

Acme Coke
11236 S. Torrence Ave.
Chicago IL 60617



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OSHA Overhead Crane Inspections
Dated: 1983

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Copies to:

Date: June 2, 1983

J. Bitner
F. Gambol
J. Garzella

To: Mr. D. Garthus
From: R. P. Winters
Subject: 1983 OSHA Overhead Crane Inspections
Reference:

Attached are reports for the 1983 OSHA inspections of the various overhead cranes and support systems, as well as the pig iron gantry crane.

There are several maintenance type monorail cranes in the coke plant which have never been part of the inspection program. They will be inspected within the next two weeks as part of the five year structural inspection report being prepared for the City of Chicago. In the future, we plan to include these as part of the annual inspections.

If you have any questions or comments, please contact me or Jim Price.



blc
attachments

STI

1983 OSHA STRUCTURAL INSPECTION
OF THE
MAINTENANCE SHOP OVERHEAD CRANE
AND
SUPPORT SYSTEM
AT THE
COKE PLANT

April, 1983

INTERLAKE, INC.
CHICAGO PLANT
CHICAGO, ILLINOIS

By: J. Price

Date: June 3, 1983

Approved: D. G. Juricic, S.E.
Structural

Approved: R. P. Winters
Manager - Engineering
Iron & Steel Division

1983 OSHA Structural Inspection
Maintenance Shop Overhead Crane & Support System
at the Coke Plant
April, 1983

PURPOSE AND SCOPE OF INSPECTION

The inspection was made to determine what repairs are required to maintain safe usage of the crane at the rated capacity, and to insure its compliance with the Federal Department of Labor's OSHA standards.

The inspection was complete for all structural components of the crane.

The crane hooks were inspected for surface defects.

METHOD OF INSPECTION

The inspection was visual with the use of hand tools. Dye penetrant bath was used for hook crack detection.

PLANT CONTACT AND INFORMATION

All information, scheduling, safety, and crane operator arrangements were obtained from G. Carducci of the Coke Plant.

DATE OF INSPECTION AND INSPECTORS

The inspection was made by the Iron and Steel Division Engineering's Inspection Department on April 25 and 26, 1983 by J. Price.

RESULTS OF INSPECTION AND CONCLUSION

For convenience, the repair items have been divided into two categories:

- Category 1 - Items that are of such a serious nature that they should be completed within 30 days from the inspection date to maintain structural integrity of the crane.
- Category 2 - Items that are not as serious and should be completed during the normal scheduled yearly maintenance of the crane.

The items found on the inspection are listed on the attached pages.

