



COUNTY OF NORTHERN LIGHTS

POLICY

CRANES, HOISTS & LIFTING DEVICES

CREATED: 2/9/2025

REVISED:

TOTAL PAGES: 8

PURPOSE

The purpose of this program is to outline the procedures for safe operations and the training requirements regarding for cranes, hoists and lifting devices.

SCOPE

This program is applicable to all employees who may utilize lifting equipment within company operations. It applies to all employees who operate overhead cranes, hoists, and rigging equipment in the scope of their job duties and assignments. When work is performed on a non-owned or operated site, the operator's program shall take precedence, however, this document covers company employees and shall be used on owned premises, or when an operator's program doesn't exist or is less stringent.

KEY RESPONSIBILITIES

Managers and Supervisors

- For ensuring only trained personnel operate the equipment.
- Verify the supporting structure is safe.
- Test the equipment after installation and prior to use.
- Establish and maintain a monthly and annual inspection program.
- Lifting devices are only operated by competent workers. Management must ensure that a lifting device is only operated by a competent worker authorized by the company to operate the equipment.
- Establish a recordkeeping log for safety checks, maintenance, and repairs.
- Are responsible to see that all provisions of this program are followed and that rigging inspections are performed and the equipment is in safe operating condition.

Employees

- Personnel are responsible for visually checking the equipment they are using and reporting any observable wear, needed repairs, or damage to their supervisor. They shall also report all equipment malfunctions immediately.
- Employees are responsible to follow the requirements of this program.

PROCEDURE

- Hoisting equipment shall be operated only by authorized workers and a worker shall not operate hoisting equipment until they have demonstrated that they are a competent operator, is familiar with the operating instructions pertaining to the equipment, is familiar with the code of signals authorized by local provincial or territorial regulatory requirements and has been instructed and authorized by Management to operate the equipment. All training must be documented and indicating that he or she is trained in the safe operation of the equipment.
- Any mobile crane, tower crane or boom truck must be operated only by a person with a valid operator's certificate issued by a person acceptable to local regulatory requirements, in accordance with any conditions stipulated on the certificate issued by a person acceptable to local regulatory requirements and in accordance with any conditions stipulated on the certificate.
- All operators shall be trained in the safe work procedures in this program.
- Management shall develop written procedures for safely erecting and dismantling a hoist or a crane and personnel provided documented training for those procedures.
- Operating controls shall be plainly marked to indicate the direction of travel.



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- Management shall ensure a copy of the manufacturer's operating manual for a hoist or crane is readily accessible to the operator and an operator of a hoist or crane is thoroughly trained in and implements the manufacturer's recommended operating procedures.

Load Chart

Each hoist shall have a legible load chart showing the rated capacity in all permitted working positions and configurations of use, manufacturer's name, model, serial number and year of manufacture or shipment date permanently marked or noted clearly, permanently posted on the equipment, weatherproofed and conspicuous on the equipment and shall be kept legible at all times. The load chart will be issued to the equipment operator, who must have it available at all times when operating the equipment.

Safe working load must be clearly marked on a lifting device. Management must ensure that a lifting device has a plate or weatherproof label permanently secured to it that legibly shows the manufacturer's rated load capacity, the manufacturer's name, the model, serial number, and year of manufacture or shipment date. If a lifting device is not commercially manufactured, an employer must ensure that it has a plate or weatherproof label permanently secured to it that legibly shows the rated load capacity according to the professional engineer's certification.

