Critical Behaviour Inventory (CBI) – Definitions

SITE OBSERVATIONS CHECKLIST CBI DEFINITIONS

1.0 PROCEDURES

1.1 Job Preparation and Hazard Identification

- Has the person inspected the area and how far are they responding to possible hazards – asking how could I get hurt and mitigating that risk?
- Have potential simultaneous activities been identified and included in the Job Hazard Analysis (JHA)?
- Has the person completed the JHA for the work being performed?
- Are authorised workers familiar with the job hazard analysis? Has the JHA been discussed with them?
- Is the person familiar with the site-specific emergency procedures?

Examples of safe behaviours:

- Prior to starting a job, complete the JHA, involving the right parties, and communicate hazards and control measures with authorised workers prior to starting work
- Prior to starting the work, inspect the area for potential hazards using Energy Wheel

1.2 Following Standard Operating Procedures

- Is employee performing the task according to the procedure?
- Is the employee aware of hazards during the activity and taking appropriate control measures?
- Is the person following the guidelines of the MSDS for chemicals he/she is using?

Examples of safe behaviours:

- When pouring chemicals, pour under lab hood, wear PPE
- Cell phone must be switched off at all times while in the operating area
- When using chemicals, read and follow MSDS guidelines

1.3 Following Permit To Work (PTW) Requirements

- Have the required permits been completed before initiating work activity?
- Has the person(s) performing the work verified that all permit conditions are satisfied?
- Are the permits to work available at the job site?
- Is the Work Responsible Person (WRP) available at the work area?
**Examples of safe behaviours:**
- Prior to beginning work, verify that all site preparation requirements have been completed, e.g. isolation of hazardous energy
- Use fall protection when performing work at heights
- Conduct gas testing at intervals stated on the Hot Work Permit

1.4 Communication to Co-workers
- Is the person communicating with co-workers through distinct words or signals the hazards, unsafe material or impending action?
- Has the work been planned to avoid conflict with other activities or simultaneous activities?
- Are members of the team within sight so that each can see the others' actions (line of sight)?
- Do crew members speak the same language (or interpretation is available)?

**Examples of safe behaviours:**
- When working alone, carry radio to use for communication as necessary
- When using mobile equipment, use horn when needed to communicate and alert co-workers of your presence
2.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

2.1 Protecting Head
- Is head protection being worn in designated areas?
- Is it in good condition?

**Examples of safe behaviour:**
- When head protection is required ensure that it is in good condition and within expiry date

2.2 Protecting Eyes and Face
- Is the eye / face protection appropriate for the task being performed?
- Is it in good condition?

**Examples of safe behaviour:**
- Wear safety glasses with side shields when working in areas with risk of dust, particles, etc in the eyes
- Wear face shield and/or goggles where flying particles or spraying liquids (e.g. dust, metal shavings, splashing liquids or welding arcs) are generated or when handling corrosive chemicals
- When welding, use welding hood

2.3 Protecting Hearing
- Is hearing protection worn in designated areas?
- Is it in good condition and clean?

**Examples of safe behaviour:**
- Wear ear muffs or earplugs in areas posted as high noise area
- When working around loud equipment / vehicles wear hearing protection

2.4 Protecting Respiration
- Is respiratory protection for the job being worn?
- Is respiratory protection appropriate for the task being performed?
- Is it in good condition?

**Examples of safe behaviour:**
- Wear recommended respirator where there is risk of inhaling chemicals, corrosives, hazardous dust, mist, fumes, or hazardous gases
- When working in dusty areas wear a dust mask

2.5 Protecting Hands and Arms
- Is the appropriate hand protection being worn for the task?
- Is it in good condition?
Examples of safe behaviour:

- Wear gloves/ sleeves made of material designed to protect from the risks of the job
- When handling sharp objects wear leather gloves
- When working close to hot surfaces ensures that wrist and other exposed areas are protected

2.6 Fall Protection

- Is a person working at height and wearing a body harness?
- Is it attached to a secure mount or secondary device (fall arrester?)

Examples of safe behaviour:

- Wear safety harness when working above 1.3 metres (either on top of tank, on ladder, etc)
- When wearing a lifeline and harness ensure that the lifeline is connected to a secure mount
- Maintain the harness free of frays, holes, tears, tape or modifications

2.7 Using Correct PPE Within ‘Yellow Lines’ Area

- Is the person entering the yellow line area donning all of the PPE listed on the signage?
- Has the person working inside the yellow line area reviewed the MSDS to ensure all PPE requirements are satisfied?
- Does the person working inside the yellow line area know the location of the emergency shower?

Examples of safe behaviour:

- Wear safety goggles at all times while inside the yellow line area
- When performing operating work, don goggles, face shield, and chemical gloves
- When performing intrusive work, such as disconnecing equipment, don goggles, face shield, chemical gloves (chemical suit if required by permit)
3.0 BODY POSITION / USE

3.1 Avoiding Line of Fire
- Does the person place all parts of his / her body so that they will not be pinned, crushed, struck, sprayed or trapped by energy releases of any kind (electrical, hydraulic, pneumatic, chemical, moving equipment, suspended loads etc.)?

Examples of safe behaviour:
- Stand to the side or stay out of the area of suspended loads
- When accessing or working at height ensure that no items are carried or stored in such a way so they may fall or be dropped
- When disconnecting hoses, make sure all pressure is relieved
- When clearing or cleaning lines, stand to the side
- When walking by doors that open out into the hallway, walk on the far side of hallway

3.2 Avoiding Pinch Points
- Does the person keep fingers, hands, feet, other body parts or the entire body away from tight clearances or areas where equipment, machinery pieces or parts come together?
- Does the person avoid creating a pinch point, when moving equipment or materials?

