CANADIAN CONSTRUCTION SAFETY COUNCIL

Critical Risks Guideline

LEGAL DISCLAIMER, LIMITATION ON USE AND INDEMNITY FROM USERS

While the Canadian Construction Safety Council and its member organizations (the “CCSC” or the “Publishers”) of this document aims to ensure that this publication represents the best in industry safety practices, the publishers and creators and all others persons involved in the preparation, creation, distribution and/or sale of this document disclaim any warranty as to the accuracy, sufficiency or currency of the publication and the information set out herein. This publication is intended to provide recommended industry practices and is provided on the understanding and basis that the CCSC and none of the editors, publishers, creators, contributors, authors or any other persons involved in the creation of this publication shall be responsible for its contents, nor the accuracy or currency of the contents or for the results of any action taken or not taken on the basis of the information contained in this publication or for any errors, omissions, inconsistencies, discrepancies, inaccuracies or anything else contained or referenced herein. The reader of this document assumes all risks, liabilities and consequences arising from their reference, interpretation, use, implementation or consultation with this material in all respects. The information presented in this publication is presented and provided as is”, without warranty of any kind, either express or implied, including, without limitation, warranties of merchantability, fitness for a particular purpose and non-infringement. This publication is not exhaustive and is only intended to provide general guidance that should not be relied upon in a specific situation or issue. Expert legal advice should be obtained whenever appropriate, and particularly with respect to how an individual entity or party may choose to conduct its operations or business. All warranties are disclaimed in this regard by the CCSC and any of the individual creators, publishers, contributors or any other person providing input to this publication.

The CCSC and no one involved in the creation or issuance of this publication is attempting herein to render or is rendering any legal advice, accounting advice or any other form of professional advice. If legal or other advice or expert opinion or assistance is required, the services of a competent professional should be sought and secured. Any analysis contained herein should in no way be construed as being either official or unofficial advice or policy of any person, entity, government or other official in any capacity and the user/reader assumes the sole and exclusive risk there from and from any other use or reference to this publication. The publishers of this document assume no liability hereunder and the use of any information set out herein is at the users sole and own risk.

A purchaser or authorized user of this publication shall indemnify, defend and hold the Publishers and contributors harmless, against any third-party claim, suit, action, or proceedings howsoever arising, directly or indirectly, brought against them (and against its officers, directors, employees, agents, service providers, licensors, and affiliates) based upon or arising out of their use of CCSC documents or publications. A purchaser or authorized user of this or any other CCSC documents shall indemnify CCSC and its members for any and all costs, damages, settlements, liabilities, losses, and expenses (including, but not limited to, reasonable attorneys' fees and court costs) of any kind whatsoever to the extent arising out of any action by a third party in connection with their use of this document or any other CCSC published documents.

The Canadian Construction Safety Council is comprised of national industry leading construction companies who operate in Canada.

Our Vision

“Building Canada Safely and Saving Lives”

Our Mission

“To be a force for positive change in the construction industry in Canada, by leveraging the collective safety knowledge and capacity of the industry leading member companies and to work together to improve safety performance."

Our Values

We operate with transparency as we recognize the value of sharing to ourselves and to others.

1. Working together our impact in the construction sector will be greater, and realized quicker, by the collective efforts of all members.
2. Safety is not a competitive or commercial advantage to any one member; we will be open and transparent with each other to benefit the industry.
3. Membership requires the ongoing participation and contribution of the senior executive leader of the member companies.

The Canadian Construction Safety Council was founded in 2022.

Table of Contents

Canadian Construction Safety Council's Critical Risks Guideline

The following are the critical risks recognized by the Canadian Construction Safety Council (CCSC). Members agree that operations involving these risks have the potential, if not safely executed, to seriously harm or kill someone.

Members, within their safety program, based on their core business, may not have all these risks and they may name them differently. It is also possible that a member has additional critical risks in their operations, but all members should at a minimum recognize the risks and safeguards identified in this guideline.

The following pages present thirteen (13) critical risks.

Definitions

Critical Risk	Risk that has the potential to cause a SIF accident.
Safeguards	Mechanisms, controls or means of protection.
Serious Injury or Fatality (SIF)	An injury that results in a life altering, life threatening, or life ending outcome.

Assumptions

All work tasks are planned and executed with consideration and application of the hierarchy of controls.

All work tasks planned and executed are in accordance with local Health & Safety (H&S) compliance requirements.

Majority, if not all, of work within the critical risk work categories will require authorization of specific work permits.

WORKING AT HEIGHTS

Definition

Any work where a person could potentially fall and seriously injure themselves.

It includes, but it is not limited to:

- Fall protection (>6ft/1.8m fall potential)
- Dropped objects
- Ladders

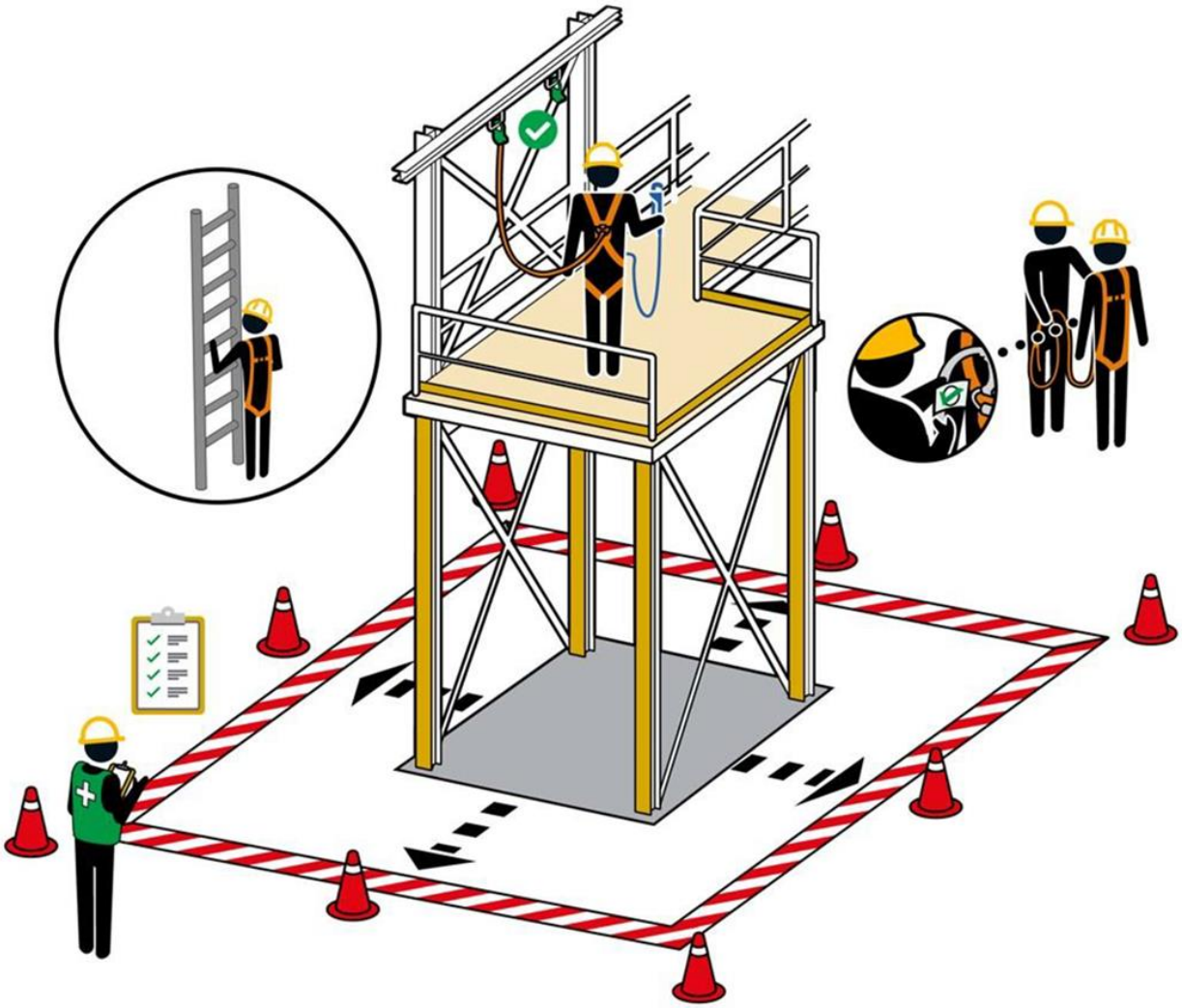
Safeguards

- Pre-job planning and safe work permit
- Physical barriers
- 6ft fall tie off to approved anchor point.
- Type 2 Helmet (chinstrap)
- Exclusion zones
- Rescue plan
- Tool lanyards and tethers
- Tool and material storage
- Barriers and covered openings

CCSC – SAFE START CHECKS

1. I inspect my fall protection equipment before use
2. I secure tools and work materials to prevent dropped objects
3. I tie-off 100% to approved anchor points while outside a protected area
4. I have validated prompt rescue capability when wearing fall protection
5. I will follow safe work practices when climbing, descending or working from ladders