OSHA DESIGN SPECIFICATIONS

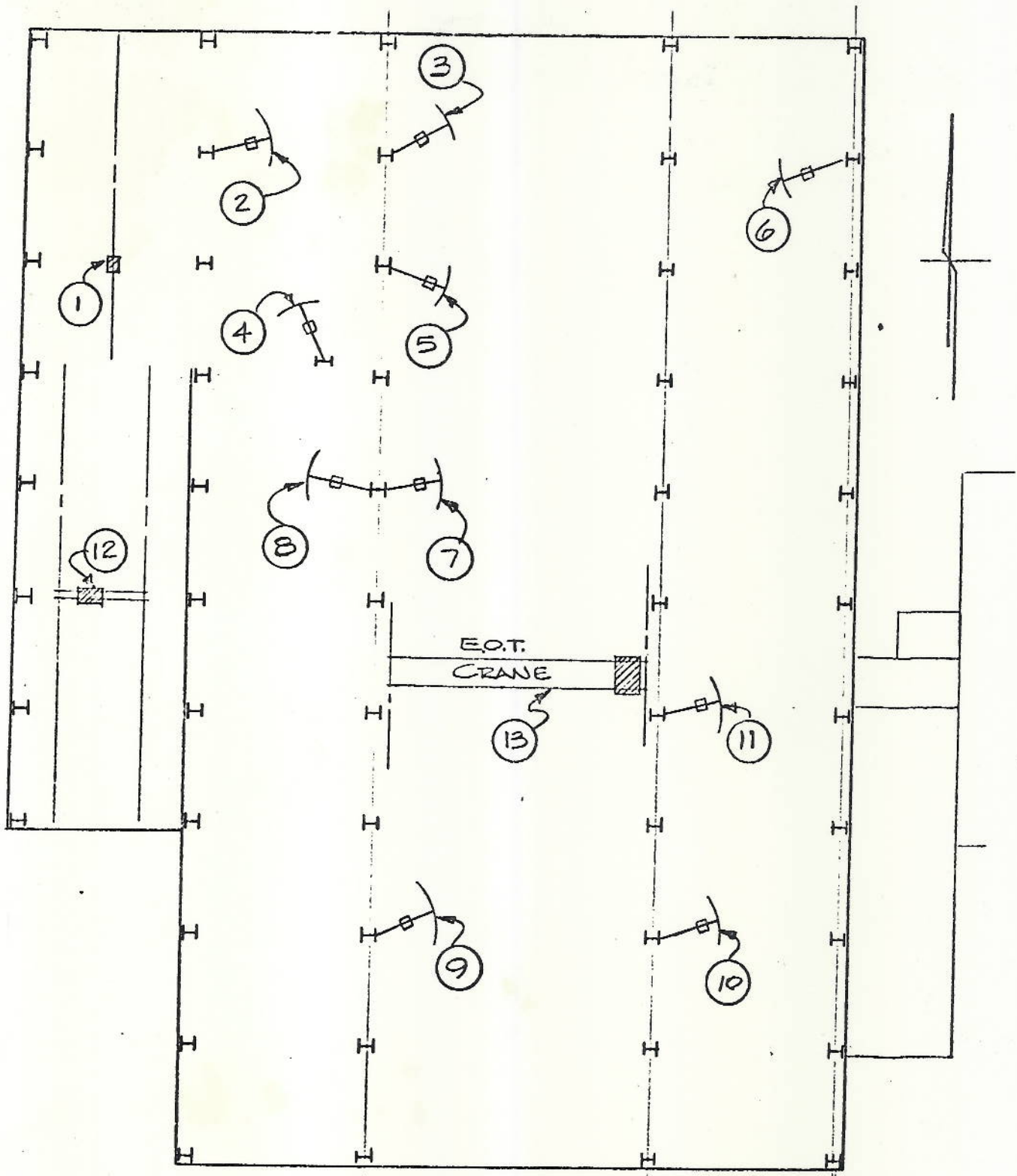
Because of the age of the crane, the design specifications for overhead and gantry cranes are advisory to OSHA Safety and Health Standards 29CFR1910.179(b)(2):

"Overhead and gantry cranes constructed before August 31, 1971, should be modified to conform to those design specifications by February 15, 1972, unless it can be shown that the crane cannot feasibly or economically be altered and that the crane substantially complies with the requirements of this section."

However, this report lists all items which are not in compliance with the regulation, as a Federal OSHA inspector may cite them, in which case Interlake must defend its position. Certain of the items, designated by an asterisk (*), are not covered by the above exemption and must be corrected.

NOTE: Asterisk (*) marked items refer to OSHA design specifications. Attachment in body of report

ITEMS CITED	RECOMMENDED ACTION	CATE-GORY	TARGET COMP. DATE	ACTUAL COMP. DATE
<u>ITEMS</u>	<ol style="list-style-type: none"> 1. Northeast and northwest crane bumper bolts are loose. 2. Guard overdrive gear loose. 3. Four (4) loose bolts on trolley rail splice-bar (north side). 	2		
<u>JIBS</u>	<ol style="list-style-type: none"> 4. <u>No. 3 Jib Crane</u> - Bolt missing on column connection. 5. <u>No. 6 Jib Crane</u> - Two (2) loose bolts on diagonal bracket. 6. <u>No. 10 Jib Crane</u> - Crane swings to the north. 	2		
NOTE:	Inspection revealed deflecting on several of the jib beams.			
	The lifting capacities should be stencilled on jib beam for maximum visibility.			
	Arrangement of jibs on following sheet.			



