

IMCA DP Station Keeping Event Bulletin 02/17

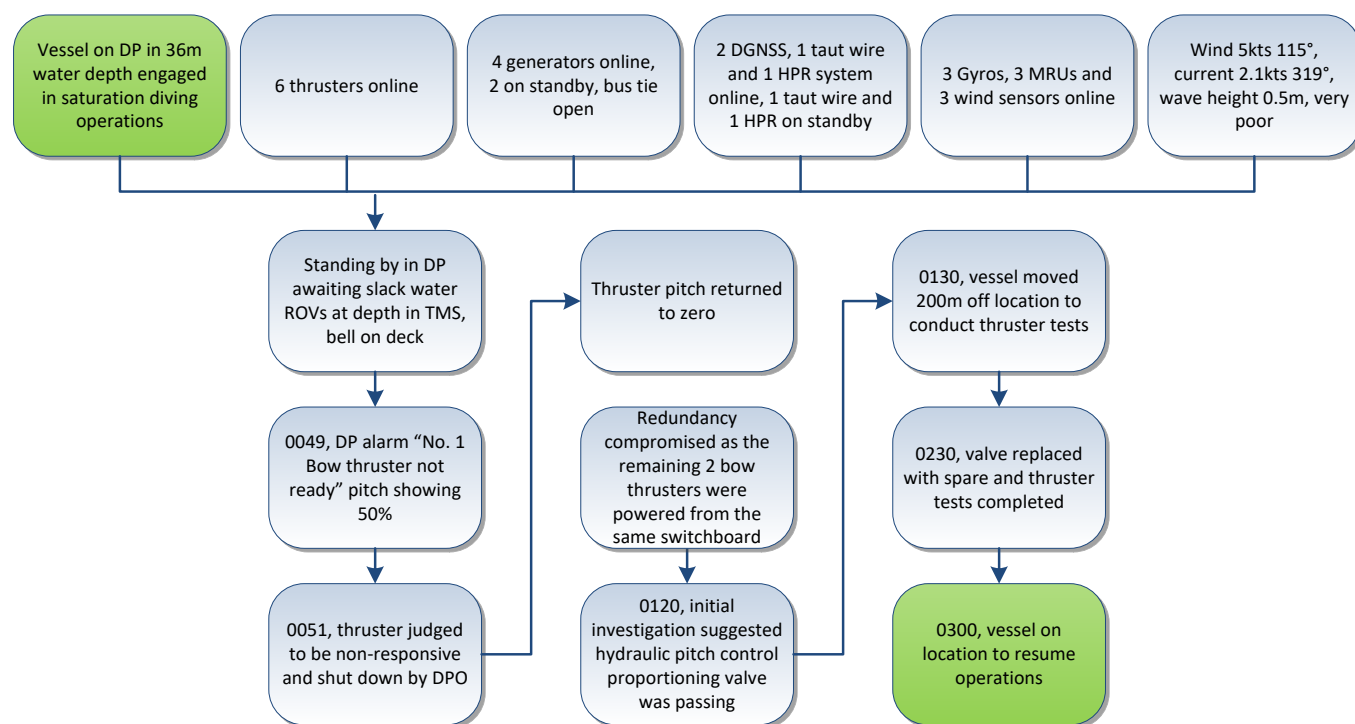
June 2017

The following event trees have been compiled from recent reports received by IMCA. The originators granted IMCA permission for the trees to be analysed and commented on by the IMCA DP Focused Workgroup. To ensure anonymity not all of the information contained in the original report was made available to the persons analysing these event trees.

Vessel managers, DP operators and DP technical crew should consider if these events and comments are relevant to their own vessel DP operation so that they can be used to assess and assist the safe operation of the vessel.

Any queries regarding this bulletin should be directed to IMCA Technical Adviser Andy Goldsmith (andy.goldsmith@imca-int.com). Members and non-members are welcome to contact Andy if they have experienced DP events which can be securely analysed and then shared anonymously with the DP industry.

