

UC Santa Barbara – Crane Safety Program

Lead: John M. Seaman
Phone: (805) 893-5288
E-mail: john.seaman@ehs.ucsb.edu
Team: General Safety

Click here to go to [Table of Contents](#)

Click here to go to [FAQ Fact Sheet](#)

Quick Start

UC Santa Barbara's (EH&S)/General Safety staff manages the campus Crane Safety Program to assure Cal/OSHA compliance for campus Departments, Field Stations, and Contractors when operations are conducted that use University-owned overhead cranes, hoists and rigging. There is a [Crane Safety FAQ / Fact Sheet](#) for review of basic questions and application of this program.

Go to the [Table of Contents](#) to search for specific program information. Administrative requirements, training requirements, recordkeeping requirements, inspection criterion and inspection procedures, "Operator" safe-work procedures and "Standby Person" safe-work procedures are included.

There are two classes of cranes/hoists defined according to rated load capacities: **"Three Tons and Under ($\leq 3\text{Ton}$)"** and **"Over Three Tons ($>3\text{Ton}$)"**. This program applies to any research, construction, and maintenance activities that utilize such lift equipment. This program governs maintenance, inspection, load testing, rigging inspection / selection, and operator training / qualification requirements for all types of cranes and hoists that are used for lifting/moving equipment and materiel.

Click here for guidance about your, or your departments, [Roles and Responsibilities](#).

Click here for guidance about [Administrative and Operating Procedures](#).

Click here for [Inspection Forms](#) and other [Program Documentation](#).



Overhead Bridge Crane



Mobile Gantry Crane

UC Santa Barbara – Crane Safety Program

Table of Contents

[Click on any Heading in the Table of Contents to go to that section of the program.]

Purpose/Introduction	5
Applicability/Scope	5
Roles/Responsibilities	5
Departments must:	5
Crane Operator / “Qualified Person”:	6
Stand-by/Load Positioning Person must:	6
EH&S must:	6
Definitions	7
Types of Cranes / Hoists / Rigging	7
CRANES and COMPONENTS:	7
Bridge Crane	7
Gantry Crane.....	8
Floor Mounted Jib Crane / Boom Crane.....	8
Wall Mounted Jib Crane / Boom Crane.....	8
Monorail Crane	9
Anchor Plate (in ceiling).....	9
Rail, Track or Beam.....	9
Trolley	10
HOISTS:	10
Electric-powered Hoist.....	10
Air-powered Hoist	10
Manual-powered Hoist.....	11
RATCHETS and COME-ALONGS:	11
Ratchet Hoist.....	11
Come-Along Hoist	11
RIGGING:	12
Slings	12
Structural and Mechanical Lifting Devices	12
Program Requirements and Procedures	13
ADMINISTRATIVE REQUIREMENTS	13
Program Activities.....	13
Load Test Requirements	13
Load testing by a Certifying Agency.....	13

UC Santa Barbara – Crane Safety Program

Load Rating Reduction	14
Quarterly Program Requirements	14
OPERATOR SAFE-WORK PROCEDURES.....	14
Work Practices, Hazard Evaluation and Control	14
Rigging and Other Below-the-Hook Devices	14
Housekeeping.....	15
Restricted areas	15
STANDBY AND LOAD POSITIONING PERSON’S PROCEDURES	15
Training Requirements	15
Record Keeping Requirements	16
Department Requirements	16
Training	16
Equipment Inspections	16
EH&S Record Retention Requirements.....	16
References.....	16
Issued By and Next Review Date	16
Attachments	17
Attachment 1 – Crane Operator Qualification Documentation	18
Attachment 2 – Daily / Pre-use Inspection Checklist	19
Attachment 3 – Rigging and Equipment Inspection Criteria	20
Attachment 4 – Equipment Inspection Forms	26
Structural and Mechanical Lifting Devices	26
Rigging Hooks	27
Wire Rope Sling.....	28
Metal-Mesh Slings	29
Synthetic-web Slings	30
Synthetic Round slings	31
Alloy Steel-Chain , and Wire Rope Slings	32
Shackles.....	33
Eyebolts.....	34
Turnbuckles.....	34
Links and Rings.....	35
Wire Rope Clips.....	35
Swivel Hoist Rings.....	35
Attachment 5 – Equipment Inventory.....	36

UC Santa Barbara – Crane Safety Program

Attachment 6 – Crane / Hoist Certifying Agency – Vendor List.....	38
Attachment 7 – Annual Crane Inspection Form.....	39
Attachment 8 – FAQ / FACT SHEET – CRANE SAFETY PROGRAM.....	41
FAQ / FACT SHEET TABLE OF CONTENTS.....	41
What’s a Crane?	42
What’s a Hoist?.....	42
Does this Program apply to my department?	42
My department has a crane or hoist that is no longer used / needed. What do I have to do to comply with this program?	42
Does this Crane Safety Program apply to the overhead lifting equipment your Department operates?.....	42
My Department has Lifting Equipment regulated by the Crane Safety Program. What do we do to implement the program?	43
The crane is rated more than 3 tons. What do I have to do?	43
The Crane is rated three tons (or less). What do I have to do?	44
If we only have a hoist, what do we have to do?	44
What if we want the Crane or Hoist to be load-rated for more or less weight than its manufactured load-rating?	44
Who do I contact for Load Testing?	45
What about Rigging?	45
Who needs to be trained?.....	45
Who do I contact to provide training / program support?	45
How are Crane Equipment, Rigging Inspections and Load Testing arranged to be done by a “Certificating Agency ”?.....	45

UC Santa Barbara – Crane Safety Program

Purpose/Introduction

The University of California, Santa Barbara (UCSB) owns many cranes and hoists ranging from fractional ton chain-falls, come-a-longs and chain-hoists, to multi-ton overhead cranes. This Program assures compliance with Cal/OSHA regulations for Crane Safety.

Applicability/Scope

This program applies to any overhead lifting device that is attached to any building, research facility or equipment owned or operated by UCSB.

This program outlines Cal/OSHA required load testing for all types of cranes, hoists and associated rigging / lift-gear at UCSB. Cranes rated above three tons require quadrennial load testing. Cranes rated 3-ton and less requires load testing / certification upon installation or upon implementation of this program by owner departments. Load testing must be performed by a Cal/OSHA approved Certifying Agency. Cranes may have their load rating reduced through a documented 'derating' process.

This program also outlines the required "Qualification" documented procedure for crane operators, outlines training contents for becoming a "Qualified Person", and details "Administrative Procedures" to be followed by departments implementing the program, and "Operating Procedures" to be followed by qualified crane operators each time a crane is used. In addition, it also outlines record-retention requirements for various personnel.

[Return to Table of Contents](#)
[Return to Beginning of Program](#)

Roles/Responsibilities

Departments must:

- Identify all Crane/Hoist and rigging owned by the Department and falling under the requirements of this program.
- Designate one or more to operate the crane "[Qualified Person\(s\)](#)" / hoist.
- Provide for and document each "[Qualified Person\(s\)](#)" "operator training" prior to allowing them to inspect, maintain and/or operate specific department crane equipment.
- Keep records of training.
- Conduct documented periodic inspections of all Crane/Hoist equipment and associated rigging.
- Assure all cranes and hoist in the department have had an initial documented load test conducted by a Certifying Agency with results of the load test permanently posted on the equipment.
- Assure all cranes and hoists and associated rigging with load capacities greater than 3 tons have a documented annual inspection by a Certifying Agency and a documented quadrennial load test conducted by a Certifying Agency.
- Install and maintain in sight of operators permanent signage on any crane / hoist that has been "derated" for the reduction of the load rating.
- Inform department personnel of planned crane inspection / testing and coordinate these activities between crane owners, EH&S/General Safety and the Certifying Agency.

