

Gangway Failure

What happened?

A purpose-built project modular gangway for jacket access from a construction barge parted at the jacket end and fell into the sea. To allow for movement of the construction barge, the gangway had a roller support at the barge end and was supported by a gimbaled joint at the platform jacket end. The failure occurred in the vertical pin of the gimbaled joint.

Investigation determined that a weld around the centre of the pin was omitted during the fabrication process, which would have increased the stress levels in the pin. It was further determined that the incorrect grade of steel for the pin was ordered, although the yield stress of the steel was as specified in the design.

Although slings and chains were placed on the gangway and connected to the landing platform they were too long to prevent the gangway from dislodging from the landing platform, and were of insufficient strength to withstand the impact loads and prevent the gangway from falling into the sea.

Purely by chance no personnel were transiting across the gangway at the time of the incident and there were no injuries to personnel working in the vicinity.

Had personnel been on the walkway when the jacket end fell some ten metres into the sea there could have been multiple fatalities and/or serious injuries.



The gangway collapsed into the sea



The failed gimbal pin

Key Lessons

1. Fabrication yard quality assurance must include a thorough inspection to ensure that the design and specification have been met. These need to include checks that all specified welds have been made, not just Non-Destructive Testing (NDT) of the welds that have been made, and that mill certificates for the steel used matches the grade that was specified, not just in relation to yield stress.

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2. Secondary fall protection arrangements must be properly engineered and specified in the installation, operation and maintenance procedures for gangways.
3. These operation and maintenance procedures also need to provide for close visual inspection at least once per shift when the gangway is in use.

Who is responsible?

- (i) The operator of an offshore facility has general duties of care under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* to ensure that all work and other activities are safe, and that the risk to people is as low as reasonably practicable. Specifically, the operator must implement and maintain a safe system of work for any plant and equipment.
- (ii) Any titleholder and service contractor who is in control of any part of a facility or particular work carried out at a facility has similar duties to the operator for that part of the facility or that particular activity.

Contact

For further information, email alerts@nopsa.gov.au and quote Alert number 36.