Bow Thruster Fault Compromises Redundancy – DP Undesired Event



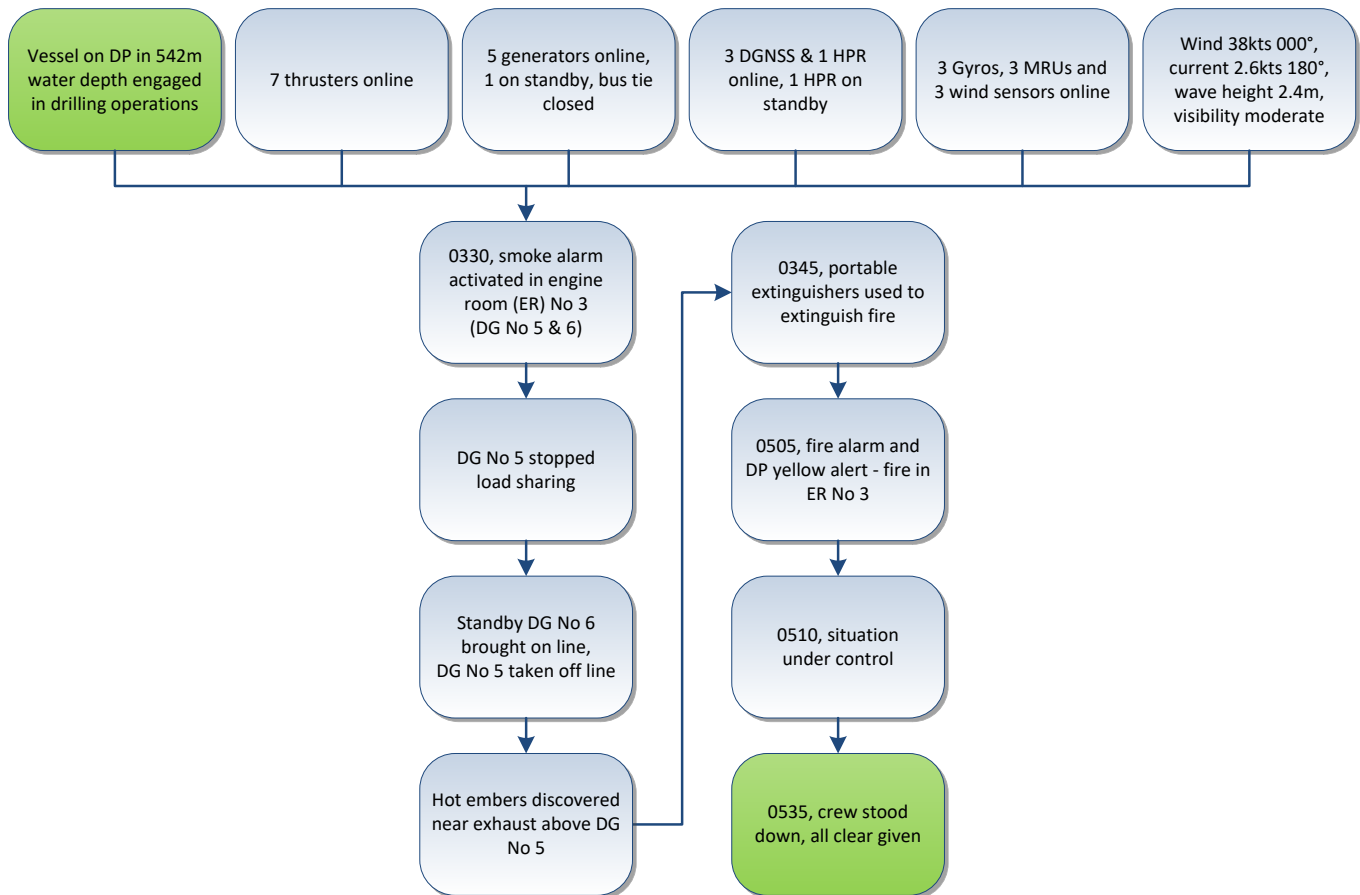
Comments

The vessel was working in an open water situation and there was no loss of position.

Considerations from the above event:

- ◆ Useful reporting of an undesired event that did not result in a loss of position.
- ◆ After an event such as this, planned maintenance routines should be checked to ensure they are adequate.
- ◆ Particulars of the vessel are unknown however it might have been possible to power the two remaining bow thrusters from either side of the switchboard and therefore maintain redundancy with just two bow thrusters.
- ◆ This was a well executed operation that ensured full thruster redundancy options were made available prior to operations resuming.

