47.1 GENERAL INFORMATION

47.1.1 Contractor is responsible for proper management of all project related wastes, including, but not limited to; RCRA Hazardous Waste, Asbestos Containing Materials (ACM), lead paint, Universal Waste, Used Oil, Naturally Occurring Radioactive Material (NORM) Impacted Waste, TSCA regulated PCBs (chlorinated hydrocarbons), construction debris, E&P Exempt Wastes and contaminated soil, in accordance with Company policy and state and federal law.

47.1.2 Contractors generating waste must handle, treat, characterize and dispose of all waste in accordance with all applicable Federal, State, Provincial regulations and any specific contract requirements. If there are questions, consult Company Representative.

47.1.3 Contractor is responsible for the safe use and disposal of chemicals and hazardous materials brought onto Company property in compliance with applicable laws and regulations, and for complying with the applicable requirements for generation of hazardous waste.

47.2 KEY REQUIREMENTS

47.2.1 In the US, do not store more than 220 pounds of hazardous waste or one quart of acutely hazardous waste without Company's written approval.

47.2.2 Company must approve the disposal of waste materials such as asbestos, lead paint, PCBs (chlorinated hydrocarbons), hazardous construction debris, or contaminated soil resulting from demolition or excavation.

47.2.3 Clearly label all waste containers with contents and accumulation date.

47.2.4 Contractor must utilize Company approved Treatment, Storage, Disposal and Recycling Facilities (TSDRFs) for the disposal of all waste materials. ,

47.2.5 For Projects that will generate volumes of hazardous wastes triggering Small Quantity or Large Quantity Generator status, Contractor shall coordinate with Company Representative before the start of the project to ensure that all regulatory requirements are satisfied, including, but not limited to creation of Contingency Plans, hazardous waste storage requirements, and transportation requirements.

SECTION 48: ENVIRONMENTAL – SPILL PREVENTION AND CONTROL

48.1 GENERAL INFORMATION

Contractor shall minimize the risk of spills or releases to the environment using appropriate protective procedures (e.g., secondary containment, double containment, employee training, overflow protection, and other measures) involving the use, storage, or handling of petroleum products or hazardous materials on Company property.

48.2 KEY REQUIREMENTS

48.2.1 For all projects that meet the requirements for needing a Spill Prevention Control and Countermeasure plan (SPCC), Contractor must prepare a Project SPCC Plan in accordance with State and Federal Regulation and comply with all plan requirements. The SPCC Plan, if needed, must be submitted to the Company.

48.2.2 For all projects at new and/or existing facilities that will required a new Facility SPCC Plan, Contractor shall coordinate with Company Representative prior to bringing oil on-site to ensure that the SPCC Plan is in place and in compliance with all requirements.

48.2.3 Regardless of SPCC applicability, all containers of hazardous materials and petroleum products should be stored in a manner that prevents releases to the environment. Select locations and methods to minimize exposure to rainfall, surface water, and the ground. Use enclosures, shelters, and secondary containment where appropriate. Place containment pans under equipment where a leak or discharge could occur.

48.2.4 Contractor shall perform all transfer activities, including refuelling and equipment maintenance activities only in approved areas. Routine or planned vehicle maintenance is not allowed onsite. Before performing emergency refuelling and maintenance, install appropriate containment to collect potential spills (e.g., absorbent pads, plastic sheeting, and/or mats) beneath the equipment.

48.2.5 Prior to discharging accumulated rainwater or snowmelt from a containment system, inspect the primary container for signs of leaks, and visually inspect the containment system for color, foam, outfall staining, visible sheens, and dry weather flow. The discharge from a containment system with evidence of contamination is prohibited. A Company Representative must be notified and given the opportunity to be present prior to discharging rainwater or snowmelt from any containment system.

SECTION 49: ENVIRONMENTAL – DISCHARGES TO STORMWATER CONVEYANCE SYSTEMS**49.1 GENERAL INFORMATION**

49.1.1 All discharges to a permitted storm water conveyance system must be in compliance with the applicable permit and Storm Water Pollution Prevention Plan (SWPPP).

49.1.2 Non-storm water discharges are NOT permitted unless approved by Company. Examples of prohibited activities include:

- Discharging of rinse water from vehicle or equipment washing
- Discharging of treated water systems such as water fountains, cooling tower water
- Discharging groundwater from excavations

49.1.3 An unauthorized or unpermitted non-storm water discharge is considered a release and must be reported and documented in accordance with the accident/incident and spill notification procedures.