"Protect yourself against a fall when working at heights" *Working at Heights*		
Safe Start Checks		**Safeguards: Discuss/Verify/Confirm (examples):**
1	**I inspect my fall protection equipment before use**	• Full body harness is load rated to support the weight of the worker • Check fall protection system for signs of wear (includes fall arrest and/or fall restraint systems) • Fall arrest system contains a self-retracting lifeline or shock absorbing lanyard
2	**I secure tools and work materials to prevent dropped objects**	• Type 2 helmet with chinstrap worn • Tools used at heights have securing wire/lanyards/tethers • Materials used at height are secured in storage boxes, pouches, bags, etc. and/or stored in areas away from the leading edge • Cover openings to lower levels (e.g., grating, gaps, etc.), use debris nets or define exclusion/drop zones • Access to exclusion/drop zones is controlled (e.g., attendant or physical barriers)
3	**I tie off 100% to approved anchor points while outside a protected area**	• I understand that 100% tie-off means one hook must be anchored at all times • Company requires use of fall protection at heights of 6ft/1.8m or greater unless local regulatory requirements are more restrictive • The anchor point meets regulatory/company requirements • The position(s) of anchor points allow for 100% tie off • Work area has been assessed for sharp edge hazards and protected where applicable
4	**I have validated prompt rescue capability when wearing fall protection**	• Rescue capability and appropriate equipment is available to ensure prompt rescue (e.g., prevent suspension trauma) • Workers do not work alone unless there is an alternative means of communication (e.g., cell phone or radio).
5	**I will follow safe work practices when climbing, descending or working from ladders**	• Workers use 3-points of contact technique, keeping body facing and near the middle of the ladder when ascending / descending ladders • Confirm Personal Fall Arrest Systems (PFAS) are being utilized when 'climbing distance or fall potential' is exceeded • Workers protected when working from ladders (podium style) with >6ft/1.8m fall potential • Workers use ladder decision tree to determine choice of ladder.
Confirm these controls/safeguards are in place and verified prior to starting work. **Stop and seek help if anything changes.**		



WORKING AROUND MOBILE EQUIPMENT

Definition

Any work where a person could potentially be struck by mobile equipment or its accessories.

Safeguards

- Internal site segregation and barriers
- Mobile equipment safety and visibility systems
- Warning and proximity systems
- High visibility workwear
- Dedicated spotter
- Safe method of approach

CCSC – SAFE START CHECKS

1. I only operate mobile equipment if qualified and competent.
2. I verify safety devices are functional on mobile equipment
3. I establish clear means of communication with equipment operator
4. I stay out of the equipment's exclusion zone while in operation
5. I confirm controls are in place to prevent unintentional movement of mobile equipment and/or loads

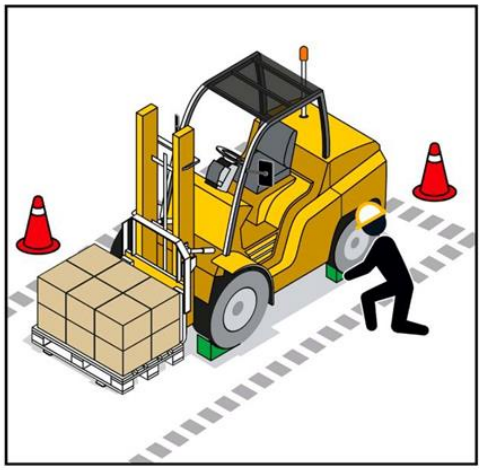
"See and be seen; maintain a safe distance" *Working around Mobile Equipment*		
Safe Start Checks		**Safeguards: Discuss/Verify/Confirm (examples):**

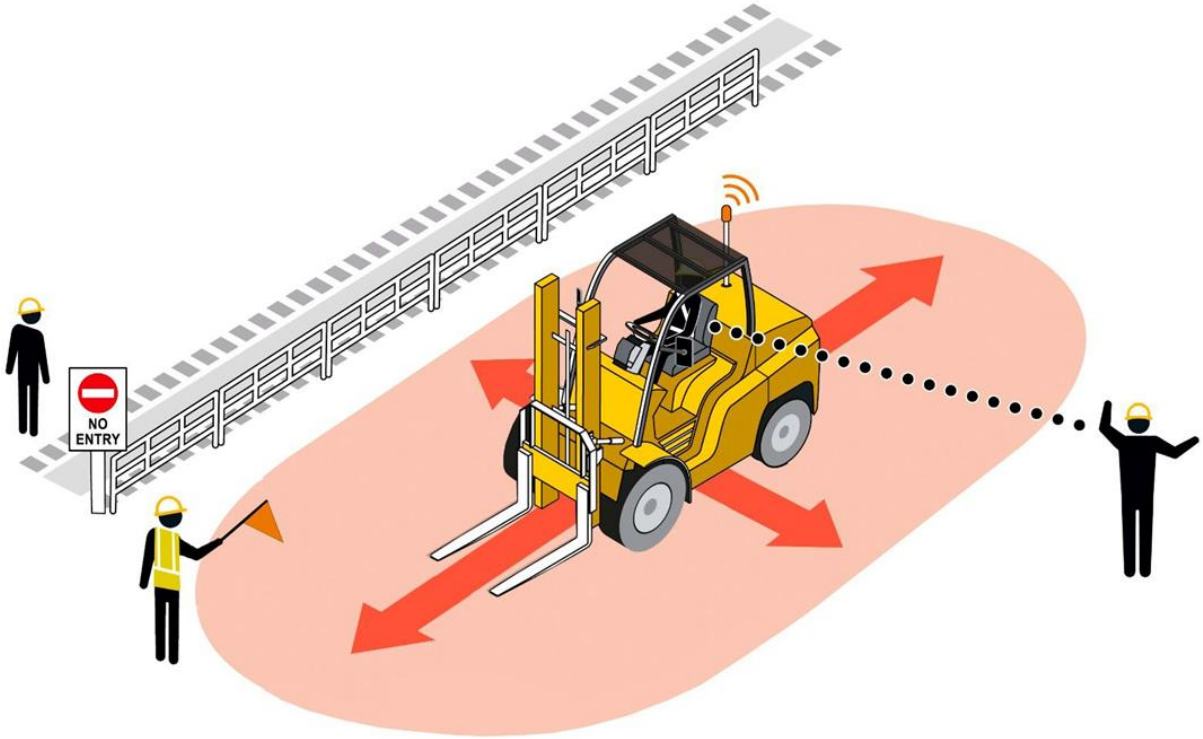
1	**I only operate mobile equipment if qualified and competent.**	• Assigned mobile equipment operators and spotters have required training and qualifications
		• If the operator cannot see what is in the direction of travel, there shall be an alternative method used to prevent personnel / mobile equipment interface such as:
		  ○ Audible alarm(s) and a qualified spotter positioned out of the line of fire and is able to monitor operations
		  ○ Proximity detection devices and/or cameras
		• Mobile equipment is free from hazards prior to movement (e.g., a 360° walk around)
		  ○ Alternatives to reversing have been assessed prior to reverse operation of equipment

2	**I verify safety devices are functional on mobile equipment**	• Safety devices such as alarms, lights, seat belts, brakes and audible alarm(s) are functioning

3	**I establish clear means of communication with equipment operator**	• Clear system of communication established/understood between the equipment operator and work crew before starting:
		  ○ hand signals and/or radio communications
		  ○ emergency stop signals

4	**I stay out of the equipment's exclusion zone while in operation**	• Mobile equipment exclusion zones have been defined by the work crew, and personnel understand the exclusion zone criteria (e.g. distance/location) for the type of equipment • Before entering an exclusion zone, contact with equipment operator must be made, as well as permission granted by the equipment operator • Equipment is stopped/locked prior to entry into the exclusion zone/s.
5	**I confirm controls are in place to prevent unintentional movement of mobile equipment and/or loads**	• Load is secure/stable prior to transport based on workplace conditions and travel path • Equipment is located on flat ground where possible • Equipment wheels (including trailers) are chocked/brakes engaged when there is potential for movement • Booms, attachments, and accessories are lowered or secured to prevent energy release/movement • Key is removed when the equipment is not in operation
Confirm these controls/safeguards are in place and verified prior to starting work. **Stop and seek help if anything changes.**		




NO
ENTRY

GROUND DISTURBANCE AND EXCAVATION

Definition

Any work that results in a disturbance of the earth, or that results in a reduction of the initial installation cover over a buried facility.

