

SAFETY ALERT

Using Voice Signals When Signaling a Crane

Crane safety depends on the best communications. The crane signalperson is the “great communicator,” who has to be in contact with the crane operator at all times while the crane is moving. When the signalperson is in the line of sight of the operator, hand signals are typically used. However, during non-routine operations, such as critical lifts or when an operator is working “in the blind”, voice communication through electronic means has become the preferred method.

Voice communication has many advantages over typical hand signals. However, voice signaling is not without specific hazards that can cause unintended consequences. Recently, an incident occurred where a signalperson, while signaling one crane, gave direction on the wrong frequency to another crane. Fortunately, the crane operator didn’t recognize the voice and did as he was trained – he stopped! This incident highlights the inherent hazards with voice communication and how, without line of sight, an operator could easily become confused and respond to incorrect direction. Bleed over, garbled radio traffic, interference from high voltage transformers, or multiple crews using a single channel are other potential hazards. Fortunately, there are steps that can be taken to minimize this risk.

- Prior to beginning lifting operations using voice signals, the signals shall be discussed and agreed upon by the person directing lifting operations, the crane operator, and the appointed signalperson.
- Telephones, radios, or equivalent, if used shall be tested before lifting operations begin. If the system is battery powered, extra batteries should be available at the job site.
- Prior to commencing the lift, the operator and signal person shall contact and identify each other.
 - Begin by calling the operator by name
 - Operator will acknowledge with the signalperson’s name
- Signal transmission must be through a dedicated channel, except:
 - Multiple crane / derrick lifts where one or more signalpersons may share a dedicated channel for the purpose of coordinating operations
- The operator’s reception of signals must be by a hands-free system.
- All direction must be given from the operator’s perspective.
- Once the task has begun the signalperson should never break communication with the operator- this is referred to as maintaining “constant communication.”
- All voice commands must be clear, clean, and constant
- The signalperson should maintain constant communication to let the operator know everything is all right.
- If the signalperson breaks communication, the operator should stop immediately. The operator will then acknowledge the signalperson by name and will continue only when signalperson regains constant communication and identifies themselves.

- If the operator sees something and needs to communicate with the signalperson, the operator will stop and give one blast of the horn to alert the signalperson. The signalperson can then break constant communication and the operator will notify the signalperson of the problem.

The above steps are the most basic means to help ensure reliable voice communication when signaling a crane. Additional steps such as using dedicated single channel radios assigned to specific cranes can be used in certain circumstances.

As a response to this alert, we ask that our contractor partners involved in crane operations:

1. Ensure reliable voice communication is addressed in their site-specific safety plans and submit to the E&CS construction site manager for review.
2. Review signalperson training and ensure it meets the requirements of 29 CFR 1926.1428 and make the training records available at the site for review if requested.
3. Ensure dedicated radio channels are set up for specific crane activities respectively, incorporating a method in which the safe execution of these lifts can be performed without interruptions from personnel not associated with a specific lift.

We thank you in advance for your assistance to help ensure crane operations are safe and reliable so that everyone goes home safe – everyday.

References:

29 CFR 1926 Subpart CC

SH-2A-10, Rigging and Lift Plans

ANSI/ASME B30.5

NCCCO Signalperson Reference Manual