

# Line of Fire

## Field Reference Tool



### Life Critical Expectations

#### LINE OF FIRE

Keep yourself and others out of the line of fire



- I establish and obey buffer and exclusion zones.
- I position myself to avoid known hazards related to:
  - Dropped Objects
  - Pressure Releases
  - Vehicles and Heavy Equipment
- I secure tools and work materials to prevent dropped objects.

### Life Critical Failure Examples

- While the initial pressure test of the BOP was being performed, a crew member entered into the Exclusion Zone to retrieve a set of tools located nearby.
- A crew member was in the process of rigging up a night cap (200 lbs.) to remove it from the well head when the device unexpectedly shifted and fell to the ground. The crew members failed to establish a Buffer Zone underneath the area where the object was being lifted.
- A drilling contractor was performing work at height on the rig's top drive. During the maintenance activity, a wrench fell from the elevated work area and dropped 25 ft. to the rig floor.

### Setting up Buffer Zones

Establish Buffer Zones for work activities with an increased risk of injury due to dropped objects, pressure releases, the movement of onsite vehicles, equipment, or loads, or other hazards.

Buffer Zones must be identified with **at least one** of the following:

A visual indicator (e.g. tape, chain, rope, or signage posted)

OR

Noted on the PJSM or JSA for the task prior to commencement of the activity

OR

Identified on maps of locations or signs on location, where applicable and available to all personnel on location

OR

Monitored by a dedicated attendant (e.g. spotter)

### Setting up and Managing Exclusion Zones

Determine operations that require an Exclusion Zone and pre-plan work to avoid entry.

Exclusion Zones must be identified and managed with **all** of the following requirements:

Identify by name all individuals with authorization to enter the Exclusion Zone on the JSA and ensure that these individuals are identified by hi-viz Authorized identification (entry vest, hardhat cover, arm band) OR unique hardhat color assigned to authorized individuals only.

Ensure that the selected unique hardhat color is listed on the JSA when it is used as a form of identification.

AND

Red chain, red tape, or red cone stands make up the majority of the Exclusion Zone.

AND

"Do Not Enter Without Approval" signs are strategically hung around the perimeter of the zone to ensure visibility to all personnel working around the zone.

AND

Ensure each entrant not pre-authorized on the JSA is provided a form of hi-viz Authorized identification (entry vest, hardhat cover, or arm band) prior to entry.

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### Authorized Entry into Exclusion Zones

- 1 Complete a written and signed JSA. Include any other pre-job risk assessment tools, if applicable.
- 2 Conduct a PJSM reviewing the JSA with all entry members, attendant(s), and other effected work parties.
- 3 Evaluate Exclusion Zone entry requests and authorize only those individuals with a valid need to enter.
- 4 PIC or designee issues hi-viz authorized entry vests, hard hat covers, or arm bands to Authorized Entrants not pre-authorized on the JSA and require their use during the task.



**Avoid entry into an Exclusion Zone if at all possible.** Operations which involve a small team, engaged in a single task, who are aware of the hazards are not required to physically erect the Exclusion Zone or utilize hi-viz identifiers when there are no other activities on the location. Exclusion Zone distances must be documented on the JSA and followed.

### Dropped Objects

- 1 Schedule Independent Dropped Object inspections (Third Party DROPS surveys), prior to startup of a newly contracted drilling rigs and annually thereafter.
- 2 After any rig-up of drilling rigs, workover rigs, coiled tubing, frac equipment, etc. conduct an inspection for objects that have the potential to fall.
- 3 Ensure periodic inspections (Tier I) are conducted on production facilities. All facilities are reviewed for dropped objects every three years.

### Definitions

**Buffer Zone-** An area identified as having the potential to contain hazardous conditions that pose a threat to people working, the environment or equipment. (Only persons familiar with the task being performed, the potential hazards in the area and are compliant with the precautions are allowed entry into the zone.)

**Elevated Worksite-** A worksite where the potential for a dropped object to fall to a lower level is equal to or greater than 20 feet.

**Exclusion Zone-** An area identified where hazards to people working, the environment, or equipment are present. (Only Authorized Entrants are allowed into an Exclusion Zone.)

**Primary Fixing-** The primary method by which an item is installed, mounted, and secured to prevent the item from falling (e.g. bolted connections, screws, pins, buckles, clips, welds.)

**Safety Securing-** An additional engineered method applied to or around the item and secured back to the main structure, designed to restrain the item if the primary fixing fail (e.g. rated steel or synthetic nets, baskets, wires, slings.)

**Secondary Retention-** The engineered method for securing the primary fixing to prevent loss of clamping force or displacement of fastening components (e.g. locking washers, locking wire, split pins or cotter pins.)