Fuels & Lubricants

Lifting and Rigging Standard

Approved: November 2021

Version 1.0

Lifting and Rigging Standard

1.0 Introduction

Lifting and Rigging procedures are designed to help prevent injuries to personnel, property damage and adverse environmental impact. Lifting and Rigging is the process by which loads are rigged, lifted and moved using mechanical devices.

This standard does not apply to equipment that is not specifically designed for lifting and rigging purposes and activities such as elevated work platforms, man lifts and forklifts (unless configured to hoist, lower and horizontally move a suspended load) that may be used for lifting operations.

This standard defines Fuels & Lubricants (F&L) requirements for Lifting and Rigging activities.

Note on text formatting:

Letters in Parentheses (e.g., (A)) indicate linkage to the requirement in the Corporate Hazard Analysis Standard

2.0 Requirements

A written program for Lifting and Rigging procedures shall be in place and include the following elements at a minimum.

1. Lifts are categorized into three consequence categories – critical, high and low. See flow chart at **Appendix A** for reference:

    a. Critical consequence lifts are defined as:

        i. Hoist Personnel in a Basket

        ii. Multiple Cranes

        iii. Greater than 85% of Lifting Equipment Load Capacity

        iv. Greater than 35 Tons away from a Live Process Area

        v. Greater than 25 Tons over a Live Process Area

        vi. Lifting near Live / Energized Electrical Power Lines; see DS&C Lifting and Rigging Standard – Table 1

    b. High consequence lifts are defined as:

        i. Greater than 75% of Lifting Equipment Load Capacity

        ii. Greater than 2 Tons to Less than 25 Tons over a Live Process Area

        iii. Cross Hauling loads (transferring the load from one hook to another)

iv. Lifting Sub-Sea

v. Lifts from a Barge

c. Low consequence lifts are lifts that are not otherwise classified as high or critical consequence.

d. Any high or low consequence lift can be elevated in consequence level. Examples to consider may include high center of gravity loads, fragile loads, equipment containing liquids, lifts requiring rotation, or lifts over sensitive process equipment.

2. A Permit to Work shall be required for lifting and rigging work within the scope of this standard, unless covered by an alternative approval process (e.g., davits / gantry cranes / monorails in a shop environment or lifting associated with an operational activity such as truck loading).

3. Lifts shall be planned and, if required, documented (e.g., Lift Plan) before starting work and include, but not limited to the following: (A)

a. Document the steps necessary to properly and safely conduct a lift specified by qualified personnel.

b. Confirm the weight and center of gravity of the object to be lifted.

c. Establish pick up and lay down zones that are within the lifting/rigging equipment manufacturer's recommended load lifting radius.

d. Ensure that the load path from the pickup zone to the lay down zone is clear of obstructions, has adequate lighting and established escape routes.

e. Establish a line of fire zone (e.g., swing radius of the crane (counterweight & boom)). and ensure that it is clear of all non-essential personnel.

i. Establish barricade around the lift area or equally robust management system to prevent unauthorized access.

f. Establish the requirements for signal personnel. (e.g., High visibility vest, communication system, training requirements, establishes designated signal personnel, etc.)

g. Ensure that communications (e.g., voice, radios and hand signals) are established and agreed to for personnel involved in lifting operations.

i. If radio communications are used, a designated channel with no other radio traffic or dedicated radio shall be used.

h. Ensure that any restraints (e.g., hold-down bolts, sea fastenings or similar devices), debris or obstructions to the load are removed prior to conducting the lift.

i. Ensure that there is enough space for outrigger deployment and that ground conditions are suitable (including any potential underground hazards such as utilities and voids) for mobile crane lifting operations.

    i. Determine crane outrigger locations and matting requirements.

    ii. Documented void inspections are required for all critical consequence and high consequence lifts:

        1. Critical consequence lifts require a current documented void inspection by a qualified person.

            a. Acceptable void inspection methods include prodding, core drilling & prodding or ground penetrating radar.

            b. Crane lifting activity, or preparation for crane lifting activity should begin within 3 months of the void inspections.

            c. If no activity has begun within 3 months the area should be inspected again due to potential changes beneath the surface.

            d. The 3-month lifespan of the void inspections for a critical consequence lift is a recommendation. The lifespan could be shortened if subsurface anomalies such as clay drain piping, sandy soil, shallow conduit banks or piping were located; the lifespan could be extended if the ground conditions were favorable, and no underground anomalies existed.

