



**SAFE
MECHANICAL
LIFTING**

Cranes_Hoists and Lifting Devices Standard

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Custodian	HSER Programs		
Program Category	Powered Mobile Equipment		
Program	Cranes, Hoists and Lifting Devices		
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2.2	<ul style="list-style-type: none"> Added requirements when using hooks without safety latches designed for specialized tasks (e.g., sorting hooks) 	2020-04-07	Group Lead, HSER Programs

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1.0 Purpose

This Cenovus Cranes, Hoists and Lifting Devices Standard (referred to as this Standard) provides information on how to monitor and manage crane operations on Cenovus worksites effectively. This Standard is written to assist employees, contractors and service providers in planning for the safe execution of crane operations on Cenovus worksites.

This Standard supplements Occupational Health and Safety (OHS) legislation and is designed to establish Cenovus’s minimum requirements and expectations for:

- Lift classifications and lift planning
- Worker roles/ responsibilities and competency
- The safe operation, inspection and maintenance of cranes, rigging equipment and materials

2.0 Scope

This Standard applies to all Cenovus worksites and governs work completed by Cenovus staff, contractors and service providers.

In Alberta, the term **crane** and **crane equipment**, as used in this Standard, shall mean all fixed overhead cranes and mobile cranes (including boom/picker trucks) with a rated capacity of **2000 kg** (2 metric tonnes) or greater and the associated equipment used to lift, move and lower loads, as defined within the Alberta OHS Code.

In British Columbia, the term **crane** and **crane equipment** shall mean all fixed overhead cranes and mobile cranes (including boom/picker trucks) with a rated capacity of **900 kg** (2,000 lbs) or greater. In addition, inspection and maintenance records are to be kept by the operator and other persons inspecting and maintaining the equipment as defined within the British Columbia OHS Regulation.

Site-specific procedures may be developed using this Standard as a guide to the minimum acceptable level of performance of crane activities.

Cenovus approved contractors and service providers may use their own crane, hoisting and rigging standards, procedures, processes and forms as long their program complies with OHS regulations and aligns with the minimum requirements outlined in the Cenovus Crane Cranes, Hoists and Lifting Standard.

This Standard does not apply to elevated powered mobile work platforms (e.g. scissor lift or articulating/ telescopic boom lifts) or aerial devices (e.g. bucket trucks).

3.0 Roles and Responsibilities

The following responsibilities apply to this Standard.

Table 1: Roles and Responsibilities






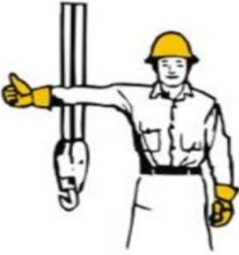
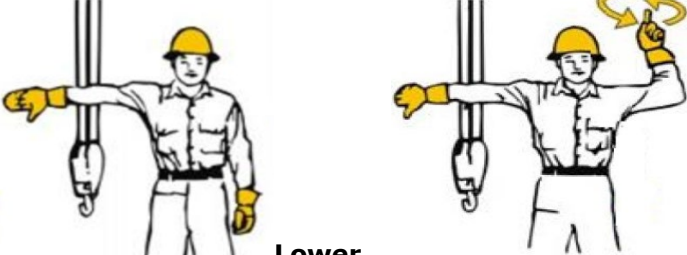
Role	Responsibilities
Area Owner	For lifting operations that can impact process lines or equipment/ facilities, the Area Owner must: <ul style="list-style-type: none"> • Participate in Field Level Hazard Assessments and provide details of site/ area-specific hazards

