

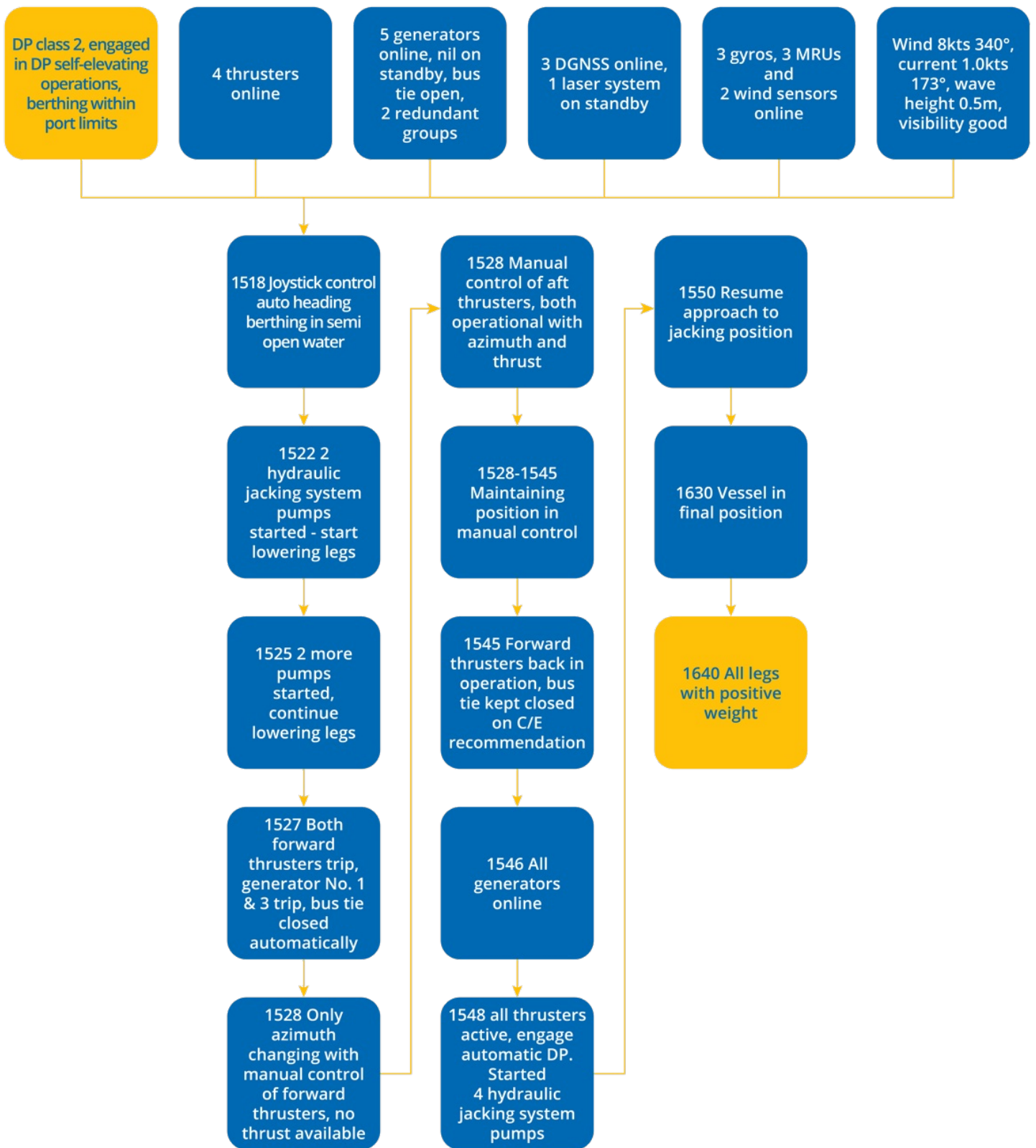
## Lack of maintenance caused a problem involving the bus tie breaker

Undesired event



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The maintenance requirements of some major DP components were not included in the vessel's computerised Planned Maintenance System.



## Comments

The power management system was set for semi-automatic mode as required for DP2 operations.

Uncontrolled and unsynchronised closure of the bus tie breaker resulted in simultaneous trip of DG1 and DG3 with a consequence that the forward thrusters tripped.

Based on conclusions from the technical analysis, the primary reason (root cause) of the event had been identified as lack of maintenance of the DP critical system(s) more precisely the bus tie breaker.

The ship was provided with a computerised planned maintenance system (PMS) which should cover all maintenance activity on board. The maintenance requirements of some major DP components were not included in the PMS.

## Considerations

- From the information supplied, there was minimal DP stabilisation period allowed for at the start of the operation or following recovery when the vessel again engaged DP control.
- It took 18 minutes to restore both forward thrusters – could this have been achieved more quickly?
- It is assumed that a partial blackout occurred, causing loss of both forward thrusters – normally the thrusters would be arranged such that the worst case failure (WCF) would cause the loss of one forward and one aft thruster.
- It appears that the control of the thrusters was taken manually, however it should be questioned whether the automatic DP system or JSAH would have maintained the vessel in position.
- While post-failure recovery time is definitely an issue, it seems that vessel design and operating configuration could be the root causes.
- The event does highlight the importance of identifying and maintaining all items of critical operational equipment.

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