Fire in the Engine Room – DP Undesired Event



Comments

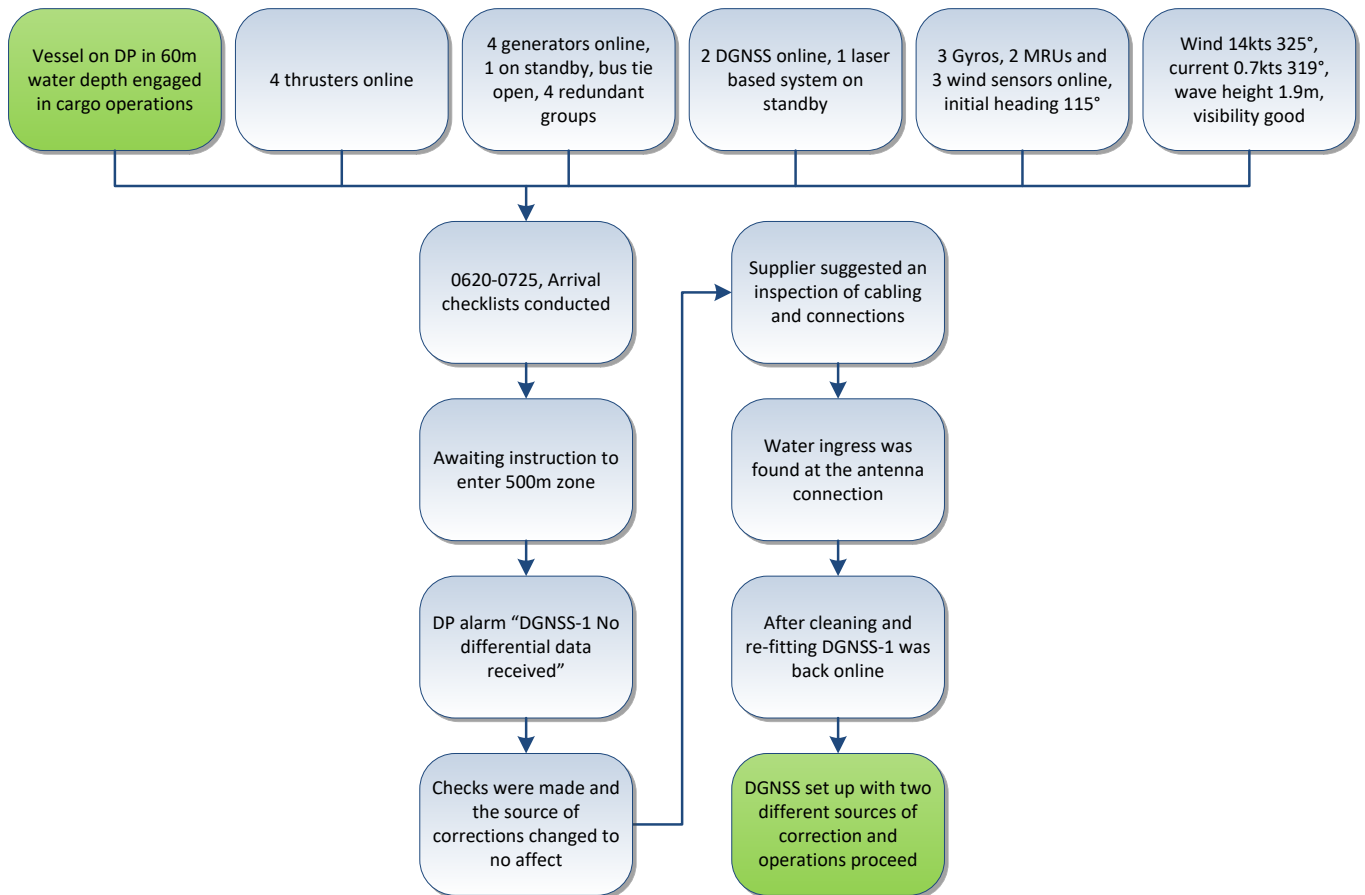
Investigation found that the turbo charger on engine No 5 was damaged. DP position was maintained throughout.

Considerations from the above event:

Sharing information on events such as this can make a big impact on safety and the submission of this report is very much appreciated.

- ◆ A fire on any vessel is serious and in the engine room of a DP vessel engaged in operations it should be considered very serious.
- ◆ The first signs of a fire in the engine room should warrant a DP yellow alert.
- ◆ Full details of the vessel power distribution are not known but consideration should be given to electrically isolate the affected engine room.
- ◆ The above two points should be covered by the vessel activity specific operating guidelines (ASOG) or well specific operating guidelines (WSOG) so that the crew is in no doubt what action to take.
- ◆ Vessel emergency drills should consist of scenarios such as this so that all crew know what to do and what will happen in similar circumstances.
- ◆ It is essential the crew know what conditions would cause an automatic activation of the fire deluge system.