UC Santa Barbara – Crane Safety Program

- Ensure University faculty, students and staff is not in the proximity of the load test activities during load testing performed by a Certifying Agency.

[Return to Table of Contents](#)
[Return to Beginning of Program](#)

Crane Operator / “Qualified Person”:

- Must be trained on the contents of this program and understand how to apply it to the crane / hoist equipment they operate.
- Must be “Qualified” by their Supervisor through documentation using [Attachment 1](#) which is to be kept in their employee file.
- Must [follow the procedures outlined in this program](#) every time a lift is prepared and conducted, or during inspection and maintenance activities.
- Must stop all lifting work and bring to the attention of the Department management any deficiencies, broken equipment or rigging needing repair/replacement before continuing to use deficient equipment.
- Must inform EH&S of any crane / hoist that is being permanently locked out due to equipment hazards, when the use of the crane is no longer needed, or due to lack of Qualified Personnel to operate the crane.
- May be responsible for procuring equipment or repair services as a Department may deem appropriate.
- May be required to “Lock out and Tag out” any deficient equipment according to the procedures outlined in the [UCSB “Energy Isolation Program”](#) to assure no unsafe condition.

[Return to Table of Contents](#)
[Return to Beginning of Program](#)

Stand-by/Load Positioning Person must:

- [Follow procedures outlined in this program.](#)
- Work under the direction of, and in constant communication with, the Crane Operator / “Qualified Person”.

EH&S must:

- Coordinate with owner departments and the Facilities Management department (FM) Compliance Officer for the load testing of cranes / hoists by a [Certifying Agency](#).
- Provide load-testing protocols beyond Cal/OSHA requirements as University Risk Management and client need may dictate.
- Provide for operator training.
- Conduct periodic audits of Crane/Hoist Program compliance.
- Update Crane/Hoist Safety Program as regulations or University requirements change.

[Return to Table of Contents](#)
[Return to Beginning of Program](#)

UC Santa Barbara – Crane Safety Program

Definitions

Certifying Agency - Certifying agencies are qualified agencies and/or persons licensed by Cal/OSHA to examine, test, and certify cranes. EH&S/General Safety staff maintains a list of pre-qualified Certifying Agencies as part of program compliance.

Crane - A machine for lifting or lowering a load, and moving it horizontally, in which the hoisting mechanism is an integral part of the machine. It may be driven manually or by power and may be a fixed or a mobile machine, but does not include stackers, hoist trolleys, lift trucks, power shovels, backhoes, or excavators.

Hoist - An apparatus for raising or lowering a load, but does not include a car or platform riding in guides or horizontal motion.

Qualified Person - A person designated by the department who, by reason of training and/or experience, has demonstrated the ability to safely perform all assigned duties. Persons may be deemed “qualified” to operate all or only specific cranes / hoists within a department by their supervisor. “Qualifying” a crane operator is a documented process (see [Attachment 1](#)) as outlined in this program.

Rigging - Collectively referred to as “below the hook” devices, are also called ‘lift gear’. May be any device used to carry, position, and secure a load while it is being hoisted or craned.

[Return to Table of Contents](#)
[Return to Beginning of Program](#)

Types of Cranes / Hoists / Rigging

CRANES and COMPONENTS:

Bridge Crane

Type of crane which lift objects by a hoist which is fitted in a trolley and can move horizontally on overhead rails riding on top of support beams located well above a floor and a permanent part of a building’s structure.



[Return to Table of Contents](#)
[Return to Beginning of Program](#)

UC Santa Barbara – Crane Safety Program

Gantry Crane

Type of crane which lift objects by a hoist which is fitted in a trolley and can move horizontally on a rail or pair of rails fitted under a beam. Unlike Bridge Cranes, Gantry Cranes have legs and rollers integral to the support structure and are supported on a flat surface or may roll on rails embedded into the surface upon which the crane sets.



Floor Mounted Jib Crane / Boom Crane

Jib Cranes consist of a horizontal load supporting boom, which is attached to a pivoting vertical column that is either free standing or building mounted. They enable lifting and lowering of a load within a fixed arc of rotation.



Wall Mounted Jib Crane / Boom Crane

A Jib crane permanently mounted to a structure.



[Return to Table of Contents](#)
[Return to Beginning of Program](#)

UC Santa Barbara – Crane Safety Program

Monorail Crane

A crane that travels on a single runway beam permanently attached to a structure.



Anchor Plate (in ceiling)



Rail, Track or Beam



[Return to Table of Contents](#)
[Return to Beginning of Program](#)

UC Santa Barbara – Crane Safety Program

Trolley

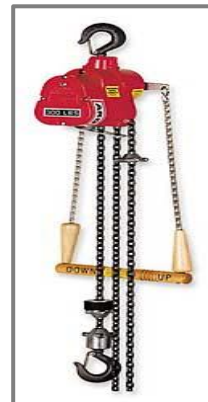


HOISTS:

Electric-powered Hoist



Air-powered Hoist



UC Santa Barbara – Crane Safety Program

Manual-powered Hoist

(Also known as a “Chain-fall” or “Chain Hoist”)



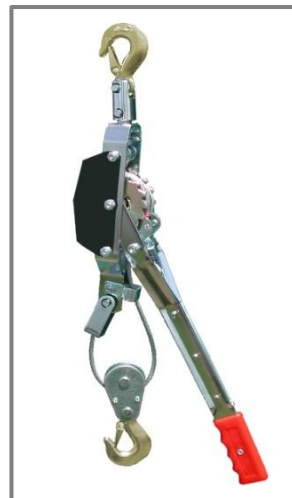
[Return to Table of Contents](#)
[Return to Beginning of Program](#)

RATCHETS and COME-ALONGS:

Ratchet Hoist



Come-Along Hoist



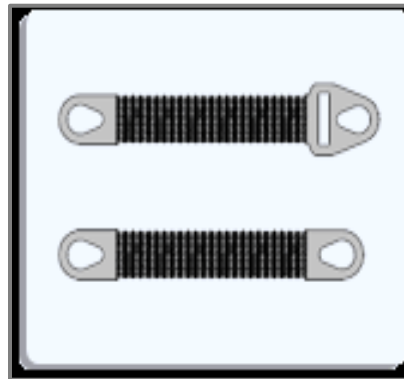
[Return to Table of Contents](#)
[Return to Beginning of Program](#)

UC Santa Barbara – Crane Safety Program

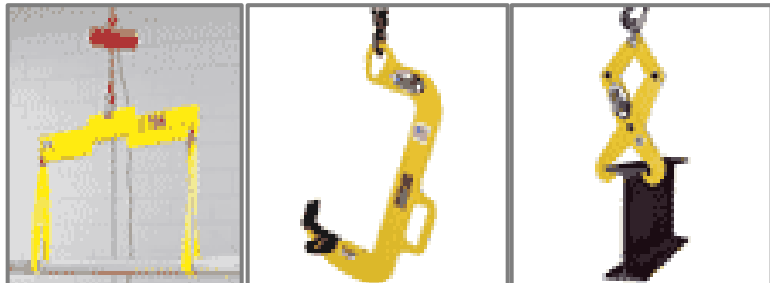
RIGGING:

Slings

(May be constructed of chain, nylon webbing, mesh steel webbing, wire ropes, other types of ropes and braided materials.)



