

	<h1>MOBILE CRANES</h1>	Doc No:	5101 - 5011
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<i>SAFETY OPERATING PROCEDURE (SOP)</i>		Page 1 of 8	
OPR:	Approval:	DEPARTMENT: RISK MANAGEMENT	
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1.0 PURPOSE

- 1.1 To provide guidelines that constitute safe operation of mobile cranes in Okaloosa County. This procedure applies to all Okaloosa County personnel performing activities that involve mobile cranes.

2.0 QUALIFICATIONS

- 2.1 Operators will pass a physical examination conducted by a physician which shall include the examination criteria specified in the U. S. Department of Transportation (US DOT) physical examination requirements. Operators also will be required to attend and pass a crane operator qualification course that has been approved by Risk Management. Only Okaloosa County employees that have been authorized by the Director of their department, and trained in the safe operation of cranes or hoisting apparatus, shall be permitted to operate such equipment.
- 2.2 All qualified crane operators shall always have in their possession a current driver license and documentation of training and qualifications identifying the specific type of equipment for which they are qualified. The operator shall have access to procedures applicable to the operation of the equipment they are operating. Procedures include rated capacities (load charts), recommended operating speeds, special hazard warnings, instructions and the operator's manual.

3.0 REQUIREMENTS

- 3.1 All new crawler and truck cranes used on Okaloosa County property shall meet the design specifications, inspection, testing, maintenance and operation as prescribed in ASME B30. All mobile cranes shall have a signaling chart posted.
- 3.2 Only designated Okaloosa County qualified personnel are allowed to perform operator signaling, rigging or other duties associated with crane work activities. Crane operators will not leave the cab while a load is still on the hook. The equipment must not be assembled or used unless ground conditions are firm, drained, and graded to a sufficient extent in conjunction with the use of supporting materials and the manufacturer's recommendations for adequate support and degree level of the equipment are met.
- 3.3 If equipped from the manufacturer, a fire extinguisher shall be kept in the cab or vicinity of the crane. Operating and maintenance personnel shall be familiar with the use and care of the fire extinguisher provided.
- 3.4 Only authorized and qualified personnel who have been trained in the safe use and operation of cranes will be permitted to operate a crane.

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- 3.5 The crane operator shall be responsible for those operations under his or her direct control. Whenever there is any doubt as to safety, the crane operator shall have the authority to stop the operation, re-plan the details, and continue as safety dictates.
- 3.6 When handling loads, the crane operator shall never start machine movement unless the load is within his or her range of vision and has been given the appropriate signal to do so.
- 3.7 The crane operator shall respond to the signals only from the appointed signal person, but should obey an emergency stop at any time, no matter who gives the signal. Hand signals will be in accordance with those shown on the crane hand signals chart.
- 3.8 The qualified person directing the lift shall determine that the load is secured and properly balanced in the sling or lifting device before it is lifted and that the lift and swing paths are clear of obstructions and personnel.
- 3.9 No external forces shall be applied to suspended loads that will result in side loading of the boom. Care shall be taken when swinging the crane so as to minimize the pendulum action of the hook and suspended load.
- 3.10 When two or more cranes are used to lift one load, one qualified person shall be responsible for the operation. The responsible person must analyze the operations and instruct all personnel involved in the proper positioning, rigging of the load and the movements to be made.
- 3.11 All safety equipment on the crane must be present and functional, including tag lines, fire extinguisher, backup beeper, load charts and boom angle indicator. An Okaloosa County qualified employee will inspect all equipment before each use to ensure that it is safe to operate.
- 3.12 All slings, cables, hooks, shackles, etc., are to be fit for use and inspected prior to the lift.
- 3.13 The load should be kept as close to the ground as possible until it is ready for final lift.

4.0 LOADING & UNLOADING MATERIALS

- 4.1 All workers must be visible to truck drivers and crane operators at all times.

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- 4.2 Do not climb onto or off of a truck until it has come to a complete stop and the driver signals to proceed. Be sure of footing while climbing on or off the load.
Do not jump off or ride the load.
- 4.3 Pay attention to the location of all vehicles.
- 4.4 Never crawl under a vehicle or a suspended load.
- 4.5 Never stand or work between a vehicle and a load until the supervisor signals to proceed.
- 4.6 Ensure that all equipment is in good working order and is the proper size for the load. Chain the load securely. Check chains and boomers frequently during a move.
- 4.7 Keep work area clear of all personnel except those essential for performing the procedure.

5.0 SIGNALING

- 5.1 A signal person is required when:
 - 5.1.1 The point of operation is not in full view of the operator.
 - 5.1.2 The view is obstructed when the equipment is traveling.
 - 5.1.3 The operator or the person handling the load determines it is necessary due to site specific concerns.
- 5.2 Signalers must always be visible to drivers.
- 5.3 Drivers and crane operators must always obey the signaler.
- 5.4 There should be only one signaler unless a relay is required.
- 5.5 Drivers and crane operators, when using signaler or helper, must not winch or move truck unless signaled.

6.0 EQUIPMENT

- 6.1 Slings
 - 6.1.1 Check for the following:

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- 6.1.1.1 Broken or kinked strands, flat spots and loose eyelets.
- 6.1.1.2 Replace worn slings.
- 6.1.1.3 Always hook slings to the proper pickup points or centering points.
- 6.1.1.4 Use proper method of attaching slings to prevent any accident.
- 6.1.1.5 Do not use chains for loading or lifting.
- 6.1.1.6 Do not drag slings on the ground.
- 6.1.1.7 Use separate slings for towing and loading.
- 6.1.1.8 Avoid abrasions caused by pulling across sharp edges.
- 6.1.1.9 Know safe working loads and do not exceed.

