Lift Planning Workshop

Using the ASME P30.1
Planning for Load Handling Activities Volume

March 9, 2017
Las Vegas, NV

Presented by the ASME P30.1 Committee
P30.1 Lift Planning Workshop

Assignment

You are a member of the lift planning group for Mid-Plains Crane, LLC. (MPC), of Oklahoma City, OK.

A regular client, Red River Power Systems (RRPS) has asked that you perform a review of their upcoming compressor installation project. They have asked that you identify the lift category and then proceed with your proposal for removing the $1.84M compressor from a low-boy trailer and then placing it onto its 50’ elevated structure stand. You should read through their corporate crane and rigging documents to review the plan categorization requirements.

RRPS will provide site supervision and safety controls while MPC is expected to provide a lift director, crane, crane operator, riggers and signal person as required. All rigging and any necessary ancillary equipment shall be provided by MPC.

RRPS expects a proposal this afternoon for this project. The project date is targeted for March 27th. The load has traveled from the manufacturer’s location to the plant, and is still secured to a low-boy trailer and parked in the plant storage yard. The plant will pay the trucking company to allow the loaded trailer to stay on-site until Monday the 27th, and then a semi-truck will arrive in order to position the trailer for the crane service company, to accommodate load removal.

You can “call” the RRPS project coordinator with any special questions. A site plan including a soil condition report has been provided.

Please work with your planning group and develop the following:

___ 1. Categorize the lift as “standard” or “critical” based on RRPS’s criterion.

___ 2. Develop a lift data sheet detailing the crane selection and all associated information (Page 1, blank form).

___ 3. Prepare a crane set-up and rigging plan for the lift (Page 2 and 3, blank form).

___ 4. Identify the MPC personnel who will have immediate assignments for the load handling activity (Page 4, blank form).

___ 5. Prepare a Method Statement or description of Lift Sequence that helps the RRPS management team understand your planned approach to the activity (Page 4, blank form).
NARRATIVE

The worksite is an operating natural gas-fired power plant. Expansion of the facility and upgrades to various equipment items has been on the schedule for 2 years. Overall the project schedule is on-track.

Red River Power Systems (RRPS) has a longstanding relationship with Mid-Plains Cranes as a provider of crane and rigging services. General construction lift cranes from the MPC fleet are on-site and assisting with the hoisting demands in the new expansion area on a daily basis. Currently a Grove RT890E and RT635C are performing work on a daily basis. MPC has provided higher capacity and/or longer boom length hydraulic cranes for the project on an intermittent basis for special lifting activities.

All contractors are required to abide by the RRPS Crane and Rigging Manual. A limited version is provided in the work agreement package. The RRPS management also expects crane and rigging contractors to use the ASME P30.1 Volume for guidance during the development and execution of load handling activities.

An RRPS Safety Manual has been provided to all contractors and the Safety Department strictly enforces the included requirements at all times. NOTE: It is not anticipated that fall arrest tie-off is needed for this project while working on the 50’ structure (machinery deck). The deck has a 48” wall surrounding it and there are no open hatchways. There is a ladder access and doorway that opens onto the machinery deck.

MPC has been in business for 25 years and has a mix of cranes in its fleet. MPC uses 3rd party inspection companies for annual inspections and have 2 fulltime mechanics. The owners of MPC maintain a substantial budget for maintenance and repair of their cranes, in order to have cranes that are at-the-ready and in top-flight condition.

Two cranes that are available for the compressor installation from MPC’s fleet are the Link-Belt ATC3200 and the Grove GMK6300B. The RRPS Safety Department has determined that a machine stand-off must be maintained at a distance of 10’ from the west wall of the new Building 1005 and 1006 (does not restrict outrigger mats or pads).

If a written plan is to be provided by MPC for this load handling activity, the names and titles of the MPC should be provided as well; lift director, crane operator, riggers and signaler.
Compressor Installation Project

TASK: Must lift and set the compressor up to a machinery deck at a height of 50’.

Data and information for the Lift Planner

1. Load Weight = 26.0 short ton
2. Load dimension (approximate) = 14’ wide x 44’ long x 12’ tall
3. Center-of-gravity =
   
   7’ from west side, 7’ from east side,
   
   16.42’ from north end, 27.58’ from south end
   
   4’ from bottom
4. Pick points on the load are qualified lifting lugs that are 2’ from bottom, suitable for 1-1/2” to 2-1/2” shackles. Load must be rigged using shackles and slings that pass vertically or slightly outboard to avoid crushing damage to load components. Location of lugs is on Compressor Module drawing.

East end of load, 14’ between lugs
5. See Site map for details about adjacent buildings and set-up area.

6. There are no overhead power lines within 300’ of targeted crane set-up area or load landing point.
State of Oklahoma

Scale and OHP Checkpoint #4, Route 60, MP 53

Trip Permit

Carrier: Hope Sandler Trucking, Wewoka, Oklahoma

Method: Semi-truck and heavy-haul trailer, triple rear axle

Semi and Trailer Empty: 34,500 lbs.

Scale Weight Loaded: 86,500 lbs.

Net Weight: 52,000 lbs.

Permit required due to: Size = 14.5’ x 12.0’ x 45.0’

Oklahoma requirements:

*Oversize/overweight permit allows daylight travel only. Pilot cars front and back required. Carrier is required to confirm overpass clearances and bridge gross/axle loads.*

Driver: Mr. Harry Sandler, age 46, no violations on file

Current CDL: OK49228F5

Semi-Truck with double drop deck: Inspection - PASSED

Oklahoma Highway Patrol Inspector: Mark P. Buffington

Permit Approved: Yes

By OHP: Mark P. Buffington

Date: March 8, 2017
Date: February 23, 2017

From: Michael Johnson, PE, Geo-Technical Services, OKC, OK

To: Mr. Glen Robinson, Site Manager, Red River Power Systems, Inc.

**Executive Summary**

1. Site: 33°52’29.79”N and 78 feet south, 97°55’11.07”W and 60 feet east
2. Site reviewed, survey and sampled (15).
3. Soil conditions appear to be able to support 3,100 psf. to 3,350 psf.
4. Full documentation package to be delivered April 5, 2017.

**Recommendation**

1. Permit heavy equipment and crane usage that does not exceed 3,000 psf.

Respectfully submitted,

Michael Johnson, PE