Annual Structural Inspection
Chicago Coke Plant Machine Shop
Overhead & Jib Cranes Arrangement

Dwg. No.
C-55-I

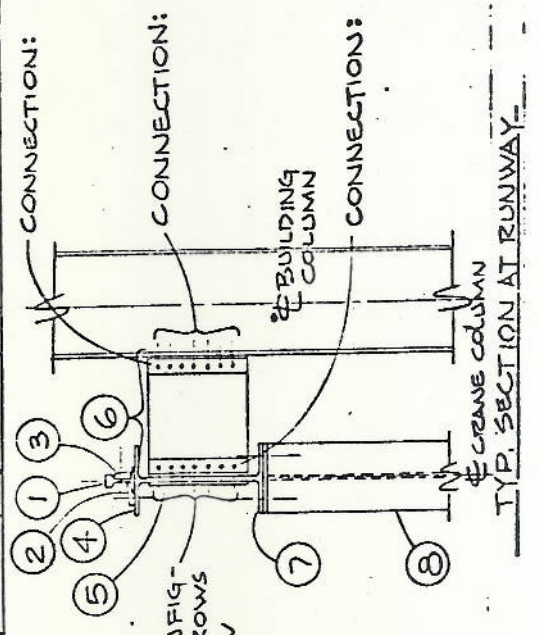
EAST RUNWAY SUPPORT SYSTEM

	①	②	③	④	⑤	⑥	⑦	⑧	CRANE COLUMN FOUNDATION	REPAIR REQ'D
SOUTH To NORTH	CRANE RAIL	RAIL CLIPS	RAIL SPLICE BAR BOLTS	CRANE GIRDER	GIRDER SPICE	GIRDER TO COL. DIAPHRAGM	GIRDER TO CRANE COL. SEAT CONNECTION	CRANE COLUMN	CRANE COLUMN FOUNDATION	REPAIR REQ'D
col. 1		2L RI								
col. 2		3L RI								
col. 3										
col. 4		3L RI								
col. 5										
col. 6		3L RI								
col. 7										
col. 8		4L RI								
col. 9		2L RI								
col. 10										
11										

ALL REPAIR ITEMS
CATEGORY 2 UNLESS
NOTED OTHERWISE

**NOTE: CRANE
GIRDERS AND
COLUMNS IN
Good Condition**

CRANE RUNWAY
SUPPORT INSPECTION
CRANE: **EAST**
RUNWAY SYSTEM
DATE: _____ PAGE No. _____



LEGEND:
 B = BOLT
 R = RIVET
 SB = SPLICE BAR BOLTS
 L = LOOSE
 M = MISSING
 S = SHEARED

REPAIRS	REPAIRS REQ'D.	CONDITION	RECOMMENDED ACTION
R1		LOOSE BOLTS	TIGHTEN BOLTS
R2		MISSING OR SHEARED BOLTS & LOOSE, MISSING, OR SHEARED RIVETS	REPLACE WITH HIGH STRENGTH BOLTS
R3		MISSING OR SHEARED SPLICE BAR BOLTS	REPLACE WITH PROPERLY SIZED SPLICE BAR BOLTS

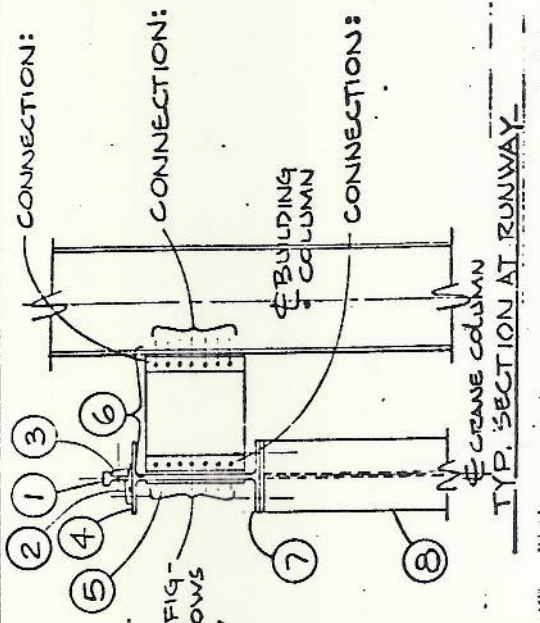
WEST RUNWAY SUPPORT SYSTEM

	①	②	③	④	⑤	⑥	⑦	⑧	CRANE COLUMN FOUNDATION	CRANE COLUMN
	CRANE RAIL	RAIL CLIPS	RAIL SPICE BAR BOLTS	CRANE GIRDER	GIRDER SPICE	GIRDER TO COL. DIAPHRAGM	GIRDER TO CRANE COL. SEAT CONNECTION	CRANE COLUMN	CRANE COLUMN FOUNDATION	CRANE COLUMN
SOUTH To NORTH										
col. 1										
col. 2		2L								
col. 3			2L							
col. 4		4L								
col. 5		2L								
col. 6			2L							
col. 7		3L								
col. 8		2L								
col. 9		4L								
col. 10										
11										