6.2 Snatch Blocks

- 6.2.1 Check for excessive wear at the pins.
- 6.2.2 Ensure all equipment is in good working order and of the proper size.
- 6.2.3 Keep hands and clothing away from moving snatch blocks.
- 6.2.4 Lubricate snatch block when required.
- 6.2.5 Ensure that the loading sling is long enough so that the snatch block is picked up on the trailer before the load starts to come up.
- 6.2.6 Use double line procedure on heavy loads.

6.3 Suspended Loads

- 6.3.1 Never stand under a suspended load.
- 6.3.2 Use tag lines to control and position suspended loads.
- 6.3.3 When working around suspended loads, maintain a sufficient distance between yourself and the load in case a sling, winch line, etc. were to fail, causing the suspended load to fall or shift.

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- 6.3.4 To reduce the risk of being crushed, never stand between a suspended load and a stationary object (i.e. another building).

7.0 TAG LINES

- 7.1 Tag lines will be used to control all suspended loads. If tag lines are impractical during final positioning of the load, caution should be taken to ensure that no part of the person's body guiding the load is between the load and any stationary object.
- 7.2 Tag lines will be constructed of a non-conductive material such as 1/2-inch rope, or a 1-inch nylon strap. Chains or steel cables are not acceptable.
- 7.3 Never attempt to guide a load with the tag line wrapped around your hand or waist.
- 7.4 Never use a tag line with a knot in the end.
- 7.5 A tag line should be of sufficient length to ensure that no part of the person guiding the load is under the load at any time.
- 7.6 The person holding the tag line should never position himself between a suspended load and a stationary object.

8.0 SAFETY

- 8.1 The work zone shall be identified by defining boundaries such as using flag and range limiting devices, or defining the work zone as 360 degrees around the equipment up to the maximum working radius.
- 8.2 A hazard assessment shall be conducted if there are power or transmission lines in the vicinity of the crane operation.
- 8.3 Power Lines:
 - 8.3.1 All power lines shall be considered energized unless proper measures have been taken to de-energize them.
 - 8.3.2 When practical, power lines shall be de-energized.
 - 8.3.3 When conducting work near energized overhead power lines, no part of the crane shall be permitted to be within twenty feet of the power lines.

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- 8.3.4 If vehicle or load comes in contact with a power line, stay in the vehicle, notify any other workers, do not attempt to move the vehicle and call 911.
- 8.3.5 Never allow anyone near the truck, load and trailer body when in contact with a power line.
- 8.3.6 **DO NOT** attempt to leave by jumping from the vehicle to try to get to safety! Stay in the vehicle and wait till help arrives.
- 8.3.7 For downed power lines immediately call 911.

9.0 INSPECTIONS

- 9.1 All Okaloosa County Mobile Cranes shall be in sound mechanical and operational condition. Rented equipment shall not be accepted for use until documented proof of annual (periodic) safety inspection and or rated load test have been provided by the crane owner. In addition, there must be a load rating chart present in the cab and a chart showing proper hand signals for crane operation.
- 9.2 All original documents shall be maintained with the equipment.
- 9.3 Periodic and annual inspections shall be performed by properly trained and certified personnel.
- 9.4 Periodic or monthly inspections shall be performed on all tag lines. The inspection shall be documented to show the date of the inspection, size and condition of the tag line and shall be signed by an authorized person competent to recognize any deficiency.
- 9.5 A daily pre-use inspection shall be conducted prior to the start of any crane operations.
- 9.6 If the crane is found to be unsafe, all persons must be prohibited from using the equipment, under any circumstances, until the hazards have been repaired.

10.0 MAINTENANCE

- 10.1 Only properly trained, certified and competent persons shall perform any type of crane maintenance.
- 10.2 A crane preventive maintenance program shall be in place based on the manufacturer's recommendations.

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11.0 TRAINING

11.1 Crane Operators

- 11.1.1 Initial training, as well as any evaluations or refresher courses must be documented with the name of the person or persons who taught the class or conducted the evaluation.
- 11.1.2 Operators must be trained by “type, or type and capacity” of the mobile crane that they will be operating.
- 11.1.3 Okaloosa Crane Operators of cranes above 2,000 lb. capacity shall be certified by an accredited crane operator testing organization that has been approved by Safety/Risk Management office.
- 11.1.4 Each operator shall be re-certified every five years.

11.2 Riggers & Signalers

- 11.2.1 Must be trained, qualified and competent.
- 11.2.2 Rigging certificates are good for five years, unless the certificate is in addition to a previous rigger certification, then it expires at the same time as the previous certification.
- 11.2.3 Signalers must be trained by a qualified County employee or contract training institute that has been approved by Safety/Risk Management office.

12.0 RECORD KEEPING

- 12.1 Training records shall be maintained at the department in which the employee is working and a copy of the training certificate will be sent to Human Resources for their permanent file.

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13.0 ABBREVIATIONS

ABBREVIATION	DESCRIPTION
ASME	American Society of Mechanical Engineers
DOT	Department of Transportation
U.S.	United States

14.0 DOCUMENT HISTORY

DATE	TYPE	DESCRIPTION OF CHANGE
19 Jun 2023	Initial	New Document
	Revision 1	

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