It includes, but it is not limited to:

- Trenches
- Excavations
- Blasting

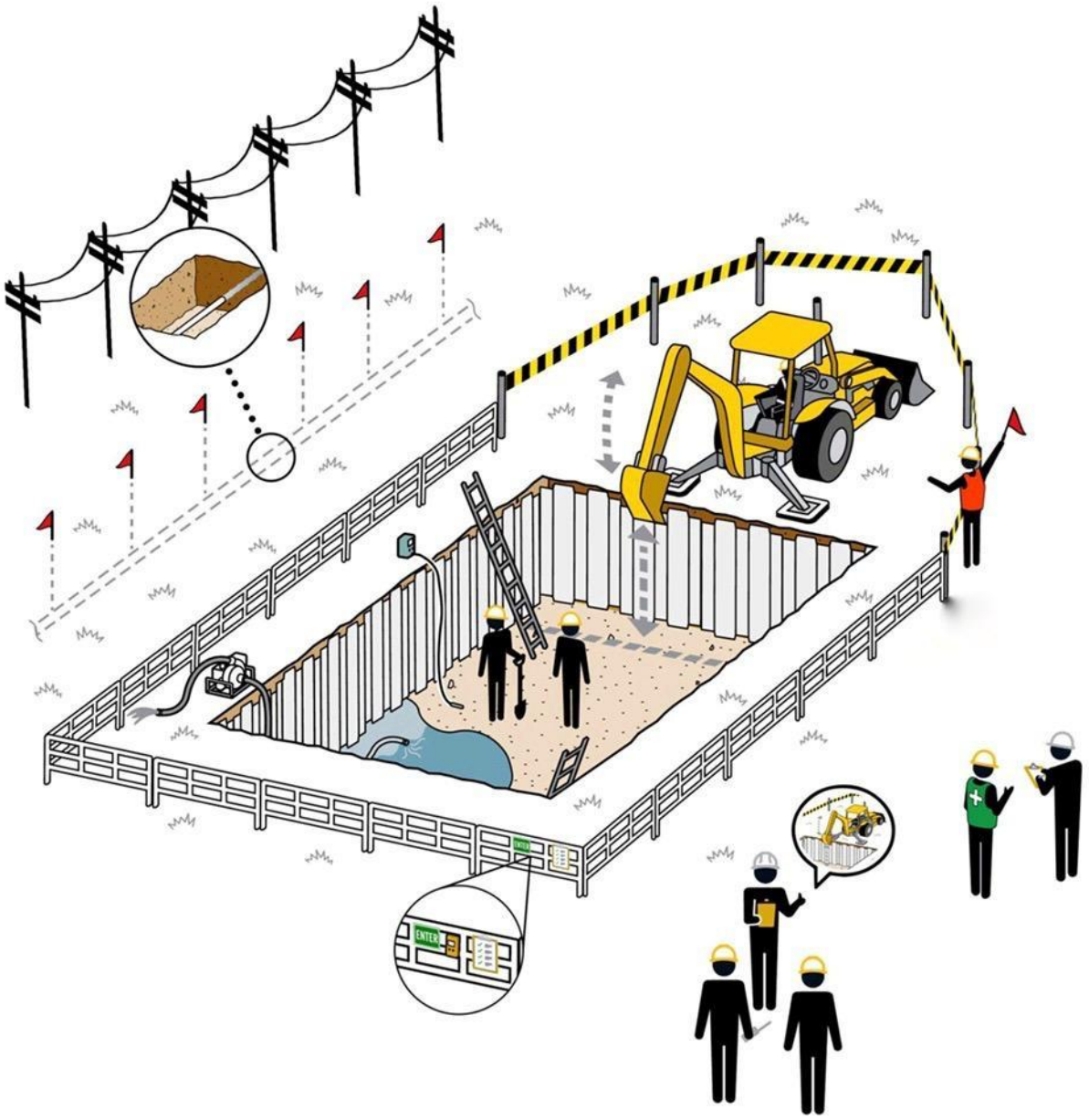
Safeguards

- Notification, location and marking
- Excavation plan
- Expose/daylight buried facilities
- Ensure appropriate coverings over exposed utilities/openings
- Ensure the use of spotter /swamper
- Post contact response actions
- Assess, plan and ongoing monitoring
- Sloping and benching
- Shoring
- Trench box
- Excavation edge protection
- Safe work permit
- Safe access/egress

CCSC - SAFE START CHECKS

1. I obtain authorization prior to performing excavation / trenching / ground disturbance activities
2. I confirm underground utilities and structures are located, de-energized or protected
3. I confirm excavation hazard controls and confined space entry as required
4. I monitor for changing conditions and ensure adequate access/egress is in place

"Obtain authorization before digging or entering excavations" *Ground Disturbance and Excavations*		
Safe Start Checks		**Safeguards: Discuss/Verify/Confirm (examples):**
1	**I obtain authorization prior to performing excavation/trenching/ground disturbance activities**	• Work authorization established (including Confined Space Entry permit if required) for entry into excavation. • Atmospheric testing requirements established, if applicable
2	**I confirm underground (and overhead) utilities and structures are located, de-energized or protected**	• Local utilities have been consulted about the dig so they can identify their lines (e.g. One Call, Dial Before You Dig) • Underground utilities are visibly identified (e.g., flagging, paint, etc.) • Depth and width of utilities or structures are known before digging • Before starting mechanical excavation, actions have been taken to locate and expose underground line/utility and structures (e.g., probing, hand digging, soft digging, air knifing, hydro-vac, ground penetrating radar (GPR), etc.) • The location, height, and voltage of overhead power lines have been identified – Maintain identified minimum distance between equipment and energy source – To help with this, use flagging, goal-posting or barriers on overhead power lines
3	**I confirm excavation hazard controls and confined space entry as required**	• A competent person assessed the soil type to define the excavation safeguards • Excavations have a protective system (sloping, shoring, or shielding) in place, as applicable • Storage of excavated material is in conformance with local legislation • Ensure stability of adjacent utilities/structures potentially affected by excavation through means of shoring, bracing, and underpinning • Excavation area is visibly identified with caution tape, silt fencing, or other visual identification • Excavation area is secure from unauthorized access • No personnel are in line-of-fire hazards (e.g., swing radius of excavator, discharge side of trencher) • Only essential personnel/crew are in the area where the excavation work is occurring • Equipment maintains safe distance from the unprotected edges of excavation or trenches to prevent cave ins • Fall protection is required for access within 2m of an excavation leading edge that is deeper than 1.8m or more and where the slope angle is more than 45 degrees.
4	**I monitor for changing conditions and ensure adequate access/egress is in place**	• Personnel are aware of their role to watch for changing conditions and exit when needed (e.g., water intrusion, protection system integrity, etc.)
Confirm these controls/safeguards are in place and verified prior to starting work. **Stop and seek help if anything changes.**		


ENTER

ENERGY ISOLATION

Definition

Any work on exposed systems either by direct contact or contact by means of tools or materials or when working near energized systems to be exposed to any hazard they present.

It includes, but is not limited to:

- Electricity
- Pressure
- Moving parts
- Steam

Safeguards

- Safe work permit
- Physical guarding
- Lockout/Tag out/Test
- Functioning emergency stop
- Isolation verification
- ARC Flash PPE
- Isolated Tools/Equipment (Non-Conductive Materials)

CCSC – SAFE START CHECKS

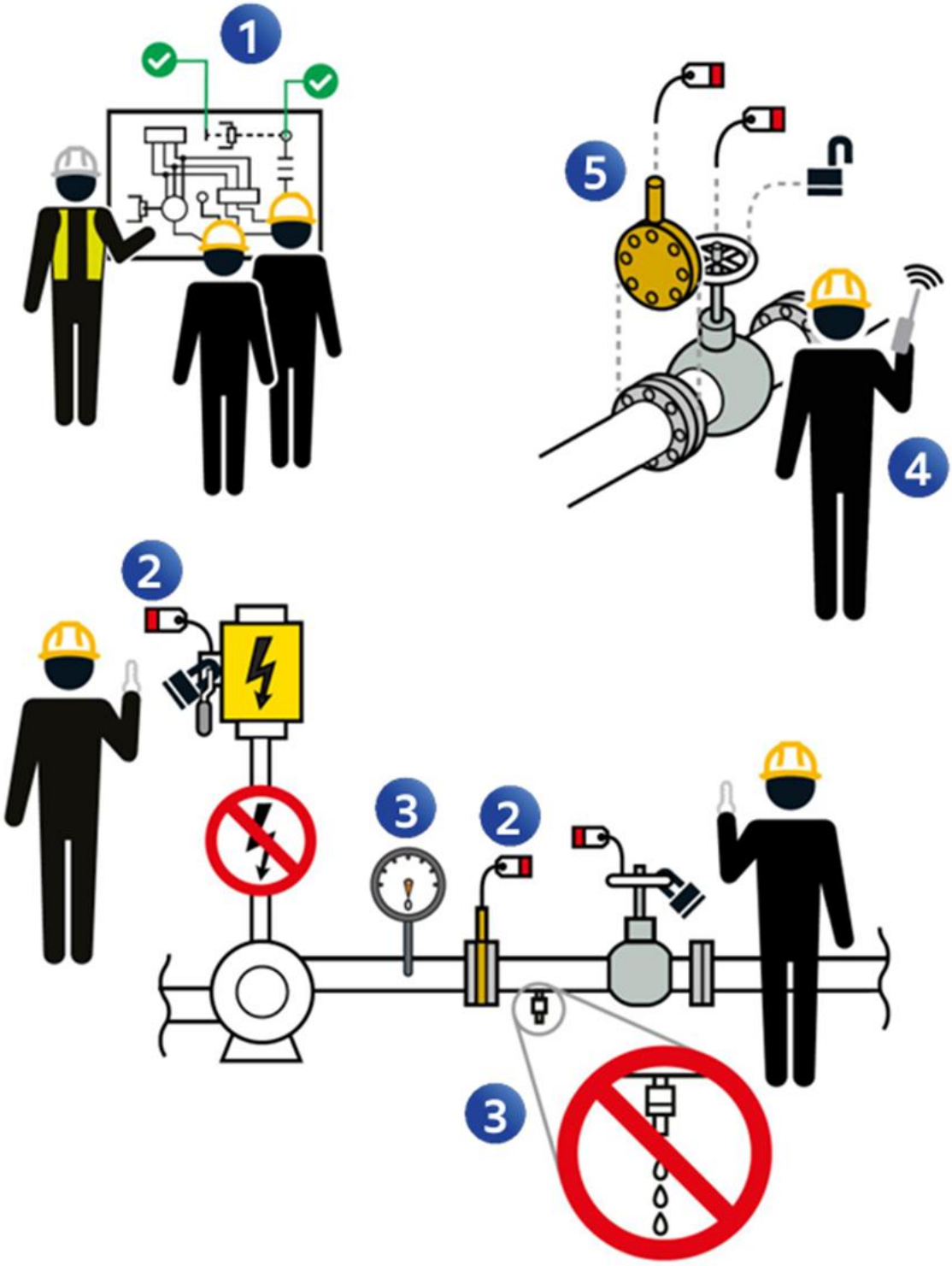
1. I have identified all energy sources.
2. I confirm that hazardous energy sources have been isolated, locked, and tagged.
3. I have checked there is zero energy and tested for residual or stored energy.
4. I never remove or tamper with energy control devices without authorization.
5. I confirm equipment is back to safe operating condition prior to re-energizing.

