High Potential Incident
- Engine Room Fire-
DESCRIPTION OF INCIDENT

On the evening of 22nd July 2019 the Support vessel (S.V) was conducting bunkering operations with the bunkering tanker.

During the bunkering operation, at 19:43 the smoke alarm in zone 6 (engine room) was activated onboard. Bunkering was stopped, and ventilation to the engine room shut.

Confirmation was received at 19:45 that there was a fire in the engine room. The crew mustered and prepared firefighting equipment and initiated firefighting process.

The engine room fire was confirmed as extinguished, smoke free at 20:25. Post incident visual inspection suggest that the fire was extinguished earlier than 20:25.
INVESTIGATION AND ANALYSIS

The investigation concluded the fire in the engine room was caused by the failure of the gasket in a 6mm flange joint of the main fuel line which resulted in an uncontrolled release of fuel oil into the engine room and contact with an ignition source.

Contributing Factors:

- No spray shield/splash cover were fitted on the fuel line flanges
- The engine room is unmanned during the bunkering operation and the bunkering monitoring system was unable to detect unplanned fuel losses during the operation.
- Ignition sources were present in the engine room during bunkering operations:
  - High temperature surfaces of the engine
  - Exhaust pipes in the engine room
  - 220VAC lighting fixture above AUX engine 2, below the leaking flange.
CORRECTIVE ACTIONS

- Oil fuel lines located immediately above or near units of high temperature including boilers, steam pipelines, exhaust manifolds, silencers or other equipment required to be insulated with spray shield/splash cover.

- Independent third-party to investigate:
  - Ignition source
  - Analysis of gasket
  - Thermographic engine room

- Review redirecting oil fuel lines number of joints in such piping systems shall be kept to a minimum.

- Support Vessel Inspection (SVIC) to be update to include inspection of fuel line

- Review bunkering procedure with regards to engine space manning during bunkering
CONCLUDING COMMENTS

The investigation concluded that the response to the fire was handled effectively by the crew emergency team.

Hazard:
The failure of the gasket could not have been anticipated but inadequate hazard identification resulted in the fuel line and fuel line flange (weak point) being located directly above the engine which was identified as a potential ignition source.

Controls:
The vessel did not have a means of identifying losses during bunkering operations and no one was present in the engine room during the bunkering operations. Had either of these controls been in place it’s possible that the leak could have been identified and stopped before ignition. In addition to this, the flange had not been fitted with spray shields which could have further reduced the potential.

This event highlights the importance of regular barrier management review to ensure hazards are understood and People, Process, Equipment controls remain appropriate and adequate.
THANK YOU