Examples of safe behaviour:
- Keeping hands from between objects being moved, and slings
- When working with suspended loads ensure that sufficient access and agress routes are maintained

3.3 Keeping Eyes on Task / Path
- Does the person keep his / her eyes on the work being performed?
- Does the person look around for sharp or hot objects, corners, machinery, equipment, etc. before moving or changing position in tight spaces?
- Does the person look in the direction they are walking, moving, or operating mobile equipment or vessel?
- Does the person walk around slipping/ tripping hazards?

Examples of safe behaviour:
- When using hammer ensure that eyes are focused on striking area
- When working in blind spots, visually inspect area prior to placing hands, legs or arms
- When reaching into boxes, inspect prior to placing hands inside
- When walking on ice, snow-covered, wet, oily or slippery surfaces take small flat-footed steps
• While walking / moving keep eyes on path to avoid bumping objects such as magnetic doors, overhead obstacles, utility lines, duct work, low ceilings and exposed sharp surfaces

3.4 Ascending / Descending (people)
• Does the person use stairs, ladders or other climbing devices intended for ascending/ descending, rather than climbing on equipment, piping, etc?
• Does the person walk up and down stairs one step at a time using handrails?
• Does the person step from truck, machinery, equipment instead of jumping?

Examples of safe behaviour:
• When ascending / descending ladders ensure that three-point contact is maintained
• When ascending / descending ladders ensure that tools / equipment is not hand-carried
• When getting in or out of machinery use the handle
• Place the foot fully on the stair or ladder instead of stepping on the ball of the foot or toes

3.5 Following Established Walkways
• During early morning and late evening, always use the designated lighted routes
• When walking, use sidewalks or designated walkways (avoid shortcuts, e.g. do not walk between machinery)
• Does the person use walkways, stairways and / or catwalks provided for access to working area and avoid shortcuts, uneven, slippery, and cluttered surfaces and areas with tight clearances?

3.6 Lifting / Lowering / Pushing / Pulling (load)
• Does the person use legs and keep back straight when lifting and lowering loads?
• Does the person keep the load close to body, avoiding extending to arm length and bending at the waist?
• Does the person push instead of pulling when possible?
• Does the person test or size-up the load before lifting?

Examples of safe behaviour:
• When lifting or lowering, bend at the knees (keeping the back and neck straight) instead of bending at the waist
• Lift heavy objects with two hands and carry load within his / her forearm distance of the body
• When moving welding carts, push instead of pull
4.0 TOOLS AND EQUIPMENT

4.1 Selecting and Using Tools / Equipment
- Does the person use the tool / equipment as it was designed to be used?
- Is the tool or equipment clean and free from obvious defects and in good working order with no damage?
- Is the equipment correctly certified for the area in which it is to be used?
- Homemade tools must not be used at a job site!

Examples of safe behaviour:
- When opening / closing valve ensure that correct size wheel key is used
- Before using tools / equipment ensure they are free of non-approved modifications

4.2 Using Guards / Barricades / Warning Devices
- Has the person placed barricades and signs around work areas when hazards exist?
- Are barricades and warnings around permanent hazards effective and in good condition?
- Does the barricade or warning explain the hazard and action to be taken?
- Is the barricade / warning removed when the hazard is clear?

Examples of safe behaviour:
- When radiography takes place ensure that yellow / magenta tape and warning triangles are in place to prevent unauthorised entry to area
- Place cones, tapes / tents, signs, etc around temporary hazards (puddles, holes, low clearances, overhead work, etc.)
- When working behind a door that has no window, place a cone in front of the door
- Barricades are established in the range of radius crane pillar turnabout to have limited access to the area
5.0 WORK AREA

5.1 Working from a Stable Position

- Does the person stand or sit on level, stable solid surface that provides good traction?

**Examples of safe behaviour:**

- When using stool, ladder or climbing device set on level stable surface
- Use a step stool rather than a box, chair, etc. and support body with hand on a secured object
- When placing an extension ladder, ensure that the ladder is tied off at the top onto secure equipment or is extended three feet above contact point

5.2 Cleaning Up / Storing Tools and Equipment (housekeeping)

- Has the person cleaned the area of slipping / tripping hazards?
- Has the person cleared passages and work area of obstructions and clutter such as boxes, flats, pallets, hoses, etc.?
- Has the person stored equipment, tools, materials, chemicals securely and labelled chemicals?

**Examples of safe behaviour:**

- Remove oils / chemicals from floors, handrails, etc.
- When storing equipment in the workplace ensure it is not stored on stairways, at the base of ladder accesses or in access areas.
- Store tools out of the immediate work space when not in use
- Clean and organise work area before, during and after the task involved
6.0 ENVIRONMENTAL STEWARDSHIP

6.1 Handling Methods to Prevent Spills
- Secondary containment and fail-safe equipment is used on site
- Liquid chemicals are stored on a concrete pad with curbs / berms to contain liquids in the event of a spill
- Containers are in good condition (e.g., not weathered, no visible leaks)

6.2 Proper Segregation and Storage of Waste
- Waste is segregated by type and collected in an appropriate container labelled for a particular waste. For example, solid municipal waste has been collected in the container with label SMW (solid municipal waste), industrial waste such as contaminated rags has to be placed in a container labelled accordingly
- No mixing of wastes in containers. For example, solid and liquid wastes are not stored in the same container. Municipal and industrial solid wastes are not stored in the same container

6.3 Proper Labelling of Chemical Containers
- The containers are labelled in accordance with substance stored in there and its hazardous class
- Do not use water bottles for storing chemical liquids
OFFICE OBSERVATIONS CHECKLIST CBI DEFINITIONS

7.0 BODY POSITION / USE

7.1 Keeping Eyes on Task / Path
- Does the person keep his / her eyes on the work being performed?
- Does the person look in the direction he/she is walking / moving?
- Does the person move at a safe pace appropriate for conditions?
- Does the person walk around slipping / tripping hazards?