"Verify isolation and zero energy before work begins" *Energy Isolation*		
Safe Start Checks		**Safeguards: Discuss/Verify/Confirm (examples):**
1	**I have identified all energy sources**	• Safe work permits are authorized/issued, and I have reviewed and understand all conditions required. • Potential energy sources (eg., electrical, pressure, hydraulic, mechanical…) have been identified and verified. • Tags or markings identify the circuit, system, and/or equipment to be isolated as indicated by the isolation list. • Requirement for use if/when ARC Flash PPE and Isolated tools are required.

2	**I confirm that hazardous energy sources have been isolated, locked, and tagged**	• All isolations points are in place and tagged or marked (use an isolation diagram, equipment isolation procedure, P&IDs, or process flow diagram)
		• Valves are open or closed per the diagram and/or plan and secured in the correct position
		• Blinds, spades and skillets are:
		  ○ sized appropriately for the pressure rating of the equipment
		  ○ installed per diagram and/or plan
		• Electrical isolation points are open/switched off or disconnected from power source, and grounding/bonding systems in place
		• Lockout-tagout devices are on isolation points

3	**I have checked there is zero energy and tested for residual or stored energy**	• Demonstrate equipment to be worked on is de-energized before starting work
		• Systems (lines, gauges, etc.) have been checked for residual or stored pressure by:
		  ○ checking bleed and vent points are open to release stored energy
		  ○ checking gauges, measurements and volt meters
		Note: If zero energy is not possible, STOP and confirm controls/safeguards are in place, functioning and maintained to manage the risk from residual energy

4	**I never remove or tamper with energy control devices without authorization**	• Appropriate approvals and communications are made to all affected parties if energy control devices must be removed or modified • Confirm removal or modifying of control devices does not affect any other work activities
5	**I confirm equipment is back to safe operating condition prior to re- energizing**	• Jobs related to the isolation have been completed • Lockout-tagout devices (e.g. blinds, locks, shunt straps, etc.) have been removed after work is completed • Personnel protected by energy isolation have been notified the equipment is ready to be re-energized • Line/System has been walked, validated and confirmed all equipment is in proper position and ready to return to service
Confirm these controls/safeguards are in place and verified prior to starting work. **Stop and seek help if anything changes.**		


1
5
4
2
3
2
3

CONFINED SPACES

Definition

Any work performed in a fully or partially enclosed space that:

- Is not primarily designed or intended for continuous human occupancy.
- Has limited or restricted access/egress, or a configuration that can complicate rescue or other emergency response activities.
- Can represent a risk for the health and safety of anyone who enters, due to one or more of the following factors:
  - Its design, construction, location or atmosphere
  - The materials or substances within.
  - Work activities within or in proximity to the space.
  - The mechanical, process hazards present.

Safeguards

- Entry permit system
- Atmospheric monitoring
- Emergency rescue plan
- Attendant/watchperson
- Trained and competent rescue personnel
- Confined space entry training
- Hazardous energy sources have been isolated, locked, tested, and tagged

CCSC – SAFE START CHECKS

1. I confirm energy sources are isolated
2. I confirm the atmosphere has been tested and is monitored
3. I check and use my breathing apparatus when required
4. I confirm there is an attendant standing by
5. I confirm a rescue plan is in place
6. I have obtained authorization to enter

"Obtain authorization before entering a confined space" *Confined Spaces*		
Safe Start Checks		**Safeguards: Discuss/Verify/Confirm (examples):**
1	**I confirm energy sources are isolated**	• All potential energy sources have been identified, isolated, locked/tagged out and tested per isolation plan • Lighting and electrical equipment is appropriately rated for atmosphere (e.g., 12v, intrinsically safe etc) • The potential for simultaneous operations which could introduce additional hazards has been evaluated

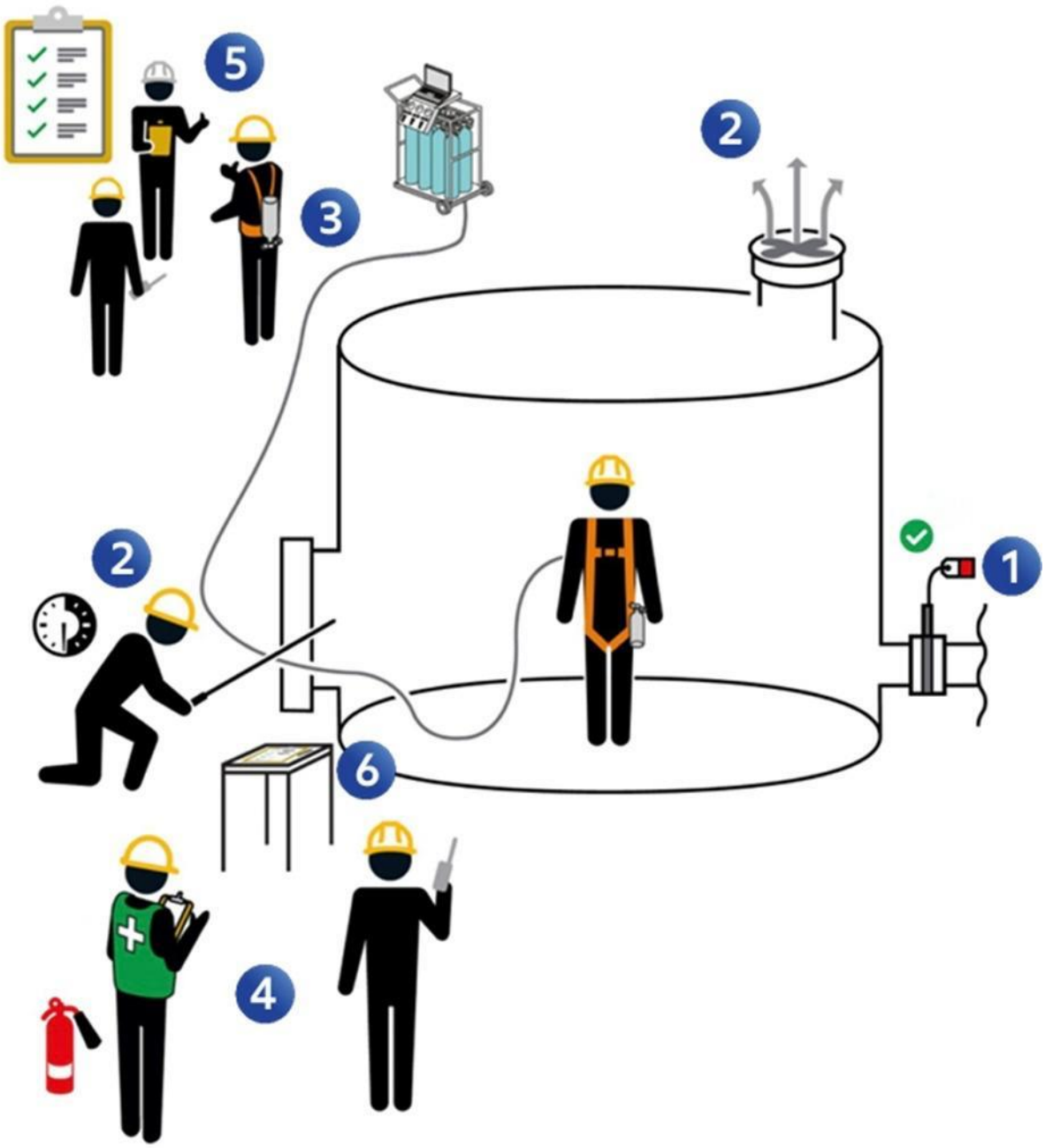
2	**I confirm the atmosphere has been tested and is monitored**	• Atmospheric testing has been performed as per work permit process:
		  ○ During required timeframe prior to starting work
		  ○ At all required locations
		  ○ Follow-up testing is performed per atmospheric monitoring plan
		• Confined space is ventilated according to ventilation plan
		• Ventilation inlets:
		  ○ are not near an ignition source
		  ○ will not be affected by wind/weather conditions and will not have flow restrictions
		  ○ will not draw contaminated air (e.g., vehicle or generator exhaust) into the space