        2. All high consequence lifts require a documented void inspection by a qualified person, facility civil engineer or facility crane lifting and rigging SME.

            a. Acceptable void inspection methods include prodding, core drilling / prodding, ground penetrating radar or visual inspection by the facility civil engineer or facility crane lifting and rigging SME using historical documentation and information when available.

            b. Prodding, core drilling & prodding or ground penetrating radar surveys have a site determined lifespan based on qualified advice and sub-surface conditions.

            c. Due to high consequence lift plans being approved on the jobsite there is no need to assign a frequency to the approved void inspection; the local civil engineer or local crane lifting and rigging SME will visually inspect and approve the area.

            d. A documented void inspection shall include a marked-up drawing or hand sketch of the crane lift area along with notations of survey findings that are relevant to safe crane

setup and operation. The documentation must be signed and dated by the lift site approver.

iii. For low consequence lifts the Crane Operator shall perform a site evaluation prior to setting up the crane to assess site conditions, including:

1. Location of any drains / appurtenances in the area.

2. Condition of ground surface, (firm compacted soil, no broken concrete or asphalt, no loose or uncompacted soil or backfill, proper distance from sloping ground, trenches, vaults, voids.)

3. The crane is set up so that no outriggers are on top of any drain hubs or adjacent to any sub surface valve boxes, open vaults, sloping berms/banks or at edge of retaining wall, etc.

iv. The Crane Operator shall consult with a Civil Engineer or SME

1. If there are any concerns identified in the site evaluation,

2. To determine the appropriate ground bearing pressure limits for the lift.

v. Refer to void inspection, soil compaction and allowable soil loads guidelines outlined in the Chevron Engineering Standard CIV-EN-800.1 Cranes, Rigging and Lifting.

j. Ensure that loose items are placed in appropriate certified containers (e.g., cargo carrying units) so that materials do not protrude outside the container.

k. Verify installed attachments, i.e., platform, lights, instrumentation, or potentially loose items are secured prior to beginning lifts

l. Ensure nothing will interfere with the rigging gear during up-righting or down ending vertical vessels and columns.

m. Consider the suitability of weather, wind, sea state and environmental conditions prior to conducting the lift.

i. No lift shall be made when the wind velocity is above the crane manufacturer's recommendation. The size and shape of the load, along with the elevation of the load above grade needs to be considered.

n. Ensure that lifting/rigging equipment controls are not bypassed or inhibited (unless designed for this application and/or according to the OE DS&C Bypassing Critical Protection Standard).

o. A plan shall be in place to coordinate operations when multiple cranes are operating in an area where a crane/derrick is within the radius of another crane/derrick.

4. A Hazard Analysis shall be performed in accordance with the F&L standard when planning work involving Lifting and Rigging. (Q)

5. A Job Safety Analysis (JSA) or equivalent (e.g., pre-lift checklist or pre-lift meeting) shall be conducted at the work site in accordance with the F&L Hazard Analysis Standard prior to work involving Lifting and Rigging. (R)

6. A written lift plan shall be required as follows

    a. An approved critical start work check (CSWC) shall be required for critical consequence lifts – see **Appendix B** for CSWC standard requirements, and **Document Reference List section** for an example template for a critical consequence lift plan conforming to the content requirements in section 7 below.

    b. An approved written lift plan shall be required for high consequence lifts – see **Document Reference List section** for an example of a High Consequence Lift Plan conforming to the content requirements in section 7 below.

    c. No additional documentation is required for low consequence crane lifting and rigging; beyond the local routine requirements such as permits, job hazard analysis and pre-lift meeting. See **Document Reference List section** for optional Low consequence lift plan template.

    d. Blind Lifts may occur in critical, high or low consequence lift categories and must have associated hazards mitigated as part of the lift plan.