Bad Connection Causes Loss of DGNSS – DP Observation



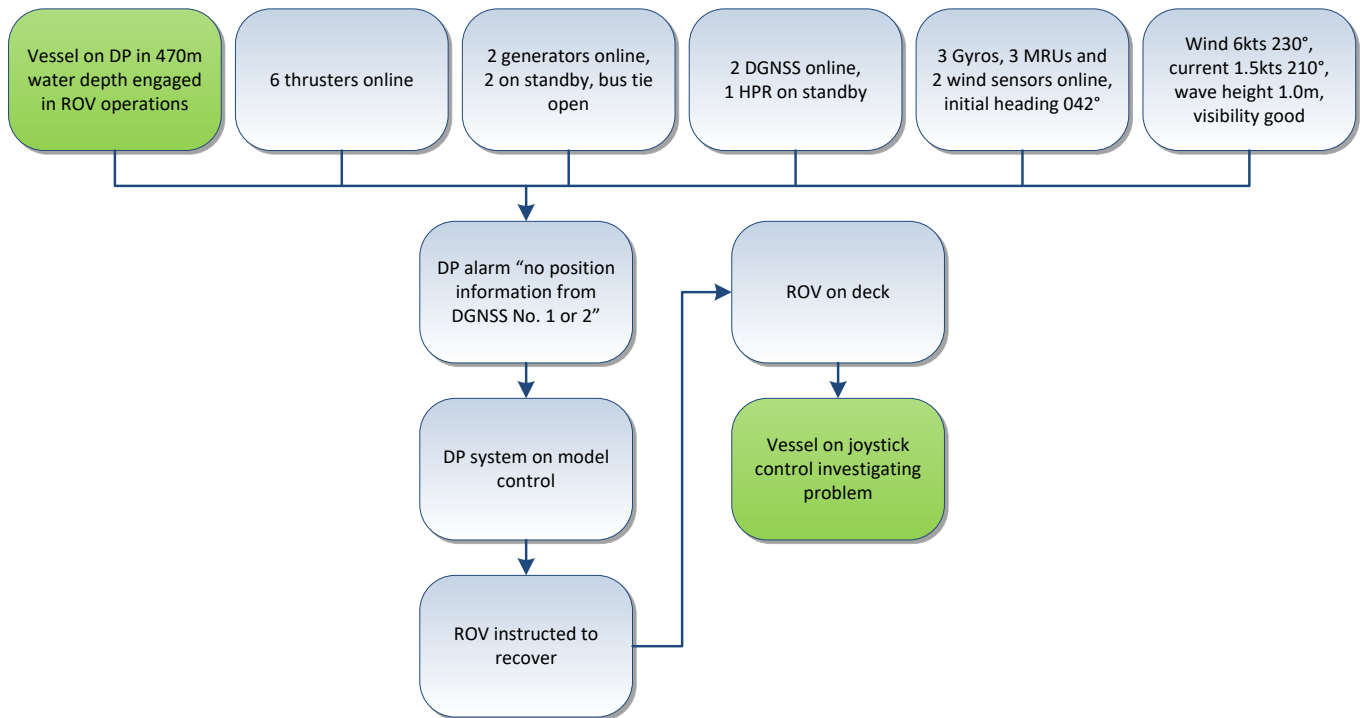
Comments

After all the checking, it was found that there was water ingress at the L-Band connector to the antenna on the mast. This was dried and cleaned. The connectors were properly sealed with self-bonding electrical tape and cable ties.

Considerations from the above event:

- ◆ This observation reinforces the need for good practice conducting field entry/arrival DP checks making sure all DP systems are operational and healthy.
- ◆ It is unclear why the laser-based reference system was not in use but it is assumed the system was not immediately available due to distance or shadowing.
- ◆ Several recent reports indicate the use of only two enabled position reference systems (PRS), these are often both DGNSS. It cannot be stressed enough that a mixture of PRS should be used.
- ◆ Regular checks of connections which are exposed to the environment need to be carried out and included in planned maintenance systems.

