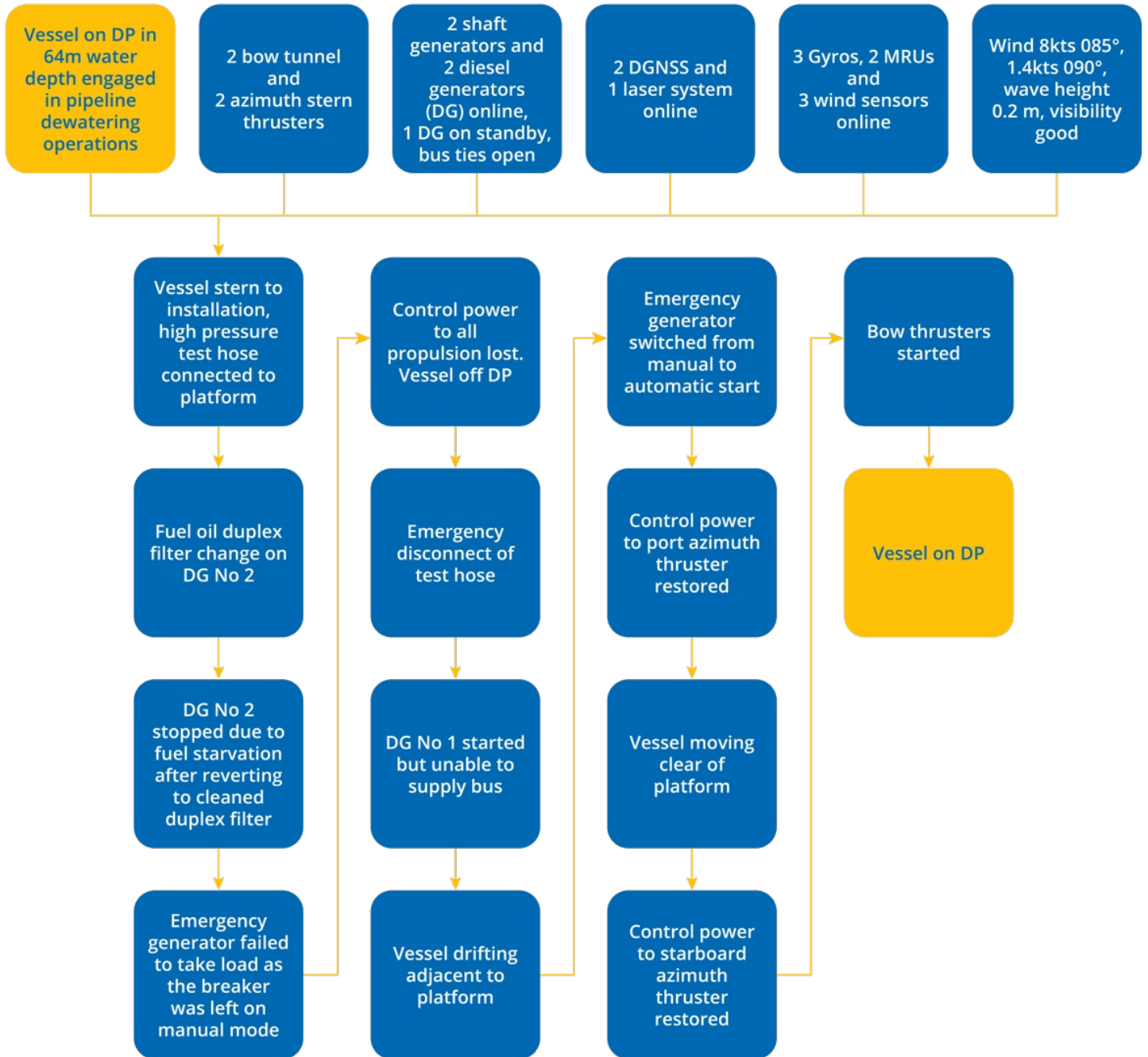


Fuel oil filter change leads to generator failure

DP Event • Published on 13 September 2016 • Generated on 28 January 2026 • DPE 03/16

The vessel was five years old, and a design fault was not captured in the FMEA or annual DP trials.



Comments

During 'routine' rounds the engine room watchkeeper decided to replace the left filter of the duplex fuel oil filter of DG No.2. This

generator was part of the port redundant system and supplied power to the 415v and 220v bus A and emergency switchboards.

DG No.2 suffered a blackout due to FO starvation after the filter was changed and as a consequence of incorrect operation of the duplex fuel filter. DG No.1, which is also part of the port redundant group, was started, however it was unable to supply power to the bus.

The emergency generator did not connect to the bus bar as the breaker was left in manual mode therefore losing power to bus A and the emergency bus bar.

At this juncture batteries should take the load for control power of DP essential equipment, however the batteries were drained.

The failure of the port redundant group should not have resulted in the loss of all propulsion control power as there was no failure on the starboard redundant group. However, this was not the case because there was a design fault such that the 220v AC and 24v DC systems providing control power for all propulsion was from the port redundant group only.

The vessel is five years old and this design fault was not captured in the FMEA or annual DP trials. The last annual DP trials was conducted less than three weeks prior to the incident.

The principle corrective actions initiated were:

- No maintenance to be undertaken on any active or passive DP component whilst working within the 500m zone of an installation.
- Switchboard setup was permanently modified so that propulsion control power was supplied from different redundant groups.
- Switchboard setup to be verified by two separate watchkeepers.
- Regular DP blackout drills to be instigated.
- Regular switchboard setup training to be conducted.
- Battery checks and testing routines improved.
- Company test and trials programmes reviewed and updated.

Considerations

This incident stresses the importance for a good initial FMEA, the tracking of modifications and ensuring documentation is up to date, plus the importance of proving redundancy groups on a frequent basis.

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.

Any queries should be directed to [DP team at IMCA](#). Share your DP incidents with [IMCA online](#). Sign-up to receive DP event bulletins [straight to your email](#).