7. Written lift plan shall describe how a lift will be undertaken and include, but not limited to: (M)

    a. Specific crane and rigging equipment used.

    b. Required personnel and training.

    c. The load characterized with respect to dimension, weight, and approximate center of gravity (as assessed by a qualified person).

    d. Specific Manufacturer's recommendation of wind speed for the boom / jib configuration planned.

    e. Verification that the selection of equipment and rigging is appropriate for the type of lift.

    f. Verification that the load is within the capacity and specifications of lifting and rigging equipment.

    g. Inspection requirements – include copy of any required void inspections along with name of inspector and date of inspection.

    h. Communication requirements.

i. Identification and mitigation of potential hazards associated with lift, including environmental considerations.

j. Emergency plans.

k. Required approval for Lift Plan.

8. Written Lift Plans shall be developed or reviewed and approved by competent personnel prior to beginning the lift. (N)

    a. Lifting Supervisor / SME and BU management approval is required for critical consequence written lift plans.

        i. BU Management approval is to ensure the right people were involved and the process was followed.

    b. Lifting Supervisor / SME or BU designee shall approve high consequence written lift plans

9. Crane safety equipment and operational aid requirements shall meet manufacturer's recommendations, SBU's/facilities requirements and be defined (e.g., crane level indicators, boom/jib stops, foot pedal locks, horns, boom hoisting limiting device, anti-two block devices, load charts, weight indicators, load limiting devices, stingers (jib end section) and similar devices). (D)

10. No non-certified fabricated or modified lifting and rigging equipment shall be used. (B)

11. Lifting and Rigging equipment shall meet the following: (C)

    a. Engineered and certified for intended use.

    b. In good working order/condition as verified through written pre-use and periodic inspections. (see Table 2)

        i. Including annotation of inspection and safe working loads (color codes, tags and/or documentation).

        ii. All lifting equipment shall be inspected and certified by the Manufacturer prior to first use.

        iii. Cranes shall have current certification in accordance with local regulations prior to use.

    c. Properly installed and supported.

    d. Used within the specified limits of the manufacturer.

    e. All safety devices are in proper working order.

f. Used in accordance with applicable legal requirements, as well as Chevron standards and industry best practices.

12. Lifting and rigging equipment (e.g., stingers (jib end section) , wire rope slings, synthetic slings, cargo carrying units, pallets, hooks, eyebolts, tag lines, chain hoists, pad eyes, trolleys, drum lifters, personnel work platforms and marine hoisted personnel transfer device, man riding work baskets, cranes and equivalent equipment) shall be inspected by qualified personnel according to applicable legal requirements, as well as Chevron Standards, manufacturer and/or accepted best practices. (O)

    a. See Table 2 for Cranes and Lifting Equipment Inspection Requirements.

13. Lifting and Rigging equipment inspections in accordance with requirement #12 above shall be documented and include, but not limited to: (P)

    a. Equipment checked and result of inspection.

    b. Date of inspection.

    c. Name and signature of competent or qualified inspector.

    d. Method and detail of documentation will be decided locally

        i. The intent must conform to all governmental regulations

        ii. Not all rigging equipment is required by law to have a serial number

            1. Without individual serial numbers a method of tracking the equipment shall be developed to ensure all company owned rigging equipment is being annually inspected by a qualified inspector

    e. If workers are issued company owned rigging equipment a plan must be put in place to ensure the rigging equipment is annually inspected and documented by a qualified inspector

    f. If the rigging equipment has an individual serial number the documentation, with annual notations, must be maintained for the life of the rigging equipment.

    g. Specialized rigging equipment that is used at intervals beyond one-year may be locked away and inspected on an as need basis. This may include equipment such as large slings, chokers, shackles and hooks, equipment specific lifting devices, barrel clamps and pallet lifts. It must not be readily available to the workforce at any time.

    h. Adjustable devices such as come-a-longs, chain-falls and turnbuckles must be included in the annual inspection inventory.

