







# SAFETY AND HEALTH STANDARDS

## CRANES, HOISTS and LIFTING EQUIPMENT

Effective Date: 05/10/11

Standard: 16.4

Document Number: **KUCSH0052**

Rev: 04

area where exposed buses are present; or when moving loads over powerlines or substations.

### 16.4.3 **MAINTENANCE and INSPECTION**

- 16.4.3.1 There must be a documented process that ensures all critical components are inspected and in place prior to a crane being commissioned and put into service.
- 16.4.3.2 Crane operators must undertake a pre-operational safety check for each shift the crane is used and this should be kept with the crane. The detail required in the pre-operational safety check must be based on a risk assessment for the crane. The operator must report any malfunction to the supervisor immediately. A crane must not be operated with an inoperable or defective safety device.
- 16.4.3.3 Any crane brought to site must have a current test certificate and a pre-use safety inspection to ensure the crane is fit for purpose. As a minimum, this inspection must satisfy regulatory and manufacturer requirements for frequency of inspection and physical condition of the machine.
- 16.4.3.4 There must be a system for the inspection, maintenance and approval of lifting equipment, including a process that verifies the equipment is able to function to its design specifications and the integrity of:
- Mechanical and electrical components.
  - Controls for each piece of lifting or rigging equipment.
  - Crane cables and all lifting attachments.
  - Structural components of the hoist, brakes, wheels, hooks, hook-blocks and rails.
  - Integrity of load limiting devices, safety devices, limit switches and control systems required for individual equipment.
- 16.4.3.5 All welding procedures and welder qualifications used on load-sustaining members must be in accordance with AWS D14.3. Modifications or additions are prohibited without written approval from the manufacturer.
- 16.4.3.6 All cranes must be formally inspected on a monthly and annual basis. The inspections must be documented, and performed in accordance with manufacturer's recommendations and regulatory requirements. Inspections and repairs to cranes, cables and lifting



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**PLANNED CRITICAL LIFT PERMIT (Standard 16.4)**

REV 7 - 4/11

Permit will be posted at work site until work is complete or a new permit is issued. This permit must be reviewed every shift and reissued if a change in conditions or work scope has occurred. Expired permits shall be returned to the facility recordkeeping center for filing. This permit and supporting data must be submitted before any of the following lifts are made (check all that apply):

- A multiple crane lift
- Personnel Hoisting (See Safety and Health Standard 16.20)
- A non-routine lift of 20 tons or more
- An expected load lift is 85% or more of the crane's rated load capacity
- A lift over power lines, process piping or vessels containing hazardous materials, or operating facilities which may endanger personnel

Is a Close Proximity Permit required?  Yes  No

<b>Originated By:</b>		<b>Date and Time Issued:</b>			AM PM
<b>Crane Operator:</b>		<b>Work Area / Location:</b>			
<b>Work Description:</b>					
<b>Contractor Name:</b>		<b>Contractor Supervisor:</b>			

TRACK completed for this task (Initials):

LIFT DATA										
1. Equipment Weight	1.									
2. Weight of Rigging	2A.	Main Hoist Block		Secondary Block or Ball						
	2B.	Slings		Shackles						
	Total Rigging Weight:			2A.		2B.				
3. Total Lift Weight	3A.	On Sling (1 + 2B) =								
	3B.	On Crane (1 + 2A + 2B) =								
4. Height of Lift	Not greater than		Feet							
	Elevation sketch showing height relation to crane attached?					<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	
5. Radius of Lift	Not greater than		Feet							
	Plot plan showing location and orientation of crane attached?					<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	
6. Equipment Surface Area	Maximum subject to crosswind				Sq. Ft.					
CRANE DATA										
1. Crane Manufacturer										
	Manufacture's load chart showing capacity at varying radiuses and boom lengths attached?					<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	
2. Model and Size										
3. Attachments										

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Exhibit 16.4.1

4. Bumper or Auxiliary Counterweight					Lbs.		
5. Boom Length	Not greater than				Feet		
6. Jib Length	Not greater than				Feet		
7. Load Block	Size		Weight		# Sheaves		
8. Secondary Block or Ball	Size		Weight		# Sheaves		
9. Main Block	Parts of Line			Capacity			
10. Secondary Block	Parts of Line			Capacity			
11. Mat Size / Footplate Size	Beneath each track or fully extended outrigger?						
	Soil bearing pressure (PSF) calculated				Allowable		
12. Notes							
<b>RIGGING DATA</b>							
1. Sling(s)	Diameter		Length		Capacity		
	Vendor's chart showing capacity for different angles and sling configurations, type of wire rope and loop splice attached?				<input type="checkbox"/>	Yes	<input type="checkbox"/>
2. Briefly describe and sketch sling connection at hook and equipment. Show dimensions and sling angles.							
3. Shackle(s)	Size		Capacity per shackle				
	Vendor's chart showing capacity attached?				<input type="checkbox"/>	Yes	<input type="checkbox"/>





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**CLOSE PROXIMITY PERMIT (Standard 16.4)**

Rev. 5 – 4/11

**A “Close Proximity Permit” must be completed and approved before conducting work that places equipment or workers within:**

- 15 feet of power lines;
- Any fenced substation;
- Any work area where exposed busses are present.

Requested By			
	Print Name	Signature	Date
Plant		Work Location	
Department		Contractor (If Applicable)	

**Description of Work:**

**TRACK** completed for this task (*Initials*):

Reference Drawing No.:

Location:

Work to be Performed:

Brief Description of Interference and Safety Measures to be Taken:

Area Barricaded                       Electricity De-energized

Proposed Work Date and Time:

**Approved By:**

Superintendent			
	Print Name	Signature	Date
Electrical Engineering/ Supervisor			
	Print Name	Signature	Date
Safety			
	Print Name	Signature	Date
Equipment Operator			
	Print Name	Signature	Date