Role	Responsibilities
	<ul style="list-style-type: none"> Review applicable permits and forms (e.g. safe work permit; overhead power line encroachment, critical lift authorization form etc.) and ensure hazards relevant to the site/ area is adequately captured Participate in Lifting Hazard Assessments and risk assessments, led by the Functional Supervisor or Lift Supervisor, for all Critical Lifts
<p>Functional Supervisor</p>	<p>Cenovus representative who is responsible for supervising the work activity must:</p> <ul style="list-style-type: none"> Lead Field Level or Lifting Hazard Assessments and risk assessment (as required) Classify lifts according to this document Coordinate with others on the site who could be impacted by the crane work Ensure applicable permits are in place (e.g. safe work permit; overhead power line encroachment, etc.) Ensure access roads are prepared, including a suspended warning line below any overhead power lines Provide a well-prepared working area for the crane before it arrives on-site, including graded, levelled and compacted ground Confirm that adequate space is available to erect and dismantle cranes safely Ensure the crane and lifting devices are inspected and maintained as prescribed by both the Equipment Owner and the manufacturer Provide correct load weight and maximum permissible movement radius to the Crane Equipment Owner for determining the appropriate crane size before it arrives on site Ensure supervision by a competent lift supervisor for the rigging crew Confirm all critical lifts have been assessed and planned, as per the Cenovus Cranes, Hoists and Lifting Devices Standard Inform the Area owner for the lifts that may impact or lifted over process lines or equipment/ facilities Ensure emergency response plan for the site is developed and communicated Ensure work execution complies with Cenovus safety and execution standards









Role	Responsibilities
<p>Crane Operator</p>	<p>The individual competent to operate the crane. Provincial requirements may require additional information, including on-site written proof of training, and additional qualifications such as “competent operator” or “qualified operator,” depending upon lifting equipment type and load weight.</p> <p>The Crane Operator is responsible for:</p> <ul style="list-style-type: none"> • Maintaining certification and training as required by this Standard and applicable regulations • Application of load charts and calculations according to the manufacturer’s requirements • Reviewing the lift plan with the site supervision/ crew, performing the appropriate final checks before the lift proceeds, and participating in the hazard assessment • Reporting any unsafe lift issues to the Lift Supervisor and refusing the Lift until safe conditions are established • Ensuring the crane is inspected and maintained as prescribed by both the Equipment Owner and the manufacturer • Stopping work and informing the Crane Equipment Owner of any equipment deficiencies • Documenting all lift information in the crane’s logbook (as required) • Maintaining visual and/ or verbal communications with the Signal Person at all times • Remaining in the crane at all times when a load is suspended • Ensuring that all safety devices, such as the Load Moment Indicator (LMI), are not overridden during lifting operations without proper approval • Ensuring the lift zone has been adequately flagged or barricaded to restrict entry for personnel before lifting • Lowering the load, shutting down, and securing the crane when not in use
<p>Lifting Equipment Owner</p>	<p>The individual responsible for the provision and maintenance of the crane and the safe use of the equipment by a competent lifting device operator.</p> <p>The Lifting Equipment Owner is responsible for:</p> <ul style="list-style-type: none"> • Ensuring workers, including Crane Operators, riggers, etc. are competent and qualified to operate the lifting equipment

Role	Responsibilities
	<ul style="list-style-type: none"> • Supplying safe, operable crane equipment in compliance with manufacturers’ operating and maintenance requirements and applicable regulations • Ensuring workers participate in worksite specific orientations and training • Providing a consultation support system to the workers regarding safety issues prior to and during the Lift • Ensuring that crane equipment is assembled on a stable and secure surface suitable for the Lift • Authorizing the Crane Operator to refuse to make a lift for safety reasons without fear of reprisal • Ensuring that all equipment provided is properly maintained and inspected before use
<p>Lift Supervisor</p>	<p>A Lift Supervisor will be appointed to oversee lifting device operations. This individual will be accountable for the overall safe execution of the Lift. The Lift Supervisor must be a competent front line supervisor and can be either a Cenovus employee or Contractor.</p> <p>The Lift Supervisor’s responsibilities are:</p> <ul style="list-style-type: none"> • Reviewing lift specifics to determine lift classification • Accountable for preparing and communicating the lift plan • Accountable for preparing and communicating the critical lift authorization form • Ensuring that Lift Plan requirements are applied for the lift classification are explicitly followed, and advising appropriate personnel before work starts if conditions or hazards change the job scope • Ensuring that if the Lift cannot be carried out as planned that the Lift must be stopped until a formal review has been conducted and the revised plan has been communicated to all parties • Verifying the ground surface can support the loads imposed by the crane equipment (for example, ground compaction studies for critical lifts or verification of underground structures such as sewers or sumps) • Confirming that the lifting equipment has been assembled properly with consideration for ground conditions • Ensuring the Area Owner or Cenovus Functional Supervisor has provided adequate space to safely assemble, erect and operate the crane equipment • Verifying competency of all workers involved with the Lift and that they understand their jobs and responsibilities. Ensuring all workers are aware of known hazards and requirements from the Area Owner