14. Cranes and/or lifting equipment shall not be moved when the boom is elevated or in a working position unless manufactured for pick and carry purposes. (E)

a. Cranes engaged in personnel man basket lifts shall not travel with personnel in the man basket.

b. Mobile cranes may be used for traveling within Manufacturer Limits (shall have load chart for pick and carry).

15. Assembly and disassembly of cranes shall be under the direction of a competent and qualified assembly/disassembly director and shall be in accordance with applicable legal requirements, as well as Chevron standards and/or accepted best practices. (F)

    a. Manufacturer procedures (or approved equivalent) and regulatory requirements for assembly and disassembly shall be followed.

16. The use of floating cranes/derricks or land cranes/derricks on some means of floatation shall meet applicable legal requirements as well as Chevron standards and/or industry best practices. (G)

17. Minimum clearance distance (Lift Equipment Height or Length + Load Length + At Least minimum clearance distance) (i.e., the lifting equipment and the load shall be kept outside the minimum clearance distance) to energized power lines for lifting and rigging operations shall meet the following requirements (H).

Table 1. Voltage and Minimum Clearance Distance (OSHA 1926.1408 Table A) (Table 1 in the DS&C Electrical Safety Standard).

Voltage (nominal, KV, alternating current)	**Minimum (proximity) Clearance Distance (feet)**
Up to 50	10 (3.1 meters)
Over 50 to 200	15 (4.6 meters)
Over 200 to 350	20 (6.2 meters)
Over 350 to 500	25 (7.6 meters)
Over 500 to 750	35 (10.7 meters)
Over 750 to 1,000	45 (13.7 meters)

Over 1,000	As established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution.

18. Additional safeguards for Lifting and Rigging operations in which energized overhead power lines may pose a threat shall be described and include, but not limited to: (I)

    a. Working near power lines may pose a hazard if the equipment, its line or load could enter the Minimum Clearance Distances noted in Table 1. This work zone is defined as 360 degrees around the equipment up to the equipment's maximum working radius. (I2)

    b. Requiring a Permit to Work in accordance with F&L Permit to Work Standard.

    c. Identify the work zone work boundary by:

        i. Demarcating boundaries consistent with the Minimum Clearance Distances noted in Table 1 above (e.g., flags, range limit device, range control warning device and similar) and prohibiting the operator from operating the equipment past the boundary

    d. Approaches (of any part of equipment, load line or load) that are <u>within</u> 20 feet of a power line if the voltage is unknown or are <u>within</u> the minimum distances described in the minimum clearances (specified in Table 1 above) shall require: (I3)

        i. Informing employees around the equipment or load of power line locations and the potential hazards and precautions required while working near a power line.

        ii. Using an elevated warning line, barricades, line of signs or similar devices as visible indicators of the safety zone based on line voltage (kV).

        iii. Using warning decals, labels or signs posted on cranes and similar equipment regarding minimum clearance of 20 feet of a power line or the minimum approach distance based on line kV as noted in Table 1 above

        iv. Using a dedicated spotter (<u>signal person</u>),

        v. <u>Consideration of a proximity alarm, warning device, range limiter, or insulating device should be given in addition to the dedicated spotter.</u>

        vi. Notifying a local responsible person (e.g., electrical engineer, Instrumentation and Electrical (I&E) specialist or utility company) at least 24 hours before any work begins for work that requires identification of voltages and clearances,

de-energizing the lines, applying safety grounds (e.g., cranes), or relocating lines.

vii. Ensuring all tag lines are of non-conductive material.