3	**I check and use my breathing apparatus when required**	• Respiratory protection is utilized if atmospheric testing determines it is required • The breathing apparatus is complete and in good working condition • The main air supply is certified breathing air and is properly connected • Escape pack is in place and functioning prior to entry

4	**I confirm there is an attendant standing by**	• Dedicated attendant is present at the designated entry point(s) to the confined space.
		• A qualified supplied air attendant is provided if supplied air required (e.g., self contained breathing apparatus supplied airline)
		• The attendant understands their responsibilities, which include:
		  ○ Using previously agreed upon communication methods (e.g., hand signals, radio)
		  ○ Monitoring personnel in the confined space
		  ○ Documenting entry and exits from the confined space
		  ○ Monitoring the confined space and surrounding area for changing conditions
		  ○ Initiating the emergency rescue response if needed

5	**I confirm a rescue plan is in place**	• Emergency rescue plan and resources are available to achieve prompt rescue • The entrant is wearing rescue equipment per plan (e.g., harnesses, retrieval device) and understands egress routines/constraints

"Obtain authorization before entering a confined space" *Confined Spaces*		
Safe Start Checks		**Safeguards: Discuss/Verify/Confirm (examples):**
6	**I have obtained authorization to enter**	• Permit issued for confined space entry • Permit conditions and risk mitigations have been communicated to all affected personnel prior to entry • Personnel verification process is followed for entry into and out of confined space • All personnel (Entrants, Attendants, Gas Testers, Entry Supervisors) have been trained and understand their roles
Confirm these controls/safeguards are in place and verified prior to starting work. **Stop and seek help if anything changes.**		


5
3
2
2
1
6
4

HOISTING AND RIGGING

Definition

Any work involving a lifting operation with a lifting device.

It includes, but is not limited to:

- Material lifting
- Equipment lifting
- Personnel lifting with a basket or similar approved system designed for human occupancy

Safeguards

- Planning, review and safe work procedure authorization
- Inspection and maintenance
- Safety interlocks and alarms
- Positive communication systems
- Zones of exclusion established
- Geotechnical verification for heavy equipment
- Engineered drawings / plans

CCSC – SAFE START CHECKS

1. I understand lift plan prior to starting work
2. I confirm that the equipment and load have been inspected and are fit for purpose.
3. I only operate equipment that I am qualified to use.
4. I establish and obey barriers and exclusions zones.
5. I never walk under a suspended load.
6. I establish and maintain communication with lifting and rigging personnel.

"Plan Lifting Operations and Control the Area" *Hoisting and Rigging*		
Safe Start Checks		**Safeguards: Discuss/Verify/Confirm (examples):**
1	**I understand lift plan prior to starting work**	• Designated person is assigned as the lift plan supervisor • A safe work permit has been issued as required. • The lift method, equipment, and number of people required has been assessed and determined • When required, an approved lift plan or procedure is in place and has been evaluated by a competent person • The lift has been assessed for load weight and load size • The lifting equipment's current capacity and condition has been assessed (including anchor points) • Equipment operator and lifting crew have discussed the lift plan prior to lifting • Discuss stop work considerations if work situation changes including change of weather

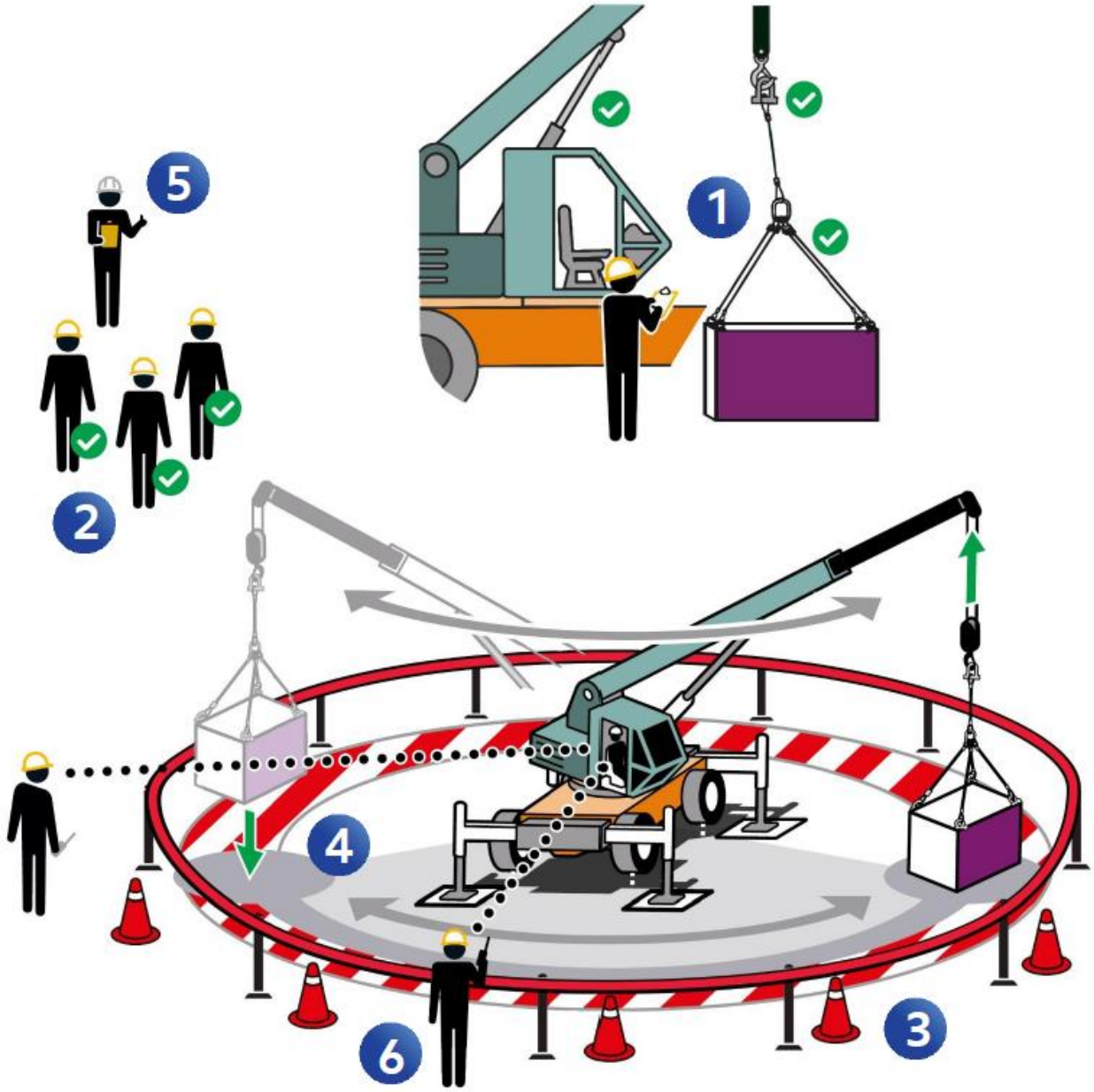
2	**I confirm that the equipment and load have been inspected and are fit for purpose**	• Periodic and pre-use crane and/or rigging equipment inspection has been completed
		• Safety and monitoring devices are in place and functioning
		• The rigging equipment is rated for the lift
		• Lifting surface has been assessed for stability and is level for the lifting equipment (use of matts or other methods where required)
		• Loads have been assessed for stability, taking into account:
		  ○ load securing, including anchor point capacity
		  ○ workplace conditions
		  ○ travel path
		  ○ equipment capacity
		• Loose objects have been secured or removed prior to lift
		• Ensure softeners are used to protect kevlar/nylon slings at sharp edges
		Note: If load chart does not exist, assume equipment is not rated for the lift; stop work and identify alternative lifting equipment that is rated for the load

3	**I only operate equipment that I am qualified to use**	• Lifting equipment operator and lifting crew are qualified to perform the task, per local requirements • The members of the lift crew have agreed to and understand their individual roles and responsibilities for the lift • Use of tag lines and/or safety poles for maneuvering loads by qualified persons and keep hands off load unless authorized.
4	**I establish and obey barriers and exclusion zones**	• Access to exclusion zones is controlled (e.g., attendant or physical barriers) • Lift Team members know the load crush and drop exclusion zones before load is lifted, swung, lowered or tensioned and are out of the line of fire • Lift Team members to enter exclusion zones only as agreed in lift plan and pre-lift meeting • Signal Person(s) are easily identified (hi-vis vest, vest labeled rigger, etc.)