Loss of DGNSS Resulted in ROV Being Recovered – DP Incident



Comments

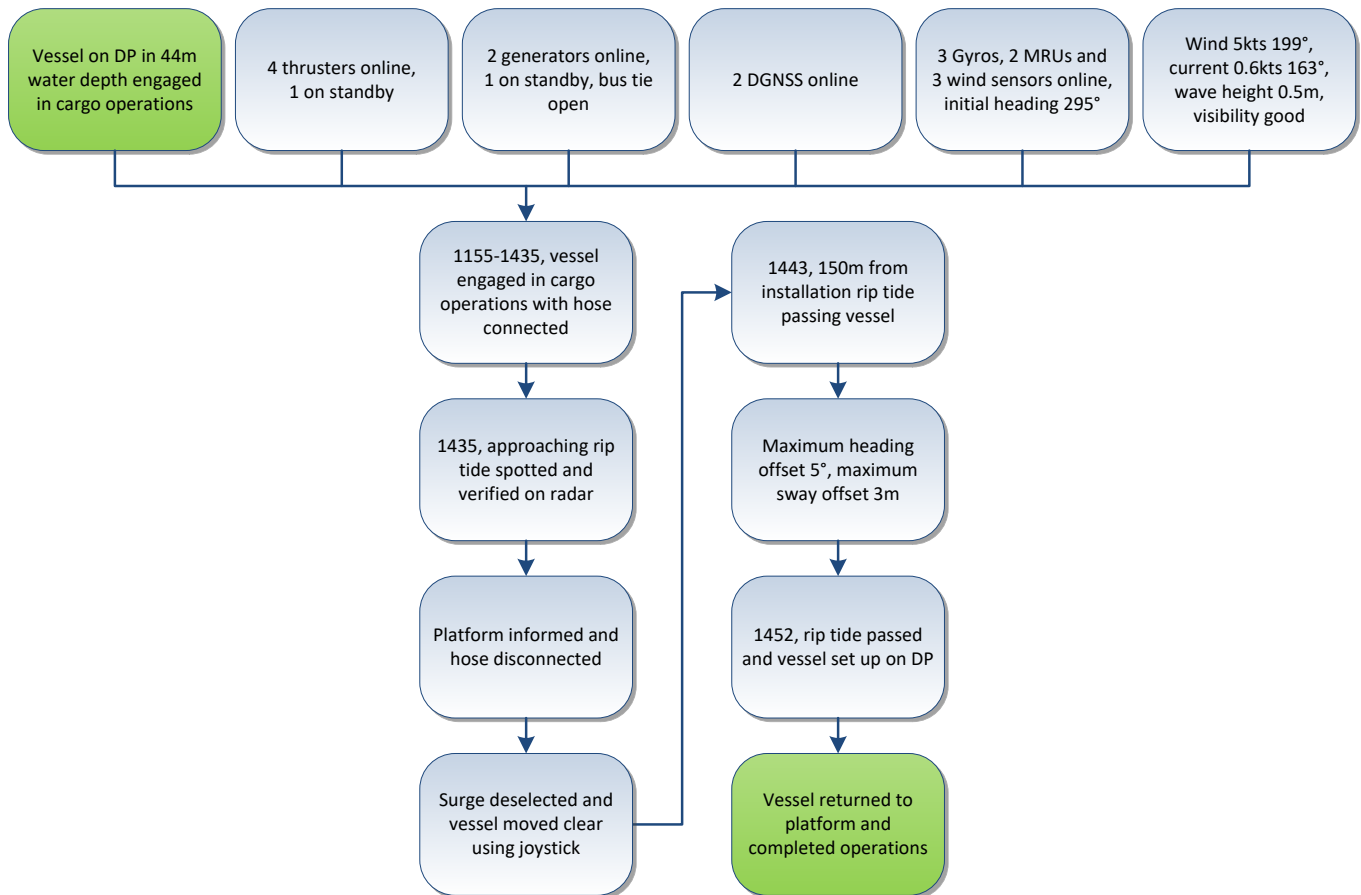
Both the satellite positioning systems in use were from the same provider.

The report recognised this and recommended that the systems were changed so that position information was provided by different service providers. The service provider informed the operator after the event that its services experienced periods of increased latencies for just over twenty minutes on the day and time of the incident.

Considerations from the above event:

- ◆ It would appear from the information available that the standby hydroacoustic position reference (HPR) system did not have an acoustic transponder on the seabed. In any event it was not utilised.
- ◆ Proper consideration should always be made of the required PRS based on the specific operation and the DP equipment class of the vessel.
- ◆ When considering redundancy of satellite systems do not just consider equipment manufacturer and software versions; the correction type and transmission method should also be different.
- ◆ It is noted that two separate vendors could use correction details from the same source, therefore users should compare what correction type is being used.
- ◆ In similar situations users could consider switching to raw global navigation satellite system (GNSS) data, therefore staying on DP but with a larger footprint.

Rip Tide Presents Problems – DP Observation



Comments

It was a single rip tide and when it had passed the vessel was set up back in automatic position mode. There was clear evidence that a degraded performance was caused by the rip tide. A risk assessment was made, all DP set-up checks were carried out and the DP system performance was monitored for 20 minutes. Other rip tides were not observed and the vessel approached the installation to resume operations.

Considerations from the above event:

- ◆ The observation demonstrates a positive attitude to observing environmental conditions with respect to vessel capability and taking the correct actions to avoid potential dangerous loss of position.
- ◆ It is unreasonable to expect any DP system to cope with the sudden change in forces that can be introduced by rip tides which can have a catastrophic effect on the ability of a DP system to maintain position and heading.
- ◆ If this was a DP equipment class 2 operation then the report indicates that there was inadequate redundancy with regards to position reference systems.