19. Cranes and derricks used to hoist personnel on suspended personnel platforms (e.g., man riding baskets) shall be used only when other mechanisms of personnel transfer are considered potentially more hazardous (e.g., personal hoist, scaffolding, ladders, or aerial lifts) or physical constraints of the work area make their use impractical and meet the requirements in #21 below. (J)

20. Personnel lifting operations shall include, but are not limited to the following requirements: (K)

    a. Cranes and/or lifting equipment used for personnel handling (e.g., personnel platforms, marine hoisted personnel transfer devices or other personnel transfer devices) and attachment/suspension systems) shall be intended and certified for such use or designed by qualified personnel to meet applicable legal requirements, as well as Chevron standards and/or accepted best practices.

    b. Cranes and/or lifting equipment used to lift personnel shall be classified and labeled as “personnel handling”.

    c. Personnel platforms, marine hoisted personnel transfer devices or other personnel transfer devices shall be set-up, rigged, used and loaded to meet applicable legal requirements, as well as Chevron standards and/or accepted best practices.

    d. Personnel platforms, marine hoisted personnel transfer devices or other personnel transfer devices attachment/suspension systems shall be inspected and tested by qualified personnel prior to first use per shift.

    e. Personnel platforms (e.g., personnel baskets) shall undergo a trial lift and proof testing to 125% of the platform’s rated capacity prior to first use per shift for personnel.

        i. Trial lift of the unoccupied personnel platform with at least the anticipated lift weight and shall be performed immediately prior to each shift of hoisting personnel.

        ii. If the crane is moved, then the 125% proof test is required at the new site

    f. Tag lines shall be used, when required

    g. Personal fall arrest systems shall be used, except for marine transfers.

    h. Personal floatation devices approved for such use for personnel in marine personnel transfers shall be used.

21. The Lifting and Rigging Standard shall indicate roles, responsibilities, and protocols as described in the F&L Permit to Work Standard (S)

22. Training requirements and competency assessment for personnel competent and qualified in Lifting and Rigging shall be documented and includes for: (T)

    a. Crane Operators.

    b. Riggers.

    c. Signal (e.g., Dog-Man or Banksman) personnel.

    d. Inspection personnel.

    e. Maintenance and repair personnel.

23. The Lifting and Rigging standard shall define the policy for record retention that meets applicable legal, corporate, and operating company requirements (or at least 6 months, whichever is more). (U)