"Plan Lifting Operations and Control the Area" *Hoisting and Rigging*		
Safe Start Checks		**Safeguards: Discuss/Verify/Confirm (examples):**

5	**I never walk under a suspended load**	• Exclusion zones have been identified, and controls are in place to protect people from line of fire hazards, including:
		  ○ walking/working under suspended, moving loads
		  ○ dropped objects

6	**I establish and maintain communication with lifting and rigging personnel**	• Communication method(s) (e.g., hand signals, radio) have been agreed to and tested • Continuous communication maintained between Lifting Equipment Operator and Signal Person(s) • Equipment operator and lifting crew have discussed the emergency response, including what emergency stop signals be used **Note:** Consider how to apply "hands-free lifting" (e.g., use of push poles and/or taglines). If hands on load must be used load shall be without stored lateral energy and movement, and only for guiding the load to its final position
Confirm these controls/safeguards are in place and verified prior to starting work. **Stop and seek help if anything changes.**		


5
1
2
4
3
6

DRIVING

Definition	Safeguards
Operating a vehicle on a public or a private road (on / off highway) and/or on a project.	• Pre-use inspection, journey management planning • Fit for duty • Training and competence • Operated in safe manner (use of safety features, seat belts, no cell phone use etc.) • Equipment storage / secured materials

CCSC – SAFE START CHECKS

1. I inspect my vehicle prior to use
2. I always wear a seatbelt
3. I do not exceed the speed limit, and reduce my speed for road conditions
4. I use hands free communication and never operate devices while driving
5. I am fit, rested and fully alert while driving
6. I follow journey management requirements

"Follow safe driving rules" Driving		
Safe Start Checks		**Safeguards: Discuss/Verify/Confirm (examples):**
1	**I inspect my vehicle prior to use**	• Perform a 360° walk around my vehicle • Document my vehicle inspection • Store and secure materials and equipment to prevent unintended movement
2	**I always wear a seatbelt**	• Seatbelts are in good working order • Drivers and passengers wear seatbelts when the vehicle is in motion
3	**I do not exceed the speed limit, and reduce my speed for road conditions**	• The driver is familiar with speed limits, local signage, and general communications (e.g., radio channels to be used, if applicable) • The driver has checked weather (rain, ice, snow, flooding), traffic, and road (pavement, gravel, road works) conditions

4	**I use hands free communication and never operate devices while driving**	• Drivers shall only use a hands-free device in vehicles unless properly parked in a safe location
		• Passengers shall not engage in behaviors that distract the driver, including making sure passenger use of a cell phone or mobile device does not distract the driver
		• Cell phone or mobile devices may be used for navigation purposes provided that:
		  ○ The motor vehicle is properly parked in a safe location prior to inputting or making any changes to the destination or entering any additional information.
		  ○ The cell phone or mobile device is securely positioned in a manner where it does not obstruct the driver's vision.

5	**I am fit, rested and fully alert while driving**	• The Driver is:
		  ○ Well rested
		  ○ Fit to undertake the journey
		  ○ Not under the influence of drugs, alcohol, or medications that may impair their ability to drive
		• Controls are in place to manage personal fatigue, including:
		  ○ Maximum driving times
		  ○ Minimum hours of rest prior to driving
		  ○ If applicable, rest breaks during the journey

6	**I follow journey management requirements**	• Journey Management Plan includes, and the driver is aware of:
		  ○ The destination
		  ○ Check in routines
		  ○ Necessary fuel coverage
		  ○ Route/s to be taken
		  ▪ Local traffic
		  ▪ Weather and road conditions
		  ▪ Designated emergency contacts
		• The driver is authorized and has applicable license to operate vehicle type in geographic area
		• If the vehicle is equipped with a monitoring system, the system is activated during the journey

Confirm these controls/safeguards are in place and verified prior to starting work. **Stop and seek help if anything changes.**		


3
2
1
4
5

PUBLIC INTERFACE

Definition

Any work involving the safety of people from the public not involved in the construction operations.

It includes, but is not limited to:

- Pedestrians
- Drivers
- Cyclists

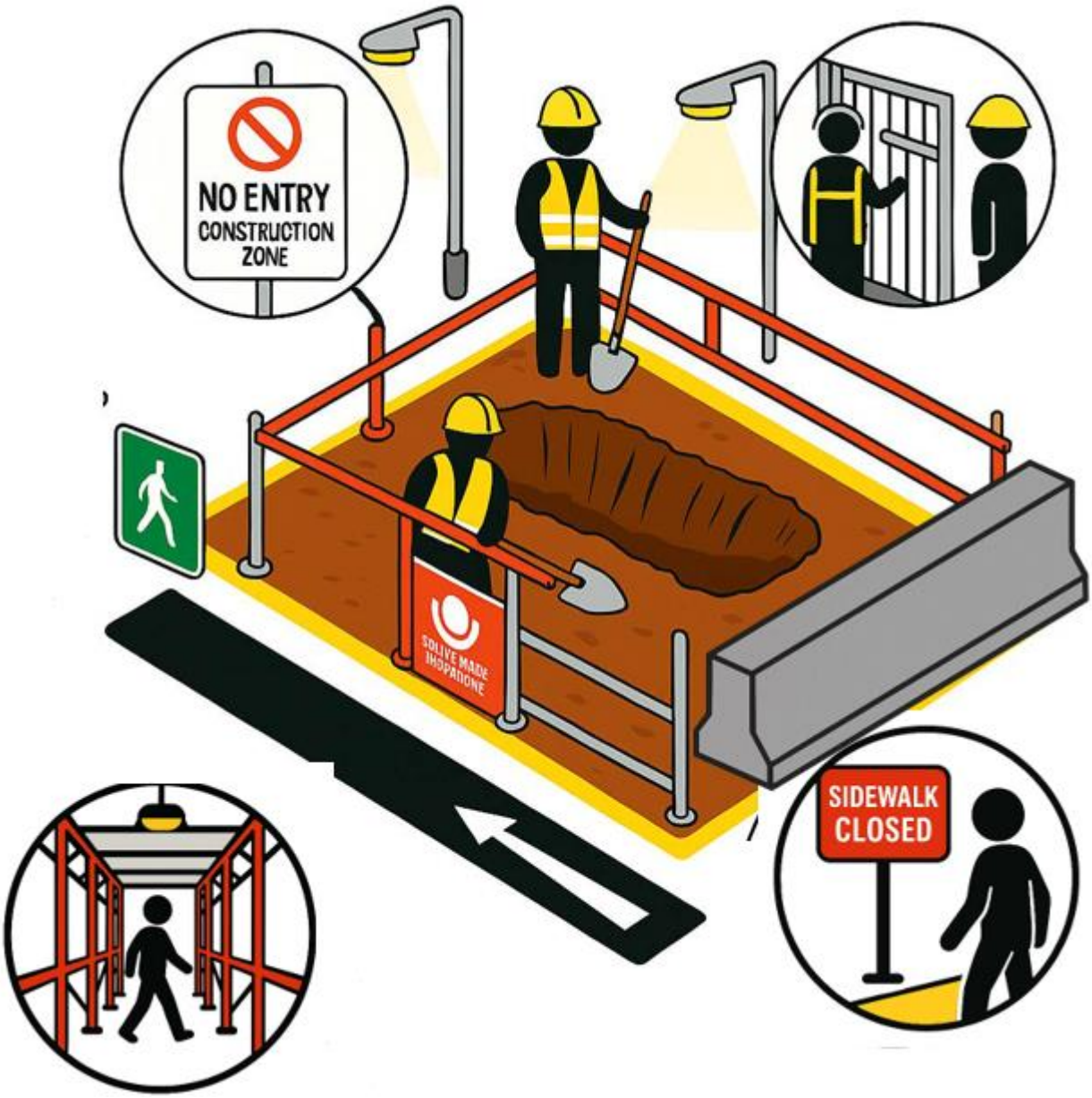
Safeguards

- Physical barriers and separation
- Overhead falling object protection
- Work zone access control
- Wayfinding
- Stop work for the public
- Site management plan

CCSC – SAFE START CHECKS

1. I will ensure adequate physical barriers are in place and maintained
2. I secure all entry and exit points to the work zone
3. I will ensure that a clear and well-marked path of travel is available for all members of the public
4. I maintain awareness of the work zone and stop work if a member of public is in the work zone

"Protecting the Public" *Public Interface*		
Safe Start Checks		**Safeguards: Discuss/Verify/Confirm (examples):**
1	**I will ensure adequate physical barriers are in place and maintained**	• Barrier height reflects work-type hazards present, proximity to public and regulatory requirements. e.g. site / area Traffic Control Plan; area hazard assessment process; site inspection records; spot checks • Barrier material reflects work-type hazards present, work duration and regulatory requirements. • Barrier boundary is visibly obvious, uninterrupted and requires deliberate action to pass. • Barrier will endure the environmental and physical stresses while maintaining its integrity. • Barrier design and installation considers line of sight issues; installed / modified accordingly (i.e., windows, cut-outs, mirrors) • Overhead barrier protection is considered in protecting the public
2	**I secure all entry and exit points to the work zone**	• Gates / doors / turnstiles to all enclosed worksite areas are installed and maintained • Entry and Exit points are secured or supervised at all times • '"Do Not Enter Signage" is visible and legible indicating authorized personnel only at entry/access points
3	**I will ensure that a clear and well-marked path of travel is available for all members of the public**	• A clear path of travel is well marked and makes navigating the work zone easy for all members of the public • Pedestrian detour provides advanced warning for walkways that will be closed and clear alternative routes • Navigation signage is visible, standardized, clear, legible and uses symbols • Navigation signage will endure all normal environmental stresses while maintaining its integrity e.g. inspections, maintenance program, safety observations and corrective actions • Lighting systems, including warning lights and area illumination, are planned and installed at strategic locations (i.e., intersections, covered pathways, access/egress locations, etc.) • Work is planned to mitigate excessive noise and nuisance such as dust and debris
4	**I maintain awareness of the work zone and stop work if a member of public is in the work zone**	• The "Work Zone" is known by all workers i.e. review plans and hazard assessments to ensure work zones are being identified and reviewed, e.g. Site plan, Safe Job Plan, Traffic Control Plan, hazard assessments. • Work activity stops upon entry of a member of public or unauthorized individual into the zone; provide training and reinforcement among workers with frequent proximity to members of public • A work stoppage due to a member of the public entering the work zone is reported (in accordance with severity) and investigated; work zone access is reviewed.
Confirm these controls/safeguards are in place and verified prior to starting work. **Stop and seek help if anything changes.**		


NO ENTRY
CONSTRUCTION
ZONE
SIDEWALK
CLOSED

WORKING NEAR TRAFFIC

Definition

Any work near an active road.

