

Safety Alert

Number: 19-09

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Subject: Vessel Contact with FPSO

What Happened / Narrative

Vessel was alongside the FPSO's starboard side on DP transferring Fuel Oil, DGPS-1 alarmed and dropped out of the system, this left DGPS-2 and the Radius online intermittently.

As the FPSO changed heading the Radius transponder placed on-board moved several meters out of position. The DP system then dropped DGPS-2 due to poor signal strength, the set point for the DP system reference point was then approximately 6m out of position to port. The DP system started thrusting the vessel towards the FPSO to move back to what it thought was the set position.

The emergency stop on the fuel pump was activated and manual control was taken by DP joystick, the DP operators were able to slow the vessel but not able to stop before contact was made between the vessels port bow and the starboard bow of the FPSO.

The vessel sustained a minor dent and scratched paintwork, the FPSO suffered a bent supporting bracket for a drain pipe, no pollution, injury or serious damage occurred.

All of this happened in less than a minute as soon as the DP rejected DGPS-2 she started thrusting toward the FPSO as the DP system detected it was out of position.

Why Did it Happen / Cause

The loss of references had been going on all morning and the situation had not improved. The Captain and Chief Officer had become task focused and were intent on completing the loading unloading operation.

It was suggested during the investigation that perhaps the vessel should have used follow mode when working at a weather vaning FPSO however the crew were not aware of this mode in the DP system.

Subsequent investigation showed that the vessel did not have follow heading mode installed on the DP system but it is evidenced that the vessel was not receiving signals that would have made the use of follow mode successful.

The vessel should have stopped the job and taken control on manual mode.

Preventative & Corrective Actions Taken / Recommendations

The following preventative and corrective actions were all identified as part of the vessel owner's investigation and should be reviewed in relation to each vessel / vessel owners own processes.

New mode training implemented across the vessel owners' fleet for:

- Fixed target
- Follow target
- Mobile Target

Manual and Joystick Manoeuvring:

To ensure that all officers are familiar with the procedures to switch from DP Mode to Joy-Stick or manual levers it is required to carry out manual and joystick manoeuvring training on a regular basis. Relevant form must be used to document this training and placed into the certificate's module in vessel manager at the end of each shift.

All Officers must carry out this training so as to be proficient in the case of a DP malfunction where manual control of the vessel must be taken. All Bridge officers must perform manual handling training each trip to ensure that they are familiar with manual handling of the vessel.

When conducting training inside the 500m zone approval from the charterer and relevant parties is required.

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DP Mode Training:

To ensure that all DP officers are regular trained in the different DP modes and setup the vessel owners form includes recording regular DP training. Each vessel has different modes available and training should be conducted on all available modes on a regular basis and a minimum of twice a year to ensure knowledge of the different modes is kept fresh. Training can be completed in simulator mode if available.

Familiarisation and Training Elements include the following:

- New mode training system
- DP System Induction & Training
- Induction to manuals and matrix
- Induction to modes
- Reference systems
- Induction to FMEA
- Checklists
- Evaluation by senior officers

Each Bridge Officer including the Master must complete the DP system induction and training on their vessels DP system. This training must be completed and signed by both the officer taking the training and a senior Officer to verify it is completed. The induction and training must be completed prior to engaging in DP operations. The completed form must be entered into the certificate module in Vessel Manager.

Verifying Effectiveness of Corrective Plan:

- 1) Documented training for whole fleet on all updated DP manuals, DP Matrix, Checklists, experience transfers, procedures, Risk assessments, relevant forms to be completed by all bridge Officers
- 2) Verified at office using vessel manager document control system and computer-based reporting system
- 3) Verified during internal audits

Updates and Experience Transfers:

- Relevant risk assessments and checklists updated and new created where required
- Updated DP manual – added modes from manufacturers manual
- Updated DP matrix – vessel specific Camo / ASOG
- All fleet DP matrix's updated

Other Corrective Actions:

- 1) Gap analysis conducted for all vessels to ascertain what software and modes were available on-board
- 2) Chartering to inform vessel on spot hire/charter of floating or moving targets
- 3) New antenna installed on the vessel to improve correction signals
- 4) Follow heading mode to be installed on the vessel
- 5) Implemented root cause software for tracking investigations more effectively
- 6) Updated internal audit checklist

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