Structural and Mechanical Lifting Devices



[Return to Table of Contents](#)
[Return to Beginning of Program](#)

UC Santa Barbara – Crane Safety Program

Program Requirements and Procedures

ADMINISTRATIVE REQUIREMENTS

Program Activities

The Department owning the Crane/Hoist designates all person(s) within their Department who are responsible for the following actions:

- Identifies all cranes owned by the department that must comply with these program requirements.
- Identifies cranes rated over three tons and manages quadrennial load testing.
- Identifies cranes rated under three tons and manages their quarterly inspections.
- Designates “[Qualified Person\(s\)](#)” who may use Crane/Hoist equipment and assures their timely training and application of this program by completing [Attachment 1](#) for each Qualified Person.
- Identifies and Inventories Crane(s), Hoist(s) and rigging owned by the Department that is regulated by this program ([Attachment 5](#)).
- Periodically audits departmental compliance with the program.
- Implements crane, hoist and rigging inspection, testing, and operator training. These are conducted and documented using [Attachments 2, 3, 4, 5 and 7](#).
- Assures that the load rating signage is attached to the Crane/Hoist and that rigging capacity signage can be easily determined according to Inspection and Lift Equipment Requirements ([Attachment 3](#)).
- Performs and documents annual inspections of lift equipment ([Attachment 7](#)).

[Return to Table of Contents](#)
[Return to Beginning of Program](#)

Load Test Requirements

Upon program inception, initial equipment installation, or when conducting quadrennial load tests, the department’s designated responsible person must:

- Assure that all crane/hoist components and their attachments to structure are engineered to support 125% of maximum load capacity of the equipment component with the lowest load rating. Design of attachment to structure may require a stamp by a Structural Professional Engineer.
- Arrange for an initial load test of 125% rated capacity and performed by a certifying agency ([Attachment 6](#)).
- Arrange for initial testing of rigging at 110% - 125% maximum load capacity (to be determined by the [Certifying Agency](#) based upon type and use of crane).
- Ensure rigging is tagged or otherwise marked with load capacities (unless it is an alloy chain, when tabulated data may be used).

Load testing by a Certifying Agency

Representative(s) of the Department coordinate the timing, space required, and access to the site with the PI or owner of the crane/hoist. Prior to the load test, a meeting is held with representatives of the [Certifying Agency](#) and the Department personnel associated with the use of the crane/hoist. In that meeting the following topics are discussed and documented:

- How the area of the load test is isolated from access by faculty, students, staff, or public.
- The inspection procedures the Certifying Agency will be using.
- The load testing procedures the Certifying Agency will be using.

UC Santa Barbara – Crane Safety Program

- How the Certifying Agency will be transporting load weights and other equipment to and from the testing site.
- The general types of PPE the Certifying Agency will be using.
- During the load tests a representative of the Department or EH&S/General Safety visits the site to verify the procedures determined in the meeting prior to the load test are being used.

[Return to Table of Contents](#)
[Return to Beginning of Program](#)

Load Rating Reduction

- Load rating reduction is performed by a Certifying Agency and managed as a load test.
- Permanent signage that clearly identifies the reduced-load rating of the crane or hoist is securely attached to the hoist near the hook and maintained by the Department.

Quarterly Program Requirements

- Performs and documents in-house inspection of lift equipment and rigging using [Attachments 2](#) for cranes 3 tons or less ($\leq 3\text{Ton}$) and [Attachment 4](#) or equivalent for cranes more than 3 tons ($> 3\text{Ton}$).
- Removes and/or 'Locks Out' deficient cranes or hoists per requirements of the UCB [Energy Isolation – Lockout Tagout Program](#).
- Removes damaged / deficient rigging from service until repaired or rendered unusable prior to disposal.

[Return to Table of Contents](#)
[Return to Beginning of Program](#)

OPERATOR SAFE-WORK PROCEDURES

Work Practices, Hazard Evaluation and Control

- Performs daily, or prior to each use, inspections of equipment and rigging using a checklist ([Attachment 2](#) or [Attachment 4](#) depending upon the crane's load rating).
- Does not use deficient crane/hoists and reports deficiencies to designated person(s) within the Department responsible for the ownership/maintenance of the Crane/Hoist.
- Operates cranes safely.
- Does not proceed with lifting operations until all known hazards have been eliminated or controlled.
- Plans the lift, calculates the Crane/Hoist load capacity, and ensures that the Crane/Hoist is used within its limits.
- Monitors for rigging deficiencies during each lift.
- Stops and does not proceed with lifting operations until newly identified hazards have been eliminated.
- Coordinates the lift with the Stand-by / Load Positioning Person with a pre-lift planning discussion.
- Stays in view of the Stand-by/Load Positioning Person at all times during the lift.
- Assures clear communication method(s) with Stand-by/Load Positioning Person.
- NEVER travels on, or stands under, a suspended load.

Rigging and Other Below-the-Hook Devices

- Performs daily or pre-use documented inspections according to the requirements of [Attachment 3](#) and documenting using the checklists in [Attachment 4](#).

UC Santa Barbara – Crane Safety Program

- Protects rigging from damage while in use.
- Properly stores rigging to prevent deterioration and damage.
- Renders unusable and then disposes of deficient rigging.

Housekeeping

- Assures the floor space is kept clear of obstacles and slippery surfaces for the operators, riggers, and load positioning personnel.

Restricted areas

- Sets up “Restricted Areas” that include the locations of and adjacent to the lift / travel path.
- The lift/travel path of the load is marked by orange cones, yellow tape or other means, to alert persons not aware of the hazards to keep away.
- No one is allowed under a suspended load EVER!

[Return to Table of Contents](#)
[Return to Beginning of Program](#)

STANDBY AND LOAD POSITIONING PERSON’S PROCEDURES

- Follows the direction of the operator.
- Warn persons nearby to stay out of “Restricted Areas”.
- Assures clear communication method(s) with crane/hoist operator.
- Alerts the Crane Operator immediately of any hazards when identified.
- Does not interfere with the lifting operation unless the operator permits it.
- Stays in view of the operator.
- NEVER travels on, or puts any part of their body under, a suspended load.
- May guide the load during lift through rigging rope tied to the load or push bars; uses gloves and does not wrap the rope around the hand or arm.
- NEVER comes in direct contact with the load during a lift.

[Return to Table of Contents](#)
[Return to Beginning of Program](#)

Training Requirements

Crane Operators receive documented training on the operation of the Crane/Hoist and associated rigging they use before they are allowed to use the equipment. A **Qualified Operator** may train a **Stand-by Person** for a specific and designated lift as long as the Operator discusses all safe-lift aspects and known hazards concerning the lift with the Stand-by Person, and coordinates their lift/rigging planning, prior to conducting the lift.

The Department owning the Crane/Hoist has the option of providing training through:

- A [training provider](#) outside the University,
- Training within the department by a “Qualified Person”, or
- Training provided by EH&S. Contact EH&S/General Safety at 893-5407 to be directed to the EH&S training provider.

Irrespective of the source, training content and attendance is documented using [Attachment 1](#) and kept in a readily accessible location by the Department designee, and the Crane Operator Supervisor, and must be provided upon request to Department management, EH&S, or regulatory agency (e.g. Cal/OSHA).

UC Santa Barbara – Crane Safety Program

[Return to Table of Contents](#)
[Return to Beginning of Program](#)

Record Keeping Requirements

Department Requirements

Training

- Retain Qualifications and Training records for Operators and Stand-by Persons at least ten years after the person has retired or left University employment.

Equipment Inspections

- Retain all daily/pre-use inspections for the last year.
- Retain “Quarterly Inspections” for the last three years.
- For Crane/Hoist and rigging, initial load tests for less than three ton rated cranes, and quadrennial load tests for over three ton rated cranes, tests for all cranes and “job-made” rigging, retain records for the life of the crane/hoist.

EH&S/General Safety - Record Retention Requirements

- Retains indefinitely records of annual shop inspections that include crane/hoists.
- Retains indefinitely records of training provided by EH&S/General Safety and other entities.
- Retains indefinitely copies of load testing and load rating reduction tests until equipment is dismantled / destroyed.