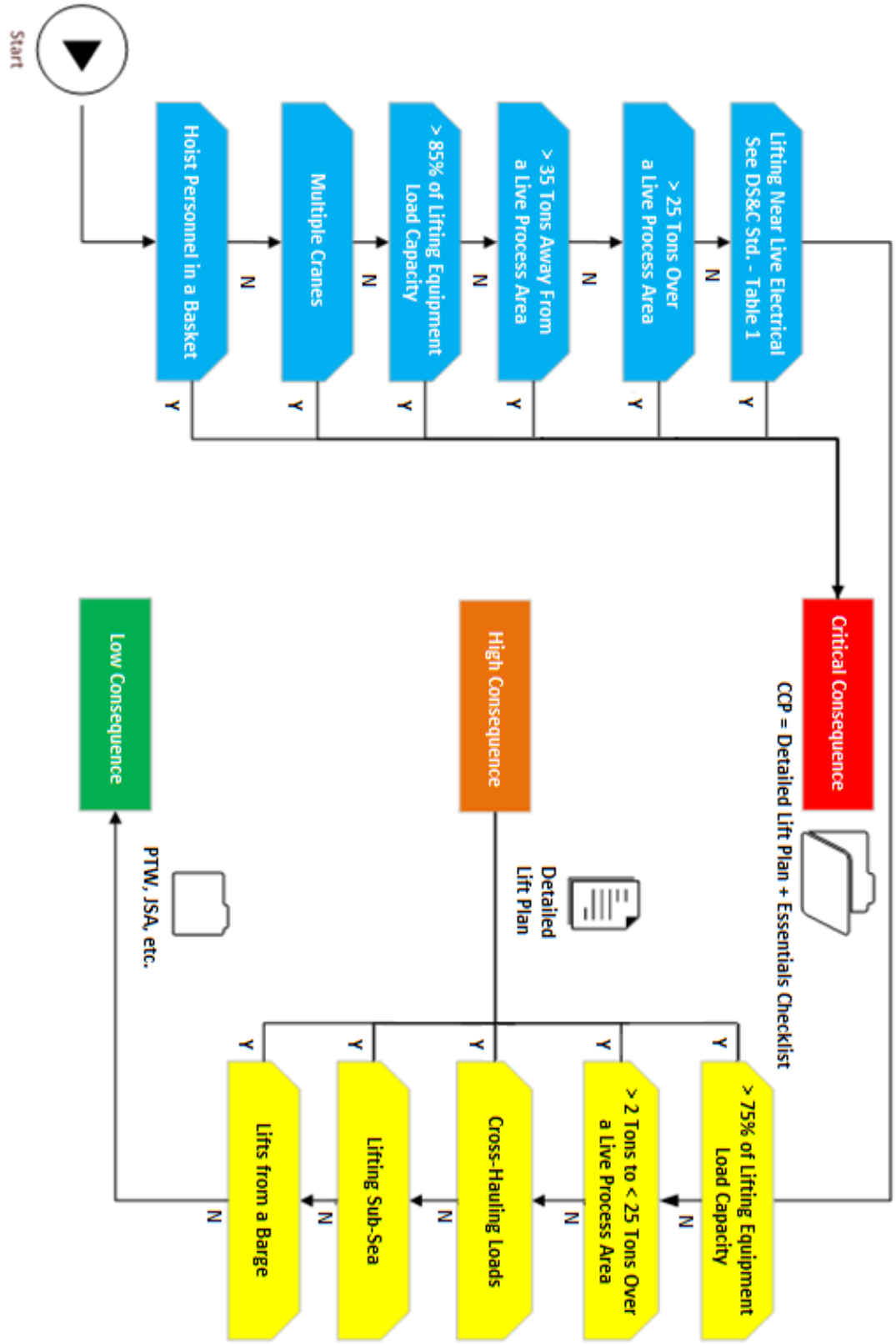
Table 2: Lifting and Rigging Standard Cranes and Lifting Equipment Inspection Requirements

Equipment Types	New Equipment - First Use	Prior to Each Use	Monthly	Annually	Modifications / Repairs	After Assembly
Cranes & Equivalent Equipment Note 1	Certified	Documented	Documented	Certified	Certified	Documented
	Third Party Load Test 100-125%	Certified Crane Operator Each Shift	Certified Crane Operator	Third Party	Third Party Load Test – See note 3	Competent-Qualified Person
Overhead & Gantry Cranes Note 2	Documented	Visual		Documented	Documented	
	Qualified Load Test 100-125%	Qualified		Qualified	Qualified Load Test – See note 3	
Wire Rope / Synthetic Slings	Documented	Visual		Documented		
	Qualified Person/Rigger	Qualified Person/Rigger		Qualified Person/Rigger		
Cargo Carrying Units, Pallets	Documented	Visual		Documented		
	Qualified Person/Rigger	Qualified Person/Rigger		Qualified		
Lifting Hardware (Hooks, Shackles, Turnbuckles, Pad Eyes, Trolleys)	Documented	Visual		Documented		
	Qualified Person/Rigger	Qualified Person/Rigger		Qualified		
Manufactured Lifting Devices (e.g., Spreader Bars, Bundle Extractors, etc.)	Certified	Visual		Documented	Certified	
	Third Party by Vendor	Qualified Person/Rigger		Qualified	Third Party	
Chain Hoists, Come-Along	Documented	Visual		Documented	Certified	
	Qualified Person/Rigger	Qualified Person/Rigger		Qualified	Third Party	
Man riding work baskets	Documented	Documented		Documented	Certified	
	Qualified Person/Rigger	Qualified Person/Rigger		Qualified	Third Party	
Key	Type of Inspection					
	Minimum Level of Inspector					