Examples of safe behaviour:
- When reaching into boxes, inspect prior to placing hands inside
- When walking across your intended path, yield to others
- While walking / moving keep eyes on path to avoid bumping objects such as doors, overhead obstacles, low ceilings and exposed sharp surfaces
- Walk down the corridor (instead of running).

7.2 Avoiding Line of Fire
- Does the person open the door carefully to prevent hitting the other person standing behind the door?
- Does the person place all of his / her body so that they will not be pinned, crushed, struck, sprayed or trapped by energy releases of any kind (electrical, hydraulic, pneumatic, chemical, moving equipment, overhead loads, etc.)?

Examples of safe behaviour:
- When walking by doors that open into the hallway, walk on the far side of hallway
- When using a paper cutter, make sure that hands and fingers are placed safely away from the cutting action of the blade, before lowering the cutting blade
- When pouring hot coffee, pour over the top of a counter
- Before opening door fully into hallway, partially open door and look both ways
- Stand away from doorway (out of path of swinging door or people’s ingress / egress into room)

7.3 Avoiding Pinch Points
- Does the person keep fingers, hands, feet, other body parts or the entire body away from tight clearances or areas where equipment or other objects come together (primarily fingers in tight clearances)?
- Does the person avoid creating a pinch point, when using elevator, moving objects or materials?
Examples of safe behaviour:
- Keep fingers away from tight areas such as hinges and doors as they move
- Keeping hands from between objects being moved
- When closing drawers, use handles provided
- When moving furniture keep your body away from doors, walls and corners

7.4 Ascending / Descending (people)
- Does the person use stairs, ladders or other climbing devices intended for ascending / descending rather than climbing on objects (chairs, boxes, pedestals, etc)?
- Does the person walk up and down the stairs one step at a time (instead of skipping stairs)?
- Does the person use handrails?

Examples of safe behaviour:
- When walking up or down stairs hold onto the handrail
- Place the foot fully on the stair or ladder instead of stepping on the ball of the foot or the toes
- When ascending / descending stairs ensure three-point contact is maintained

7.5 Following Established Walkways
- Does the person use walkways, stairways provided for access to working area and avoid shortcuts, uneven slippery, and cluttered surfaces and areas with tight clearances?

Examples of safe behaviour:
- Use standard exit routes / stairs instead of emergency exits
- Choose to walk around obstacles instead of over them
- Choose to walk in well-lit areas when available
- When walking, use sidewalks or designated walkways (avoid shortcuts across green)
- When crossing the highway use designed pedestrian crossing

7.6 Lifting / Lowering / Pushing / Pulling (load)
- Does the person use legs and keep back straight when lifting and lowering loads?
- Is the lifting done in a smooth motion?
- Does the person keep the load close to body, avoiding extending to arm length and bending at the waist?
- Does the person push instead of pulling when possible?
- Does the person pull or push with legs instead of back?
**Examples of safe behaviour:**
- When lifting or lowering bend at the knees (keeping the back and neck straight) instead of bending at the waist
- Lift heavy objects with two hands and carry load within his / her forearm distance of the body
- Get assistance, when moving / lifting large items (tables, paper boxes, jugs of water for the cooler, etc.)

7.7 Avoid Twisting
- Does the person pivot (move his / her feet to turn the entire body) instead of twist at the waist?

**Examples of safe behaviour:**
- When picking up a load for lifting turn the entire body to face the load
- When retrieving objects leave chair instead of twisting

7.8 Reaching Within Reach
- Does the person change stance or position instead of over-extending to reach?
- Does the person position regularly used items (e.g. keyboard, mouse, telephone, calculator, etc.) close to the body?

**Examples of safe behaviour:**
- When opening the blinds in the office, step from place to place to reach pull cords
- When retrieving objects leave chair instead of leaning and over-extending
- Keep desk objects most frequently needed within elbow’s reach. Keep others within extended arm’s reach
8.0 WORK PLACE HAZARD AWARENESS

8.1 Selecting and Using Tools / Equipment
- Does the person select the correct tool or equipment for the job?
- Is the tool or equipment clean and free from obvious defects and in good working order with no damage?

**Examples of safe behaviour:**
- When removing staples, use a staple remover
- When using tools / equipment ensure the guards are in place prior to using
- Before using tools / equipment ensure they are free of non-approved modifications

8.2 Using Guards / Barricades/ Warning Devices
- Has the person placed barricades and signs around work areas where hazards exist?
- Is the correct type of barricade or warning device used?
- Does the barricade or warning explain the hazard and action to be taken?

**Examples of safe behaviour:**
- Place cones, tape signs, etc. around temporary hazards (puddles, low clearances, overhead work, etc.)
- When there are spills, wet floors or obstructions to walkways, place cones around hazards
- When working behind a door that has no window, place a cone in front of the door
- When filing in open filing cabinets (that you can’t keep closed) place cones in walkway

8.3 Housekeeping (cleaning / storing supplies)
- Has the person cleared the area of slipping / tripping hazards?
- Has the person cleared passages and work area of obstructions and clutter such as boxes, cables, chairs, flipcharts, etc.?

**Examples of safe behaviour:**
- Store office equipment in designated locations when not in use
- Use cable-safety strip canal to keep cables and cords from presenting a tripping hazard
- Remove all unnecessary rubbish from the location

8.4 Working in a Properly Lit Environment
- Is the person working in an area free of glare with enough light to avoid squinting or getting close to the work?
Examples of safe behaviour:
- When working in dark areas, use portable lighting
- When working at computer screen, position screen perpendicular from windows to reduce glare

8.5 Preventing Electrical / Fire Hazards
- Have bare and spliced cables been taken out of service?
- Are multiple extension cords plugged into a single outlet?