[Return to Table of Contents](#)
[Return to Beginning of Program](#)

References

Cal/OSHA Subchapter 7. General Industry Safety Orders, Group 13. Cranes and Other Hoisting Equipment; <http://www.dir.ca.gov/Title8/sb7g13.html>

Primary Contact

John M. Seaman
EH&S/General Safety Supervisor
Building 437, Room 151
Phone: (805)893-5288
Cell: (805)451-3157
Email: john.seaman@ehs.ucsb.edu

Alternate Contact

Enrique “Rick” Alvarado
EH&S, Safety Specialist
Building 437, Room 171B
Phone: (805)893-5407
Cell: (805)617-1551
Email: enrique.alvarado@ehs.ucsb.edu

Facilities Management Department (FM) Compliance Officer

Maurice Startzman, *Compliance Officer*
Building 594, Room 1040D
Phone: (805)893-2841
Cell: (805)451-4381
E-mail: maurice.startzman@pf.ucsb.edu

UC Santa Barbara – Crane Safety Program

Issued By and Next Review Date

Issued By: John M. Seaman, CSMP - Occupational Safety Team Supervisor

Issue Date: September 1, 2012

Review Date: Three years from publish date/ September 1, 2015

Attachments

Attachment 1:	<u>Documentation of Crane Operator Qualifications</u>
Attachment 2:	<u>Daily/Pre-Use Crane/Hoist Inspection</u>
Attachment 3:	<u>Rigging and Equipment Inspection Criteria</u>
Attachment 4:	<u>Rigging Inspection Checklists</u>
Attachment 5:	<u>Crane, Hoist and Lift Equipment Inventory - Template</u>
Attachment 6:	<u>Certifying Agency / Vendor List</u>
Attachment 7:	<u>Annual Crane Inspection Checklist</u>
Attachment 8:	<u>FAQ / Fact Sheet – Crane Safety Program</u>

[Return to Table of Contents](#)
[Return to Beginning of Program](#)

Attachment 1 – Crane Operator Qualification Documentation

To: Personnel File for _____
(Print Employee name)

From: _____ Date: _____
(Print Supervisor name)

This document confirms the Qualification of the above named employee to perform:
(Check all that apply)

- Operate/inspect overhead cranes and hoists within their department (T8CCR§5006, 5031)
- Inspect rigging, and rig loads to be suspended within their department (T8CCR§5043)
- Other: _____

This designation is based on evidence of safe performance of all duties related to crane/hoist operation and verification by another “Qualified Person(s)” through: (Check all that apply)

- Training – Appropriate training records¹ (including any skill checks or tests) are attached.
- Experience – This employee has been safely performing, and has demonstrated skill in crane/hoist operation for _____ years (minimum of five years).
- Instruction – This employee has received on the job instruction from me or another employee who is qualified, and has observed this employee’s work while performing this operation, and confirms that the employee has the knowledge to perform crane/hoist work safely.

If, for any reason, as their supervisor, I think that this employee is not performing this operation safely, this qualification will be revoked. Below are signature(s) of responsible person(s) verifying training, experience and/or providing instruction:

Supervisor Signature: _____ Date: _____

Qualifying Person (if not supervisor): _____ Date: _____

Employee Signature _____ Date: _____

CC: EH&S; Supervisor file; Employee and their Personnel File

¹ If training is part of the evidence used to qualify this employee, attach records relevant to this qualification.

Attachment 2 – Daily / Pre-use Inspection Checklist

[NOTE – THIS FORM IS ALSO USED FOR DOCUMENTING QUARTERLY INSPECTIONS OF
CRANES AND RIGGING RATED 3 TONS AND LESS.]

CRANE/HOIST ID: _____ LOAD RATING _____

OPERATOR/INSPECTOR _____

DEPT./OWNER: _____ DATE/TIME _____

DESCRIBE TASK/PLANNED LIFT: _____

Crane/Hoist Operator's Pre-use Checklist (Three Tons or Less)

(Check off as appropriate)

YES	NO	N/A	
			Has the crane/hoist and rigging been visually inspected and found to be safe for use prior to the beginning of any lifting work?
			Are all electrically operated cranes effectively grounded?
			Is the load chart clearly visible to the operator?
			Is the rated capacity visibly marked on the crane?
			Has the load been calculated and verified to be below the limits of the hoist and rigging?
			Are operating controls clearly identified?
			Is sufficient illumination provided for the operator to perform the work safely?
			Has a lift-plan of action been agreed to by the personnel involved?
			Is the path of the operator and stand-by / load positioning person been cleared of slip, trip, & fall obstacles?
			Has the lift/travel path been secured or visually marked to prevent entry by anyone?

Quarterly Inspection or When Idle more than One Month. (Addition to Daily/Pre Use Inspection)	Pass	Fail
Functional operating mechanisms have been checked for excessive wear.		
Readily accessible ropes, brakes, friction clutches, chain drives, and other parts subject to wear have been inspected		
Wire rope which has been idle for a period of a month or more due to shut down or storage of a crane is given a thorough inspection before it is placed in service. This inspection is for all types of deterioration and is performed by a qualified person whose approval is required for use of the crane.		

Attachment 3 – Rigging and Equipment Inspection Criteria

To “Pass Inspection”, Departments must assure that all their “Below-the-Hook Lifting Devices” and associated rigging either are immediately removed from service for repair / replacement, or meet the following requirements:

Structural and Mechanical Lifting Devices

The rated capacity of each lifting device must be marked on the main structure where it is visible and legible. If the lifting device comprises several items, each detachable from the assembly, each lifting device must be marked with its rated capacity. At a minimum, a nameplate, name tag, or other permanent marker must be affixed displaying the following data:

- Manufacturer or contractor’s name if fabricated on-site
- Lifting device weight, if over 100 lbs
- Serial number (if available)
- Rated capacity
- Proof of inspection label by hoist and rigging inspector

Rigging Hooks

Marking

The manufacturer’s identification must be forged, cast, or die-stamped on a low-stress and non-wearing area of the hook.

Inspecting

The operator or qualified person must visually inspect hooks daily or prior to first use, or if the hook is not in regular service. If any of the following conditions are found, remove the hook from service:

- Cracks, nicks, gouges
- Deformation
- Damage from chemicals
- Damage, engagement, or malfunction of latch (if provided)
- Evidence of heat damage
- Wear
- Hook attachment and securing means

Slings

Wire Rope Sling Marking

- Wire-rope slings must be marked with the following information:
- Name of trademark of manufacturer
- Work load limit (WLL)
- Diameter or size
- Purchase order or serial number

Fabricating

Wire rope purchased to fabricate slings must be made in the United States by a member of Wire Rope Technical Board (except stainless steel). Stainless steel wire rope must be made in the United States and must be 302 or 304 grade stainless steel.