SECTION 50: ENVIRONMENTAL – EROSION CONTROL**50.1 GENERAL INFORMATION**

50.1.1 Appropriate erosion and sediment control measures must be in place prior to earth disturbance or any condition that could cause sediment to enter a sewer, wetland, or water body.

50.1.2. If a construction activity involves ground disturbance, the work may require a construction storm water permit, and then must have a storm water pollution prevention plan (SWPPP) developed and implemented before starting the work. The construction must comply with the SWPPP and the construction storm water discharge permit.

SECTION 51: ENVIRONMENTAL – EXCAVATION ACTIVITIES IN ENVIRONMENTALLY RESTRICTED AREAS**51.1 GENERAL INFORMATION**

In areas outlined in the general site drawings as environmentally restricted or identified as environmentally sensitive (i.e., parks, water bodies, areas containing migratory birds, etc.), excavations are prohibited unless Company approves in writing. If an area is marked on the drawings or delineated on site as an exclusion zone, do not enter the area without expressed authorization.

SECTION 52: ENVIRONMENTAL – OPEN BURNING**52.1 GENERAL INFORMATION**

Unless otherwise specified, open burning of debris on Company property is prohibited.

SECTION 53: ENVIRONMENTAL – WORKING NEAR WATER BODIES AND WETLANDS**53.1 GENERAL INFORMATION**

Contractors must minimize disturbance of water bodies and wetlands by ensuring that all proper permits have been obtained and reviewed prior to commencement of work activities and ensuring that proper precautions are taken to minimize vegetation loss and impact to water quality and compliance with the permit.

53.2 KEY REQUIREMENTS

53.2.1 Do not drive through open water bodies or wetlands.

53.2.2 Do not take water from or discharge to water bodies or wetlands without prior approval and required permits. Carry out proper water quality monitoring and discharge water handling procedures as required by permits.

53.2.3 Take all measures required to mitigate disturbance to water bodies by utilizing proper soil handling, erosion and sediment control techniques. (i.e., install berms, cross ditches, and or silt fences at the base of approach to slopes of wetlands between the wetlands and work area).

53.2.4 If working within or across a water body or wetland, verify the project design complies with all applicable permits before initiating work in the resource, and perform the crossing in compliance with the design.

SECTION 54: NATURALLY OCCURRING RADIOACTIVE MATERIAL (NORM)

54.1 GENERAL INFORMATION

54.1.1 The potential of encountering Naturally Occurring Radioactive Material (NORM) while performing work on Company premises may exist. The Company will identify those areas where NORM may be or is present, if known.

54.2 KEY REQUIREMENTS

54.2.1 Any contractor who performs decontamination work where NORM exists in a State that has a licensing program must have an applicable State radiation license.

54.2.2 Work requiring NORM decontamination must have a written radiation safety program meeting all state requirements, if applicable. In addition, if the state requires training and certification then training records and certificates must be documented and maintained by the Contractor. All training records and certificates must be readily available for review by the Company upon request.

54.2.3 To limit the exposure to NORM, a 30-foot exclusion zone must be established around an area from which NORM is present above state or company limits. The exclusion zone shall be maintained until the NORM impacted equipment has been decontaminated or removed.

SECTION 55: UNITED STATES - DOT – OPERATOR QUALIFICATION (OQ)

55.1 GENERAL INFORMATION

55.1.1 Hiring Managers and Contractors can access a full list of OQ covered tasks on the Company OQ Website. https://www.kindermorgan.com/pages/work/contractor_co/dot_operator_qual.aspx

55.1.2 Contractor performing Company defined OQ-covered tasks must be qualified to perform such tasks or be directed and observed performing such covered tasks by a qualified individual.

55.1.3 The Hiring Manager may use non-mandatory Exhibit A: Operator Qualification (OQ) Contractor Compliance Checklist to assist with Company OQ documentation requirements. https://www.kindermorgan.com/WWWKM/media/Operator-Qualification-Links/Non-Mandatory_Exhibit_A.doc

55.1.4 Exhibit A applies to any contract involving performance of tasks identified in Company's OQ Program as OQ covered tasks. Exhibit A applies ONLY to the OQ component.

55.2 KEY REQUIREMENTS

55.2.1 New construction is not covered by the OQ regulation. However, almost every new construction project will tie into an existing pipeline system, and OQ covered tasks will be involved for the tie-in and any subsequent work on the new segment after it is tied in.

55.2.2 Contractor must submit an OQ Action plan for review to the ISN Contractor database. The OQ Action Plan Elements is located at: http://www.kindermorgan.com/WWWKM/media/Operator-Qualification-Links/oq_action_plan_elements_for_contractors.pdf

55.2.3 Contractor OQ action plans must be reviewed and approved by the Company's OQ Administrator prior to performing OQ covered tasks.