Examples of safe behaviour:
- When using power equipment, check condition of plugs and cords prior to use
- Before using tools / equipment (e.g. heaters, kettles, water boilers, etc.) ensure they are free of non-approved modifications
- Heaters should be located away from combustible materials (like paper or cardboard) and turned off and unplugged when not in use
9.0 OFFICE ERGONOMICS

9.1 Taking Stretch / Rest Breaks (supported by WorkPace)
- Does the person take regular breaks when carrying out repetitive tasks?

**Examples of safe behaviour:**
- When WorkPace break or micro-pause pops up, take a break and stretch or find other tasks to do
- When doing repetitive tasks, take breaks to stretch affected muscles approximately every 20 minutes and/or change position, switch hands, move or rotate jobs to use different muscle groups
- Occasionally walk to colleagues’ office to discuss work-related business instead of calling them on the phone

9.2 Neck and Back Posture
- Is the person holding head, neck and shoulders in neutral (straight) position?

**Examples of safe behaviour:**
- When viewing a computer monitor, ensure that the top of the working area of monitor screen is at eye level or slightly below
- When typing from a document, use document holder at eye level or in line with the monitor to keep neck neutral

9.3 Phone Use Posture
- Is the telephone not being held in the crook of the neck?

**Examples of safe behaviour:**
- When typing and answering the phone at the same time ensure that a hands-free headset or speakerphone is used to keep neck and shoulder in neutral position

9.4 Back Support
- Is the body supported by chair with good alignment through ears/shoulders/hips?

**Examples of safe behaviour:**
- When sitting, place buttocks at the back of the chair and support back with the back of the chair
- When sitting a work station, ensure that the chair is at the correct height so that feet are supported which helps to prevent strain on the back
9.5 Shoulder Posture
- Are regularly used items (e.g. keyboard / mouse / numeric keypad, can also include phone / calculator in some cases) close to the body to prevent over-reaching?

Examples of safe behaviour:
- When setting out a desktop ensure that clutter is removed to provide ease of access to equipment

9.6 Wrist and Arm Position
- Do the wrists sit in a neutral position with no bending, keeping a straight line through the forearm through the middle finger?
- Does the person keep elbows at approximately 90 degrees angle, with shoulders relaxed?

Examples of safe behaviour:
- When using keyboard, keep wrists in neutral position
- When typing, keep elbows at approximately 90 degrees angle, with shoulders relaxed
- When typing, float hands / wrists above the keyboard surface

9.7 Holding / Moving Mouse
- Is the person holding the mouse gently with full palm and fingers wrapped around instead of pinch grip with fingers / thumb only?
- Is the mouse positioned within convenient reach?

Examples of safe behaviour:
- When mousing, mouse is moved with the large muscle of the arm and not by movements from the wrist

9.8 Hips and Legs Position
- Are thighs parallel to the floor or hips are higher than knees?
- Does clutter exist under / around workstation giving rise to awkward leg postures being adopted?

Examples of safe behaviour:
- When working at a station ensure that under-desk clutter is kept to a minimum
- When working at a station ensure that legs are parallel to the floor and feet are supported
9.9 Feet Position

- Is the person keeping feet flat on the floor with knees bent at approximately 90 degrees angle when sitting?
- Are feet planted firmly on floor or a foot rest?

**Examples of safe behaviour:**

- *When working at a desk ensure that legs, ankles and feet retain a neutral angle*

9.10 Proper Chair Adjustment

- Is the chair adjusted to fit the body and provide proper support?
- Does the person know how to adjust a chair?

**Examples of safe behaviour:**

- *Properly adjust the height of the chair to enable the feet to be flat on the floor or on a footrest.*
- *Properly adjust seat depth to enable reduced pressure behind the knees and provide lower back support*
10.0 ENVIRONMENTAL STEWARDSHIP

10.1 Energy Conservation
- Turn off the light when you leave the room; use the electrical light when the natural light is insufficient for your work
- Take out the charger from outlet when a device is charged
- Make sure your PC is in sleeping regime when you leave office for long, etc.

10.2 Minimising Paper Use / Recycling
- Use Print on both sides printing option, don’t print if there is no particular need, use the back side of the page for drafts, etc.
- Use reusable cups, glasses and silverware instead of disposable styrofoam or plastic

10.3 Proper Segregation and Storage of Waste
- When applicable, waste is segregated by type and collected in an appropriate container labelled for a particular waste. For example, glass packages, paper and cardboard, plastic and polyethylene, cans from other beverages collected in separate container (currently available in Atyrau)
11.0 PRE-TRIP

11.1 Journey Planning
- Is the journey necessary? Has the driver / trip originator considered other alternatives (bus, taxi, etc.)?
- Is the vehicle appropriate for the journey (e.g. four wheel drive, etc.)?
- Is the driver fit for the journey, well-rested, training is current?
- Has the driver assessed and mitigated the risks related to the journey – do they know the route to travel or are they using an approved journey plan if required?

Examples of safe behaviour:
- Driver reviews the route plan and used Think Incident Free Tool for the routine trip
- Driver develops a Journey Plan for non-routine trip

11.2 Pre-trip Inspection
- Is the vehicle in safe operating condition?
- Does the driver check tyre pressure and condition before the trip?
- Does the driver ensure that the windshield and windows are clean and clear of dirt and ice?
- Does the driver check the headlights and tail lights to ensure that they are in working order?
- Does the driver pump the brakes before the trip?
- Does the driver ensure there is adequate fuel for the trip?
- Does the driver check the vehicle documentation to determine if it is current?

Examples of safe behaviour:
- Driver walks around the vehicle to visually inspect for damage, tyre pressure and tread

11.3 Checking for Obstacles Around Vehicle
- Does the driver determine the location of fixed objects (fire hydrants; barrier posts; light poles) before getting in the vehicle?

11.4 Seat Belt
- Does the driver adjust the seat before the trip?
- Does the driver put on the seat belt before moving the vehicle?
- Do all passengers wear seatbelt while vehicle is in motion?
12.0 DURING TRIP

12.1 Driving at Proper Speed for Road Conditions
- Does the driver travel within the minimum and maximum posted speeds?
- Does the driver adjust speed when conditions change (i.e. weather, traffic, road condition, potholes)?