Inspecting

Wire-rope sling users must visually inspect all slings each day they are used or prior to use if the sling has not been in regular service (records are not required). Users must carefully note any deterioration that could result in an appreciable loss of original strength and determine whether further use of the sling would constitute a safety hazard. Slings must be immediately removed from service if any of the following conditions are present:

- Missing or illegible sling identification
- Ten randomly distributed broken wires in one rope lay or five broken wires in one strand in one rope lay
- Wear or scraping of one-third the original diameter of the outside individual wire
- Kinking, crushing, bird caging or any other damage resulting in distortion of the rope structure
- Evidence of heat damage
- End attachments that are cracked, deformed, or worn
- Corrosion of the rope or end attachments

Metal-mesh Slings

Inspecting

Metal-mesh slings must be visually inspected before each use. Metal-mesh slings must be removed from service if any of the following defects are present:

- A broken weld or brazed joint along the sling edge
- A broken wire in any part of the mesh
- Reduction in wire diameter of 25 percent due to abrasion or 15 percent due to corrosion
- Lack of flexibility due to distortion of the mesh
- Distortion of the female handle so the depth of the slot is increased by more than 10 percent
- Distortion of either end fitting so the width of the eye opening is decreased by more than 10 percent
- A 15 percent reduction of the original cross-sectional area of metal at any point around a handle eye
- Any distortion or twisting of either end fitting out of its plane
- Cracked end fitting
- Evidence of heat damage

Synthetic-web Slings

Marking

Hand written or ink embossed markings are not acceptable. Sling tags must be indelibly marked and the lettering must not wear off with use. The markings must remain legible for the life of the sling. Each sling must be marked with the following:

- Manufacturer's name or trademark
- Manufacturer's code or stock number

UC Santa Barbara Crane Safety Program

- Type of synthetic web material
- Rated loads for the type of hitches used

Inspecting

Synthetic-web slings must be visually inspected before each use. Slings must be removed from service if any of the following defects are visible:

- Acid or caustic burns
- Melting or charring of any part of the surface
- Snags, punctures, tears, or cuts
- Broken or worn stitches
- Wear or elongation exceeding the amount recommended by the manufacturer
- Distortion of fittings
- Knots in any part
- Missing or illegible sling identification

Synthetic Round-slings

Marking

Each polyester round sling must be permanently marked or labeled showing the following:

- Name or trademark of manufacturer
- Manufacturer's code or stock number
- Rated capacities for the three basic hitches (vertical, choker, vertical basket)
- Core fiber type – if cover(s) is of a different fiber type, both fiber types must be identified
- Length (reach) – bearing point to bearing point
- Each manufacturer must internally identify their product with name or trademark for traceability

Inspecting

Synthetic round slings must be visually inspected before each use and may not exhibit any of the following in order to pass inspection:

- Missing or illegible sling identification
- Acid or caustic burns
- Melting or charring of any part of the surface
- Snags, punctures, tears, cuts or abrasive wear that expose the core yarns
- Broken or worn stitches in the cover which exposes the core yarns
- Wear or elongation exceeding the amount recommended by the manufacturer
- Stretched, cracked, worn, pitted or distortion of fittings
- Knots in any part

Alloy Steel-chain Slings

The following applies to slings made from grade 80 and 100 alloy chain manufactured and tested in accordance with National Association of Chain Manufacturers welded steel chain specifications – 1990. If chain other than this is used, it must be used in accordance with the recommendations of the chain manufacturer.

Marking

The following information may be stenciled or stamped on a metal tag or tags affixed to the sling.

Where slings have more than one leg, ensure that the tag is affixed to the master link. Ensure that the working load does not exceed the rated capacity of the sling.

- Wire-rope slings must be marked with the following:
 - Size
 - Manufacturer's grade
 - Rated load and angle on which the rating is based.
 - Reach
 - Numbers of legs
 - Sling manufacturer
 - Inspection due date label by hoist and rigging inspector

Inspecting

Steel-chain sling users must visually inspect all slings before they are used as follows:

- Conduct a link-by-link inspection for the following defects: nicks, cracks, gouges, wear, bent links, stretched links, shearing of links, cracks in any section of link, scores, abrasions, heat damage, rust, corrosion or markings tending to weaken the links. Reject damaged items.
- Check steel-chain slings for uneven lengths when sling legs are hanging free
- Check rings and hooks for bends, distortion, cracks in weld areas, corrosion, and scores, heat damage, or markings tending to weaken the links. Reject damaged items.
- Perform inspection on an individual-link basis. If any link does not hinge freely with the adjoining link, remove the assembly from service.
- Remove from service assemblies with deformed master links or coupling links.
- Remove from service assemblies if hooks have been opened more than 15 percent of the normal throat opening measured at the narrowest point or twisted more than 10 degrees from the plane of the unbent hook.
- Do not straighten deformed hooks or other attachments on the job. Assemblies with such defects must be reconditioned by the manufacturer or discarded.
- Remove from service assemblies with cracked hooks or other end attachments; assemblies with such defects must be reconditioned or repaired prior to return to service.
- Do not use homemade links, makeshift fasteners formed from bolts, rods, and the like, or other nonstandard attachments. Reject if discovered.
- Do not use makeshift or field-fabricated hooks on steel-chain slings. Reject if discovered.

Rigging Hardware and Accessories

Eyebolts

Marking

- Carbon steel eyebolts must have the manufacturer's name or identification trademark forged in raised characters on the surface of the eyebolt.
- Alloy steel eyebolts must have the symbol "A" (denoting alloy steel) and the manufacturer's name or identification mark forged in raised characters on the surface of the eyebolt.

UC Santa Barbara Crane Safety Program

- Eyebolts used for hoisting must be fabricated from forged carbon or alloy steel.
- Carefully inspect each eyebolt before use
- Visually inspect the hole to ensure that there has been no deformation
- Check the condition of the threads in the hole to ensure that the eyebolt will secure and the shoulder can be brought down snug
- Ensure that the shank of the eyebolt is not undercut and is smoothly radiused into the plane of the shoulder or the contour of the ring for non-shouldered eyebolts
- Destroy eyebolts that are cracked, bent, or have damaged threads

Shackles

Marking

Each shackle body must be permanently and legible marked in raised letters by the manufacturer. Raised or stamped letters on the side of the bow must be used to show the following:

- Manufacturer's name or trademark
- Size
- Rated capacity, recommended safe working load
- Grade A shackles (regular strength), together with their pins and bolts must be forged from carbon steel.
- Grade B shackles (high strength) together with their pins and bolts must be forged from alloy steel .
- Shackle pins must fit freely (without binding), and seat properly

Turnbuckles

Turnbuckles may be used in sling systems provided that they are engineered, designed, and approved as a part of the sling system. Approved turnbuckles must be marked and identified for use with the sling set for which they were designed and must be load-tested as part of the sling set.

Marking

- Manufacturer's name or trademark and turnbuckle size must be permanently marked on the turnbuckle body.
- Eyebolts must be fabricated from forged alloy steel.
- Eyebolts must be provided with a jam nut of a type that does not depend upon deformation of the threads for security.
- Turnbuckles must be inspected for damage before each use. Damaged threads, jamb nuts, or bent frame members make the unit unsuitable for use.

Links and Rings

Links and rings are usually designed and manufactured as a part of the lifting hardware for a specific purpose, such as the peak link on multiple-leg slings. However, the rings and links may also be found on the load-attachment end of slings.

Marking

- Rings or links should be marked by the manufacturer with the manufacturer's name or trademark and ring or link size.
- Rings must be forged or welded from low alloy steel.

- Welded rings or links must be subjected to a nondestructive weld test (NDT) and the results must be documented. (NDT is not required for forged rings or links.)

Swivel Hoist Rings

Marking




- Swivel hoist rings must have the manufacturer's name or trademark, working load limit (WLL), and recommended torque value permanently marked (forged, stamped, or inscribed) by the manufacturer on the swivel hoist ring. Permanently attached metal tag bearing the same information may also be used.
- Check that swivel hoist rings for hoisting are fabricated from forged carbon or alloy steel
- Inspect permanently installed hoist rings before each use to ensure free movement of bail and swivel
- Inspect swivel hoist rings thoroughly each before use
- Inspect the hole to ensure that there has been no deformation
- Check the condition of the threads in the hole to ensure that the hoist ring will secure and the bushing can be brought down for a snug fit
- Destroy hoist rings that are cracked, bent, have damaged threads, or do not operate freely

Wire Rope Clips (Clamps)


Marking

- Wire rope clips must be permanently and legibly marked with the size and manufacturer's identifying mark.


