

## DP management – Dealing with the unexpected

Incident ●

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**One thruster within a group was found to be thrusting in a direction 180° opposite to that indicated on the DP display.**

### Overview

*“It’s 04:00 hours, on the night shift. Do I really need to go through the four hourly DP checklist, for the third time tonight? I remember asking myself that same question when I worked the 18:00-06:00 watch, then later in my career I was making sure DP operators, that served on my ship knew why they had to do it.”*

An IMCA Member company recently had an incident where one thruster within a group was found to be thrusting in a direction 180° opposite to that indicated on the DP display.

The vessel was positioned over a subsea manifold conducting diving operations when a loss of heading was observed, and shortly thereafter the vessel began to drift off the set point position.

### What happened?

Attempts were made to stabilise the vessel and it was noted that high levels of thrust from the bow and forward swing up thruster were being produced, but with little thrust on the after azimuth thruster units (MAPS). The DP system settings were changed from high gain to medium gain in an attempt to stabilise thruster outputs, and at this point the Dive Supervisor was advised of a degraded operational status and the process of recovering the two divers commenced.

Control of the vessel was switched to DP joystick control, manual heading; MAPS were taken out of bias and the heading control on the joystick moved around to achieve maximum thrust for a heading change, with the intent of bringing the vessel to port with head into the wind. At the same time, the joystick was moved to port in an attempt to check the drift-off to starboard. It was observed by the bridge team that the vessel’s positional and heading control was degraded and that the vessel was not therefore responding as expected.

Within four minutes of the initial loss of heading, both divers were reported to be on the clump weight and the bridge team were satisfied that the drift pattern of the vessel was clear of any seabed obstructions. The recovery of both the bell and the ROV was safely carried out whilst the vessel was being brought under control.

No warnings, alarms or indications were generated to the DP operators or engine control room (ECR) at any time during DP operations to show that any equipment fault had occurred.

### Investigation

Once the situation was stabilised and the vessel safely relocated outside of the 500m zone, investigations into the incident commenced. Technical investigation by the equipment manufacturers is still ongoing and this notice does not attempt to prejudge the outcome of the investigation. The vessel owner and IMCA believe that provides a good example to remind vessel managers, DPOs and training establishments to consider and practice for the unexpected.

## Actions

Please pass this notice to your vessels so that the scenario can be discussed onboard. There may be further lessons to learn from this incident but be reminded that the following is essential for efficient and safe management of Dynamically Positioned vessels:

- Ensure the bridge crew (DPOs) are getting the opportunity for manual handling;
- Provide time for operational drills to practice and simulate such events and the required responses to them;
- Ensure DPOs are not solely focused on the DP console and the computer screen. Reiterate the basic fundamentals of looking out of the window, looking at the other instrumentation and reference data on the bridge (such as the potentiometers) and completing the DP checklist comparisons.

*The case studies and observations above have been compiled from information received by IMCA. All vessel, client, and operational data has been removed from the narrative to ensure anonymity. Case studies are not intended as guidance on the safe conduct of operations, but rather to assist vessel managers, DP operators, and technical crew.*

*IMCA makes every effort to ensure both the accuracy and reliability of the information, but it is not liable for any guidance and/or recommendation and/or statement herein contained.*

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