Role	Responsibilities
	<ul style="list-style-type: none"> • Ensuring the requirements of the Cenovus Overhead Power Line Encroachment Practice are implemented as required • Conducting pre-lift meetings and ensuring the attendance of all workers involved in the Lift • Ensuring an emergency response plan is developed and communicated to all personnel involved in the Lift • Verifying that the restricted area is clearly and properly identified with flagging or barricades
Rigger	<p>A competent worker who supports the load handling activity to secure a load and attach it to a crane’s or hoist’s hook. The Rigger is responsible for:</p> <ul style="list-style-type: none"> • Rigging loads and equipment to the manufacturer’s recommendations • Selecting and applying the appropriate rigging components for the load • Visual inspection of rigging components prior to each Lift for damage and defects. Rigger shall tag and remove any damaged equipment from service • Securing the load according to the lifting plan, using applicable rigging charts and load parameters • Understanding rigging hardware charts and data • Participating in the hazard assessment prior to conducting the Lift • Participating in the lift plan development • Using a hand-signal chart for communicating with the lifting equipment operator while hoisting and moving loads • Ensuring the swing path is clear of overhead hazards and obstructions • Ensuring the swing path is kept clear of vehicular and pedestrian traffic • Ensuring loads are never brought over the top of people • Communicating with the Crane Operator throughout all stages of the rigging and lifting process
Signal Person/ Spotter	<p>Required where the Crane Operator does not have a clear and unobstructed view of the pick-up point, the load and the setpoint throughout the Lift. The Signal Person must be trained and qualified to use international hand signals for crane lifts (pursuant to the current version of CSA167-08 Annex C or ASME B 30.2).</p>

Role	Responsibilities	
	 <p data-bbox="706 655 787 688">Stop</p>	 <p data-bbox="974 655 1218 688">Emergency Stop</p>
	 <p data-bbox="581 1054 896 1087">Raise load (Hoist up)</p>	 <p data-bbox="961 1054 1230 1117">Lower load (Hoist down)</p>
	 <p data-bbox="652 1423 824 1453">Boom down</p>	 <p data-bbox="1019 1423 1172 1453">\Boom up</p>
	 <p data-bbox="636 1738 1198 1789">Lower Boom and Raise Hoist (Hold load level)</p>	

Role	Responsibilities
	<div data-bbox="592 336 1242 646"> </div> <p data-bbox="609 667 1226 703">Raise Boom and Lower Hoist (Hold Load)</p> <div data-bbox="592 735 1242 1050"> </div> <p data-bbox="771 1071 1063 1106">Boom Out (Extend)</p> <div data-bbox="592 1134 1242 1449"> </div> <p data-bbox="771 1459 1063 1495">Boom IN (Retract)</p> <div data-bbox="592 1522 917 1837"> </div> <p data-bbox="625 1858 852 1894">Dog everything</p> <div data-bbox="933 1522 1242 1837"> </div> <p data-bbox="982 1858 1209 1894">Swing (rotate)</p>