Notes:

1. Does not include Tower Cranes, Side Boom Cranes, Floating Cranes/Derricks and Land Cranes /Derricks on Barges.
2. Hand operated and powered overhead and gantry cranes including cantilever gantry cranes, semi-gantry cranes and wall cranes as defined by ASME B30.2 Overhead and Gantry Cranes.
3. 100-125% load tests are required when the load-sustaining parts of the crane have been altered, replaced or repaired.

APPENDIX A: Classification of Lifts Flow Chart



APPENDIX B:

Critical Start Work Check (CSWC):

Adobe Acrobat Document

Additional Safety Precautions

1. The following general safety precautions must be followed when personnel are involved in lifting and rigging operations:

    a. The boom and basket load limit specified by the manufacturer must not be exceeded.

    b. Workers must not be permitted to use or operate any lifting equipment unless they are instructed, trained, and qualified by a competent person in the use and operation of the equipment. Documentation of contractor qualified crane operator qualifications and qualified rigger must be available and provided upon request.

    c. Lifting equipment and work areas must be kept free of oil, grease, and trash – slipping / tripping hazards.

    d. The crane or lifting equipment must not be moved when the boom is elevated in a working position.

    e. The crane or lifting equipment must not be moved when workers are in a basket or on an elevated platform (unless equipment is specifically designed for that use).

    f. Workers must wear a full-body harness and an approved lanyard while working from a basket, while always ensuring 100 percent tie-off.

    g. Lanyards must be attached to the lifting device platform, not at the basket.

    h. Workers must not sit, stand, or climb on the guardrail of the basket.

    i. Personnel must be instructed in safe lifting and hoisting procedures before handling materials or cargo.

    j. The correct cargo handling tools must be used, and these tools must be regularly checked and maintained.

    k. The load being lifted must be watched until it is set in place and disconnected from the lifting device.

    l. Workers must not stand or pass under a suspended load.

    m. The lift path is to be agreed upon as part of the risk assessment and the area is to be kept clear and where necessary cordon off to prevent load suspension over workers below in simultaneous job operations.

    n. Workers must not get any part of their bodies between unsecured objects (pinch points).

    o. Workers must not put their hands or fingers in the possible path of any heavy machinery or load.

p. Tag lines should be used to guide heavy, suspended loads.

q. Workers must not wear loose clothing or loose jewelry that could entangle whilst performing the rigging/lifting work or when near rotating machinery.

r. The correct type of Gloves must be worn when handling and using a tag line – preferably leather.

s. Tag lines must not be wrapped around the workers hands or body while guiding the load.

t. Tag line handlers should not get under the load at any time while guiding the load.

u. Non-certified, fabricated or modified lifting and rigging equipment shall never be used.

v. Signal personnel should wear the appropriate reflective gear that will differentiate them from the rest of the work crew where lifting is taking place. (The type and color of these clothing could differ from site to site but once agreed the qualified signal man is to be clearly identified by means of the appropriate reflective gear).

2. Obtain the required level of review from HES and SME of the Lift Plan as according to lift consequence prior to the lifting operation.
3. Slings

    a. Slings to be tagged by the manufacturer indicating the type of rope used in the sling and rating.

    b. General slings are manufactured from wire rope, steel chain, natural fiber rope, or synthetic fiber rope.

    c. Selecting the proper size sling, length, and hitching arrangement will achieve the desired orientation of the suspended load, will result in a stable lift, and will provide the required factor of safety.

    d. Always inspect slings for damage prior to use. Slings used must have certification load tags/labels attached or they cannot be used. Slings and rigging components must be inspected each year by a Qualified Rigging Inspector, typically a 3rd party contractor. Do NOT use any slings that appear to be damaged.