12.2 Following Distance
- Does the driver maintain a 4-second following distance interval from the vehicle directly ahead?
- Does driver stop in a line of traffic at least one car length back of the vehicle directly in front?
- Does the driver increase the following distance ahead or move out of the lane if a person is tailgating the driver?

12.3 Lifting Vision and Scanning
- Does the driver look about 10-15 seconds ahead of the direction of travel?
- Does the driver scan roadway constantly looking for possible hazards?
- Does the driver make 1-2 second instrument checks and then return eyes to path?
- Does the driver check rear-view mirrors periodically, every 8-10 seconds?
- Does the driver look into intersections as they approach to check for hazards?

12.4 Check for Pedestrians
- Does the driver scan intersections, walkways and bus stops for pedestrians?
- Does the driver anticipate moves of pedestrians and avoid conflicts?

12.5 Visual Checks at Intersections and Railroad Crossings
- Does the driver adjust speed when approaching intersections?
- Does the driver scan intersections before entry (looking left / right / left)?
- Does the driver anticipate moves of other drivers and avoid conflicts?

12.6 Avoiding Distraction (radio / phone)
- The driver does not use mobile phone or two-way radio while the vehicle is in motion?
- Does the driver stop vehicle in safe location to use mobile phone or two-way radio?
- Does the driver focus on the road instead of adjusting radio and heat or talking with passengers?
12.7 Reaction to Road Hazard / Obstacles
- Does the driver recognise potential risks/hazards from distant objects or pedestrians and adjusts driving accordingly?
- Does the driver see moving and fixed objects?

12.8 Changing Lanes
- During lane changes does the driver check mirrors, signal, check over shoulder, then move?
- Does the driver avoid changing lanes in intersections?

12.9 Passing
- Does the driver pass only when there is space, visibility and distance to do so safely?
- During passing, does the driver return to the correct lane as soon as safely practical?

12.10 Completely Stopping at Stop Signs
- Does the driver approach stop sign cautiously, controlling traffic behind the vehicle?
- Does the driver stop at or just behind the limit line or crosswalk?
- Does the driver come to a full and complete stop?

12.11 Backing Vehicle
- Does the driver reverse slowly (walking speed of 2-5 mph)?
- Does the driver check both outside mirrors and rear-view mirror to see into blind spots?
- Does the driver look in the direction of travel while reversing?
- Does the driver use a spotter when available?
- Does the driver sound horn before reversing?
- Does the driver turn on hazard signal before reversing?
13.0 PARKING

13.1 Properly Parking at a Designated / Safe Spot
- Does the driver park away from other cars and maintains cushion of safety from fixed objects (signs, posts, curbs, etc.)?
- Does the driver park in a designated parking spot when available?

13.2 First Forward Parking
- Does the driver look for and use first forward parking when available?
- Does the driver reverse into parking space when first forward parking is not available?
14.0 INHERENTLY SAFER DESIGN/ PROCESS SAFETY MANAGEMENT

14.1 Hazard Identification and Risk Analysis
- Is the project HES Risk Management Plan or process in place and functioning properly?
- Have HES risks been adequately identified, mitigated and/or communicated to project team members?
- Have HES risks been considered when evaluating and selecting design options?
- Are HES risks identified and documented in design reviews, IHAZIDs, HAZOPs, HES risk assessments, 3D model reviews etc.?

Examples of safe observations:
- Selecting a design option with a lower HES risk
- Speaking up during design reviews, IHAZIDs, HAZOPs, HES risk assessments, 3D model reviews etc.
- Ensuring HES risks are properly documented
- Closing out HES risk recommendations / actions in adherence with project HES Risk Management Plan or process

14.2 Minimise – Reduce Quantity of Hazardous Substance or Energy
- Can hazardous raw materials inventory be reduced?
- Can alternative equipment be used to reduce hazardous material?
- Has the length of pipe runs containing hazardous material been minimised?
- Can process conditions be changed to reduce the production of hazardous waste or by-products?
- Are there any other alternatives for minimising the inventory of hazardous material in the process?

Examples of safe observations:
- Identifying design alternatives for reducing hazardous raw materials
- Selecting design alternatives and/or equipment that reduce hazardous material
- Changing or eliminating process conditions to reduce hazardous material, waste or by-products.

14.3 Substitute – Use a Less Hazardous Substance or Process
- Is this (hazardous) process necessary?
• Is it possible to completely eliminate hazardous raw materials, process intermediates, or by-products by using an alternative process or chemistry?
• Is it possible to use less hazardous raw materials?

Examples of safe observations:
• Selecting non-combustibles materials
• Selecting less toxic materials
• Selecting less reactive materials

14.4 Moderate – Reduce Hazard by Dilution or Process Alteration
• Is it possible to limit the supply pressure of (hazardous) raw materials to less than the maximum allowable working pressure of the vessels to which they are delivered?
• Can the process be operated at less severe conditions for hazardous reactants?
• For processes handling flammable materials, is it possible to design the layout to minimize the number and size of confined areas and to limit the potential for serious overpressure in the event of a loss of containment and subsequent ignition?
• Does the facility layout adequately incorporate safety while providing access for operations, maintenance, and emergency services?

Examples of safe observations:
• Selecting design options which reduce operating temperatures, pressures, or concentrations of hazardous/toxic materials.
• Selecting compatible materials
• Selecting inert systems for handling flammables
• Siting an ignition source upwind of a potential vapor cloud source

• Can equipment be designed such that it is difficult or impossible to create a potential hazardous situation due to an operating or maintenance error?
• Can passive leak-limiting technology be used to limit potential loss of containment?
• Are there any other alternatives for simplifying operations to reduce human error in this process?