Role	Responsibilities	
	 <p data-bbox="630 667 850 701">Use main hoist</p>	 <p data-bbox="987 667 1208 701">Use whip line</p>
	 <p data-bbox="646 1037 834 1071">Move slowly</p>	 <p data-bbox="980 1037 1208 1071">Everything slow</p>
	 <p data-bbox="639 1444 841 1478">Trolley travel</p>	 <p data-bbox="997 1444 1198 1478">Bridge travel</p>
	 <p data-bbox="584 1814 899 1877">Crawler Travel (both tracks)</p>	 <p data-bbox="958 1814 1230 1848">Travel (one track)</p>

Role	Responsibilities
	<p>The Signal Person/Spotter is responsible for:</p> <ul style="list-style-type: none"> • Understanding and executing the lift plan • Guiding and directing the crane in and out of congested areas • Flagging-off or securing the lift area when the crane is in position • Communicating with the lifting equipment operator while hoisting and moving loads through international hand signals or radio communication • Giving all signals in a slow, smooth, and decisive manner • Ensuring the Crane Operator and Rigger understand the method of signalling to be used • Obtaining radios and/or determining an alternate, secure communication method to communicate with the Crane Operator when required • Ensuring the swing path is clear of overhead hazards and obstructions • Ensuring the swing path is kept clear of vehicular and pedestrian traffic • Ensuring loads are never brought over the top of people • Communicating with the Crane Operator throughout all stages of the rigging process • Watching the headache ball and main block to prevent them from “two-blocking.” • Stopping work when conditions change or a new hazard is identified • Wearing a vest or armband identifying them as the Signal Person

4.0 Legislation, Codes and Standards

OHS legislation governing cranes, hoists, and rigging must always be consulted when planning for lifting operations and training personnel. Compliance with all provincial OHS legislative requirements is expected when conducting lifting operations.

All cranes, hoisting and rigging procedures and work activities must comply with the applicable provincial act, regulations and codes, CSA, ASME, ANSI, standards or other related standards as required.

Lifting device Owners, Operators and Riggers are expected to consult with and know all, applicable regulatory and standard requirements.

5.0 Manufacturer Operating Instructions

In addition to following applicable codes and standards, personnel operating lifting devices or personnel installing rigging are accountable to abide by all specifications and instructions required by the manufacturer of the equipment.

Manufacturer operating instructions, manuals, or applicable engineering assessment must be made readily available to workers operating cranes, hoists, crane equipment, or installing rigging.

6.0 Standard Requirements

6.1 Lift classifications

Cenovus classifies lifting into two categories; Standard and Critical. Be aware that OHS terminology for lift classifications may vary in different provincial jurisdictions. See Cenovus definitions and requirements for each type of Lift below.

Specifically, referenced forms and definitions may vary between Cenovus and Contractors; however, Contractors established forms and programs may be used if aligned to the intent of this Cenovus Standard.

6.1.1 Standard Lift

Standard Lift is any lift between 0% and 75% capacity of the crane load chart and are not deemed Critical where routine rigging standards are utilized.

Standard Lift Plan requirements are:

- Complete a Field Level Hazard Assessment (FLHA) that documents load variables, load estimate or load calculations and the hazards of the lift handling activity. The hazard assessment must accompany the safe work permit if a permit is required.
- Review and follow all safety and/ or job procedures as required
- Acquire applicable permits (e.g. safe work permit; overhead power line encroachment, etc.)