Attachment 4 – Equipment Inspection Forms

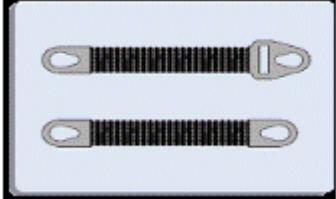
Inspection Date	Inspector (print / sign name)				
Structural and Mechanical Lifting Devices					
Each device displays the following: (List details below)				Accept	Reject
	Rated capacity is marked and legible.				
	Rated capacity				
	Lifting device weight, (if over 100 lbs)				
	Manufacturer or contractor's name if fabricated on-site				
	Serial number (if available)				
	Proof of inspection label by hoist and rigging inspector				

UC Santa Barbara Crane Safety Program

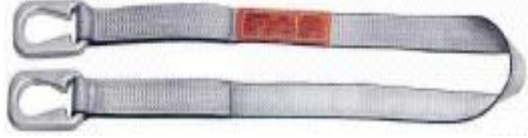
Inspection Date	Inspector (print / sign name)		
<i>Rigging Hooks</i>			
The manufacturer's identification is permanently marked. (List details below)		Accept	Reject
	Cracks, nicks, gouges		
	Deformation		
	Damage from chemicals		
	Damage, engagement, or malfunction of latch (if provided)		
	Evidence of heat damage		
	Wear		
	Hook attachment and securing means		

UC Santa Barbara Crane Safety Program


Inspection Date	Inspector (print / sign name)		
Wire Rope Sling			
Wire-rope slings are marked with the following information: (List details below)		Accept	Reject
	Name of trademark of manufacturer		
	Work load limit		
	Diameter or size		
	serial number		
Slings must be immediately removed from service if any of the following conditions are present:		Accept	Reject
	Missing or illegible sling identification		
	Ten randomly distributed broken wires in one rope lay or five broken wires in one strand in one rope lay		
	Wear or scraping of one-third the original diameter of the outside individual wire		
	Kinking, crushing, bird caging or any other damage resulting in distortion of the rope structure		
	Evidence of heat damage		
	End attachments that are cracked, deformed, or worn		
	Corrosion of the rope or end attachments		


Inspection Date	Inspector (print / sign name)			
<i>Metal-Mesh Slings</i>				
Metal-mesh slings must be removed from service if any of the following defects are present: (List details below)			Accept	Reject
	A broken weld or brazed joint along the sling edge			
	A broken wire in any part of the mesh			
	Reduction in wire diameter of 25 percent due to abrasion or 15 percent due to corrosion			
	Lack of flexibility due to distortion of the mesh			
	Distortion of the female handle so the depth of the slot is increased by more than 10 percent			
	Distortion of either end fitting so the width of the eye opening is decreased by more than 10 percent			
	A 15 percent reduction of the original cross-sectional area of metal at any point around a handle eye			
	Any distortion or twisting of either end fitting out of its plane			
	Cracked end fitting			
	Evidence of heat damage			

UC Santa Barbara Crane Safety Program



Inspection Date	Inspector (print / sign name)		
Synthetic-web Slings			
Each sling is marked with the following: (List details below)		Accept	Reject
	Manufacturer's name or trademark		
	Manufacturer's code or stock number		
	Type of synthetic web material		
	Rated loads for the type of hitches used		
Slings must be removed from service if any of the following defects are visible:			
	Acid or caustic burns		
	Melting or charring of any part of the surface		
	Snags, punctures, tears, or cuts		
	Broken or worn stitches		
	Wear or elongation exceeding the amount recommended by the manufacturer		
	Distortion of fittings		
	Knots in any part		
	Missing or illegible sling identification		



UC Santa Barbara Crane Safety Program






Inspection Date	Inspector (print / sign name)			
Synthetic Round slings				
Each polyester round sling is permanently marked or labeled showing the following: (List details below)			Accept	Reject
	Name or trademark of manufacturer			
	Manufacturer's code or stock number			
	Rated capacities for the three basic hitches (vertical, choker, vertical basket)			
	Core fiber type – if cover(s) is of a different fiber type, both fiber types must be identified			
	Length (reach) – bearing point to bearing point			
	Each manufacturer must internally identify their product with name or trademark for traceability			
Slings are removed from service if any of the following defects are visible:				
	Missing or illegible sling identification			
	Acid or caustic burns			
	Melting or charring of any part of the surface			
	Snags, punctures, tears, cuts or abrasive wear that expose the core yarns			
	Broken or worn stitches in the cover which exposes the core yarns			
	Wear or elongation exceeding the amount recommended by the manufacturer			
	Stretched, cracked, worn, pitted or distortion of fittings			
	Knots in any part			

Inspection Date	Inspector (print / sign name)		
<i>Alloy Steel-Chain , and Wire Rope Slings</i>			
Alloy Steel-chain slings must be marked with the following: (List details below)		Accept	Reject
	Size		
	Manufacturer's grade		
	Rated load and angle on which the rating is based.		
	Reach		
	Numbers of legs		
	Sling manufacturer		
	Inspection due date label by hoist and rigging inspector		
Inspection			
	Link-by-link inspection		
	Uneven lengths when sling legs are hanging free		
	Rings and hooks		
	Deformed master links or coupling links.		
	Hooks, twisted more than 10° or opened more than 15%.		
	Hooks, Cracked		
	Homemade links, makeshift fasteners formed from bolts, rods, and the like, or other nonstandard attachments.		
	Makeshift or field-fabricated hooks on steel-chain slings.		

UC Santa Barbara Crane Safety Program

Inspection Date	Inspector (print / sign name)			
Shackles				
Raised or stamped letters on the side of the bow show the following: (List details below)			Accept	Reject
	Manufacturer's name or trademark			
	Size			
	Rated capacity, recommended safe working load			
	Shackle pins fit freely (without binding), and seat properly			

Inspection Date	Inspector (print / sign name)		
<p><i>Eyebolts</i> (List details below)</p>		Accept	Reject
	The manufacturer's name or identification trademark is forged in raised characters on the surface of the eyebolt.		
	There has been no deformation of the eye		
	The shank of the eyebolt is not undercut and is smoothly radiused into the plane of the shoulder or the contour of the ring for non-shouldered eyebolts		
	The threads are secure and the shoulder can be brought down snug		
<p><i>Turnbuckles</i> (List details below)</p>		Accept	Reject
	Manufacturer's name or trademark and turnbuckle size is permanently marked on the turnbuckle body.		
	Eyebolts are provided with a jam nut of a type that does not depend upon deformation of the threads for security.		
	Damaged threads, jamb nuts, or bent frame		

Inspection Date	Inspector (print / sign name)					
Links and Rings				Accept	Reject	
	Rings or links are marked by the manufacturer with the manufacturer's name or trademark and ring or link size.					
Wire Rope Clips (Clamps)				Accept	Reject	
	Permanently and legibly marked with the size and manufacturer's identifying mark					
Swivel Hoist Rings				Accept	Reject	
	The manufacturer's name or trademark, working load limit (WLL), and recommended torque value permanently marked (forged, stamped, or inscribed) by the manufacturer on the swivel hoist ring					
	Hoist rings have free movement of bail and swivel					
	There has been no deformation of the hole					
	The threads in the hole are in a condition that ensure that the hoist ring will secure and the bushing can be brought down for a snug fit					