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Prior to Lifting

- All loads shall be hooked or slung under the direction of an experienced worker.
- Prior to operating any equipment the operator must be familiar with all recent entries in its log book.
- The operator must carry proof of training.
- Before the start of each shift or use an operator uses a crane or hoist, the operator must inspect the crane or hoist was inspected for that work shift, and the control and safety devices were tested for that work shift to detect any defect, malfunction, or hazardous condition.
- A fire extinguisher having at least a 10 BC rating must be immediately available in the cab of each crane or other hoisting equipment.
- When the operator of a crane or hoist does not have a clear and unobstructed view of the boom, jib, load line, load hook, and load throughout the whole range of the hoisting operation, the operator must act only on the directions of a qualified, designated signaller who has a clear view of the things the operator cannot see. The operator of the crane or hoist must stop the operation of the equipment on receiving a stop signal from any person.
- Operators of hoisting equipment shall disregard signals from anyone except designated signal persons but in an emergency other workers may give a stop signal.
- Where the design of a crane is such that the boom may fall over backward, positive boom stops shall be installed in accordance with the manufacturer's instructions.
- Management shall develop adequate emergency rescue procedures and communicate these in writing to all workers involved with the hoisting operation.
- No worker shall ride or be permitted to ride on loads, hooks or similar equipment unless specifically authorized by his or her supervisor.

LOAD HANDLING

Size of Load

The rated capacity of a crane or hoist must not be exceeded, except for rated load test. The working load shall not be exceeded and shall be determined by the original manufacturer of the equipment, a registered professional engineer, or other persons whose qualifications are acceptable to local regulatory requirements.

Attaching the Load



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- The load shall be attached to the hook by means of slings or other suitable and effective means which shall be properly rigged to ensure the safe handling of the load.
- Chain and rope slings shall be free of kinks or twists before use.
- Baskets, tubs, skips, or similar containers used for hoisting bulk materials shall be loaded so as not to exceed their safe carrying capacity.
- The hoist rope shall not be wrapped around the load.
- The load shall not be moved without checking the balance and the brakes. Brakes are checked by raising the load a few inches and applying the brakes.

Load Lifting Manual

Safe lifting procedures can be found in the Lifting Handbook located in the operations office as designated for each work site by the Manager.

Safe Lifting

- A worker must not operate a lifting device if it may endanger other workers. If the operator of a lifting device has any doubts as to the safety of workers in the vicinity of the lift, the operator must not move any equipment or load until the operator is assured that the working conditions are safe. He or she shall report the circumstances to his or her supervisor who then shall be responsible for determining the action to be taken.
- Loads will be carried as close to the grade as possible and tag lines shall be rigged as necessary to control swinging of the load.
- Prior to moving a load ensure that the travel path of the load is free and clear of any undesirable obstructions.
- A suspended load shall not be left unattended by a worker.
- Ensure all workers which may be affected by the lift are aware of the hazards and are adequately protected.
- Loads shall not be passed over workers. Management must ensure that work is arranged, if it is reasonably practicable, so that a load does not pass over workers. An operator of a lifting device must not pass the load on the device over workers unless no other practical alternative exists in the circumstances and the workers are effectively warned of the danger by an audible alarm or other effective means. The operator of a lifting device that is travelling with a load must ensure that the load is positioned as close to the ground or grade as possible.
- Workers shall not stand or pass under suspended loads. A worker must not stand or pass under a suspended load unless the worker has been effectively warned of the danger and the operator of the lifting device knows the worker is under the suspended load.
- Release the load only after the stability of the load has been verified and loads shall be safely landed and supported before unhooking.

If a hoist or crane is designed to be operated with outriggers or other stabilizing devices Management shall ensure:

- The outriggers or other stabilizing devices are used in accordance with manufactures instructions.
- Are set on a solid footing or pad.
- Have their controls if any readily accessible to the operator and in a suitable position for safe operation.
- The area around the outriggers or other stabilizing devices is kept free of obstruction.
- There is a minimum clearance of 600mm between any moving part of the crane and any obstacle near the base of the hoist or crane.
- Where there is a danger of a worker being trapped or crushed by any moving part of the crane when the crane swings, the area around the base of the crane is barricaded to restrict the entry of workers.