55.2.4 Contractor must submit employee ISN OQ reports to the appropriate Company ISN jobsite indicated on the OQ Action Plan Template. The Contractor must also provide a hard copy of the workers ISN OQ report at the jobsite as required by Appendix E of the Company's Corporate OQ Plan. Appendix E is located at:

https://www.kindermorgan.com/WWWKM/media/Operator-Qualification-Links/oq_procedure_for_Contractor_Compliance.pdf

55.2.5 Contractor must supply a daily roster of OQ covered task workers to a Company representative unless the roster of OQ covered task workers does not change from day to day during the project.

55.2.6 The OQ orientation must be documented through the Kinder Morgan Core Training process in ISN or on **CSM-003**.

SECTION 56: ABRASIVE BLASTING

56.1 GENERAL INFORMATION

56.1.1 Contractor must protect workers, others nearby and KM assets from hazardous dust levels and toxic metals that may be generated from abrasive blasting. Contractor shall comply with all applicable local ordinances and state regulations for abrasive blasting. *[Reference Section 32: Respiratory Protection]*

56.1.2 Workers engaged in abrasive blasting can be struck by high-speed particles. In addition, workers are exposed to high-pressure hazards through contact with high-pressure air or water streams, uncontrolled high-pressure hoses, and air or water leaks in equipment.

- Install guards on blasting equipment to protect workers from high-speed particles.
- Use hose-coupling safety locks and hose whip checks.
- Train workers to never point blast nozzle at a person and to keep other workers away from blaster.

56.2 KEY REQUIREMENTS

56.2.1 Contractor must protect workers from noise levels produced by abrasive blasting that can cause permanent hearing loss in unprotected workers and others close to the blast process. *[Reference Section 26: Noise/Hearing Protection]*

56.2.2 Contractor must provide workers with required PPE when abrasive blasting.

56.2.3 Inspect all hoses and connections frequently and replace any that are worn or damaged.

56.2.4 Blast nozzles shall be equipped with an operating valve that must be held open manually. Strapping or tying down an operating valve lever by any means is strictly prohibited. Use metal nozzles and hose coupling, as well as equip the nozzle end of the blasting hose with a dead-man control device. Inspect blast nozzles for wear on cracks before each use. Blast nozzles are to be secured during inspection and operation.

56.2.5 Clean and remove accumulated dust from tarps and other equipment.

56.2.6 Contractor must provide wash stations so workers can wash their hands and face routinely and train workers on the need to remove surface contaminants from skin surfaces by thorough hand and face washing.

56.2.7 Used abrasive blasting media is considered to be a solid waste in many states. Additionally, depending on the nature and composition of the article on which the media was used, this waste could be a hazardous or special waste. Contractor shall follow procedures listed in Section 47 Waste Management and properly dispose of the used abrasive blasting media in accordance with all applicable regulations.

56.2.8 Air Compressors and Blast Pots

- Air compressors and blast pots must be inspected with documentation, daily prior to use.
- Since blast pots are pressure vessels, contractor is to show documentation that their equipment has been constructed, operated, inspected, and repaired to national standards (ASME and/or API in the US).
- All couplings and pipefitting on the blast pot, compressor and hoses must be airtight.
- Position blast pots and/or air compressors on level ground.

SECTION 57: PRE-STARTUP SAFETY REVIEWS & PROCESS HAZARD ANALYSIS

57.1 GENERAL INFORMATION

57.1.1 Pre-Startup Safety Reviews (PSSR) shall be conducted before introducing flammables or hazardous fluids and before starting up a new or changed facility.

57.1.2 A Process Hazard Analysis (PHA) or Hazard Evaluation is defined by OSHA as a thorough, orderly, systematic approach for identifying, evaluating, and controlling the hazards of processes involving highly hazardous chemicals.

57.2 KEY REQUIREMENTS

57.2.1 A single PSSR Team Lead will be appointed by the Facility Manager for in-service facilities or by the Project Manager for new construction. The Team will follow the business unit guidelines and checklists.

57.2.2 Contractors completing work at a facility may be asked to participate in the PSSR.

57.2.3 A team composed of Company employees, qualified consultants, and key contractors may conduct the PHA. The team will follow the KM business unit guidelines and methodology.

