

<p style="text-align: center;">Safety Manual</p> <p style="text-align: center;">Mobile Crane Safety Policy</p>

Policy Section No.:57
Revision No.: 3

Effective: 06-99
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Mobile Crane Safety Policy

1. Purpose and Scope:

- 1.1 The purpose of this policy is to ensure the protection of Therma employees, the general public and public/private property during mobile crane operations.
- 1.2 Therma shall insure that all crane operations are conducted in accordance with 29 CFR 1926.550.
- 1.3 This policy applies to all mobile crane operation under the direction of Therma.
- 1.4 For rigging policy and procedures, reference Therma's Rigging and Material Handling Procedure.

2. Responsibility:

- 2.1 It is the responsibility of all supervisors to ensure crane operations are conducted in accordance with this policy.
- 2.2 It is the responsibility of the supervisors to ensure subcontractors follow the provisions of this policy.
- 2.3 It is the responsibility of the supervisor to notify the safety department prior to commencing crane operations.
- 2.4 It is the responsibility of all employees involved in mobile crane operations to follow the requirements of this policy.
- 2.5 It is the responsibility of the safety department to provide guidance and assistance to the supervisors during mobile crane operations.

3. Policy:

- 3.1 Certified crane operators who meet the qualifications described in ANSI B30.5 5-3.1.2 and/or certified under the National Commission for Certified Crane Operators (NCCCO) guidelines shall only operate cranes.

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- 3.2 Crane operator must provide evidence of qualification prior to commencing crane operations.
- 3.3 Crane shall have a current annual inspection and certified as safe by an independent 3rd party.
- 3.4 Evidence of annual inspection shall be provided prior to commencing crane operations.
- 3.5 Evidence of crane company insurance shall be provided prior to commencing crane operations.
- 3.6 Crane operations manuals and load charts specific to each crane shall be onsite and accessible.
- 3.7 A competent person shall inspect cranes prior to each use to ensure they are in safe operating condition. Evidence of inspection shall be onsite and accessible.
- 3.8 The crane and swing radius of the boom shall be barricaded with red danger barricade tape.
- 3.9 Entry into the crane operating zone shall be restricted to the crane operator and riggers.
- 3.10 Accessible areas within the swing radius of the rear of the rotating crane superstructure shall be barricaded in such a manner as to prevent an employee from being struck or crushed by the crane.
- 3.11 All personnel involved in that day's crane operation shall conduct a pre-lift safety meeting.
- 3.12 Crane Safety Checklist shall be completed and maintained on site by the supervisor prior to commencing crane operations.
- 3.13 Cranes shall only perform vertical lifts. Attempting to pull objects in any direction other than vertical may result in crane failure.
- 3.14 The crane operator shall maintain minimum clearances from overhead power lines.

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Voltage (KV)	Required Clearance
0 - 50 KV	10 feet
50 - 100 KV	15 feet
200 - 350 KV	20 feet
350 - 500 KV	25 feet
500 - 750 KV	35 feet
750 - 1,000 KV	45 feet

- 3.15 All personnel in the vicinity of the crane shall make eye contact with the operator prior to passing through or near the crane operations so as to make the operator aware of their presence.
- 3.16 Only one person shall signal the crane operator. The designated / qualified person shall be familiar with the crane's operation and shall be able to communicate with the crane operator with appropriate hand signals.
- 3.17 Any member of the crane lift team has the authority to stop the crane operator when there is a hazardous condition.
- 3.18 No personnel shall be permitted on or under suspended loads at any time.
- 3.19 Crane operator shall sound an alarm or horn blast when the load is about to be lifted.
- 3.20 Always evaluate weather conditions prior to and during crane operations. Lifting operations shall be re-evaluated whenever wind speeds exceed 25 mph, or if other environmental conditions could hinder those operations.
- 3.21 Any rigging equipment not in use shall be properly stowed as not to create a hazard for personnel working in the crane operating area.
- 3.22 Rigging of equipment must be performed by a designated / qualified person.

4. Crane Lift Plans:

- 4.1 Crane Lift Plans shall be prepared prior to any crane lift operations. The plan will be maintained on the job site during crane operations. At a minimum, the plan shall consist of the following documents:
 - Crane Safety Check List.