Roles and Responsibilities

1. There must be clearly defined roles, and personnel must meet the training and competency requirements of this standard prior to starting work. Site or local regulations may specify additional training and competency requirements.
2. **Competent Personne**l: Person who can identify potential hazards related to Lifting and Rigging operations and has the authority to prompt corrective measures.
3. **Qualified Personnel** – Person who is qualified through recognized degrees, certificates or professional standings or has extensive knowledge, training and experience and has demonstrated ability to solve/resolve problems related to lifting and rigging.

    Table 3: Roles, Responsibilities & Competencies

Role	Responsibilities	Minimum Performance-Based Skills Required
Qualified Crane Operator	▪ Responsible for the safety and successful lift of equipment ▪ Ensure loads are properly rigged ▪ Know when to apply Stop Work Responsibility	▪ Perform crane operation techniques in a controlled environment (ideally a training environment) by demonstrating use of competent operation of equipment ▪ Trained and certified in rigging ▪ Trained and certified in signals
Qualified Crane Inspector	▪ Inspect and certifies cranes to meet industry standards. These are typically, but not limited to, a third-party inspector.	▪ Trained and certified in inspection of cranes, rigging, and lifting equipment.
Qualified Rigger / Signalman	▪ Properly rig loads ▪ Use of proper signals	▪ Trained and certified in rigging • Signalman to be trained in use of hand signals – no formal training required. Person needs to be competent.
Qualified Lifting and Rigging Inspector	▪ Inspect and certifies lifting and rigging equipment to meet industry standards. These are typically, but not limited to, a third-party inspector.	▪ Trained and certified in inspection of rigging and lifting equipment.

Training Requirements

Initial Training

1. Personnel must meet the competency requirements and be trained on the requirements of this standard, prior to starting work.
2. Training requirements for personnel competent and qualified in Lifting and Rigging shall be documented and includes for:
    - Crane Operator
    - Crane Inspector
    - Rigger
    - Signal (e.g., Dog-Man or Banksman) personnel.
    - Lifting and Rigging Inspector
    - Maintenance and repair personnel.
    - Personnel, who develop, review and approve lift plans.
3. A single individual may fulfil more than one role if he or she meets the competency requirements and is able to fully meet multiple responsibilities.

Refresher Training

Refresher training session shall be provided as follows:

- As required by local regulations or site policy
- Whenever a person demonstrates insufficient knowledge
- When a serious incident related to lifting and rigging occurred, and the root cause identified the need to be retrained.

Records

Records requirements

- Copies of permits and associated documentation (including records of inspection, maintenance, hazard analysis and competencies) shall be maintained in accordance with Managing Safe Work Process.

Retention Requirements

Records shall be retained for the periods as specified below:

- Copies of all Lifting and Rigging Lift Plans, JSAs, Work Permits / Work Forms and any other document related to the Lifting and Rigging job, shall be retained by the facility for at least 1 year after the job has been completed.

Documents Reference List

Title	Attachment
Example of Standard Hand Signals for Crane Operations	Standard Hand Signals for Crane Operations
Crane Safety Checklist for Personnel Basket Lifting	Crane Safety Checklist for Personnel Basket Lifting
Lift Plan Template – High & Critical	Lift Plan Template – High & Critical
Lift Plan Template – Low Consequence (Optional)	Lift Plan Template – Low Consequence
Lift Plan Template – Low Consequence Crane Lift Checklist (Optional)	Low Consequence Crane Lift Checklist
Lifting Equipment and Crane Inspection Checklist Template (In-House Equipment)	Lifting Equipment and Crane Inspection Checklist

Document Control

Description	Corporate	DS&C	F&L
Approval Date			*November 2021*
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Control Number			*Version 1.0*

Document Change History

Changes to this document are listed in the table below by change date.

Date (DD/MMM/YR)	Version Number	Description of Change
08 Nov 2021	*1.0*	*New document*