



## International Crane Stakeholder Assembly

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### **- Guidance -**

### **“Leaving mobile cranes unattended”**

#### **Members are:**

- **Association of Equipment Manufacturers [AEM]**
- **The Crane Industry Council of Australia [CICA]**
- **The European Association of abnormal road transport and mobile cranes [ESTA]**
- **European Materials Handling Federation [FEM]**
- **Specialized Carriers & Rigging Association [SC&RA]**

**Legal Note:** This publication is only for guidance and gives an overview regarding the assessment of risks related to leaving mobile cranes unattended. It neither claims to cover any aspect of the matter, nor does it reflect all legal aspects in detail. It is not meant to, and cannot, replace own knowledge of the pertaining directives, laws and regulations. Furthermore the specific characteristics of the individual products and the various possible applications have to be taken into account. This is why, apart from the assessments and procedures addressed in this guide, many other scenarios may apply.

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## 1. INTRODUCTION

International Mobile Crane Manufacturers and Users organized as ICSA [International Crane Stakeholder Assembly] are aware that certain jobsite conditions with restricted space may not permit the boom and jib of a crane to be fully retracted or lowered to the ground to put the crane temporarily out of service (e.g. "overnight or during extended periods of time") Securing the boom or jib is not required during short periods of time (e.g. meal breaks) unless jobsite conditions exceed allowable parameters.

## 2. SCOPE

This document provides guidance for the job site risk assessment of leaving a (partially) erected crane unattended for an extended period of time. This document is for use with all types of mobile cranes as defined in ISO 4306-2. Consult the crane manual for specific requirements provided by the manufacturer.

## 3. POSSIBLE ISSUE | RISK

While a crane is left unattended, the following events can occur and should be taken into account during a job site risk assessment:

- Ground failure:
  - Ground collapse during severe rain / Landslides / Washout
  - Melting ice under the supports
- Bad weather:
  - Storm and wind
  - Lightning
  - Rain / Flooding
- Crane hydraulic cylinders:
  - Slow retraction of outrigger support cylinders, luffing cylinders and / or telescoping cylinders on unpinned telescoping systems [e.g. due to changes in ambient and oil temperature, leakage].
- Vandalism

## 4. GENERAL GUIDELINES

When a qualified person familiar with the jobsite determines that it is not practical to lower the boom of a crane to the ground, ICSA provides the following guidelines for mobile cranes, regardless of the type, the configuration, the rigging mode and/or the environment (this list is not exhaustive):

- The crane shall be left in the smallest, most stable, allowable operational configuration. This includes parameters such as, but not limited to, boom angle, slewing orientation and jib angle.
- The suspended counterweight of the derrick/superlift shall be lowered to the ground.
- The engines should be switched off.
- The crane shall be left with no significant load on the hook. The hook block shall be positioned in such a way, that neither the hook block nor the hoist rope can contact another crane part (e.g. boom) or other obstacles (e.g. building). For an empty hook, this could be a position a few meters below the anti-2 block position or tied-off at a designated location.
- All control levers shall be put into "neutral" or in a "locked" position.

- All secondary systems (e.g. heating system, air conditioning system) shall be switched off. An exception would be systems required to keep the crane warm/dry to enable a restart.
- Energy supply and functionality of any safety equipment (e.g. aircraft warning lights) shall be ensured and maintained during the time the crane is left unattended.
- All keys shall be kept in a safe place to prevent unauthorized use.
- The crane shall be secured with all windows closed and cabin doors (carrier and superstructure) shall be locked to prevent unauthorized use.
- All control panels not in use should be locked.
- Depending on the crane type, mobile control panels connected to the crane with cables shall be removed and / or shall be kept in a safe place to prevent unauthorized use.
- Wireless remote controls, if equipped, shall be kept in a safe place to prevent unauthorized use. It should be ensured that batteries are being recharged.

If the crane is in an erected mode and the jobsite conditions do not permit the boom and / or jib of the crane to be fully lowered to the ground, the configuration in which the crane should be left while unattended shall be:

- In the upright parking position as stipulated by the crane manufacturer in the operator's manual.
- If such an upright parking position is not described or not applicable, determined by a qualified person familiar with the crane, the job site configuration, conditions, limitations, safety regulations and expected meteorological forecasts.

In addition, the following shall apply:

- A contingency plan shall be determined prior to the crane being left unattended, to bring the crane into a safe position in case of emergency, for example: an unforeseen weather change or other possible incidents as previously listed. This plan shall include sufficient space to bring the equipment into a safe position.
- The crane location and configuration does not create hazards to the surrounding environment (e.g. road traffic or risk of collision with surrounding obstacles). This may require a specific job condition risk assessment prior to leaving the crane unattended.
- Check for unintended [slow] movement (e.g. due to inner or outer leakages on all load-bearing hydraulic cylinders and winches):
  - Outrigger vertical cylinders
  - Boom luffing cylinder[s]
  - Jib luffing cylinder as applicable
  - Hoist winch
  - Luffing winch as applicable
  - etc.

Note: slight movement can also occur due to a change of oil temperature (e.g. by sun warming or cooling of hydraulic oil).

- A weather forecast shall be obtained in advance for the whole period the crane is erected.
  - Changing meteorological conditions including but not limited to: wind, ice accumulation, precipitation, flooding, lightning, etc. should be considered when determining the location and configuration of a crane before it is to be left unattended.
  - If, due to unforeseen weather conditions, the wind speeds are in excess of the permitted values with the boom in the up position, the crane should be secured and everyone cleared from the area.

## 5. SPECIFIC GUIDELINES FOR CRANES WITH TELESCOPIC BOOM

- If the crane is left unattended, the boom shall always be retracted and secured as far as possible.
- If the predicted wind speed exceeds the maximum out of service wind speed for the selected configuration as given in the operator's manual, the boom shall be retracted and boomed down.

## 6. SPECIFIC GUIDELINES FOR CRANES WITH LATTICE BOOM

- If the predicted wind speed exceeds the maximum out of service wind speed for the selected configuration as given in the operator's manual, the boom shall be lowered to the ground.

## 7. FURTHER GUIDANCE

- If the risk mentioned in this document under clause 3 cannot be managed and the guidelines under clauses 4, 5 and 6 cannot be met, the boom and the equipment should be taken down.

**Note:** The maximum wind speed during assembly and disassembly may be less than the allowable wind speed (for out of service) for the selected configuration, hence this needs to be considered when determining whether the crane shall stay erected or the boom shall be lowered to the ground.

## 8. REFERENCES

This document has been reviewed and jointly adopted by the following member associations ICSA:

- **Association of Equipment Manufacturers [AEM]**
- **The Crane Industry Council of Australia [CICA]**
- **The European Association of abnormal road transport and mobile cranes [ESTA]**
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This document is maintained by the Technical Committee of Product Group Cranes and Lifting Equipment of the European materials handling federation FEM.

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