ALL REPAIR ITEMS CATEGORY 2 UNLESS NOTED OTHERWISE

NOTE:
CRANE GIRDERS
And columns
IN Good
CONDITION.

CRANE RUNWAY SUPPORT INSPECTION
CRANE: **WEST**
RUNWAY SYSTEM
DATE: _____ PAGE NO. _____



LEGEND:
B = BOLT
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REPAIRS REPAIRS REQD.	CONDITION	RECOMMENDED ACTION
R1	LOOSE BOLTS	TIGHTEN BOLTS
R2	MISSING OR SHEARED BOLTS & LOOSE, MISSING, OR SHEARED RIVETS	REPLACE WITH HI-STRENGTH BOLTS
R3	MISSING OR SHEARED SPICE BAR BOLTS	REPLACE WITH PROPERLY SIZED SPICE BAR BOLTS

INTERLAKE, INC.
135th & Perry Avenue
Riverdale, Illinois 60627

STRUCTURAL CRANE INSPECTION REPORT

TYPE OF CRANE E.O.T. USER EQUIPMENT NUMBER _____

PLANT CHICAGO COKE PLT. BUILDING NUMBER MAINTENANCE SHOP

PLANT CONTACT G. CARDUCCI DEPARTMENT SUPT. G. CARDUCCI

CRANE CAPACITY: MAIN HOIST 10 TONS AUX. HOIST — TONS

MANUFACTURER NILES SERIAL NUMBER _____

DATE INSPECTED APRIL 25-26-1983 INSPECTORS J. PRICE

CHECK LIST OF ITEMS INSPECTED

Any items found to be satisfactory are checked (✓) in the No Repair column. Any repair items are noted in the second column, and itemized in the attached report. The report indicates the recommendation for those item(s) that require repair, replacement, or monitoring. Recommendations for any unsafe or structural condition of an emergency nature were provided at the time of inspection and noted in the attached report.

ITEM	CONDITION TO INSPECT	NO REPAIR	SEE REPORT ITEM
1	Rated load plainly marked on both sides of crane? If more than 1 hoist, rated load marked on each hoist or load block?	✓	
2	Minimum clearance of 3 inches overhead and 2 inches laterally shall be provided and maintained between the crane and obstructions.	✓	
3	Where passageways or walkways are provided, obstructions shall not be placed so that safety of personnel will be jeopardized by movement of the crane.	✓	
4	The cab shall be located to afford a minimum of 3 inches clearance from all fixed structures within its area of possible movement.	✓	
5	The clearance of the cab above the working floor or passageway should be not less than 7 feet.	✓	
6	Access to the cab and/or bridge walkway shall be by a conveniently placed fixed ladder, stairs or platform requiring no step over any gap exceeding 12 inches.	✓	
7	A carbon dioxide, dry chemical or equivalent hand fire extinguisher should be kept in the cab. Carbon tetrachloride extinguishers shall not be used.	✓	
8	Light in the cab shall be sufficient to enable the operator to see clearly enough to perform his work.	✓	
9	If sufficient headroom is available on cab-operated cranes, a footwalk shall be provided on the drive side along the entire length of the bridge of all cranes having the trolley running on the top of the girders. To give sufficient access to the opposite side of the trolley, there should be provided either a footwalk mounted on the trolley, a suitable footwalk or platform in the building, or a footwalk on the opposite side of the crane at least twice the length of the trolley.	✓	
10	Footwalks shall be of rigid construction and designed to sustain a distributed load of at least 50 pounds per square foot. Footwalks shall have a walking surface of antislip type (wood will meet this requirement).	✓	