Examples of safe observations:
• Eliminating unnecessary cross-connections
• Minimising connections, paths and number of flanges in hazardous processes
• Maximizing the use of fully welded pipe
• Closing SIL gaps through design change rather than additional protective instrumentation

14.6 Compliance Assurance – Technical Codes and Standards

• Have applicable Technical Codes and Standards (i.e. Chevron Engineering Standards, TCO Engineering Standards, and ROK) been applied to the facility design?
• Have Technical Codes and Standards deviations been minimised?
• Have all Technical Codes and Standards deviations been recorded, reviewed and approved?

Examples of safe observations:

• Minimising the number of deviations
• Auditing the Technical Codes and Standards procedures
• Completing TES adoption process

14.7 Management Review, Measurement and Metrics, Auditing

• XXX
• XXX
• XXX

Examples of safe observations:

• XXX
• XXX
• XXX
15.0 CONSTRUCTABILITY

15.1 Hazard Identification and Risk Analysis

- Has a Job Hazard Analysis (JHA) been completed for the work being performed and communicated to the workers?
- Have the required permits been completed before initiating work activity?
- SIMOPS

Examples of safe observations:

- Review PTW to verify that site preparation requirements have been completed, e.g. energy isolations, LOTO
- Prior to starting a job, complete the JHA, involving the right parties, and communicate hazards and control measures with authorised workers prior to starting work
- Prior to starting the work, inspect the area for potential hazards
- Review Safety Instruction SI-150 and understand how it applies to project work in the operating areas

15.2 Safe Work Practices

- Is worker performing tasks according to the procedure?
- Is worker wearing the proper PPE for the work being performed?
- Are necessary warning signs and barricades in place?

Examples of safe observations:

- Follow proper safe work practices. Use tools and equipment as they were designed to be used
- Wear safety glasses with side shields when working in areas that have risk of dust particles and debris getting in the eyes
- Wear face shield and/or goggles where flying particles or spraying liquids are generated or when handling corrosive liquids. Use welding hood when welding
- Wear gloves suitable for the task being performed
- Place cones, tape, tents, signs, etc. around temporary hazards (puddles, low clearances, overhead work, etc.)
- Erect rigid barricades around open holes
- Barricade areas where radiography is taking place using yellow-pink tape and post radiation hazard tags (signs) every 3-4 meters

15.3 Contractor Management

- Fully utilize CHESM process.
- Do contractor’s employees have knowledge of and participate in contractor’s and TCO’s SOP’s and Safe Work Practices?
Examples of safe observations:
- Review results from contractor’s CHESM questionnaire and pre-job reviews and ensure HES risk mitigations are in place
- Contractor is utilising an approved Short-Service Employee (SSE) programme
- Contractor’s workers actively identify worksite hazards and correct unsafe behaviours. A programme is in place to track participation

15.4 Motor Vehicle Safety
- Journey planning – is the journey necessary? Has the driver considered other alternatives (bus, taxi, etc)?
- Is the vehicle in safe operating condition?
- Does the driver determine the location of fixed objects (fire hydrants; barrier posts; light poles) before getting in the vehicle?

Examples of safe observations:
- Driver reviews the route plan and uses Think Incident Free tool for the routine trip
- Driver performs a pre-trip inspection. Driver walks around the vehicle to visually inspect for damage and tyre pressure, tread
- Driver obeys traffic signals and maintains speed within posted limits
- Driver uses proper defensive driver techniques

15.5 Access to Equipment
- Is the equipment inspected daily, prior to use?
- Does equipment operator have current certification for the equipment being operated?
- Are areas around equipment properly marked to restrict access?

Examples of safe observations:
- Review equipment daily checklist
- Review equipment operator’s certifications documents
- Barricades are established in the operating range of the equipment
- Spotters are on duty where applicable

15.6 Ergonomics / Human Factors
- Does the worker position his/her body so that they will not be pinned, crushed, struck, sprayed or trapped by energy releases of any kind (electrical, hydraulic, pneumatic, chemical, moving equipment, suspended loads etc.)?
- Keeping eyes on task
- Ascending / descending stairs and ladders
Examples of safe observations:

- Stand to the side or stay out of the area of suspended loads
- When accessing or working at height ensures that no items are carried or stored in such a way so they may fall or be dropped
- When disconnecting hoses, make sure all pressure is relieved
- When clearing or cleaning lines, stand to the side
- When walking/moving keep eyes on path to avoid bumping objects such as magnetic doors, overhead obstacles, utility lines, duct work, low ceilings and exposed sharp surfaces
- When working in blind spots, visually inspect area prior to placing hands, legs or arms
- When ascending/descending stairs ensure hand is free to use the handrail
- When ascending/descending ladders ensure that three-point contact is maintained

15.7 Emergency Management

- Site Specific Emergency Response Procedure (SSERP)

Examples of safe observations:

- Review procedure for the work site
- Site POB is complete and accurate
- Muster sites/SIP’s are well marked and have unobstructed access
- Emergency drills are conducted on a regular schedule and recorded

15.8 Security

- Personnel security
- Access control

Examples of safe observations:

- Review site security procedures
- Review personal security responsibility
- Workers display TCO/Contractor identification badges
- Vehicle and personnel entrances are monitored by security personnel
16.0 OPERABILITY

16.1 Hazard Identification and Risk Analysis
- Job Safety Analysis
- Permit to Work
- SIMOPS

**Examples of safe observations:**
- Review existing JSA procedure and forms
- Use permit to work when conducting work in the Operations area of control
- Review Safety Instruction SI-150 and understand how it applies to construction work in the Field operating area

16.2 Operational Readiness
- Pre-startup safety review
- Operator and maintenance training
- Operations procedures

**Examples of safe observations:**
- Review PSSR requirements in Phase 3, early Phase 4
- Identify data, information needed from suppliers and engineers to develop training material
- Identify data and information needed for the development of operations procedures

