

HAZARD ALERT

Hoisting and Lifting with Tight Clearances

Trend of Incidents

In recent months Aecon has experienced significant incidents during craning activities where loads have got “hung up” and caught, causing rigging to fail, loads to be dropped or loss of control of the load putting the material and personnel at risk from the load being dropped and/or the rigging falling.

Sample of Incidents:

A cover on a turbine, weighing approximately 4.5 tons, was being lifted by an overhead gantry crane. Initially it was being lifted in minor increments to clear the lagging studs. Prior to clearing the lagging studs, the cover became “bound”. The crane overstressed the rigging hardware and the hardware failed. The casing fell back into position causing damage, and the rigging hardware fell to the floor.

While removing a heat exchanger between two floors with an overhead gantry crane, the load got caught on the turbine housing causing the rigging to be overloaded and then to fail. The failed rigging resulted in the exchanger falling approximately 15’ back into the housing. The exchanger weighs approximately 3500 lbs. There were three workers directly beside the load when the rigging failed.

While retracting the crane hook after setting and disconnecting a load, with the rigging hardware still on the hook, a shackle on the rigging hardware got caught on the building structure coming thru the hoistway. The shackle released from its catchpoint and swung and struck a worker in the knee.

Cause of the Incident(s)

- Improper use of cranes to lift loads where there are tight clearances.
- Failure to control loads during craning activities to prevent “hang-ups”.
- Not following best practices or established safe work procedures.

Large cranes do not provide precision control when craning loads where there are tight clearances or obstructions. If the load does get caught the crane can quickly overstress the rigging hardware.

Preventative Actions

- Every lift should be well planned to ensure safe execution is accomplished.
- Ensure all hazards are identified using hazard assessments, JARR cards, safe lift plans, etc. including lifts with tight clearances and lifting methods, “catch points” or obstructions and how to prevent the load from getting “hung up”
- When craning a load where there are tight tolerances/clearances, a more precise lifting method should be used (e.g. Chainfall, tugger, come along, etc.) to ensure any hang-ups can be identified before the equipment is stressed to failure.
- When hoisting in tight clearance the spotter must be aware of the signs of a potential hang-up/catch point and have established communication procedure to halt the work to prevent any equipment failure.

Note: For further information, please contact your EHS Department.

May 13, 2018

