

Dropped Object from Crane Boom Rest

SAFETY ALERT

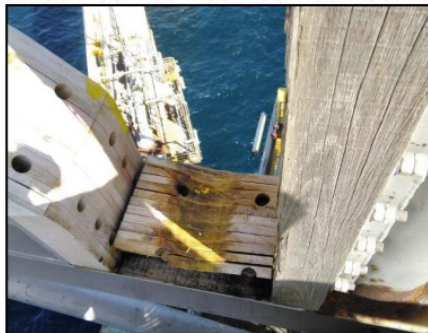
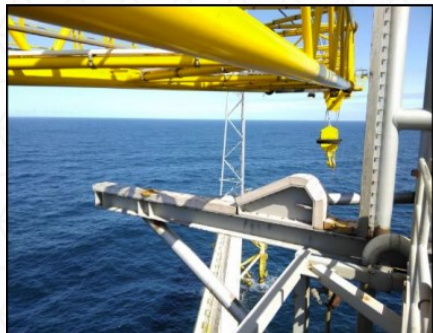
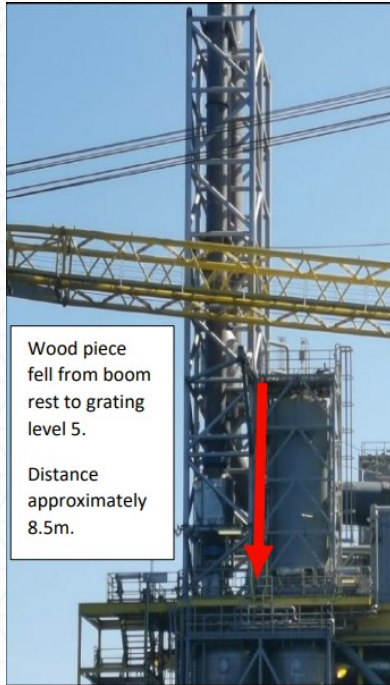
Description of incident:

Whilst carrying out area checks, the Deck Lead identified that a piece of wood from the crane boom rest had fallen 8.5 meters to the level 5 deck. The dropped object weighed 1.8Kg.

The crane boom rest was a new installation, designed to accommodate the extended walkway of the new crane boom. The rest had been in position for 4 months, and in use for 10 weeks.

The dropped object landed just beside the walkway, and separated into two pieces upon hitting the grating (1.25Kg & 0.55Kg).

The walkway area where the wood piece landed was not barriered off, although a scaffold was blocking the south end, thereby reducing traffic in the area. There was no work being conducted in the area at the time of the incident.



Findings:

- The design of the timber cradle block in the new boom rest (glued, laminated timber without lateral mechanical restraint) did not offer adequate physical integrity to withstand repetitive, dynamic loads associated with normal crane usage.
- The specification of the hardwood cradle block was not adequately detailed in the engineering design, resulting in oversight during company acceptance, oversight during 3rd party verification, and undue latitude in the chosen method of fabrication.
- The fabricator's proposal to use a glued, laminated design was not based on a fitness for purpose rationale; and did not recognise the operational dropped object hazard during their QC control process.
- The proposed material selection and design was accepted without challenge to its fitness for purpose in a crane boom rest. Neither the Company review, Company QC control, nor third-party verification during fabrication/installation had challenged the material selection and assembly.

Good practice:

- Ensure that the design of new Crane Boom rest blocks are fit-for-purpose, and that their means of retention provide adequate integrity to withstand repetitive, dynamic loads expected of crane usage.
- Ensure that newly designed, or retrofitted crane boom rest blocks have the lowest number of component parts practicable, and avoid use of laminated blocks wherever possible.
- Ensure that crane boom inspections identify, and pay particular attention to the integrity and security of any boom rest blocks of laminated construction (consider their replacement and/or secondary retention measures where necessary)
- Ensure that the 'request for modification' (RFM) process is followed for all field modification projects, ensuring that adequate hazard analysis is performed for all new and/or revised designs/modifications.