16.3 Compliance Assurance – Process Safety Information
- Critical variables – high / low limits
- P&IDs
- Electrical one-line diagrams

**Examples of safe observations:**
- Review existing SGP critical variable list
- Participate in P&ID reviews
- Review integration of new electrical distribution with existing power system

16.4 Compliance Assurance – Operating Procedures
- New and modified facilities operating procedures
- Commissioning procedures
Examples of safe observations:
- Define operating procedures required for new facilities
- Define input required for Reglament development
- Understand the format and procedure development requirements

16.5 Safe Work Practices
- Confined space entry
- Breathing air
- Working at height

Examples of safe observations:
- Review confined space entry requirements
- Review breathing air requirements in the facilities
- Review fall protection design requirements

16.6 Equipment Isolation and Access
- Double block and bleed valve arrangement
- Blinding for entry
- Maintenance-on-the-run (maintenance on one portion of the facility while the rest is in service)

Examples of safe observations:
- Review valve requirements to isolate equipment/systems
- Review location of flange closest to vessels, drums, exchangers for blinding
- Define maintenance-on-the-run requirements for each facility and determine valve requirements for isolation

16.7 Ergonomics / Human factors
- Valve criticality
- Safety in design
- Mechanical handling

Examples of safe observations:
- Review frequency of operator and maintenance tasks
- Apply safety in design principles in model review
- Define maintenance tasks for mechanical handling studies

16.8 Emergency Management
- Site Specific Emergency Response Procedure (SSERP)
- Emergency reporting
- Integrated incident emergency response plan
Examples of safe observations:
- Review the procedure for building your office
- Conduct a table-top drill – discuss role and responsibilities
- Discuss the requirements for emergency reporting

16.9 Security
- Personnel security
- Phase 5 facility protection
- Access control

Examples of safe observations:
- Review personal security responsibility
- Review security requirements for new facilities during plot plan and building siting development
- Define security and operations access requirements
17.0 MAINTAINABILITY

17.1 Hazard Identification and Risk Analysis
- Are plans in place to review maintenance rigging and lifting studies for the equipment specified?
- Have Operations and Maintenance operability studies been completed to remove pinch points and valve stem protrusions into walkways?
- Has the equipment requiring confined space entry during maintenance activities been subjected to an emergency rescue plan review?

Examples of safe observations:
- Heavy lifts and difficult restricted lifts have been identified and reviewed
- Valve orientation reviews with operations have been completed to ensure access is unrestricted and to ensure pinch points have been removed
- Equipment listed and passed to Operations to initiate an ERT review to ensure rescues can be completed

17.2 Equipment Standardization
- Is the equipment being specified proven technology and used in TCO?
- Does the specified equipment increase spare parts inventory?
- Is the equipment specified on the Approved Vendors List?
- Is the equipment licensed for use in Kazakhstan?
- Does the equipment require special or additional operator/maintenance training?

Examples of safe observations:
- People refer to the Approved Vendor List to make equipment selections
- Training requirements for equipment operation and maintenance are identified
- Equipment has been confirmed to be licensed for use in Kazakhstan

17.3 Reliability
- Is the metallurgy selected suitable for the service conditions and corresponds to current MSDs?
- If coating is specified for corrosion protection, can it be damaged during clean-up activities compromising the integrity of the equipment?
- Are corrosion inhibitors injection quill locations and corrosion monitoring types and location specified? Do we need more?
- Is the impact to the Reliability Availability Maintainability (RAM) model discussed when making decisions on equipment sparing/selection?
- Is there a plan to conduct a Reliability Centered Maintenance (RCM) study?
Examples of safe observations:
- People reviewing equipment against the design philosophy to ensure equipment metallurgy conforms
- People reviewing proposed coatings with the Operations Team to ensure clean-out activities will not compromise the coating and integrity and recording the results of the review
- During FEIR workshops types and locations for corrosion inhibitors injection quills and corrosion monitoring device types were identified by SMEs
- People mention impact to RAM model when discussing optimisation opportunities

17.4 Compliance Assurance – Asset Integrity
- Is there possibility that this fixed equipment or structures can be identified as IC-1 or IC-2 (Integrity Critical)?
- Is RBI (Risk Based Inspection) programme applicable for this type of equipment?
- Are barriers to major incidents identified?

Examples of safe observations:
- People reviewing equipment against the RBI Inspection programme criteria and confirming requirements where applicable
- People reviewing fixed equipment against the SERIP stage 3 Asset Integrity Management process to confirm classifications for IC1 and IC2
- AIM SERIP stage 3 was used to identify such barriers as design, procedures, Engineered Safety Devices and warning devices

17.5 Safe Work Practices
- Does the equipment specified have any unusual maintenance activities that would require a Mechanical Safe Working practice review?
- Is the complexity of the equipment or package such that a separate safety plan is required to be developed for Maintenance activities
- Have the Personal Protective Equipment (PPE) requirements been identified for each area?

Examples of safe observations:
- People refer to the manufactures maintenance recommendations and review with HES department on Mechanical Safe Working Practices guidelines to determine if unusual activities are applicable
- People listing equipment assumed to be complex and requesting an Operations and / or the Maintenance team to review task requirements against the current SIs
• Equipment area classification has been reviewed, defined and approved by Operations

17.6 Contractor Management
• Is contractor training required to operate and maintain equipment?
• If a new contractor is required to install, support and maintain the equipment is there a plan to ensure they are licensed in ROK?
• Have new contractors been identified and are they going to be subjected to a CHESM review?