Attachment 5 – Equipment Inventory

Hoist			
Type	Quantity		
Manufacturer	Model Number	Serial Number	Load Rating
Crane			
Type	Quantity		
Manufacturer	Model Number	Serial Number	Load Rating
Structural and Mechanical Lifting Devices			
Type	Quantity		
Manufacturer	Model Number	Serial Number	Load Rating
Rigging Hooks			
Type	Quantity		
Manufacturer	Model Number	Serial Number	Load Rating
Wire Rope Slings			
Type	Quantity		
Manufacturer	Model Number	Serial Number	Load Rating
Metal-Mesh Slings			
Type	Quantity		
Manufacturer	Model Number	Serial Number	Load Rating
Synthetic-web Slings			
Type	Quantity	Quantity	
Manufacturer	Model Number	Serial Number	Load Rating
Synthetic Round slings			
Type	Quantity		
Manufacturer	Model Number	Serial Number	Load Rating
Alloy Steel-Chain , and Wire Rope Slings			
Type	Quantity		
Manufacturer	Model Number	Serial Number	Load Rating

UC Santa Barbara Crane Safety Program

Shackles			
Type	Quantity		
Manufacturer	Model Number	Serial Number	Load Rating
Eyebolts			
Type	Quantity		
Manufacturer	Model Number	Serial Number	Load Rating
Turnbuckles			
Type	Quantity		
Manufacturer	Model Number	Serial Number	Load Rating
Links and Rings			
Type	Quantity		
Manufacturer	Model Number	Serial Number	Load Rating
Swivel Hoist Rings			
Type	Quantity		
Manufacturer	Model Number	Serial Number	Load Rating
Wire Rope Clips (Clamps)			
Type	Quantity		
Manufacturer	Model Number	Serial Number	Load Rating

Attachment 6 – Crane / Hoist Certifying Agency – Vendor List

Crane Inspection Service – Contracted through Facilities Management Department (FM) Compliance Officer

Preferred Aerial & Crane Technology
State of California Accreditation #337
1121 E. Marshall Place Long Beach, CA 90807
Phone: (562)988-1654
FAX: 562)988-1694
batchelorpact@cs.com

MCA Engineers, Inc.
State of California Accreditation #327
1721 Pacific Avenue Suite 160 Oxnard, CA 93033
Phone: (805)605-4165

Fairweather Pacific, LLC
State of California Accreditation #376
4567 Telephone Road Ventura, CA 93001
Phone: (805)658-5600
FAX:

Other Crane Inspection Services

Southwest Aerial & Crane Inspection Company
State of California Accreditation #376
731 Tressy Avenue Glendora, CA 91740
Phone: (909)374-4584
Fax: (626)852-9632(626)852-9632
bobo123@earthlink.net

Tilley Crane Inspections
State of California Accreditation #33
P. O. Box 28178 Anaheim, CA 92809
Phone: (714)970-1367
Fax: (714)970-1312
tilleycrane@SBCGlobal.net

Attachment 7 – Annual Crane Inspection Form

If the crane has more than one hoist a separate annual inspection form is filled out for each hoist.

Crane Inspected _____ **Load Rating** _____

Date _____

If more than one hoist on the crane, specific hoist inspected:

1. Crane hooks have been inspected for the following:

Cracks ; Deformation of throat opening more than 15 percent in excess of normal opening; More than 10 degree twist from plane of unbent hook.

The following hook(s) has been removed from service on this date: _____

2. Wire ropes have been inspected for proper lubrication, excessive wear, broken strands, and proper reeving

The following rope(s) has been removed from service on this date: _____

Conditions such as the following are sufficient reason for replacement:	Pass	Fail
In running ropes, 6 randomly distributed broken wires in one rope lay, or 3 broken wires in one strand in one lay.		
Wear of 1/3 the original diameter of outside individual wires.		
Kinking, crushing, bird caging, or other damage resulting in distortion of the rope structure.		
Evidence of any heat damage.		
Reductions from nominal diameter of more than: 1/64 inch for diameters up to 5/16 inch 1/32 inch for diameters 3/8 inch to 1/2 inch 3/64 inch for diameters 9/16 inch to 3/4 inch 1/16 inch for diameters 7/8 inch to 1 1/8 inch 3/32 inch for diameters 1 1/4 inch to 1 1/2 inch		
In standing ropes, more than 2 broken wires in one lay in sections beyond end connections or more than one broken wire at an end connection.		
Reduction of rope diameter below nominal diameter due to loss of core support, internal or external corrosion, or wear of outside wires.		

(over)

3. Examination of structure or parts by electronic, ultrasonic, or other nondestructive methods has conducted by a State Certified agency if necessary.

State Certified Agency _____

Print Name of Inspector _____

Date of Inspection / Signature _____/_____

4. Wire rope which has been idle for a period of a month or more due to shut down or storage of a crane is given a thorough inspection before it is placed in service. This inspection is for all types of deterioration and is performed by a qualified person whose approval is required for further use of the rope.

Qualified person who conducted the inspection _____

Date of inspection / Signature _____/_____

Specific rope inspected _____

Attachment 8 – FAQ / FACT SHEET – CRANE SAFETY PROGRAM

***EH&S FACT SHEET
Crane Safety Program***



[Return to Table of Contents](#)

[Return to Beginning of Program](#)

The UC Santa Barbara Crane Program assures compliance with Cal/OSHA regulations for Crane Safety. The program applies to any overhead lifting device that is attached to any building, research facility or equipment owned or operated by UC Santa Barbara, and to anyone who operates the device. Cal/OSHA requires load testing, equipment inspections, documented training for operators and standby persons for all types of cranes and hoists.

FAQ / FACT SHEET TABLE OF CONTENTS

What's a Crane?	42
What's a Hoist?	42
Does this Program apply to my department?	42
My department has a crane or hoist that is no longer used / needed. What do I have to do to comply with this program?	42
Does this Crane Safety Program apply to the overhead lifting equipment your Department operates?.....	42
My Department has Lifting Equipment regulated by the Crane Safety Program. What do we do to implement the program?	43
The crane is rated more than 3 tons. What do I have to do?.....	43
The Crane is rated three tons (or less). What do I have to do?	44
If we only have a hoist, what do we have to do?	44
What if we want the Crane or Hoist to be load-rated for more or less weight than its manufactured load-rating?	44

Who do I contact for Load Testing?	45
What about Rigging?	45
Who needs to be trained?	45
Who do I contact to provide training / program support?	45
How are Crane Equipment, Rigging Inspections and Load Testing arranged to be done by a “Certificating Agency ”?	45

What’s a Crane?

A machine for lifting or lowering a load and moving it horizontally, in which the hoisting mechanism is an integral part of the machine. It may be driven manually or be powered and may be a fixed or a mobile machine, but does not include stackers, industrial lift trucks, power shovels, backhoes, or excavators.

What’s a Hoist?

An apparatus for raising or lowering a load by the application of a pulling force, but does not include a car or platform riding in guides, a monorail or any other type of horizontal moving device. Note that a hoist is an integral part of any crane, but also may be used alone and not part of a crane.

Does this Program apply to my department?

If your department owns, uses, or has in place a crane or hoist of any load rating, whether in use or not used, then this Program applies to your department.

[Return to FAQ / Fact Sheet Table of Contents](#)

My department has a crane or hoist that is no longer used / needed. What do I have to do to comply with this program?

If your department owns but no longer uses a crane or hoist, upon request EH&S/General Safety staff will come out to your department and ‘lock out and tag out’ your crane / hoist so that it can no longer be used. If your department chooses to have this done, then inspections and load testing of the “moth-balled” equipment and rigging is no longer required by Cal-OSHA or this program. However, if the equipment is to be used again, it will need to be re-load tested and inspected by a Certificating Agency before use. Contact EH&S/General Safety at 893-5407 should you wish to ‘mothball’ your crane / hoist equipment.

[Return to FAQ / Fact Sheet Table of Contents](#)

Does this Crane Safety Program apply to the overhead lifting equipment your Department operates?

Equipment attached to building structure that lifts, or equipment that is mobile or moveable and lifts but is not classed as an “industrial lift truck”, rigging equipment selection, inspection, maintenance and use are all governed under this program. Learn more about equipment governed under this program by reviewing the “[Types of Cranes / Hoists / Rigging](#)” section of the program.

