



# ENVIRONMENTAL HEALTH & SAFETY

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## **CRANE LIFT REVIEW AND APPROVAL SOP**

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**UNIVERSITY OF NEW MEXICO**  
**Department of Environmental Health & Safety**



Casey Hall  
Director



[Zachary Peterson \(Jun 12, 2023 09:56 MDT\)](#)

Zachary Peterson  
Safety Manager



Melissa Terry  
Chemical Hygiene Officer



[Viktor Gough \(Jun 8, 2023 11:13 MDT\)](#)

Viktor Gough  
Unit Administrator

Document: **Crane Lift Review & Approval SOP**

Updated 5/22/23

## ACRONYMS & DEFINITIONS

<b>AFR</b>	Albuquerque Fire & Rescue
<b>Crane</b>	A machine used for lifting and lowering a load and moving it horizontally. The hoisting mechanism is an integral part of the machine.
<b>EIM</b>	Emergency Incident Manager
<b>FAA</b>	Federal Aviation Administration
<b>FM</b>	Facilities Management
<b>Load</b>	The total superimposed weight on the crane's block or hook.
<b>NFPA 70®</b>	National Electrical Code®
<b>OSHA</b>	Occupational Safety & Health Administration
<b>PATS</b>	Parking and Transportation Services
<b>PM</b>	Project Manager
<b>Qualified Personnel</b>	Employees that have been trained in the task(s) to be performed and deemed competent by the Trainer.
<b>Rigging</b>	Noun: The equipment used with the crane to lift and move objects. Verb: The act of preparing the load for the lift by the crane.
<b>EHS</b>	Environmental Health & Safety

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## **1. PURPOSE**

The purpose of this Standard Operating Procedure is to provide EHS employees guidance on the review and approval of Crane Lifts and Critical Lifts.

## **2. INTRODUCTION**

Workers have been injured or killed when working on or around mobile cranes because, among other reasons, the cranes tip over, the boom collapses, and/or the load becomes unstable. The National Institute of Safety & Health (NIOSH) has found in their investigations that workers are generally unaware of the hazards of working with or around cranes. This SOP is designed to mitigate the risks associated with Crane & Critical Lifts by ensuring critical components have been identified and reviewed in a formal Crane Lift Plan.

## **3. SCOPE**

This procedure applies to any EHS employees assigned to review and/or approve Crane Lift requests.

## **4. ROLES & RESPONSIBILITIES**

### **4.1. Environmental Health & Safety**

1. Implements and maintains this procedure.
2. Performs safety evaluations on completed Crane Lift Plans.
3. Establishes requirements, and makes suggestions, to mitigate safety and risk concerns.
4. Performs site inspections, if needed.
5. Schedules any code required inspections prior to the initiation of the project.
6. Determines whether the planned lift is a Critical Lift.
7. Coordinates with the UNM Project Manager to schedule an Engineer to review and approve Critical Lifts.
8. Maintains records of approved plans.

### **4.2. Parking and Transportation Services**

1. Performs location evaluations on contractor Crane Lift Plans.

### **4.3. FM Grounds**

2. Performs location evaluations on contractor Crane Lift Plans.

#### 4.4. UNM Project Manager

1. Ensures all operations and inspections are carried out in accordance with the UNM Construction Safety Manual and all Local, State and National codes and standards.
2. Ensures requirements set forth by EHS, PATS and FM are implemented and maintained.
3. Notifies EHS, PATS and FM of any updates that would change or impact the information originally submitted in the Crane Lift Plan.

## 5. PROCEDURE

#### 5.1. Receipt of Crane Lift Plan

1. Crane Lift Plans submitted at [Crane/Lift Safety \(Formstack\)](#).
2. Completed Crane Lift Plans are received through Monday.com and appropriate EHS staff member notified via email for review.

#### 5.2. Review of Crane Lift Plan

1. The Crane Lift Plan shall include:
  - a. Type of Crane
  - b. Location of Lift
  - c. Maximum Capacity
  - d. Total Weight of the Load
  - e. Percent of Capacity
  - f. Load Weight Information
    - i. When Empty
    - ii. With Contents
    - iii. Lifting Beam (if applicable)
    - iv. Slings/Shackles
    - v. Excess Load Material
    - vi. Total Weight
    - vii. Source used to determine weight
  - g. Crane Operator Certifications
  - h. Critical Project Characteristics (if any)
    - i. Requires more than one crane
    - ii. Contains a load that exceeds 75% of the crane's rated capacity
    - iii. Involves lifting personnel
    - iv. The load suspension is located above the employees rigging the load
    - v. The load cannot be seen by the crane operator
    - vi. The load is high in monetary value or requires special handling