Examples of safe observations:
• People refer to the Subject Matter Expert to clarify specific maintenance training and ensure Competency Development Group notified
• People working with contracts group to establish that ROK licensing is in place
• People working with HES to engage CHESM group early to ensure process can be completed prior to the company mobilising

17.7 Equipment Isolation and Access
• Has equipment isolation been accounted for during design, i.e. can equipment be isolated to allow maintenance without impacting other operating equipment?
• Is isolation design consistent with Maintenance and Isolation Philosophy? Is the use of double block and bleed for H2S service consistently applied?
• Is adequate space provided to operate and maintain equipment?
• Are adequate lay-down areas provided to temporarily store items needed for operating and maintenance activities without interfering with designated emergency routes?
• Does the design allow for adequate clean-out of equipment prior to maintenance activities?

Examples of safe observations:
• Equipment isolations raised at Task Analysis Reviews and verified that it can be isolated without compromising plant operations
• Maintenance and Isolation Philosophy is referred to during meetings/reviews to ensure consistency
• People requesting that access and lay-down areas are reviewed by the Operations and Maintenance team to ensure adequate space is being built into the design

17.8 Ergonomics / Human Factors
• Has adequate access to equipment been assessed, for all tasks, to ensure personnel can complete tasks without compromising Ergonomics?
• Have safety devices been designed and put in place to restrict or remove the human interface factor for the equipment, such as Inter locks as an example?
• Has sensitive and delicate equipment been adequately protected from accidental damage from personnel completing tasks?

**Examples of safe observations:**

• *Task analysis planned to review Ergonomic items such as over-reaching, lifting heavy items, twisting and turning to access equipment and putting mitigations in place*

• *People referring to the design criteria and philosophy to ensure all safety devices are known and understood and applied if required*

• *People recognising delicate and sensitive equipment and reviewing position verses extra shroud protection for example*
18.0 ENVIRONMENTAL STEWARDSHIP

18.1 Hazard Identification and Risk Analysis

- Do you know of any hazardous chemicals in your work areas?
- Can less hazardous materials be used?
- Are all hazardous chemicals clearly labelled and appropriate storage conditions applied?
- Are all staff in area aware of hazards in work area and trained in handling use and disposal of hazardous materials?
- Have you been given proper PPE and equipment to handle and dispose of hazardous materials?
- Were you trained in handling hazardous materials?
- Who puts up Warning signs?
- Do you know how to use Emergency showers and eyewash stations?
- Where are they?

**Examples of safe observations:**

- Eyewash bottles within expiry date
- Spill kits for appropriate hazardous waste available and employees familiar with use
- Lists of MSDS sheets for all substances at work area readily available in English/Russian and Kazakh
- Training records available

18.2 Air Emissions

- Can you describe what air pollutants are produced by motor vehicles?
- Does your vehicle/car smoke?
- Is it regularly maintained?
- How can we control dusty conditions?
- Describe the dangerous gases we could have on our SGP project?
- What can you do to reduce the amounts of air pollution you are responsible for?

**Examples of safe observations:**

- Awareness that dust pollution will be the main issue associated with construction activities
- FGP will generate dust from vehicles driving on dirt roads and in onsite excavation, trenching, grading, compaction and other activities. A dust control plan will be developed to minimise particulate emissions reusing treated domestic wastewater where possible
- Turning off engines when parked
18.3 Fresh Water Use

- Do you have safe drinking water available at all worksites, canteens and offices?
- Is there sufficient water for personal hygiene available in all toilets, bathrooms and kitchens?
- How do you report leaks or dripping taps or water waste to facility managers or maintenance personnel?
- Do maintenance personnel regularly check your facilities for leaks, drips and other water waste and do they respond quickly to your requests?
- Why do we need to minimise water use?
- Do you shut off water to unused areas of your facility to eliminate waste from leaks or unmonitored use?

**Examples of safe observations:**

- No dripping or running taps or toilets
- Clean tidy and dry washrooms
- Drinking water taps clearly labeled
- Awareness of water conservation

18.4 Wastewater Discharges

- How do you feel about dirty toilets?
- Why must we not put chemicals down the toilet?
- Where is your nearest wastewater treatment facility?

**Examples of safe observations:**

- Treated and disinfected wastewater used for dust suppression purposes
- Sanitary collection of septic tanks by vacuum tankers during all seasons
- Provision of roads for septic tanks emptying especially in winter and spring
- Tight control of tanker operations
- Sanitary conditions of toilets

18.5 Solid Waste Generation

- Do your waste bins get emptied every day?
- How can you reuse materials or recycle them?
- If you see rubbish on the floor what do you do?
- Do you think we can recycle more waste items?
- How can we reduce waste amounts?
Do you have cleaning materials to enable your workplace to be kept clean and tidy?

**Examples of safe observations:**
- Wastes properly separated in correct containers and not overfilled
- Clean and tidy work areas with sufficient bins at suitable points
- Recycling initiatives and waste reduction
- Oily rags and combustible refuse in covered metal containment
- Limited number of used oil drums in bunded area with fire extinguishers
- Proper signage
- Containers emptied

18.6 Land Disturbance
- Do you drive off road sometimes?
- What are the ways we can reduce the amount of dust produced when driving on dirt roads?
- Are the edges of your work areas clearly marked? With what?
- Can you show me where you are keeping topsoil?

**Examples of safe observations:**
- Proper storage of topsoil
- Sticking to authorised routes (no driving off-road)
- Driving within speed limits especially on non asphalted roads
- Restoring land surfaces to original conditions
- Registering disturbed land to TCO land restoration programme

18.7 Energy Efficiency
- What sort of light bulbs do you use?
- Have you heard of low energy light bulbs or LED lighting systems and bulbs?
- Do you turn OFF equipment and lights if not in use?
- Do you leave equipment in sleep position, or turn them off completely?
- Are you able to turn down heating if too hot and cooling if too cold?

**Examples of safe observations:**
- Computers on energy save settings and completely shut down when finished with at end of day
- Correct workstation or work bench lighting without glare
- Wearing extra clothing or fleece in winter
- Reminders on light switches and doors
- Switches on movement detectors