Safeguards

- Physical barriers and separation
- Traffic Management Plan
- Seeing and Being Seen (high visibility workwear)
- Training
- Administrative Controls

CCSC – SAFE START CHECKS

1. I will review and understand the traffic management plan
2. I will ensure adequate controls and advanced warning systems have been established for the setup and tear down of any temporary and/or permanent protection systems
3. Spotters and flag persons are designated solely for their specific tasks and are not engaged in any other duties
4. I maintain awareness and stop work if a public vehicle enters the work zone
5. I will plan my work to mitigate excessive noise and nuisance such as dust and debris

"Working near traffic"		
Safe Start Checks		**Safeguards: Discuss/Verify/Confirm (examples):**
1	**I will review and understand the traffic management plan**	I validate if the traffic management plan works with the site conditions. A Traffic Management Plan is to be created and communicated using the following considerations: • Access is adequate to allow safe access to and from the worksite • Necessary signage is in place where specified in the plan, and is inspected regularly • The topography of the road generates no vertical blind spots (e.g. unevenness of a bridge). • Speed limits are adapted to regulations and project type • Nearby excavations have been assessed for protection, and the necessary equipment is in place • Use of appropriate reflective materials on signage in accordance with regulations • Crash Cushion System in place
2	**I will ensure adequate controls and advanced warning systems have been established for the setup and tear down of any temporary and/or permanent protection systems**	• When practicable, lane closure to be in place with a detour for public traffic to separate pedestrians from the work activities • If not feasible, use of barrier (such as jersey barriers and iron fences) to be used • Use of temporary traffic lights (instead of traffic controller) • Close a lane to maintain a wider exclusion zone for the workers when possible
3	**Spotters and flag persons are designated solely for their specific tasks and are not engaged in any other duties**	• High visibility PPE is used as per local requirements. • Tower lights are adequately installed to not obstruct/blind vision of traffic • Establish safe access and egress off the jobsite • Vehicle stopping distance is within signalers vision
4	**I maintain awareness and stop work if a public vehicle enters the work zone**	• Traffic Control Persons received certification and have maintained their Training • Management Training on internal processes and applicable legislative requirements • Communication and understanding of applicable personnel on the traffic management plan
5	**I will plan my work to mitigate excessive noise and nuisance such as dust and debris**	• Site Specific Work Procedure is in place for working near traffic that takes into consideration: weather conditions (fog, rain, snow, sunny, cloudy, etc.), time of day (day, night), time of year, etc. • Work Procedure has been communicated to applicable personnel and reviewed regularly. • Field Level Hazard Assessment has been conducted to reflect the work conditions, including controls to mitigate noise, dust and debris.
Confirm these controls/safeguards are in place and verified prior to starting work. **Stop and seek help if anything changes.**		


STOP
TMP
STOP

WORKING NEAR WATER

Definition

Any work carried out above, under or less than 2 m from a water body or a watercourse that is either more than 1.2 m deep and allows the use of a boat, or with a water flow of more than 0.51 m/s sufficient to carry a person including works carried out on ice.

Safeguards

- Personal floatation device
- Weather notification system and emergency plans
- Assigned emergency responsibilities and response plans
- Tidal predictions and Sea State(as required)
- Immediately deployable rescue skiff (boat)
- Fall prevention
- 'Buddy System' and communication
- Consideration of Public Safety requirements.

CCSC – SAFE START CHECKS

1. I will always wear a personal floatation device.
2. I have ensured a weather notification system is functional and emergency plans are established and in place.
3. I have verified my crew is aware of their emergency response accountabilities.
4. I have consulted accurate tidal predictions to understand water levels and currents, as required.
5. I have verified a rescue skiff is available for immediate deployment.
6. I have ensured safe and stable access to all work areas near or on the water.
7. I have ensured adequate fall protection measures are in place.
8. I have an assigned buddy and we have established clear communication.
9. I have verified restricted access and work zones are posted.

"Water's no joke – stay afloat!" *Working Near Water*		
Safe Start Checks		**Safeguards: Discuss/Verify/Confirm (examples):**
1	**I will always wear a personal floatation device.**	• Type I: Offshore Life Jackets. These vests are designed for rough or remote waters where rescue may take some time. They provide the most buoyancy and are excellent for flotation, will turn most unconscious persons face-up in the water. • Type III: These life jackets are for calmer waters where there is an immediate response for rescue. • It is recommended that all PFD's are international orange or, yellow-green with reflective stripes. • All life jackets will be equipped with a 'wet water' whistle and water activated flashing beacon. • All equipment will be designed for the elements a worker may be subject to (i.e., cold water immersion and survival suits)
2	**I have ensured a weather notification system is functional and emergency plans are established and in place.**	• Use a weather monitoring app to receive real-time alerts for changing weather conditions ensuring timely decision-making. • Have a clear action plan for lightning, including immediately ceasing activities and seeking shelter in a safe, grounded location. • Regularly check wind speed forecasts and adjust operations to avoid working during high-wind conditions that may adversely compromise vessel stability. • Major Storm Preparedness: establish evacuation routes, equipment securement planning including offices/marine gear and identify safe harbours for demobilizing project equipment. • I have confirmed presence/operability of necessary navigation and communication systems (GPS, RADAR, VHF, Satellite phone etc…)
3	**I have verified my crew is aware of their emergency response accountabilities.**	• All personnel will be trained for emergencies such as man-overboard, fire, injured/ill personnel extraction, abandon ship and any other potential emergency related to marine work. • Drill shall occur monthly. • Muster points shall be designated and marked. • Each crew member shall be given a written description of and shall become familiar with their emergency duties and shall become familiar with the vessel's emergency signals.
4	**I have consulted accurate tidal predictions to understand water levels and currents, as required.**	• The rise and fall of tides will cause water levels to fluctuate. • Floating gear must be managed to minimize risk of being caught under fixed structures such as pile caps, bridge and trestle structures, piers, wharfs and docks. • Sea state: waves can be dangerous obstacles that can swamp or capsize boats. Waves can also create significant crush points between skiffs and barges. • Mooring lines: considerations made to the size, number, condition and material in relation to vessel weight. • Keep marine vessels positioned parallel with current and not cross current especially where currents run fast. • Anchors should have a minimum 4 to 1 ratio of length to depth.

"Water's no joke – stay afloat!" *Working Near Water*		
Safe Start Checks		**Safeguards: Discuss/Verify/Confirm (examples):**
5	**I have verified a rescue skiff is available for immediate deployment.**	• At least one lifesaving skiff shall be immediately available at locations where employees are working over or adjacent to water. • Personnel trained in launching and operating the skiff shall be readily available during work hours. • Lifesaving personnel shall perform a lifesaving drill, including the launching and recovery of the skiff before the initiation of the work and periodically thereafter. • Skiff shall be kept afloat or ready for instant deployment.

6	**I have ensured safe and stable access to all work areas near or on the water.**	• Access: working in, on, or near water can compound hazards related to accessing the work. Factors such as wind, tides, waves, currents, vessel maneuvering, and other factors may make it more hazardous than other types of access.
		• Ladders: extension, step and job-build ladder access should be avoided as permanent access.
		  ○ One person on a ladder at a time.
		  ○ Other than vertical boarding ladders permanently mounted to the side of the barge, ladder access should be avoided.
		  ○ When the shore does not slope at a 1:1 ratio or shallower, a ladder will be placed to allow workers to exit the water.
		  ○ The ladder must be clearly visible, secured, and extend at least 3' above the upper access and 3' below the water line.
		• Gangways: a passageway or bridge-like structure that allows people to move safely between a dock or pier to a vessel.
		  ○ Gangways and ramps shall be secured at the higher elevation so the lower end is capable of self-adjusting with tidal levels and vessel movement.
		  ○ Shall be placed at an angle no greater than that recommended by the manufacturer.
		  ○ They shall be provided with a handrail and equipped with nonskid

7	**I have ensured adequate fall protection measures are in place.**	• Employees must be protected from falls of 6ft/1.8m or greater, this includes falls to water. • Install guardrails to prevent falls to water or a lower surface. • Ensure decks and walkways are equipped with non-slip coatings to reduce the likelihood of slips, especially in wet conditions. • Secure all hatch openings to prevent accidental falls into confined spaces. • Use fall restraint and fall arrest gear to prevent falls to a lower level.