Logbook Procedure

- A logbook must be maintained for each lifting device. Management must set up a paper or electronic logbook for each lifting device at each work site.
- The logbook will be readily available at all times to the operator and to another worker concerned with the maintenance and safe operation of the equipment. The operator shall be responsible for recording defects,



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operating difficulties, the need for maintenance and all maintenance and alteration work performed. If the operator requests they shall be given a copy of the log book.

- The logbook for the equipment at a project shall include the greater of the immediately preceding twelve months or the period the crane or similar hoisting device is on the project.
- When not being operated the logbook will be located in the operations office as designated for each work site by the Manager.
- All logbook entries shall, on a regular basis, be signed by the person who performs the inspection, maintenance or calibration and review.
- The logbook will include the following information:
 - The date and time any work was performed on the hoist.
 - Length of time in lifting service including hours of service.
 - All defects and deficiencies and when they were detected.
 - Details on all inspections, examinations, calibrations, checks and tests.
 - Repairs or modifications performed or maintenance history.
 - The record of certification.
 - Details on any incident that may affect the safe operation of the equipment

Inspections

Each crane and hoist must be inspected and maintained at a frequency and to the extent required to ensure that every component is capable of carrying out its original design function with an adequate margin of safety and is maintained in good working order. Inspections shall also be conducted at regular intervals as recommended by the manufacturer and by local regulatory requirements.

Records of inspection and maintenance must be kept by the equipment operator and other persons inspecting and maintaining the equipment, for the following types of lifting equipment:

- A crane or hoist with a rated capacity of 900kg (2200 lbs) or more
- A crane or hoist used to support a worker
- A tower crane
- A mobile crane, boom truck or sign truck
- A side boom tractor or pipe layer
- A construction material hoist
- A chimney hoist
- A logging truck trailer reload hoist
- Any other type of hoisting equipment specified by local regulatory requirements

The following inspections shall occur at the indicated frequency:

New Equipment

Before being placed in service, new hoisting equipment, or hoisting equipment which has had modifications in the design or has undergone major repairs, shall be inspected and proof tested under the direction of a competent person who shall give the written warranty of the safe capacity of the equipment.



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Daily

At the beginning of each shift, the competent operator shall visually inspect:

- The hoist for proper operation and structural elements.
- The limit switches without a load on the hook.
- The hook for deformation and cracks.
- The cable and rigging equipment for excessive wear, broken wires, stretching, kinking, and twisting.
- The load attachment chain for excessive wear distorted or stretched links.

The following will be tested at the beginning of each shift by a competent operator:

- Limit switches
- Brakes
- Circuit breakers
- Other safety devices

Any defects found during inspection or use of a crane or hoist must be recorded in the inspection and maintenance record system and be reported immediately to the supervisor, who must determine the course of action to be taken. If a defect affects the safe operation of the crane or hoist, the equipment must not be used until the defect has been remedied.

Monthly

An inspection and written, signed report must be made by a designated individual at each facility, appointed by the manager, of all components used on or associated with the hoist. Components checked must include:

- Hoist or load attachment
- Chains and their end connections
- Wire rope slings
- Hooks and hook latches
- Motors and brakes
- Push buttons and other electrical equipment
- Hardware, sleeves, bolts, rivets, pins, and drums

Any defects must be corrected before the hoist is used. The report must be dated and signed by the person performing the inspection.

Annual

- Once each year a more detailed inspection must be made of all hoisting equipment at each facility. After completing the annual inspection, a report must be completed and signed by the person performing the inspection and the report will be returned promptly to Management.
- A mobile crane or boom truck must be inspected at least once every 12 months in accordance with good engineering practice, to ensure it meets the crane or boom truck manufacturer's specifications, the requirements of the applicable design or safety standard, and local regulatory requirements.
- A mobile crane or boom truck must not be used after an inspection unless a professional engineer certifies it is safe for use on the basis of that inspection.

RIGGING BREAKING STRENGTH AND LOAD RATING

The safe working-load on ropes, chains, slings, and fittings shall not exceed the safe working-load recommended by the manufacturer.