My Department has Lifting Equipment regulated by the Crane Safety Program. What do we do to implement the program?

1. Conduct an initial [inventory](#) of all crane / hoist equipment under Department ownership.
2. Determine which equipment stays 'in use' and which is to be permanently 'locked out' by EH&S/General Safety staff and / or disposed of.
3. Arrange for EH&S/General Safety staff to permanently 'lock out' unused crane / lift equipment or remove to "I believe this is now called Overstock and Surplus".
4. Determine what program requirements apply to each piece of functioning equipment based upon lift capacity ($\leq 3\text{Ton}$ or $>3\text{Ton}$).
5. Schedule with EH&S/General Safety staff and contact the Facilities management Department (FM) Compliance Officer. They will contract with a ["Certificating Agency"](#) an initial [Inspection / Maintenance / Load Testing](#) of your department's equipment and rigging.
6. Identify ["Qualified Operators and Stand-by Persons"](#) within Department for training.
7. Schedule training of "Qualified Operators" with EH&S/General Safety staff.
8. [Document Operator Qualifications](#) and successful completion of training, and insert into personnel file with copies sent to EH&S/General Safety.
9. Destroy and dispose of unwanted or damaged-beyond-repair lift equipment and rigging.
10. Set up and maintain Records of all Crane Safety Program activities.
11. For all Cranes / Hoists - Conduct [quarterly documented inspections](#), and [annual documented inspections](#).
12. For "Cranes Over 3 Ton Capacity" - Arrange for documented annual inspections and quadrennial load testing, and required maintenance which must be completed by a certified crane mechanic/contractor, also known as a 'Certificating Agency'.

[Return to FAQ / Fact Sheet Table of Contents](#)

The crane is rated more than 3 tons. What do I have to do?

The [Administrative Requirements](#) section of the Crane Program describes how the crane's Owner-Department must document the following activities for cranes rated more than 3-tons:

- Schedule an initial load test performed by a [Certificating Agency](#) through the FM Compliance Officer.
- Perform daily (or before use) inspections ([Attachment 2](#)).
- Perform thorough quarterly in-house inspections (Attachment 2 & [Attachments 4](#)).
- Arrange for annual certification-inspection by a Certificating Agency (this can serve as one of the quarterly inspections and documentation is provided by the Certificating Agency). *This is contracted for by the FM Compliance Officer.*
- Arrange for quadrennial load tests by a Certificating Agency by contacting the FM Compliance Officer. (This can serve as one of the quarterly and annual inspections and documentation is provided by the Certificating Agency).
- Remove deficient cranes from service until they are repaired.
- Identify Owner-Department person(s) who are ["Qualified Operators"](#) to inspect and operate cranes.
- Assure ["Qualified Operators"](#) are properly trained on crane safe-work practices and procedures according to the program [training requirements](#).
- Maintain [records of program activities](#) relating to each Department-Owned crane.

[Return to FAQ / Fact Sheet Table of Contents](#)

The Crane is rated three tons (or less). What do I have to do?

The [Administrative Requirements](#) section of the Crane Program describes how the crane's Owner-Department must document the following activities for cranes rated 3-tons or less:

- Arrange for an initial load test performed by a Certifying Agency through the FM Compliance Officer.
- Perform daily (or before use) inspections ([Attachment 2](#)).
- Perform thorough quarterly in-house inspections (Attachment 2 & [Attachments 4](#)).
- Remove deficient cranes from service until they are repaired.
- Identify Owner-Department person(s) who are "[Qualified Person\(s\)](#)" to inspect and operate cranes.
- Assure "[Qualified Operators](#)" are properly trained on crane safe-work practices and procedures according to the program [training requirements](#).
- Maintain [records of program activities](#) relating to each Department-Owned crane.

[Return to FAQ / Fact Sheet Table of Contents](#)

If we only have a hoist, what do we have to do?

- Perform daily inspections each day the hoist is used ([Attachment 2](#)).
- Remove deficient hoists from service until they are repaired.
- Identify Owner-Department person(s) who are "[Qualified Person\(s\)](#)" to inspect and operate hoists.
- Assure "[Qualified Operators](#)" are properly trained on hoist safe-work practices and procedures according to program [training requirements](#).
- Maintain [records of program activities](#) relating to each Department-Owned hoist.

What if we want the Crane or Hoist to be load-rated for more or less weight than its manufactured load-rating?

Any crane or hoist may be 'derated' to a lesser load rating, but deration must be done by a Certifying Agency with appropriate documentation kept on file. The derated load-rating must be plainly posted on the lifting-device with permanent signage.

If the load rating is to be increased beyond the manufactured load rating, such a system must be engineered by a structural engineer who signs-off and 'stamps' the higher load-rating for the lifting-device. The re-engineered system must be load-tested by a Certifying Agency with appropriate documentation kept on file. The higher-rated load-rating must be plainly posted on the lifting-device with permanent signage. Significant cost in engineering / rebuilding the crane or hoist and its support structure are likely to be incurred to re-rate a crane / hoist system to a higher load capacity than originally designed.

[Return to FAQ / Fact Sheet Table of Contents](#)

Who do I contact for Load Testing?

Each Owner-Department is responsible to assure their cranes / hoists are current in certification / inspection by contracting with a Cal-OSHA approved "[Certificating Agency](#)". This is contracted for by the FM Compliance Officer upon receiving a request from the owner department. Initial load testing (all cranes / hoists), and annual inspection services combined with quadrennial load testing (for cranes larger than 3-tons) must be performed by a Cal/OSHA qualified Certificating Agency. See [Attachment 6](#) of the Crane Program for a list of Crane Inspection Certificating Agencies approved by EH&S for campus use.

[Return to FAQ / Fact Sheet Table of Contents](#)

What about Rigging?

"Below-the-Hook" rigging requires quarterly documented inspections by trained "[Qualified Person\(s\)](#)", must be inventoried, and must have a load rating label on the device by the manufacturer. This process may be documented using [Attachments 3, 4, and 5](#).

[Return to FAQ / Fact Sheet Table of Contents](#)

Who needs to be trained?

"[Qualified Person\(s\)](#)" and [Stand-by Persons](#) must be trained on the safe use and inspection of the crane/hoist(s) they work with through a documented training process. As an option, a person may be designated "Qualified Operator" by their supervisor, PI, or Department Manager who have the qualifications and experience themselves to understand the hazards associated with the lift equipment, and the "Qualified Operator's" skills / knowledge to safely work around those hazards. Either way, a "Qualified Operator" is [documented by completing Attachment 1](#) and keeping it in the person's file and the crane log book.

Who do I contact to provide training / program support?

Operator Training can be conducted by EH&S or a contractor. Contact the EH&S/General Safety staff @ 893-5407, for scheduling EH&S training, finding a qualified trainer, or to seek other program support.

[Return to FAQ / Fact Sheet Table of Contents](#)

How are Crane Equipment, Rigging Inspections and Load Testing arranged to be done by a "Certificating Agency"?

1. The Facilities Management Department (FM) Compliance Officer funds and contracts with vendors for all required load testing / inspection, and maintains documentation of the inspections.
2. The FM Compliance Officer will contact departments when a crane / rigging inspection need is identified. The FM Compliance Officer will coordinate with departments to schedule inspections and load testing by an EH&S-approved [certified crane inspection contractor](#) at a time convenient for the department's planned use of the crane / hoist.

3. EH&S/General Safety staff partners with the crane-owner department to guide inspections / load testing, and is on site for initial inspection and load testing along with the department's responsible person.

[Return to FAQ / Fact Sheet Table of Contents](#)