57.2.4 Contractors completing work at a facility may be invited to participate in the PHA or Hazard Evaluation.

SECTION 58: SPOTTER/FLAGGER OR QUALIFIED SIGNAL PERSON

58.1 DEFINITIONS

58.1.1 *Dedicated Spotter* – A trained person, dedicated to a piece of equipment and its operator, to provide an extra set of eyes for guidance when an operator does not have a clear view of the site, operating around energized power lines or equipment, working in congested areas, or on varied terrain.

58.1.2 *Dedicated Flagger* – A trained, or certified person based on the applicable Federal, State, Provincial, and Local County and/or City requirements to maintain traffic flow through a work zone, despite a shutdown of lanes.

58.1.3 *Qualified Signal Person* – Required where the point of operation is not in full view of the crane or derrick operator. Qualification requirements outlined in OSHA 29 CFR 1926.1404-1441.

58.2 REQUIREMENTS

58.2.1 Kinder Morgan contractors are required to have an approved written safety program for Spotters, Flaggers and/or Qualified Signal Persons.

58.2.2 Contractor shall provide documented, trained spotters/flaggers in sufficient numbers whenever:

- heavy equipment is being utilized near existing property,
- people, machinery, obstacles, etc. create congested areas,
- the point of operation is not in full view of the crane or derrick operator,
- backing machines and/or equipment, and
- any other situation which a spotter or flagger will help prevent an incident as determined as part of a Job Hazard Analysis (JHA or JSA).

58.3 TRAINING

Spotters/Flaggers must be trained:

- to understand the proper signs, symbols, hand signals used in direct communication with a vehicle or equipment operator.
- to identify blind spots for typical construction equipment.
- to maintain traffic flow through a work zone, despite a shutdown of lanes.
- to identify hazards and implement safety controls before and during the operation.

58.4 RESPONSIBILITIES

58.4.1 Spotters/Flaggers must:

- wear high visible/reflective clothing.
- have an audible warning device (that can be heard above normal equipment noise; i.e. airhorn, whistle, etc.).
- use lighted flashers and/or proper overhead illumination during sunrise/sunset or nighttime, so flaggers, personnel, and equipment can be seen by oncoming traffic.
- be equipped with a visual aid (i.e. flags, hi-vis/reflective vests, etc.) and positioned correctly to assist in identifying the minimum clearance distance.
- not be distracted by any personal items (cell phones, headphones, etc.)
- not be assigned to any other simultaneous duties.
- give timely information to the operator so that the required clearance distance can be maintained.

- avoid walking into the path of a vehicle, moving equipment, swinging load, behind heavy and equipment while spotting.
- be continuously visible to the operator or in constant contact via electronic means.

58.4.2 Spotters and Operators must:

- agree on hand signals before proceeding.
- stop moving immediately if operator loses sight of/contact with the spotter.
- be knowledgeable of all Kinder Morgan damage prevention requirements as it pertains to the contractors scope of work, including, but not limited to, O&M Procedures 204 & 184, Construction Standard C1005, C2205, and the Contractor Environmental Safety Manual.

SECTION 59: LAND CLEARING, MOWING, AND TRIMMING

59.1 GENERAL INFORMATION

Safety hazards may be encountered while land clearing operations, such as logging, trimming, or mowing are being conducted. The hazards are heightened when adverse environmental conditions are factored in, such as uneven, unstable or rough terrain; inclement weather including rain, snow, lightning, winds, and extreme cold; remote and isolated work sites where health care facilities are not immediately accessible. As a result, the Contractor must ensure written procedures are in place and enforce safe working practices.

59.2 PERSONAL PROTECTIVE EQUIPMENT

The Contractor must provide, at minimum, its personnel PPE as referenced in Section 27 of this manual. When operating a chain saw, personal protective clothing, including gloves, ballistic pads or chaps or other approved chain saw leg protection, steel-toed boots with chain saw cut-resistant protection, hard hat, hearing protection, face shield and eye protection must be worn at all times.

When using a trimmer, contractor worker must wear appropriate gloves, face shield and protective safety glasses. Proper hearing protection may also be required depending on hazard assessment.

59.3 LOGGING

The Contractor must ensure a Tree Logging Plan includes hazard controls for each specific clearing task and location and must ascertain all designated personnel are fully trained in the recognition and prevention of such hazards. Massive weight and overriding momentum of falling, rolling and sliding trees and logs pose a major risk for the Contractor, therefore measures must be taken to minimize the risk, such as:

- Determining the felling direction and how to deal with forward lean, back lean, and/or side lean.
- Provide retreat path so the logger can reach safety while tree is falling.
- Determine proper hinge size to safety guide the tree in its fall.
- Proper felling methods allow the logger to safely fell the tree.
- Ensure tractor, skidder, swing yarder, log stacker, log loader and mechanical felling device, such as tree shears or feller-buncher is equipped with falling object protective structure and or rollover protective structure.