Rigging shall not be subjected to a load of more than 10 percent of the breaking strength of the weakest part of the rigging, if a worker is being raised or lowered 20 percent of the ultimate breaking strength of the weakest part of the



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rigging, and if the rigging is fatigue rated and a worker is not being raised or lowered the maximum load must not exceed 25 percent of the ultimate breaking strength.

Management may use a dedicated rigging assembly designed and certified for a particular lift or project by a professional engineer but the dedicated rigging assembly must be re-rated before it is used for another lift or project.

The maximum load rating of the rigging, as determined by the rigging manufacturer or a professional engineer must be legibly and conspicuously marked on the rigging. If it is not practicable to mark the rigging the maximum load rating of the rigging must be available to the workers at the work site.

RIGGING INSPECTION AND REJECTION CRITERIA

All rigging and rigging equipment to be used during a work shift is to be inspected thoroughly prior to each period of continuous use during the shift to ensure the rigging is functional and safe by a competent person. All deteriorated or defective equipment will be immediately removed from service if it doesn't meet the below inspection requirements or rejection criteria.

Slings

- A wire rope sling with a swaged or poured socket or a pressed fitting must be permanently identified with its working load limit (WLL), the angle upon which the WLL is based and the name or mark of the sling manufacturer.
- An alloy steel chain sling must be permanently identified with the size, the manufacturer's grade, and the WLL, the length and number of legs, and the name or mark of the sling manufacturer.
- Synthetic fibre web slings must be permanently identified with the manufacturer's name or mark, manufacturer's code or stock number, working load limits for the types of hitches permitted, and type of synthetic web material or be removed from service if any of these requirements are not met.
- A sling shall be permanently removed from service if it is damaged or worn.
- All slings are to be clearly labelled to indicate the slings maximum load or the slings maximum load is made readily available to workers.
- A sling must be stored to prevent damage when not in use.
- When a sling is applied to a sharp edge of a load, the edge or the sling must be protected to prevent damage to the sling

Hooks

- A worn or damaged hook must be permanently removed from service and Management shall not require or permit a worker to use a hook that is worn, damaged, deformed, cracked or otherwise defective or where the throat opening has been increased or the tip has been bent more than 10% out of plane from the hook body, or any dimension of the hook has been decreased by 10% or any damage exceeds any criteria specified by the manufacturer.
- All hooks shall be clearly labelled with the maximum load of the hook in a location where a worker using the hook can easily see the rating or the hooks maximum load is made readily available to workers.
- A hook will have a safety latch, moussing, or shackle if the hook could cause injury if it is dislodged while in use.

All devices shall be visually inspected prior to use and removed from service for any of the following conditions:

- Nylon slings with:
 - Abnormal wear.
 - Torn stitching.
 - Broken or cut fibers.
 - Discoloration or deterioration.
- Wire rope slings with:
 - Kinking, crushing, bird caging, or other distortions.



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- Evidence of heat damage.
 - Cracks, deformation, or worn end attachments.
 - Hooks opened more than 10% at the throat.
 - Hooks twisted sideways more than 10 degrees from the plane of the unbent hook.
- Alloy steel chain slings with:
 - Cracked, bent, or elongated links or components.
 - Cracked hooks.
 - Shackles, eye bolts, turnbuckles, or other components that is damaged or deformed.