6.1.2 Critical Lift

Critical Lift includes of any of the following:

- Single crane lift over 75% of the load chart capacity
- Any lift with a suspended personnel basket
- Any lift where the load or part of the hoisting equipment is encroaching within seven metres of electrical equipment or power lines
- A hoisting or lifting operation over live process equipment or piping
- A hoisting or lifting operation involving simultaneous use of two or more lifting devices
- Any Lifting operation deemed to be critical by the site owner

These Critical Lift Plan requirements are to be completed and reviewed with the workers at the pre-lift meeting, led by the lift supervisor prior to a Critical Lift:

- Field Level Hazard Assessment (FLHA)

- Lifting Hazard Assessment
- All safety and/ or job procedures as required
- All applicable permits (e.g. safe work permit; overhead power line encroachment, etc.)
- Hoisting of Personnel Authorization form (if applicable)
- Lift Calculation Form – mobile or overhead depending on crane type
- Lift Study, if required by the Site Owner or Lift Supervisor
- Critical Lift Authorization form
- Risk assessment, if required by the Site Owner or Lift Supervisor

6.2 Lift hazard assessment

Lift Hazard Assessment Requirements are:

- For Critical Lifts, a Lift Hazard Assessment Form is to be used. The hazard assessment must be conducted in the lift planning process. There may be additional safety considerations not listed on the Lifting Hazard Assessment Form that may need to be addressed, based on the Lift. A job hazard analysis (JHA) may be required upon the discretion of the lift supervisor to supplement the Lifting Hazard Assessment
- The forms used above may be either the Contractor’s or Cenovus’s
- Identify that:
 - tag lines must be used to control the load, prevent the load from striking the worker controlling the tag line and allow separation from the load. Note: Tag lines are not to be used in situations where their use could increase the danger to the workers.
 - loads must not pass over workers

6.3 Suspended personnel baskets

Personnel hoisting is a category of crane operation that requires the completion of the Hoisting of Personnel Authorization Form. This does not include aerial devices like bucket trucks or aerial work platforms like scissor lifts or articulating boom lifts.

The Lift Supervisor must ensure the following before hoisting personnel:

- When lifting personnel with a crane that the capacity load chart is downrated by 50%
- A secondary safety device must be attached between the basket and the hoist line above the hook assembly
- Workers in the personnel basket must use fall protection equipment in accordance with the Cenovus fall protection standard

The personnel basket must be erected, used, operated and maintained in accordance with the manufacturer’s specifications. When the basket is not commercially manufactured, it must be designed and certified by a professional engineer.

Ensure a trial lift is performed prior to hoisting any personnel.

6.4 Rigging

6.4.1 Inspection and testing of rigging components

Riggers must confirm all rigging components have the necessary certificates and are inspected as required by the manufacturer and ASME/ OHS.

The Lift Supervisor must verify that inspection of rigging components is planned and executed by Equipment Owners, Crane Operators and Riggers and that only certified rigging components are mobilized to site used.

6.4.2 Rigging practices

The Lift Supervisor must confirm that the rigging practices and procedures used by Riggers comply with the applicable regulatory requirements.

Rigging requirements include the following:

- Slings must be designed, maintained and used in accordance with ASME B30.9
- Maximum load rating of the rigging must be legibly indicated on the rigging:
 - if markings cannot be placed on rigging, load ratings must be available to the workers on the worksite
- Prior to any lift, always check the load ratings for each rigging component
- Rigging must not be subjected to a load more than:
 - 10% of the breaking strength of the weakest part of the rigging for workers being raised or lowered
 - 20% of the breaking strength of the weakest part of the rigging for all other lifts
- Slings manufacturer's tags must contain information on the size, length and the capacity for different configurations
- All rigging must be inspected prior to use. Any defective rigging must be tagged out of service
- Spreader bars or other hoisting attachments must be engineered to support the load capacities of the equipment. Any applicable documentation must be available on site
- Inspection records of lifting attachments must be clearly legible, or the equipment must be taken out of service and recertified
- Softeners must be used when rigging is subjected to sharp corners or edges

6.4.3 Hooks

All hooks, except for manufactured hooks without safety latches designed for specialized tasks (e.g., sorting hooks), must have functioning safety latches. A hazard assessment must be performed before using a hook without a safety latch.

