



INDUSTRIAL VEHICLE GUIDE:

HELPING TO ENSURE SAFETY AND EFFICIENCY DURING RIG MOVES



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It takes a small army of people and equipment to move a drilling rig from one well site to the next, and the use of forklifts and cranes is critical to getting this work done safely. However, working around and operating these important pieces of equipment requires skill, coordination, and precaution. As we Actively C.A.R.E.™ for ourselves and others during rig moves, we can observe basic guidelines and promote best practices to help ensure a safe work environment in these areas. Learning the essential elements of a successful rig move – procedures, processes, and equipment – enables continuous improvement and learnings from one of the busiest times of the drilling process.

The Significance of Rig Moves

The primary goal of a rig move is to relocate a drilling rig from one spot to the next. These moves are crucial for exploration and production activities to continue at a rapid pace and align with well program objectives and milestones, while ensuring safe activities occur the entire time.

There is an increased number of simultaneous tasks being completed during rig moves. Processes are increased in complexity due to coordinating tasks on two different locations, frequently occurring many miles apart, with the route serving almost as a third location, bridging the two well sites together. Before any rig move, a thorough route survey must be conducted for potential hazards that can be mitigated or eliminated. Crews work to identify common transportation-related hazards like low hanging wires, narrow or inadequate bridges and roadways, railroad crossings and even landowner issues.

All equipment used during rig moves is regularly inspected and maintained, verifying the condition of rigging equipment, cranes, and other machinery. Thorough inspection and maintenance documentation occurs, ensuring accountability and tracking any issues that need attention.

Wearing appropriate personal protective equipment (“PPE”) is crucial at all phases of the well cycle, including rig moves. Standard PPE is used like hard hats, safety glasses, impact gloves, and steel toed boots, with additional PPE like high-visibility clothing providing fine-tuned protection from rig-move specific hazards. Proper nutrition and hydration are another essential aspect of a successful and safe rig move.

Essential Elements: Coordination and Pre-Job Planning

LifeBelts help identify common hazards with a high potential for a serious injury or fatality (“SIF”). By observing them, we can help minimize exposures and protect the wellbeing of all personnel involved. Pre-job planning (“PJP”) is the start of this process, identifying the potential hazards and mitigating or removing them as a team, and is essential to a successful rig move.

Rig move preplanning typically begins weeks prior to the actual rig move. The rig manager facilitates the initial PJP meeting, including all people and departments involved in the drilling operation: drilling contractor, operator representatives, trucking company moving the rig, and other third parties to the rig such as the mud loggers, roustabout crews, water and sewage operators, directional drilling companies and housing.

Rig move day one starts with a pre tour meeting with all involved to review the game plan from the rig move preplanning meeting, make any necessary changes, and ensure that all parties are playing from the same sheet of music. It doesn't end there; PJP must be conducted again throughout the entire rig move prior to performing any new task, to ensure all parties are aligned and all hazards are identified, controlled, or removed. PJP comes in many forms, depending on the task, and could include pre-tour meetings, a job safety analysis (“JSA”), tailgate meeting, Compass Card meeting, or using technology-based platforms like FlexChecks.





Essential Elements: Buffer Zones and Barricades

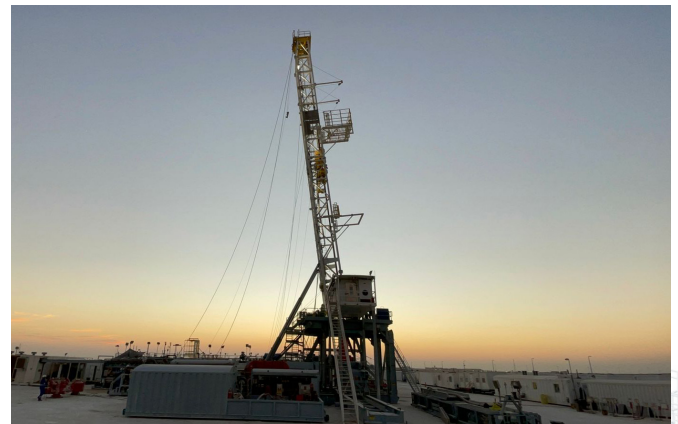
A buffer zone is an area where it has been determined that a potential hazard exists, with a barricade being used as a physical barrier placed to keep personnel out of an established buffer zone. Never enter a barricaded area without a permit.