- vii. The load has the potential to become unstable during transport
  - viii. The load will be transported over occupied buildings/areas
  - ix. The load weighs over 100 tons
2. EHS shall review the submitted Crane Lift Plan and shall verify that:
- a. All weight and capacities are within allowable tolerances.
  - b. All operator certifications are up to date.
  - c. If any critical project characteristics are present, that a certified engineer reviews and approves the lift.
  - d. Crane Lift location will not present additional safety issues. Special consideration should be given to:
    - i. Fire lanes
    - ii. Fire hydrants
    - iii. Pedestrian walkways
    - iv. Emergency access routes
      - 1. AFR may need to be notified if the lift will affect these areas
    - v. Means of egress
    - vi. Limited/narrow access
    - vii. Excavations
    - viii. Other projects in the area
    - ix. Surface Stability: If there is any question that the surface will not hold the weight, an Engineer should be contacted to assess it
    - x. Landscaping
    - xi. Lighting
      - 1. Is there enough lighting for the lift?
      - 2. Are there lampposts, other lighting fixtures that obstruct the path of the lift?
    - xii. Bike Racks
    - xiii. Code Blue Towers
    - xiv. Roof capacity if loading onto a roof.

### 5.3. Approval and Notification

1. Submitted Crane Lift Plan is reviewed by the Safety Manager (or their designee).
2. After review, Crane Lift Approval along with the documentation of the lift plan provided by the end user is emailed to the UNM Project Manager and the end user to show final approval/acceptance. The Stakeholder (if applicable), FM Area Manager, FM Grounds, PATS and UNM Hospital Air Traffic group shall be copied (Cc) on the email.
3. If the lift qualifies as a Critical Lift, *Attachment A: Critical Lift Approval Form* will be completed, reviewed, and approved by a registered Engineer.

4. After the final signature has been obtained, the Signed *Critical Lift Approval Form* will be uploaded to the share drive and stored with the corresponding Crane Lift Plan.

## 6. LIST OF ATTACHMENTS

Critical Lift Approval Form

## ATTACHMENT A: CRITICAL LIFT APPROVAL FORM

The goal of the Department of Environmental Health & Safety (EHS) is to ensure that Crane Lifts are performed safely and in compliance with University Policies, safety laws, standards and codes, and to mitigate the risks associated with a Critical Lift. The following information has been developed to guide you through the EHS Crane Lift approval process.

### ***What determines whether a crane lift is a Critical Lift?***

A critical lift is one that possesses one or more of the following characteristics:

- Requires more than one (1) crane.
- Contains a load that exceeds 75% of the crane's rated capacity.
- Involves lifting personnel.
- The load suspension is located above the employees rigging the load.
- The load cannot be seen by the crane operator.
- The load is high in monetary value or requires special handling.
- The load has the potential to become unstable during transport.
- The load will be transported over occupied buildings/areas.
- The load weighs over 100 tons.

**If the lift qualifies as a Critical Lift, the Critical Lift Approval Form will need to be completed, reviewed, and approved by a registered Engineer.**

### **CRITICAL LIFT APPROVAL FORM**

Description:	
Request Date(s):	Lift Date(s):
Location:	Department/Company:
Contact:	Phone:
Appropriate Parties Notified: <input type="checkbox"/> Yes <input type="checkbox"/> No	Qualified Staff Listed: <input type="checkbox"/> Yes <input type="checkbox"/> No
Recent Inspection: <input type="checkbox"/> Yes <input type="checkbox"/> No	

<b>LIFT DETAILS</b>	
1. Crane Lift Checklist Attached? <input type="checkbox"/> Yes <input type="checkbox"/> No	2. Engineer contact information:
3. Qualified Staff? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Total Weight (lbs.) of Load:	Crane Type(s):
Percent (%) of Crane Capacity:	Maximum Capacity of Crane(s):
Boom Length:	Bumpers:
Wind Indicating Device:	Fire Extinguisher: <input type="checkbox"/> Yes <input type="checkbox"/> No
Equipment to be Used:	
Special Precautions:	
Sketches: <input type="checkbox"/> Complete <input type="checkbox"/> Need more information: _____ _____ _____	
Does the Pre-Lift Checklist include the minimum requirements? <input type="checkbox"/> Yes <input type="checkbox"/> No If "No", what is missing? _____	
<b>OBSTACLES/OBSTRUCTIONS</b>	

Power Line Encroachment: Maximum Working Radius + ½ Load Length = Is the total within 20 feet of an overhead power line? <input type="checkbox"/> Yes <input type="checkbox"/> No If “Yes”, Voltage of line(s): If “Yes”, Measures to be taken:	
Airspace Encroachment Maximum Vertical Boom Elevation: If over 200 feet, has the FAA been notified? <input type="checkbox"/> Yes <input type="checkbox"/> No Other:	
<b>COMMUNICATION:</b>	
Method(s): <input type="checkbox"/> Phones <input type="checkbox"/> Radios <input type="checkbox"/> Signals <input type="checkbox"/> Verbal <input type="checkbox"/> Other:	
Emergency Contact:	
<b>WEATHER</b>	
Wind Speed:	Temperature:
Additional Concerns:	












# Crane Lift Plan SOP R1

Final Audit Report

2023-06-27

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