6.4.3.1 Sorting hooks

Sorting hooks without a safety latch shall be used only for:

- Offloading/loading pipe at a height closer to the ground
- Straight in-line loading
- Lifting when the slings connected to the hooks remain under tension to prevent from disengaging.

NOTE: Overhead lifts are not allowed when using open sorting hooks.

6.4.4 Plate/ beam clamps

Plate and beam clamps are used for hoisting only if they cannot be replaced with another acceptable rigging component.

Plate clamps must be locking or designed, so that slackening of the wire rope does not release the clamp.

Manufacturers' specifications on capacity, size and method of inspection must be available on-site prior to using the equipment.

6.5 Material baskets and containers

Materials or containers baskets must be commercially manufactured, or certified by a Professional Engineer.

Material baskets or containers must be marked with their maximum total rated capacity and fitted with a nameplate clearly displaying the basket identification number and date of last annual inspection.

6.6 Lifting with an excavator, loader, or backhoe

Excavators, loaders, and backhoes or other vehicles can only be used as a lifting device if permitted by the equipment manufacturer's specifications/ instructions.

Hooks and other lifting attachments must only be attached to approved engineered lift points on the equipment (e.g., lifting lugs or the stick/ arm coupler) as directed by the equipment manufacturer.

If the equipment is to be used in a lifting/hoisting configuration, the manufacturer must provide a corresponding and compatible load chart indicating the rated load capacity at all permitted boom angles and boom radii.

6.7 Load indicator systems

Crane load indicator systems or Load Moment Indicators (LMIs) are safeguards designed to provide the Crane Operator with important information about the load and lift parameters. These devices alert the operators when a lift is exceeding the safe operating range of the crane.

Alberta OHS Code states that lifting crews are to be provided with all the information necessary to enable them to readily and accurately determine the weight of the load to be lifted.

British Columbia OHS Regulation states that if the weight of a load to be lifted cannot be accurately determined, the crane or hoist to be used must have a load weight indicator or an overload prevention system.

The Crane Operator must follow the manufacturer's specifications and instructions.

If permitted by a crane manufacturer, an LMI may be disconnected for crane assembly or disassembly.

Safety devices shall not be bypassed without a formal risk assessment by the area owner and lift supervisor.

6.8 Operation of Cenovus-owned lifting devices

Cenovus facilities are equipped with a number of Cenovus owned cranes such as overhead cranes and gantry cranes.

Cenovus owned lifting devices shall be operated by competent personnel. Training records are to be maintained and periodically verified.

6.9 Documentation requirements

All forms required to comply with this Standard will be completed, recorded and retained. Functional teams may authorize contractors to retain records and be readily accessible upon request.

- Critical Lift Authorization Form
- Daily Crane Operation Worksheet Form
- Hoisting of Personnel Authorization Form
- Lift Calculation Form
- Lifting Hazard Assessment Form
- Overhead Crane Lift Calculation Form

7.0 Training

All personnel involved in supervising or performing work related to Cranes, Hoists, and Lifting Devices will have received training related to:

- Occupational Health and Safety regulations governing Cranes, Hoists, and Lifting Devices
- The minimum requirements stated within this Standard
- All functional and site-specific rules, procedures, and plans associated with Cranes, Hoists, and Lifting Devices
- Any relevant service provider's safe work procedures meant to control the hazards associate to Cranes, Hoists, and Lifting Devices

7.1 Operating and maintenance procedures

Cenovus expectations related to development and communication of work instructions are defined within *4.5 Operating and Maintenance Procedures COMS Standard*.

7.2 Training

Cenovus expectations related to training and competency is outlined in *5.4 Training and Competency Assurance COMS Standard*.

7.2.1 Industry-standard training

It is expected that all personnel performing lifting operations in accordance with this Standard will have the training and the appropriate competency to perform their role.