Permanently established buffer zones exist around cranes and forklifts beginning at 15 ft from all moving equipment, extending out as far as the length of the load or the height lifted, whichever is greater. For a 30 ft section of drillpipe, the minimum buffer zone distance is 30 ft. However, a 45 ft section of casing would establish the minimum buffer zone of 45 ft. If an object like a five-gallon bucket was hoisted 15 ft into the air on a pallet, then the minimum buffer zone distance is 15 ft. The buffer zone is just a starting point: if that five-gallon bucket of grease falls from 15 ft, be sure to get even further away from the drop zone.

Essential Elements: Cranes

Ensuring crane safety during rig moves is essential for protecting personnel and maintaining operational integrity. Implementing the following practices helps to mitigate risks and enhance the safety of crane operations.

- ▶ Allow only certified crane operators to use a crane, and make sure certifications are ready to be presented upon request.
- ▶ Before commencing crane operations, conduct a thorough risk assessment. Clear communication and coordination among all personnel involved are crucial.
- ▶ Identify potential hazards and risks and develop strategies to mitigate them effectively.
- ▶ Regularly inspect and maintain all crane components, including the boom, cables, and controls.
- ▶ Ensure that all components are in good working condition and meet safety standards. Document inspections and maintenance activities to ensure compliance and track any issues.
- ▶ Follow safe operating procedures while operating a crane as load capacity, stability, and proper rigging techniques are all properly considered.
- ▶ Maintain effective communication between the crane operator and other personnel involved in the operation to ensure a safe working environment.
- ▶ All personnel must stay out from under suspended loads. If a load is waist-high and you can touch it, you are under a suspended load.
- ▶ Keep all hands and feet clear of pinch points.
- ▶ Avoid turning your back to a moving load or block, designating someone to spot the block.
- ▶ Keep the crane operator's line of sight clear and keep non-essential personnel clear of the work area.





For the crane rigger and crane operator to communicate effectively during a lift, the industry has adopted a set of universally recognized hand signals [\[link to OSHA diagram of signals\]](#). By adhering to these essential safety measures, the risks associated with crane operations during rig moves can be significantly minimized. Prioritizing these guidelines helps to ensure a safer working environment for all personnel involved.

Essential Elements: Forklifts

Forklift safety is paramount in maintaining a secure and efficient work environment. Before using a forklift, conduct a pre-operation inspection to ensure proper working condition of the equipment.

- ▶ Check key components such as brakes, tires, and forks. Report any defects or malfunctions immediately to prevent accidents.
- ▶ Use proper load handling techniques and adhere to load capacity limits. Avoid overloading the forklift, as it can compromise stability and increase the risk of accidents.
- ▶ Stack and secure loads properly to prevent them from falling or shifting during transportation.

While working around the forklift, it is important for all personnel to understand buffer zones. The forklift operator must stop the job if anyone enters the buffer zone.

- ▶ Forklifts should not be operated within 20 ft of energized, high voltage power lines.
- ▶ Verify clear signage and communication protocols to minimize the risk of accidents.
- ▶ Stay alert and exercise caution in areas with pedestrian traffic to prevent collisions and injuries.

While most forklift operators do not decide what type of forklifts they use, managers typically do. It is strongly urged to consider using forklifts with additional safety features such as audible alarms when operating, back up cameras, illuminated buffer zones, strobe lights, and voltage detection systems. Use of these types of technologies helps to eliminate some exposures and ultimately reduce the chance of a SIF.

Safety is a top priority during rig moves, during all activities like crane operation and forklift usage. We can create a safer work environment that protects the well-being of all personnel involved. Let's work together as we Actively C.A.R.E. to ensure safety remains at the forefront of our operations, reducing exposures and promoting a culture of safety.

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