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- Copy of the crane operator certification card
- Evidence of Qualified Rigger and Signal Person
- Copy of the 3rd party annual inspection.
- Copy of evidence of insurance.
- Diagram detailing crane position and swing radius.

5. Pre-lift Safety Meeting:

- 5.1 The supervisor shall conduct a pre-lift safety meeting prior to commencing crane operations.
- 5.2 All employees, including crane company personnel, involved in the crane operation shall attend the pre-lift safety meeting.
- 5.3 The time, date and all personnel attending the meeting shall be documented on the Crane Safety Checklist.
- 5.4 At a minimum, the following items shall be determined and discussed with all employees involved in crane operations:
 - General work scope of the lift operation.
 - Method to control unauthorized personnel from entering the work zone.
 - Communication and signaling.
 - Rigging responsibilities and inspection.
 - Evacuation plan.
 - Roles, responsibility and location of each team member.
 - Tag line usage.
 - Hazards: pinch points, crush zones, etc.
 - Personal Protective Equipment.
 - Weather conditions. Overhead obstructions (power lines, trees, etc).



Crane Safety Checklist

STEP (1): General Information		STEP (2): Time
Crane Co:	Sub:	Start Date:
Crane Operator:	Project:	Comp. Date:
Lift Location:	Inspected by:	Time Start:
Foreman:	Cell or Nextel #:	Time End:
EH & S Representative:	Cell or Nextel #:	
Inspection Monitored by:	Project Manager:	
STEP (3): Ensure that the following items have been verified:		
<input type="checkbox"/> Current crane calibration certification with crane. Expiration date:		
<input type="checkbox"/> Current crane maintenance log and daily inspection log.		
<input type="checkbox"/> Current crane insurance certificate with crane.		
<input type="checkbox"/> Crane operator's license/certification. Expiration date:		
<input type="checkbox"/> General condition of crane/equipment.		
<input type="checkbox"/> Minimum of 25 feet of clearance for crane movement.		
<input type="checkbox"/> Verify tag lines are being used.		
<input type="checkbox"/> Inspect lifting devices (i.e., slings, shackles, eyebolts, etc.).		
<input type="checkbox"/> Review signals with operator.		
<input type="checkbox"/> Are power lines in area? Approximately how many feet?		
<input type="checkbox"/> Describe weather conditions: (i.e., clear, windy, raining, lightning, etc.)		
STEP (4): Provide the following information:		
1. Describe the overhead work evacuation plan:		
2. Describe lift area barricading and how it will be patrolled:		
3. Describe communication and signaling methods with operator, personnel inside and outside:		
4. Attach scale map(s) of the site and building showing crane placement, lift zone, and areas of swing radius, staging areas, barricading locations, etc. to be affected.		

Crane Safety Checklist

STEP (5): Prior to operating on the job site, a crane unit must meet the following standards:

- | | |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | Project managers must verify that crane and lifting companies have the proper insurance certificates filed with Therma prior to operation. |
| <input type="checkbox"/> | Certification of the operator, rigger, and machine will be checked prior to operation. |
| <input type="checkbox"/> | Cranes are inspected prior to the start of the day's work. |
| <input type="checkbox"/> | All special operating rules particular to the site will be reviewed. |
| <input type="checkbox"/> | The swing area and pickup/drop points will be marked off and a person assigned to keep unauthorized persons away from these areas. |
| <input type="checkbox"/> | Any unauthorized person entering an exclusion zone will cause an end to the lift procedures until the person is removed. |
| <input type="checkbox"/> | If the unit obstructs traffic on a public or private road or parking lot, a traffic attendant will be assigned with proper equipment (reflective vests, stop/go signs, etc.). |
| <input type="checkbox"/> | All contractors at the site will be informed when a crane lift will occur, along with any special circumstances. |
| <input type="checkbox"/> | Delivery to upper levels will be scheduled. Decision about where deliveries are made will be up to the prime contractor. |
| <input type="checkbox"/> | Riggers will not remove cables to deliver material to upper floors. Only designated personnel from the prime contractor will be authorized to disconnect and reattach cables. |
| <input type="checkbox"/> | Any crane operation in the vicinity of overhead power lines will be authorized by the prime contractor only. The site safety coordinator will stand by and watch line clearance. |

PRE-LIFT SAFETY MEETING

Date:[illegible]