"Water's no joke – stay afloat!" *Working Near Water*		
Safe Start Checks		**Safeguards: Discuss/Verify/Confirm (examples):**
8	**I have an assigned 'buddy' and we have established clear communication.**	• Ensure that each team member is paired with a reliable and attentive 'buddy' to monitor each other's safety and wellbeing at all times. • Establish regular verbal or visual check-ins to confirm that everyone is accounted for especially while working on or near water. • Use radios, whistles or hand signals to maintain clear and consistent communication. • Train all team members on emergency protocols ensuring 'buddies' can quickly assist in the event of an emergency.
9	**I have verified restricted access and work zones are posted.**	• All derricks, cranes and barges must be equipped with proper navigation lights and corresponding day shapes as barges with spuds or anchors are restricted in their ability to maneuver. • Keep proper navigational lights in place on buoys, barges and bridge structures. • Posting signs to warn the public of submerged anchor wires or other hazards and give warnings to give clearance of 492ft/150m. • Maintain proper Notice to Mariners with Canadian Coast Guard and Transport Canada.
Confirm these controls/safeguards are in place and verified prior to starting work. **Stop and seek help if anything changes.**		


RESTRICTED
ACCESS

WORKING NEAR LIVE RAIL

Definition

Any work performed within 26ft/8m of an active railroad.

Walking or working near live rail is a high-risk environment.

Safeguards

- Pre-job briefing
- Work zone walkdown
- Boundary delineation
- High visibility work wear
- Permit to work/access system
- Dedicated work zone controllers

CCSC – SAFE START CHECKS

- I attend a pre-job briefing before my work shift for the day
- I will understand the workplan from the work zone walkdown, identifying hazards
- I will work within the work zone boundaries identified
- I will wear approved high visibility clothing
- I obtain work authorization prior to work
- I am familiar with who the dedicated flag person is

"Walking or Working Near Live Rail" *Walking or Working Near Live Rail*		
Safe Start Checks		**Safeguards: Discuss/Verify/Confirm (examples):**
1	**I attend a pre-job briefing before my work shift for the day**	• Attend pre-job briefing prior to each shift - affected personnel receive information prior to starting work. Personnel starting mid shift receive information prior to starting work • Key information covered (required topics: understand protection limits, meeting flag person, rule of the day, expected traffic and protocol for movement) is understood by workers • Any "pre-job safety hazards" e.g. Field Level Risk Assessment card, reviewed and documented
2	**I understand the workplan from the work zone walkdown, identifying hazards**	• Workplan has been developed and approved prior to the walkdown • Workplan has been reviewed and understood by all members participating in the walkdown • Work zone walkdown assesses set up of work zone boundary, lists contractors working in the area and identifies work area specific hazards • Issues identified in the work zone walkdown are addressed prior to job start
3	**I will work within the work zone boundaries identified**	• Delineation: Work zone boundary clearly marked so that boundaries are visibly obvious • Work zone boundary communicated and understood by all those working in the work zone boundaries • Work zone boundary material reflects work type hazards present, work duration and environmental conditions
4	**I will wear approved high visibility workwear**	• Appropriate high visibility workwear is worn (class 3) • High visibility workwear readily available and it is known by the workers how and where to obtain the workwear when needed • High visibility workwear inspected regularly, worn correctly and in good condition.
5	**I obtain work authorization prior to work**	• A work permit / work authorization established prior to working in work zone with appropriate sign-offs • Work permit / work authorization is updated when changes occur and closed out when completed
6	**I am familiar with who the dedicated work zone flag person is**	• Dedicated work zone flag person has been identified, communicated and understood by all crew members, including all contractors, working in the work zone • Work zone flag person is familiar with their roles and responsibilities and can communicate effectively with all crew members working in the delineated work zone boundaries
Confirm these controls/safeguards are in place and verified prior to starting work. **Stop and seek help if anything changes.**		


RAIL ROAD CROSS ROAD
Work Authorization Form

HAZARDOUS MATERIALS

Definition

Any work involving the use of materials defined under the workplace hazardous materials information system (WHMIS), which cover any product, mixture, material, or substance classified as hazardous.

Safeguards

- Safety Data Sheets (SDS) available and reviewed
- Labelling of materials
- Storage, control of ignition sources, ventilation, grounding/bonding of containers
- Training
- PPE
- Spill/Emergency Response

CCSC – SAFE START CHECKS

1. I assess my work area to identify hazardous materials, and I confirm controls are in place
2. I follow proper handling, storage and disposal procedures for each type of hazardous material
3. I participate in hazardous materials training
4. I always wear appropriate PPE when handling hazardous materials
5. I am prepared for emergencies and spills/leaks

"Ensure safe handling and proper controls for all hazardous materials" *Hazardous Materials*		
Safe Start Checks		**Safeguards: Discuss/Verify/Confirm (examples):**
1	**I assess my work area to identify hazardous materials, and I confirm controls are in place**	• Identify and communicate the presence of hazardous materials. • Hazardous materials are clearly labeled and visually identified. • Safety Data Sheets (SDS) are available and reviewed. • Procedures outline controls to ensure safe use, handling, storage and disposal of hazardous materials. a) Note: If new hazardous materials are discovered, controls must be implemented prior to continuing work.
2	**I follow proper handling, storage and disposal procedures for each type of hazardous material**	• Labels and Safety Data Sheets (SDS) are reviewed prior to handling any hazardous materials and procedures are followed. • Only trained workers use and handle hazardous materials. • Hazardous materials are stored in designated secure areas that are compliant with SDS and legislation and that have appropriate signage. • Ignition sources are removed or controlled near hazardous materials and storage containers are grounded where applicable. • Secondary containment is used where appropriate to prevent spills and leaks. • Ventilation systems are used where appropriate to minimize exposure. • Designated disposal containers are used and taken to appropriate waste facilities, as required.
3	**I participate in hazardous materials training**	• Regular training is conducted for hazardous materials which includes training on hazard recognition, risks, safe use, handling, storage and disposal practices. • Specialized training for working with hazardous materials is provided as necessary.
4	**I always wear appropriate PPE when handling hazardous materials.**	• PPE is appropriate for the specific hazardous materials and tasks in accordance with the SDS and/or Safe Job Procedures. • PPE is readily available and in good condition and is inspected regularly including prior to use. • Workers are trained on the correct use, fit, care and limitations of their PPE. • There is a system in place for the maintenance, replacement, and disposal of PPE.
5	**I am prepared for emergencies and spills/leaks**	• Emergency response procedures are clear and practiced regularly through drills. • Workers are aware of the emergency response procedures including who to contact, how to access emergency equipment and how to use it properly. • Spill kits and appropriate emergency equipment are readily available, inspected regularly and restocked as necessary.
Confirm these controls/safeguards are in place and verified prior to starting work. **Stop and seek help if anything changes.**		


SPILL
KIT
SDS

WORKING NEAR RADIOLOGICAL SOURCES

Definition

Any work where a worker can be exposed to ionizing radiation.

Safeguards

- Radiation Protection training Qualified
- Radiation protection Surveys to be completed before work commences
- Pre-job planning
- Storage, handling and transportation of radiological sources
- As Low As Reasonably Achievable (ALARA) Program
- Emergency response plan
- Health plan

CCSC – SAFE START CHECKS

1. I confirm the presence of and adherence to a radiation protection program (RPP)
2. I will wear proper PPE and ensure protective monitoring measures are in place
3. I will comply with all radiological safe storage, handling and transportation requirements
4. I am familiar with the emergency response plan pertaining to unplanned exposure / release of radiological sources and will participate in any testing of this plan

"Working Near Radiological Sources" *Radiological Sources*		
Safe Start Checks		**Safeguards: Discuss/Verify/Confirm (examples):**
1	**I confirm the presence of and adherence to a radiation protection program (RPP)**	• As Low As Reasonably Achievable (ALARA) plan is in place for identification and controls • Radiation Exposure Permit (REP) aligns work with radiological conditions to ensure dose to workers is kept as low as reasonably achievable • Pre-Job briefing covers daily work plan, hazards and controls are understood by workers
2	**I will wear proper PPE and ensure protective monitoring measures are in place**	• Proper PPE worn when handling known sources or where exposed as per requirement of risk assessment. • Exposure levels monitored via personal dosimetry (Electronic Personal Dosimeter (EPD) or Thermoluminescent Dosimeter (TLD) and alarm when dose rate exceeds REP limits (EPD monitor only) • As stated on Radiation Exposure Permit, bioassay and whole-body counts are followed within provided time limit • Radiological instruments and monitors are in service to ensure that radioactive contamination is not spread to areas with lower hazards or controls to protect from radiological exposure (public or lower zones)
3	**I will comply with all radiological safe storage, handling and transportation requirements**	• Personnel handling equipment or sources of radiation are trained and authorized • Pre-use inspection of equipment or sources of radiation take place prior to movement to ensure there is no breach in containment and transporting equipment is safe for use • During transport, radiological sources are adequately secured, labeled, and in appropriate means of containment
4	**I am familiar with the emergency response plan pertaining to unplanned exposure / release of radiological sources and will participate in any testing of this plan**	• Emergency Response Plan includes specific information on decontamination processes, area restrictions, radiation detection equipment and radiation monitoring • Means of communication is available to alert / request rescue personnel • Trained and competent rescue personnel are available to enact the emergency response plan • Related drills / exercises are being conducted and documented
Confirm these controls/safeguards are in place and verified prior to starting work. **Stop and seek help if anything changes.**