ITEM	CONDITION TO INSPECT	NO REPAIR	SEE REPORT ITEM
11	Footwalks should have a clear passageway at least 18 inches wide except opposite the bridge motor, where they should be not less than 15 inches. The inner edge shall extend at least to the line of the outside edge of the lower cover plate or girder flange.	✓	
12	Footwalks should be located to give a headroom not less than 78 inches. In no case shall less than 48 inches be provided. If 48 inches of headroom cannot be provided, footwalks should be omitted from the crane and a stationary platform or landing stage built for workmen making repairs.	✓	
13	Gantry cranes shall be provided with ladders or stairways extending from the ground to the footwalk or cab platform.	N/A	
14	Trolley stops shall be provided at the limits of travel of the trolley. Stops shall be fastened to resist forces applied when contacted. A stop engaging the tread of the wheel shall be of a height at least equal to the radius of the wheel.	✓	
15	Crane bumpers shall have sufficient energy absorbing capacity to stop the crane when traveling at a speed of at least 40 percent of rated load speed. The bumpers shall be so mounted that there is no direct shear on bolts.	✓	
16	Trolley bumpers shall have sufficient energy absorbing capacity to stop the trolley when traveling in either direction at 1/3 of the rated load speed.	✓	
17	Bridge trucks shall be equipped with sweeps which extend below the top of the rail and project in front of the truck wheels.	✓	
18	Guards for hoisting ropes will be provided if hoisting ropes run near enough to other parts to make fouling or chafing possible.	✓	
19	Exposed moving parts such as gears, set screws, projecting keys, chains, chain sprockets and reciprocating components which might constitute a hazard under normal operating conditions shall be guarded. The guards shall be securely fastened and capable of supporting 200 pounds without permanent distortion.	✓	
20	Pendant control boxes shall be constructed to prevent electrical shock and shall be clearly marked for identification of functions and shall automatically return to the off position when released by the operator.	N/A	

ITEM	CONDITION TO INSPECT	NO REPAIR	SEE REPORT ITEM
21	All electrical equipment shall be so located or enclosed that live parts will not be exposed to accidental contact under normal operating conditions.	✓	
22	Electrical equipment shall be protected from dirt, grease, oil and moisture.	✓	
23	On cab operated cranes a switch or circuit breaker of the enclosed type with provisions for locking in the open position. A means of opening this switch or circuit breaker shall be located within easy reach of the operator.	✓	
24	On floor operated cranes a switch or circuit breaker of the enclosed type, with provision for locking in the open position shall be mounted on the bridge or footwalk near the runway collectors and shall have a nonconductive rope disconnect.	N/A	
25	Runway conductors of the open type mounted on the crane runway beams or overhead shall be so located or so guarded that persons entering or leaving the cab or crane footwalk normally could not come into contact with them.	✓	
26	Except for floor-operated cranes, a gong or other effective warning signal shall be provided for each crane equipped with a power traveling mechanism.	✓	
27	Deterioration or leakage in lines, tanks, valves, drain pumps and other parts of air or hydraulic systems.	✓	
28	Deformed, cracked or corroded members.	✓	
29	Loose bolts or rivets.		✓
30	Worn, cracked or distorted parts such as pins, bearings, shafts, gears, rollers, locking and clamping devices.	✓	
31	Crane hooks, magnetic particle or other suitable crack detecting inspection.	✓	

ITEM	CONDITION TO INSPECT	NO REPAIR	SEE REPORT ITEM
32	Non-slip surface required on all walkways; toeboard at least 4" x 5/16" plate no more than 1/4" above walkway; handrail and posts at least 2" x 2" x 3/8" or equivalent; Top rail at least 3'-6" and mid-rail at half-way approximately; post spacing 8'-0", minimum clearance for handrail is 3".	✓	
33	Ladders: 12 inch maximum between rungs, minimum length of rungs is 16 inches. Openings in floor shall be 30 x 30 inches minimum climbing side clearance shall be not less than 30 inches. On back of ladder, 7 inches minimum clearance required.	✓	
34	Loose or missing trolley rail clamp bolts, rail splice bolts, and worn or cracked trolley rails?		✓
35	Worn trolley wheels and crane wheels?	✓	
36	Loose, bent, or missing handrail and toeboard?	✓	
37	Deteriorated walkway plate or grating?	✓	