It is the responsibility of the Lift Supervisor to confirm that the personnel assigned to participate in the lifting operation are appropriately trained and maintain a current certification where applicable:

- Proof of training qualifications shall be in the worker's possession at all times when on the work site and presented for review to Cenovus Functional Supervisor upon request
- Training for overhead crane operators and supervisors shall be in accordance with industry recognized best practices, as summarized in the Work Safe Alberta Health & Safety Bulletin IS009, Cranes & Hoists (See section 9.2)

7.2.2 Cenovus staff required training

For Cenovus personnel, training can be obtained from the Cenovus Learning Management System.

7.2.3 Training requirements of service providers

Contactors or Service Providers shall independently address how they will verify personnel are competent to perform job requirements related to crane operations and rigging. Contactors or Service Providers must confirm that only competent personnel are authorized to perform rigging and lifting activities.

8.0 Program Compliance

8.1 Compliance measurement

Compliance with this standard effectiveness shall be assessed through program assessments and internal audits, or other measurement criteria as specified in the *7.2 Assurance COMS Standard*. Measurement can also be accomplished through the tracking of appropriate Key Performance Indicators (KPIs).

Business functions impacted by this Standard must include compliance and program effectiveness verifications in their business assurance program.

Functional leaders are to conduct regular Life-Saving Rule Verifications to verify that workers are in compliance with the Cenovus Safe Mechanical Lifting Life-Saving Rule requirements.

9.0 References

9.1 Definitions and acronyms

The following terms, definitions and acronyms are specific to this Standard:

Table 2: Terms and Definitions

Term	Definition
Functional Supervisor	The individual who is responsible for the lifting work activity where the crane operation is being carried out and is requiring the crane equipment to be used.
Area Owner	The individual who is representing the operations team responsible for the work area, where the crane operation is being carried out, i.e. a Senior Operator or designee.
Boom Truck	Means a truck that is equipped with a hydraulically driven structure or device that are: <ol style="list-style-type: none"> 1. mounted on a turret that is secured to a truck 2. supported to provide stability, and 3. equipped with a boom that is telescoping or articulating, and can swing or hoist or raise and lower its load
Competent Person	A person who, by possession of a recognized degree or certificate of professional standing, or by extensive knowledge, training, and experience, has successfully demonstrated the ability to resolve or solve problems relating to the subject matter, and who is familiar with the provisions of this Standard that apply to the subject matter and their applications.
Crane	In the Alberta OHS Code: <ul style="list-style-type: none"> • “crane” means equipment that is designed to lift loads, lower loads, and move loads horizontally when they are lifted • In the British Columbia OHS Regulation: <ul style="list-style-type: none"> - “crane and hoisting equipment” as defined in CSA Standard Z150-16 Safety Code on Mobile Cranes
Crane Equipment Owner	The individual responsible for the provision and maintenance of the crane and the safe use of the equipment by a competent crane operator.
Designated Crane Operator	A person designated by the employer who is trained in the operation of that lifting device. Jurisdictions may require additional information, including on-site written proof of training, and additional qualifications such as “competent operator” or “qualified operator” depending upon lifting equipment type and load weight.
Lift Study	A documented, stamped and certified engineered lift study designed and approved by a Professional Engineer in the applicable jurisdiction.
Lift Calculation	Ensures relevant and applicable factors for lifting a load have been considered and calculated. These factors include the following:

Term	Definition
	<ul style="list-style-type: none"> • load information (total weight of the item to be lifted, the weight of load block, weight of rigging/attachments, load centre of gravity, etc.) <ul style="list-style-type: none"> - for mobile cranes (e.g. maximum radius, boom length/angle, configuration, relevant deductions, etc.) - for overhead cranes (e.g. capacity) • calculated percentage of crane capacity • sketch including crane placement, and clearance to surrounding facilities like buildings and power lines
Lift Supervisor	<p>A person designated by the Area Owner or Contractor to exercise authority and conduct oversight of the safe execution of the crane operations. The Lift Supervisor must be a qualified/competent front line supervisor and can be either a Cenovus employee or Contractor as appointed by Cenovus or the Contractor performing the work.</p>
Lift Engineer	<p>A Professional Engineer, competent in the preparation of an engineered lift plan.</p>
Lift Plan	<p>A lift plan describes how to lift and hoist safely. The plan demonstrates that the work crew executing the Lift have:</p> <ul style="list-style-type: none"> • Effectively identified, assessed and controlled the hazards of the load handling activity • Selected the appropriate lift classification and fulfilled the lift planning requirements • Verified worker training • Received appropriate approval to execute work based on the lift classification • Planned for and prepared an emergency response plan
Lifting Devices	<p>In the Alberta OHS Code: Refers to cranes and hoists with a rated load capacity of 2,000 kilograms or more.</p> <p>In the British Columbia OHS Regulation: Refers to all fixed overhead cranes and mobile cranes (including boom/ picker trucks) with a rated capacity of 900 kg (2,000 lbs) or greater.</p>
Mobile Crane	<p>In the Alberta OHS Code: "mobile crane" means a crane, other than a boom truck, that:</p> <ul style="list-style-type: none"> • incorporates a power-driven drum and cable or rope to lift, lower or move loads

Term	Definition
	<ul style="list-style-type: none"> is equipped with a lattice or telescoping boom capable of moving in the vertical plane is mounted on a base or chassis, either crawler or wheel mounted, to provide mobility <p>In the British Columbia OHS Regulation: Is defined as a crane or hoist of a type outlined in section 14.2 of the Regulation with a primary design function that is being used in a hoisting or lifting application</p>
Rigger	A worker who secures the load to the lifting device hook with rigging (e.g. slings and hooks).
Rigging	Equipment used to attach materials to be lifted to the hook of the lifting equipment. Rigging equipment includes; wire rope, chain, polyester, Kevlar and Nylon slings, shackles, hooks, spreader bars, and other load-bearing hoisting attachments.
Signal Person/ Spotter	A person designated to give signals to the lifting device operator when the operator does not have a clear, unobstructed view of the load. A Signal Person must be competent in the use of international hand signals for crane lifts.

Table 3: Acronyms, Initialisms and Abbreviations

Acronym	In Full
ASME	American Society of Mechanical Engineers
FLHA	Field-level hazard assessment
LMI	Load Moment Indicator
LSR	Life-saving rule
OHS	Occupational Health and Safety
SCM	Supply Chain Management

9.2 Related information

The following references support this Standard.

- Alberta OHS Code – Parts 6, 12 (Signallers), 21
- ASME B 30.2, Overhead and Gantry Cranes
- ASME B 30.5, Mobile and Locomotive Cranes
- ASME B 30.9, Slings
- ASME B 30.10, Hooks
- ASME B 30.20, Below the hook lifting devices
- ASME B 30.21, Manual Lever Operated Hoists
- ASME B 30.26, Rigging Hardware

- British Columbia OHS Regulation Part 14
- COMS Standards
 - Operating and Maintenance Procedures COMS Standard
 - Training and Competency Management COMS Standard
 - Assurance COMS Standard
- Corporate Responsibility Policy
- CSA Z-150-16, Mobile Crane Standards
- [Energy Safety Canada](#)
- HSER Document and Management of change (MOC) Process
- HSER Programs & documentation
 - Bypass Management Practice
 - Cenovus Overhead Power Line Encroachment Practice
 - Lift Authorization Form
 - Daily Crane Operation Worksheet Form
 - Fall Protection Standard
 - Hazard Assessment and Control Practice
 - Hoisting of Personnel Authorization Form
 - Lift Calculation Form
 - Lifting Hazard Assessment Form
 - Lift Calculation Form
 - Safe Work Permit Practice
- Life-Saving Rules
- Work Safe Alberta Health & Safety Bulletin IS009, Cranes & Hoists