59.4 MOWING & TRIMMING

Clearing vegetation and trimming are crucial aspects of line maintenance that enables visibility and access to a pipeline. Tree canopies near the right of way border must be trimmed or side trimmed to facilitate aerial surveillance. When trimming, the Contractor should assume all overhead power lines are energized and keep at least 10 feet away from overhead power lines (see Section 10.3.5 for voltage higher than 50kV). Other considerations the Contractor must consider:

- Contacting the power company to de-energize and ground the power line when needed.
- Always check the condition of the limbs, branches, and tree trunks before cutting them.
- Tie safety equipment to strong branches that can support the weight and use those branches to climb.
- Never carry tools or equipment by hand when climbing the tree.
- Ensuring employees can maintain three points of contact and are only moving one hand or a foot at a time, with your hands and feet on separate branches.
- Watch for animal dens, hives, burrows where wild animals can be found.
- Be cautious of poisonous plants that can cause allergic or dangerous reactions on contact.

59.5 HAND TOOLS AND MECHANICAL TOOLS

The Contractor shall ensure equipment machinery and tools are inspected before initial use during each work shift, maintained and in serviceable condition. The operation of such machinery shall only be by trained designated persons. Specifically, when chain saws are used to complete the task, the following checks must be followed:

- Chain saw placed into initial service must be equipped with a chain brake and no chain saw kickback device shall be removed or otherwise disabled.
- Removing or disabling anti-kickback devices is prohibited.
- Each gasoline-powered chain saw shall be equipped with a continuous pressure throttle control system which will stop the chain when pressure on the throttle is released.
- The chain saw shall be operated and adjusted in accordance with the manufacturer's instructions.
- The chain saw shall be fueled at least 10 feet (6 m) from any open flame or other source of ignition.
- The chain saw shall be started at least 10 feet (3 m) from the fueling area.
- The chain saw shall be started on the ground or where otherwise firmly supported.
- The chain saw shall be started with the chain brake engaged.

Appendix

A. KINDER MORGAN RISK MATRIX

KINDER MORGAN RISK MATRIX					
		Frequency			
		Remote	Unlikely	Moderate	High
Severity		1	2	3	4
Level 4	1	Significant (25) ●	Significant (50) ●	Major (75) ●	Major (100) ●
Level 3	2	Minor (15) ●	Significant (30) ●	Significant (45) ●	Major (60) ●
Level 2	3	Minor (10) ●	Minor (20) ●	Significant (30) ●	Significant (40) ●
Level 1	4	Minor (5) ●	Minor (10) ●	Minor (15) ●	Minor (20) ●
Level 0	5	Minor (1) ●	Minor (2) ●	Minor (3) ●	Minor (4) ●

Frequency			
Remote	Unlikely	Moderate	High
Not expected to occur. Has not occurred at any other similar KM asset.	Has occurred in a similar KM asset or will probably not occur more than once every 3 years.	This event has occurred at a KM asset once in the last 3 years or is likely to occur with in the next 1-2 years.	This event has occurred at a KM asset several times in the last 3 years or is likely to occur yearly.

Severity Level					
	0	1	2	3	4
Injury/Illness	Near Miss	No health effect or injury	First aid	Recordable, restricted duty > 3 days or lost time	Fatality, Hospitalization, Amputation, or Loss of
Property Damage	Near Miss	No damage / No security threat	< \$50k in damage / security breach, bomb threat, suspicious package, theft > \$25k	> \$50k in damage and/or disruption of business for up to 24 hrs. Theft of chemicals or hazardous materials at a KM asset in quantities greater than \$50k but less than \$500K	> \$500k in damage, and/or disruption of business > 24 hrs. Theft of chemicals or hazardous materials in quantities sufficient to result in loss of life if used as a weapon. Credible, specific and impending terrorism threat against a KM
Spill/Release	Near Miss	No damage to environment. Problem is limited to immediate work area and public health, safety and environment are not affected. Non-Reportable release	Release reportable to state or provincial agencies but not the US EPA	Releases reportable to the US PEA, PHMSA, or the NEB	Spill / release results in response by the NTSB or the CSB investigation
Quality	Near Miss	No quality event	Customer complaint, cost to KM < \$5k and no product contamination	Customer complaint, \$5k - \$100k and product contamination	Significant degradation of customer product, comingling of two incompatible products and/or potential downstream recall implications, customer cancels contract and costs to KM > \$100k