Open bus saved the day

Incident

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A blackout was traced back to a short circuit within the drive of the aft azimuth thruster, which propagated the fault up to the port switchboard.

Overview

DP2 vessel was conducting trenching operations within a wind energy field.

The vessel was operating open bus with two redundant groups. The vessel has a retractable thruster that can be supplied from either redundant group at this time it was being supplied from the port redundant group. This left the starboard redundant group with on azimuth thruster aft and a bow tunnel thruster.

The port redundant group experienced a blackout during the trenching operation, resulting in the loss of three of the five thrusters. The vessel maintained position on the two remaining thrusters in the starboard redundant group. Once deemed safe to do so, the retractable thruster was reconfigured and re-connected to the starboard switchboard. It has to be noted that the retractable thruster needs to be eliminated as the possible cause of the blackout before it can be re-configured into the healthy redundant group.

The cause of the blackout was traced back to a short circuit within the drive of the aft azimuth thruster, which propagated the fault up to the port switchboard and causing the blackout.

There was no loss of heading or position reported.

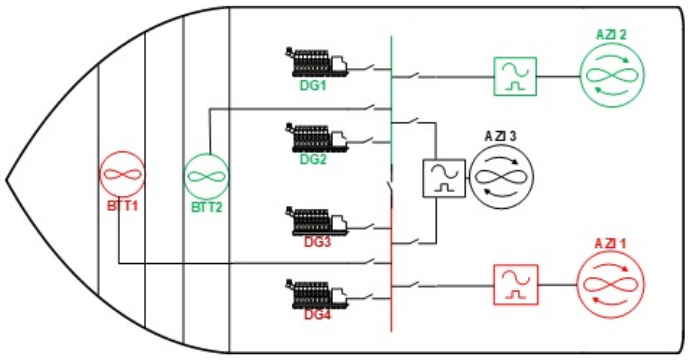

Figure: Overview

Conclusion

- The vessel operating within its post WCF environmental conditions prior to the loss of a redundant group.
- Had the vessel been operating closed bus can the operator be confident that the bustie would have opened isolating the fault to a single redundant group? Has the vessel been through the prescribed verification and validation in order to

allow confidence that the protection systems would have isolated the fault to a single redundant group?

Related IMCA Guidance

The following IMCA Guidance would be relevant to this DP incident:

IMCA M117

IMCA M220

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.

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