OPERATIONAL PROCEDURES

- Rigging shall not be subjected to loads more than outlined in legislative requirements. Management will ensure the maximum load rating of the rigging is available to the workers at the work site.
- Wire rope, alloy steel chain, synthetic fibre rope, metal mesh slings, and synthetic fibre slings shall meet the requirements of ASME Standard B30.9-2006, Safety Standard for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks and Slings (or current version). Below-the-hook lifting devices, other than slings shall meet the requirements of ASME Standard B30.20-2006, Below the Hook Lifting Devices (or current version).
- Loads to be unhooked by a worker must be safely landed and supported before the rigging is detached.
- The determination of the working load limit (WLL) of a sling assembly must ensure that the WLL of any individual component of the assembly is not exceeded.
- Except as otherwise specified by this program or other local regulatory requirements, the maximum rated load of chains, attachments and other rigging equipment shall be warranted by the manufacturer of the equipment, or by a professional engineer, or by other persons whose qualifications are acceptable to the designated local governmental official or department.
- All slings used to hoist a load and the slings fittings and attachments must be in compliance with legislated standards and capable of supporting at least 10 times the load to which the slings fittings, and attachments may be subjected where they are used to support a worker, and at least five times the maximum load to which they may be subjected in any other case.
- No shackles shall be subjected to a load greater than the maximum load indicated on the shackle, and all shackle pins are installed to prevent accidental withdrawal, and a bolt is never used in the place of a properly fitted shackle pin.
- All hooks shall have a safety latch, moussing, or shackle if the hook could cause injury if it is dislodged while in use.
- Where a worker may be endangered by the rotation or motion of a load during hoisting one or more tag lines must be used to control the rotation or motion of the load and the tag lines will be of sufficient length to protect the workers from any overhead hazard and the tag lines are not removed from the load until the load is securely landed.

RIGGING A LOAD

- Determine the weight of the load - do not guess.
- Determine the proper size for slings and components.
- Do not use manila rope for rigging.
- Ensure that shackle pins and shouldered eyebolts are installed in accordance with the manufacturer's recommendations.
- Ensure that ordinary (shoulder-less) eyebolts are threaded in at least 1.5 times the bolt diameter.
- Use safety hoist rings (swivel eyes) as a preferred substitute for eye bolts wherever possible.
- Pad sharp edges to protect slings.
- Remember that machinery foundations or angle-iron edges may not feel sharp to the touch but could cut into rigging when under several tons of load.



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- Wood, tire rubber, or other pliable materials may be suitable for padding.
- Do not use slings, eyebolts, shackles, or hooks that have been cut, welded, or brazed.
- Install wire-rope clips with the base only on the live end and the U-bolt only on the dead end.
- Follow the manufacturer's recommendations for the spacing for each specific wire size.
- Determine the center of gravity and balance the load before moving it.
- Initially lift the load only a few inches to test the rigging and balance.

SIGNALLING

Signals to the operator shall be in accordance with the standard hand signals prescribed by the applicable standard for the type of equipment. Specific requirements include:

- Each movement of equipment shall be proceeded by distinctive signals clearly discernible to all workers endangered by the movement and clearly distinguishable by the operator of the equipment controlled, and a signal which is not understood clearly by the operator of equipment shall be acted upon by him or her as though it were a stop signal.
- A worker shall not cause a signal to be given for the movement of equipment unless he or she has ensured that he or she and all workers within the area for which he or she is responsible are not endangered by the movement.
- Only a designated worker shall cause a signal to be given for the movement of equipment, but workers may cause a stop signal to be given and this signal shall be obeyed promptly and without question.
- A worker designated to direct the movement of equipment shall not be otherwise occupied while the equipment is in motion and he or she shall be prepared to signal to stop during the motion.
- A signalling device that functions unreliably or in a way that might constitute a hazard to a worker shall be removed from service immediately.
- Signals shall be discernible or audible at all times.
- Some special operations may require addition to or modification of the basic signals.
- For all such cases, these special signals shall be agreed upon and thoroughly understood by both the person giving the signals and the operator, and shall not be in conflict with the standard signals.

TRAINING

Training shall include:

- Documentation of employee, date of training and subject matter, including method used to test knowledge of material.
- No employee shall operate cranes or equipment covered by this program until training has been complete and management has approved and designated him or her as a qualified operator.

COMMUNICATION

As per the company's Safety Management System Manual, and corporate communication policy, all applicable policies and procedures are reviewed with all new employees prior to engaging in any work activities (during orientation) and annually with seasonal/ returning employees (refresher training).

Chief Elected Official

Chief Administrative Officer